Message

From: Kemker, Carol [Kemker.Carol@epa.gov]
Sent: 1/25/2022 8:38:39 PM
To: Chokwe A. Lumumba [calumumba@jacksonms.gov]
CC: Safiya Omari [somari@city.jackson.ms.us]; Blackman, Daniel [Blackman.Daniel@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; Jenkins, Brandi [Jenkins.Brandi@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Nicholson, John [Nicholson.John@epa.gov]
Subject: Notice of Noncompliance
Attachments: MS Jackson City of Jackson PWS Electrical Panel NON.pdf

Dear Mayor Lumumba,

Thanks for taking time today to discuss with us important next steps to repair critical components of the Jackson public drinking water system. Attached is the Notice of Noncompliance we discussed on our call. Please feel free to reach out to me if you have any questions or we can be of assistance. As we discussed, I am reaching out within our network to see if we can assist the City in getting a faster delivery of the parts needed to repair the electrical panel.

Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The Honorable Chokwe A. Lumumba
Mayor of City of Jackson
219 South President Street
Jackson, Mississippi 39205

Re: Notice of Noncompliance Pursuant to Section 1414(a)(1)(A) of the Safe Drinking Water Act, 42 U.S.C. § 300g-3(a)(1)(A), City of Jackson Public Water System, Jackson, Mississippi, PWS ID No. MS0250008

Dear Mayor Lumumba:

The U.S. Environmental Protection Agency is responsible for assuring public water systems provide safe drinking water in accordance with the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f et. seq., and the regulations promulgated thereunder. Based on information contained in the Safe Drinking Water Information System, the City of Jackson Public Water System (System) has approximately 71,486 service connections, serves approximately 173,514 persons, and is owned and/or operated by the City of Jackson, Mississippi (hereinafter, the City). Pursuant to Section 1401(15) of the SDWA, 42 U.S.C. § 300f(15), it is therefore a community water system. As a community water system, the Jackson Public Water System (PWS) is subject to the requirements of the National Primary Drinking Water Regulations, 40 C.F.R. Part 141, and the Mississippi Primary Drinking Water Regulations, promulgated pursuant to the Mississippi Safe Drinking Water Act of 1997, Miss. Code Ann. § 46-21-1 et. seq.

Based on information provided to the EPA by the Mississippi Department of Health (MSDH)[1] and the City of Jackson, the EPA finds that the System is in noncompliance with the SDWA, the National Primary Drinking Water Regulations, and the Mississippi Primary Drinking Water Regulations, as described below:[2]

- Pursuant to Miss. Admin. Code 15-20-72.1.1.6(11), a PWS shall be operated in accordance with the *Public Water System Operations Manual* (*Manual*) published by MSDH. As a PWS, legally responsible official(s) must ensure that those minimal operation standards are performed by the certified waterworks operator and applicable public water supply staff for the safety and welfare

[1] The MSDH is the entity in the State of Mississippi with primary enforcement authority over the SDWA, pursuant to SDWA Section 1413, 42 U.S.C. § 300g-2.
[2] The violations contained herein are in addition to those violations alleged in the Emergency Administrative Order, Docket No. SDWA-04-2020-2300, issued by the EPA to the City on March 27, 2020; in the Notice of Noncompliance issued by the EPA to the City on May 11, 2020; and in the Notice of Noncompliance issued by the EPA to the City on April 27, 2021.

of the public water supply's facilities and customer. The *Manual* recommends that a PWS maintain an adequate inventory of supplies, chemicals and equipment to properly operate the System.

Pursuant to Miss. Admin. Code 15-20-72.1.4.1, a PWS shall, upon receipt of the sanitary survey report, provide a written response to all significant deficiencies identified in the report to the MSDH within 45 days of receipt of the report. In this written response, the PWS shall outline its plan to correct the significant deficiencies identified in the survey report.

A fire at the electrical panel at the O.B. Curtis Water Treatment Plant (WTP) on April 30, 2021 caused all five of the high-service pumps at the O.B. Curtis WTP to be unavailable for service. During a November 8, 2021 inspection of the PWS by MSDH, the pumps remained out of service, with no target date by the City to put the pumps back into service. The loss of the pumps has caused multiple elevated tanks to be low or empty and has caused certain areas of the distribution system to have sustained low pressure.

Low-pressure and loss of pressure in a drinking water distribution system may cause a net movement of water from outside the pipe to the inside through cracks, breaks, or joints in the distribution system that are common in all water systems. Backsiphonage occurs when pressure is lost in pipes, creating a negative pressure and a partial vacuum, which pulls water from a contaminated source outside the pipe into the treated, potable water inside the pipe. This creates a suitable environment for bacteriological contamination and other disease-causing organisms, including *E. coli*, to enter the water distribution system downstream of the WTPs, which then is delivered to users.

MSDH issued the City a significant deficiency report on December 14, 2021, identifying this as a significant deficiency, and requiring the City to provide MSDH with a written response identifying corrective actions and timeframes by January 14, 2022. MSDH's report requires that the City's corrective actions be complete within 120 days of receipt of the report, or no later than April 14, 2022. (See Enclosure A).

As of the date of this Notice, the City has not repaired or replaced the electrical panel to restore the pumps to service, nor has the City provided MSDH and/or the EPA with a corrective action plan to correct the significant deficiency by the deadline of April 14, 2022.

Consistent with Section 1414(a)(1)(A) of the SDWA, 42 U.S.C § 300g-3(a)(1)(A), the EPA is hereby notifying the City of such noncompliance, and the EPA remains committed to working with and providing technical assistance to the City, as appropriate, in order to bring the System into compliance. This Notice shall not be construed as a final agency action subject to judicial review under Section 1414(g) of the SDWA, 42 U.S.C. § 300g-3(g).

Therefore, within 10 calendar days of receipt of this Notice of Noncompliance, the City must contact this office to arrange a meeting to show cause why the EPA should not initiate legal proceedings against the City for these violations. In lieu of appearing in the EPA's offices for this meeting, a telephone conference may be scheduled. The City should be prepared to provide all relevant information with documentation pertaining to the above violations. The EPA's legal counsel may also be present at this meeting. Accordingly, the City has the right to have its legal counsel present.

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To arrange the particulars of this meeting or to arrange for a telephone conference, please contact Mr. Bryan Myers at (404) 562-9603 or Myers.Bryan@epa.gov. If the City fails to attend the scheduled meeting/telephone conference or to contact Mr. Myers prior to the meeting/conference date, the EPA may proceed with formal enforcement against the City without further notice.

As the EPA has previously informed the City, the City may, if it so desires, assert a confidential business information claim covering any or all information furnished to the EPA in response to this letter. Further details on how to make a business confidentiality claim are included in Enclosure B.

If you have any questions regarding this matter, please contact Mr. Myers at the phone number or email listed above. For legal inquiries, please have your attorneys contact Suzanne K. Armor, Associate Regional Counsel, at (404) 562-9701 or Armor.Suzanne@epa.gov.

Sincerely,

CAROL KEMKER

Digitally signed by CAROL KEMKER
Date: 2022.01.25 15:23:56 -05'00'

Carol L. Kemker
Director
Enforcement and Compliance Assurance Division

Enclosures

cc: Dr. Charles Williams, Director
City of Jackson Department of Public Works

Lester Herrington, Director
Office of Environmental Health, MSDH

ENCLOSURE A

MSDH Significant Deficiency Report (Dec. 14, 2021)

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS

(40 C.F.R. Part 2)

Except for information which deals with the existence, absence, or level of contaminants in drinking water, you may, if you desire, assert a business confidentiality claim as to any or all of the information that the EPA is requesting from you. Applicable EPA regulations relating to business confidentiality claims are at 40 C.F.R. Part 2 and 40 CFR § 2.304(e).

If you assert such a claim for the requested information, the EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, the EPA may make the information available to the public without any further notice to you.

40 C.F.R. § 2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to the EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to the EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business and may be submitted separately to facilitate identification and handling by the EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

Message

From: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Sent: 3/21/2022 3:25:18 PM
To: calumumba@city.jackson.ms.us
CC: Safiya Omari [somari@city.jackson.ms.us]; Blackman, Daniel [Blackman.Daniel@epa.gov]; Nicholson, John [Nicholson.John@epa.gov]
Subject: Letter from EPA Administrator Regan to Mayor Lumumba
Attachments: AX-22-000-1968.pdf

Mayor Lumumba,

Thank you for taking the time to speak with me this morning. Please find enclosed a letter to you from EPA Administrator Regan following up on his visit to Jackson last year and, working with the state, offering our agency's assistance as we work together to implement the water investments in the Bipartisan Infrastructure Law. We look forward to partnering on these important issues and would welcome further discussion at your convenience.

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

MAR 1 8 2022

THE ADMINISTRATOR

The Honorable Chokwe Antar Lumumba
Mayor of Jackson
Jackson City Hall
219 President Street
Jackson, Mississippi 39205

Dear Mayor Lumumba:

In November of last year, I had the opportunity to travel through Mississippi, Louisiana and Texas to speak with communities across those states. This trip spotlighted longstanding environmental justice concerns in historically marginalized communities, and I heard firsthand from residents dealing with the severe impacts of pollution in these areas.

As you know, I visited Jackson and appreciate the time that you and other city leaders took to share with me the needs of the capital city and how Jackson could benefit from federal funding to support infrastructure improvements and address longstanding challenges related to compliance with environmental laws. I also met with members of the community who experience frustration with the many water challenges that continue to occur in Jackson. Residents often feel anxiety over the uncertainty of the quality and availability of their water.

While touring the O.B. Curtis Water Treatment Plant, I was able to see firsthand the challenges remaining to get the facility operating at full capacity – an action critical to delivering safe and healthy water to the people of Jackson. Loans made to the city through the U.S. Environmental Protection Agency's State Revolving Fund and the potential for additional funds under the SRF program can be used to address these immediate needs, in addition to other treatment repairs that will improve the resiliency of the city's water supply.

The EPA believes that federal infrastructure funding is critical to assisting cities like Jackson in addressing long-standing water infrastructure needs. We want to ensure these resources are immediately targeted to those who need them most. We are committed to working diligently with our state partners to be sure that in the first year of the Bipartisan Infrastructure Law implementation, communities will be able to access needed funds and move forward with investing those resources. These communities cannot wait for subsequent years' allotments, and I offer the assistance of my agency in the application process for those funds.

Mississippi's allotment of BIL funds through the SRF program for 2022 is estimated to be $74,899,000. Since almost half of the law's investments in SRF funds are eligible for distribution

as grants or fully-forgivable loans, states have the power to open the door to underserved communities that for too long have struggled to compete for financing from traditional SRFs and other loan programs. These funds can be used to repair the existing systems, build more resilient water infrastructure and comply with EPA orders. It is my goal for the EPA to work with Governor Tate Reeves and our state partners on identifying cities in Mississippi, like Jackson, that can benefit most from critical infrastructure funding.

It is my understanding that since the issuance of the January 25, 2022, Notice of Noncompliance, you have been working with the state and EPA's Atlanta regional office to address the compliance concerns and have charted an approved path forward. We appreciate your critical leadership as you champion the needs of your residents, work with the state to access funding and prioritize and implement timely plans to deploy the funds. Only then will we see infrastructure progress that will improve the daily lives of the Jackson residents.

Please do not hesitate to contact me, and your staff can always contact Casey Katims, deputy associate administrator for Intergovernmental Relations, at (202) 494-4609 or katims.casey@epa.gov.

Sincerely yours,

Michael S. Regan

Michael S. Regan

EPA's Development of Climate Adaptation Implementation Plans

FEEDBACK BY STATE WATER DIRECTORS REQUESTED ON DRAFT PRIORITY ACTIONS
(SEE SLIDE #9)

1

EPA Offices and Regions to Finalize Implementation Plans by September 2022

- Draft Climate Adaptation Implementation Plans are being developed as directed by the EPA's October 2021 Climate Adaptation Plan:
  - https://www.epa.gov/system/files/documents/2021-09/epa-climate-adaptation-plan-pdf-version.pdf
- Draft Implementation Plans are now under development by the Office of Water and Region 4, along with the other EPA offices and regions.
- Priority Actions in the Draft Implementation Plans are informed by significant vulnerabilities to water programs.
- Draft Implementation Plans are now available on-line:
  - https://www.epa.gov/climate-adaptation/climate-adaptation-plan

2

Significant Program Vulnerabilities

- Critical Water Infrastructure
- Availability of Water for Human Use
- Waterborne Illness and Water Treatment Needs
- Aquatic Ecosystem Health
- Transportation and Energy Infrastructure Interfacing with Water
- Impacts of Climate Change on Vulnerable Communities and Populations:
  - Overburdened, Underserved, and Disadvantaged Communities
  - Tribal Nations and Indigenous Peoples
  - Territories and Island States

3

Office of Water Draft Priority Actions
(framed by EPA's Strategic Planning Goals)

Goal 1: Improve the climate resilience of America's water infrastructure

- Deploy Grant and Loan Programs to Advance Climate Objectives
- Incorporate Climate Planning Resources into Technical Assistance Programs
- Promote Resilient Infrastructure Solutions

Actions include:

- Incorporate climate change considerations into infrastructure grant and loan guidance and processes, including the State Revolving Funds (SRFs), Water Infrastructure Finance and Innovation Act (WIFIA), WIIN, and others.
- Expand access to technical assistance and climate risk assessment, such as through the Creating Resilient Water Utilities Program.
- Encourage green infrastructure and nature-based solutions across nearly $2.5 billion in investments to improve climate resilience, water quality, and public access to natural spaces.

4

Office of Water Draft Priority Actions
(framed by EPA's Strategic Planning Goals)

Goal 2: Protect the nation's waters from the impacts of a changing climate

- Integrate Climate Considerations in CWA and SDWA Actions and Programs
- Invest in Ecosystem Protection and Restoration
- Leverage Strategic Research

Actions may include:

- Advance a "Climate-Ready" National Pollutant Discharge Elimination System Program by providing permit writers with information to support adaptation.
- Leverage the BIL's historic funding of OW's Geographic Programs and National Estuary Programs to enhance ecosystem and community resilience to climate change.
- Develop a strategy to understand and address the climate-related causes and impacts of freshwater harmful algal blooms.

5

Office of Water Draft Priority Actions
(framed by EPA's Strategic Planning Goals)

Goal 3: Advance the adaptive capacity of the water sector and the climate knowledge of all communities and decisionmakers

- Support Assessment of Climate Risks and Climate-Informed Decision Making
- Improve Availability of Data and Information to Support Climate-Informed Decisions

Actions include:

- Improve the accessibility and transparency of water and climate data to the public through interactive online mapping platforms, such as How's My Waterway.
- Leverage the Urban Waters Federal Partnership to address climate adaptation in urban communities.
- Work with tribal representatives to support and integrate Traditional Ecological Knowledge into decision-making tools.

6

Draft Region 4 Water Program Priority Actions

- Include climate resilience/adaptation as a Regional priority for the solicitation, selection, awarding and administration of grants
- Promote use of Creating Resilient Water Utilities (CRWU) tools to assist Drinking Water and Wastewater Utilities to update water and wastewater system risk assessments with climate considerations
- Actively market and expand municipal wastewater treatment optimization and optimization expertise with states and treatment operators to achieve nutrient reduction in receiving waters, reduced energy consumption at wastewater treatment plants

7

Draft Region 4 Water Program Priority Actions

- Work with States, tribes, and other partners (NEPs and State-based Aquatic Connectivity Teams (ACTs)) to identify, and where possible, restore hydrologically altered rivers, streams, and estuaries to provide resiliency to climate change
- Work to ensure that transportation projects built in Region 4 under BIL are climate ready and do not impair aquatic life

8

Questions for the States in Region 4

- Do the draft priority actions resonate with your greatest needs for addressing climate change through adaptation and resilience actions?
- Does your agency already have plans or programs regarding climate resilience?
- Are there any needs or gaps in implementing your climate resilience programs where EPA can assist?
- How can we best keep you informed and engaged in our adaptation and resilience efforts?

Feedback requested by July 15, 2022 (e.g., via email, teleconference)

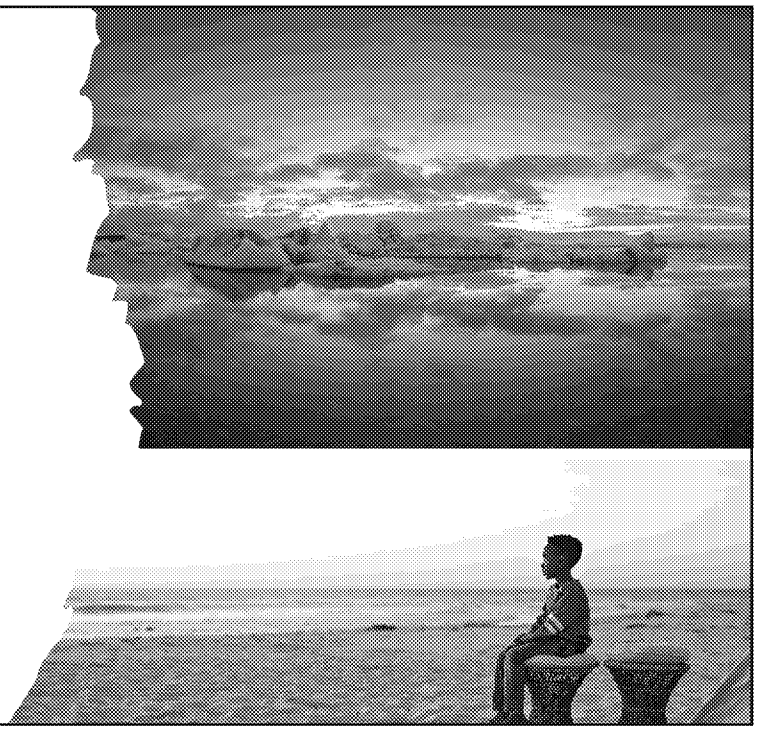
9

Region 4 Water Adaptation and Resilience Contacts

Robert Burns, 404-562-9456
burns.robert@epa.gov

Lisa Perras Gordon, 404-562-9317
gordon.lisa-perras@epa.gov

Tom McGill, 404-562-9243
mcgill.thomas@epa.gov



10

Spring 2022 EPA/State Water Directors Meeting

Virtual Meeting
June 7-8, 2022

Tuesday June 7, 2022	
9:00 AM-9:45	**Welcome, Roundtable Introductions and General Updates** *Jeaneanne Gettle, EPA Water Division Director Region 4* *Daniel Blackman, EPA Regional Administrator Region 4* *State Water Directors*
9:45 – 10:30	**NPDES Updates and Discussion** *Chris Thomas* • Informational Updates: Pesticide General Permit on notice, Multisector General Permit just issued, Construction General Permit later this year. • Updates and timelines for the amended industrial ELG's
10:30-10:45	**Break**
10:45 - 11:30	**PFAS State Updates** • How are you monitoring for PFAS, Updates? • Health Advisories Updates • Coosa River Study Updates *State Directors, Roundtable*
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9:00 AM- 9:05	**Welcome Back** *Jeaneanne Gettle*
9:05-9:15	**EJ Update** *Denisse Diaz, EPA* Updates and Discussion on EPA EJ Program

9:15-10:00	**Bipartisan Infrastructure Law**
	Chris Thomas, EPA
	• SRF regular and supplemental allocations
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	• Other capacity development and asset management updates
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Office of Water Draft Priority Actions
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- Leverage Strategic Research

Actions may include:

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Actions include:

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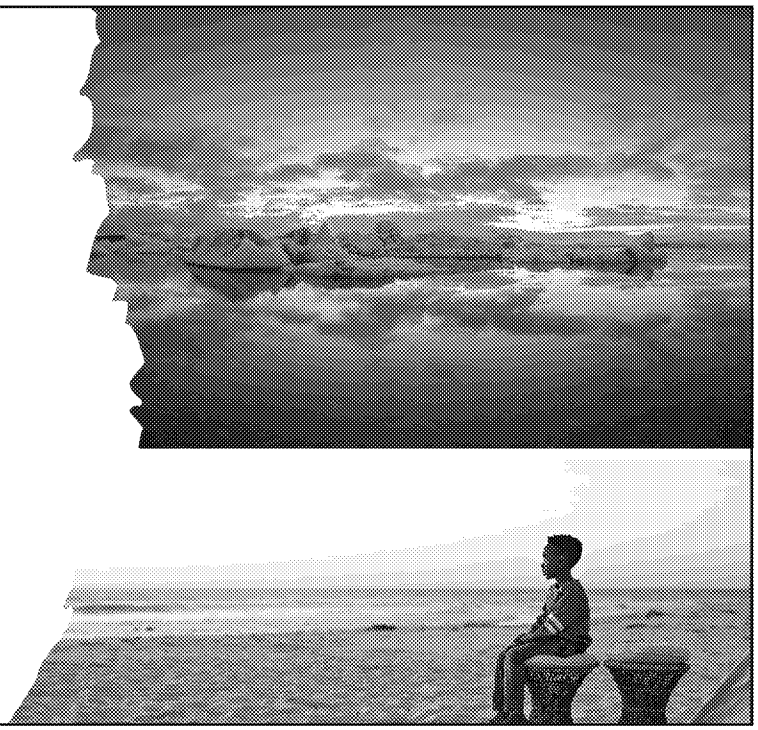

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Water Division

61 Forsyth Street, SW Atlanta, GA 30303-8960
Telephone: 404-562-9345 Fax: 404-562-9318

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404-562-8979

Pam Marcus, Secretary
404-562-9372

Denisse Diaz, Deputy Director

404-562-9248

Sonya Joyner, Secretary
404-562-9380

Permitting & Grants Branch

Telephone: 404-562-9345
Fax: 404-562-8692

Chris Thomas, Chief
404-562-9459

Stephanie Flowers, Secretary
404-562-9263

NPDES Permitting Section
Craig Hesterlee, Chief
404-562-9749

Grants & Infrastructure Section
Johnnie Purify, Chief
404-562-9298

Watershed, Restoration & Technical Assistance Section
Mark Nuhfer, Chief
404-562-9390

Oceans, Wetlands & Streams Protection Branch

Telephone: 404-562-9345
Fax: 404-562-9343

Thomas McGill, Chief
404-562-9243

Julie Drake, Secretary
404-562-9287

Wetlands & Streams Regulatory Section
Rosemary Calli, Chief
404-562-9846

Oceans & Estuarine Management Section
Wade Lehmann, Chief
404-562-8082

Safe Drinking Water Branch

Telephone: 404-562-9345
Fax: 404-562-9439

Brian Smith, Chief
404-562-9845

Annette Jones, Staff Assistant
404-562-9737

Drinking Water Section
Tara Frost, Acting Chief
404-562-9762

Ground Water, UIC & GIS Section
Alanna Conley, Chief
404-562-9768

Water Quality Planning Branch

Telephone: 404-562-9345
Fax: 404-562-9224

Joel Hansel, Acting Chief
404-562-9274

Water Quality Standards Section
Sam Sampath, Acting Chief
404-562-9229

Monitoring, Assessment, Listing & TMDL Section
Donnette Sturdivant, Acting Chief
404-562-9431

EPA's e-mail uses the following format: last name.first name@epa.gov

6/1/2022

TD000000

Water Division
Immediate Office

Telephone: 404-562-9345 Fax: 404-562-9318

Jeaneanne M. Gettle, Director
404-562-8979

Denisse Diaz, Deputy Director
404-562-9248

Becky Allenbach
Senior Advisor
404-562-9687

Erica Jones
Acting Special Assistant
404-562-9264

Pam Marcus
Secretary
404-562-9372

Sonya Joyner
Secretary
404-562-9380

Program Management and Administration

Vanessa Felton
Administrative Officer
404-562-9365

Dan Scheidt
So, FL Senior Scientist
Athens, GA
706-355-8724
Fax: 706-355-8726

Tracy Shellhorse
Funding Coordinator
404-562-9286

6/1/2022

Appointment

From: Richardson, Susan [SRichardson@kilpatricktownsend.com]
Sent: 1/20/2022 5:49:58 PM
To: Pruss, John J [jjpruss@burnsmcd.com]; Hauser, Dave [dlhauser@burnsmcd.com]; Gretchen Zmitrovich [GZMITROVICH@mdeq.ms.gov]; Ammons, Brad [Ammons.Brad@epa.gov]; Sayre, Dennis [Sayre.Dennis@epa.gov]; Karl.Fingerhood@usdoj.gov; Castillo, Jairo [Castillo.Jairo@epa.gov]; Bailey Long [blong@mdeq.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Michelle Clark [mrclark@mdeq.ms.gov]; Chavez, Araceli [Chavez.Araceli@epa.gov]; King, Carol [King.Carol@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Ghosh, Mita [Ghosh.Mita@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Chris Sanders [csanders@mdeq.ms.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; KIEU-ANH TRAN [ka.tran@qsiworld.com]; Jan Mangana [jmangana@jacksonms.gov]; Jennifer Jorge [jennifer.jorge@waggonereng.com]; Andrew Jenkins - AJA Management & Technical Services (ajenkins@ajaservices.com) [ajenkins@ajaservices.com]; David Willis [david.willis@waggonereng.com]; Marlin King [mking@jacksonms.gov]; Louis Wright [louisw@city.jackson.ms.us]
CC: Mo, Angela (ENRD) [Angela.Mo@usdoj.gov]; Jennifer Wood [jwood@mdeq.ms.gov]

Subject: Canceled: City of Jackson Bi-Monthly Call (4th Thursday Call) CANCELLED
Location: Revised to WebEx Meeting

Start: 1/27/2022 4:00:00 PM
End: 1/27/2022 5:00:00 PM
Show Time As: Free

Importance: High

Recurrence: (none)

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Appointment

From: Richardson, Susan [SRichardson@kilpatricktownsend.com]
Sent: 3/18/2022 5:23:28 PM
To: Pruss, John J [jjpruss@burnsmcd.com]; Hauser, Dave [dlhauser@burnsmcd.com]; Gretchen Zmitrovich [GZMITROVICH@mdeq.ms.gov]; Ammons, Brad [Ammons.Brad@epa.gov]; Sayre, Dennis [Sayre.Dennis@epa.gov]; Karl.Fingerhood@usdoj.gov; Castillo, Jairo [Castillo.Jairo@epa.gov]; Bailey Long [blong@mdeq.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Michelle Clark [mrclark@mdeq.ms.gov]; Chavez, Araceli [Chavez.Araceli@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Ghosh, Mita [Ghosh.Mita@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Chris Sanders [csanders@mdeq.ms.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; KIEU-ANH TRAN [ka.tran@qsiworld.com]; Jan Mangana [jmangana@jacksonms.gov]; Jennifer Jorge [jennifer.jorge@waggonereng.com]; Andrew Jenkins - AJA Management & Technical Services (ajenkins@ajaservices.com) [ajenkins@ajaservices.com]; David Willis [david.willis@waggonereng.com]; Marlin King [mking@jacksonms.gov]; Louis Wright [louisw@city.jackson.ms.us]; Vinch, James [Vinch.James@epa.gov]
CC: Mo, Angela (ENRD) [Angela.Mo@usdoj.gov]; Jennifer Wood [jwood@mdeq.ms.gov]; Tony Cox [tcox@mdeq.ms.gov]

Subject: Canceled: City of Jackson Bi-Monthly Call (4th Thursday Call)
Location: Revised to WebEx Meeting - March 24 cancelled for call with Industrial Economics

Start: 3/24/2022 3:00:00 PM
End: 3/24/2022 4:00:00 PM
Show Time As: Free

Importance: High

Recurrence: (none)

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Appointment

From: Richardson, Susan [SRichardson@kilpatricktownsend.com]
Sent: 4/27/2022 5:07:39 PM
To: Pruss, John J [jjpruss@burnsmcd.com]; Hauser, Dave [dlhauser@burnsmcd.com]; Gretchen Zmitrovich [GZMITROVICH@mdeq.ms.gov]; Ammons, Brad [Ammons.Brad@epa.gov]; Sayre, Dennis [Sayre.Dennis@epa.gov]; Karl.Fingerhood@usdoj.gov; Castillo, Jairo [Castillo.Jairo@epa.gov]; Bailey Long [blong@mdeq.ms.gov]; Andrew Jenkins - AJA Management & Technical Services (ajenkins@ajaservices.com) [ajenkins@ajaservices.com]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Michelle Clark [mrclark@mdeq.ms.gov]; Chavez, Araceli [Chavez.Araceli@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Ghosh, Mita [Ghosh.Mita@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Chris Sanders [csanders@mdeq.ms.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; KIEU-ANH TRAN [ka.tran@qsiworld.com]; Jan Mangana [jmangana@jacksonms.gov]; Jennifer Jorge [jennifer.jorge@waggonereng.com]; David Willis [david.willis@waggonereng.com]; Marlin King [mking@jacksonms.gov]; Louis Wright [louisw@city.jackson.ms.us]; Vinch, James [Vinch.James@epa.gov]
CC: Mo, Angela (ENRD) [Angela.Mo@usdoj.gov]; Jennifer Wood [jwood@mdeq.ms.gov]; Tony Cox [tcox@mdeq.ms.gov]

Subject: Canceled: City of Jackson Bi-Monthly Call (4th Thursday Call)
Location: Revised to WebEx Meeting

Start: 4/28/2022 3:00:00 PM
End: 4/28/2022 4:00:00 PM
Show Time As: Free

Importance: High

Recurrence: (none)

DISCLAIMER Per Treasury Department Circular 230: Any U.S. federal tax advice contained in this communication (including any attachments) is not intended or written to be used, and cannot be used, for the purpose of (i) avoiding penalties under the Internal Revenue Code or (ii) promoting, marketing or recommending to another party any transaction or matter addressed herein.

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 4/28/2022 7:32:35 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]
CC: Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Castillo, Jairo [Castillo.Jairo@epa.gov]
Subject: Webinar: Recruiting and retaining for water utility workforce
Attachments: Water Workforce Webinar Flyer Spring 2022 FINAL.pdf

Dr. Williams/Mr. King

I wanted to pass along this webinar that the City of Jackson may be interested in attending next week. I hope the City can join. Let me know if you have any questions.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

CREATING THE WATER WORKFORCE OF THE FUTURE

WEBINAR SERIES

Retaining a Strong and Resilient Utility Workforce

As we all know, the water utility sector faces real challenges – not only to **recruit** a strong and resilient workforce but also to **retain and cultivate** these individuals once they are on board. Past webinars in this series have focused on ways in which utilities are using innovative strategies to attract workers. This webinar will focus on what happens next. You'll hear from two leading utilities that are ensuring their employees have the right training, career progression opportunities, and other incentives to help them **succeed and advance** in their **careers** at the utility, not just in their current job.

Please join us on May 4th to hear and learn from two outstanding water utility managers.

This webinar is part of an ongoing webinar series hosted by EPA, in partnership with leading water sector organizations around the country. More information on this webinar series can be found at https://www.epa.gov/sustainable-water-infrastructure/water-sector-workforce-webinars

ATTENDANCE IS FREE – REGISTER NOW!

https://www.zoomgov.com/webinar/register/WN_MNYdt20WTZaPuCgcVgXePg

MAY 4, 2022
1:00 - 2:30 PM Eastern Time

Moderator:

- **Jim Horne**, U.S. EPA

Speakers:

- **Janet Barrow**, Director of Human Resources and Administration, WaterOne, Johnson County, Kansas
- **Gerard Yates**, Deputy General Manager, Central Utah Water Conservancy District

EPA United States Environmental Protection Agency

Association of Metropolitan Water Agencies

American Water Works Association

NACWA

Water Environment Federation the water quality people

The Water Research Foundation

WateReuse

Message

From: Charles Williams [cwilliams@city.jackson.ms.us]
Sent: 4/28/2022 9:19:37 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@city.jackson.ms.us]; Burns, Robert [Burns.Robert@epa.gov]
CC: Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Castillo, Jairo [Castillo.Jairo@epa.gov]
Subject: RE: Webinar: Recruiting and retaining for water utility workforce

Mr. Myers,

Thank you for the information.

Respectfully,

Charles Williams Jr., PE, PhD
City Engineer
Department of Public Works
(601) 960-1651

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Thursday, April 28, 2022 2:33 PM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>
Cc: Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Castillo, Jairo <Castillo.Jairo@epa.gov>
Subject: Webinar: Recruiting and retaining for water utility workforce

Dr. Williams/Mr. King

I wanted to pass along this webinar that the City of Jackson may be interested in attending next week. I hope the City can join. Let me know if you have any questions.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division

U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Agenda

FY23 Strategic Plan Kick-Off

R4 Enforcement and Compliance Assurance Division

Carol Kemker, ECAD Director, to open discussion on the following topics:

1. Welcome
2. Regional Administration Update
3. Strategic Planning Background/Schedule
4. Enforcement and COVID-19 Update
5. State Review Framework Update
6. Water Enforcement Branch Update
7. Brief Update on Recent Policy/Guidance/Memos
    a. EPA Strategic Plan
    b. Climate Change
    c. Environmental Justice
    d. PFAS Strategic Roadmap
    e. Bipartisan Infrastructure Law
8. Q & A

Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 8/5/2022 7:23:55 PM
To: Sayre, Dennis [Sayre.Dennis@epa.gov]; Richardson, Susan [SRichardson@kilpatricktownsend.com]; Ammons, Brad [Ammons.Brad@epa.gov]; Michelle Clark [mrclark@mdeq.ms.gov]
CC: Wetherington, Michele [Wetherington.Michele@epa.gov]; Castillo, Jairo [Castillo.Jairo@epa.gov]; Chris Sanders [csanders@mdeq.ms.gov]
Subject: Re: Jackson technical meeting

I'll check with the Acting City Engineer and with the new Sewer Maintenance manager to see when they are available. I'll let you know.

Thanks

Thanks,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson |Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov
Follow COJ on Social Media: Facebook | Twitter | Instagram

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From: Sayre, Dennis <Sayre.Dennis@epa.gov>
Sent: Friday, August 5, 2022 10:21 AM
To: Terry Williamson <twilliamson@city.jackson.ms.us>; Richardson, Susan <SRichardson@kilpatricktownsend.com>; Ammons, Brad <Ammons.Brad@epa.gov>; Michelle Clark <mrclark@mdeq.ms.gov>
Cc: Wetherington, Michele <Wetherington.Michele@epa.gov>; Castillo, Jairo <Castillo.Jairo@epa.gov>; Chris Sanders <csanders@mdeq.ms.gov>
Subject: RE: Jackson technical meeting

Alternatively, we can use the call time for next week (Aug 11 at 10 CDT/11 EDT). Please let me know your preferences.

Dennis Sayre: Inspector: Environmental Engineer
404.562.9756 (office)

From: Sayre, Dennis
Sent: Friday, August 5, 2022 7:55 AM

To: Terry Williamson <twilliamson@city.jackson.ms.us>; Richardson, Susan <SRichardson@kilpatricktownsend.com>; Ammons, Brad <Ammons.Brad@epa.gov>; Michelle Clark <mrclark@mdeq.ms.gov>
Cc: Wetherington, Michele <Wetherington.Michele@epa.gov>; Castillo, Jairo <Castillo.Jairo@epa.gov>; Chris Sanders <csanders@mdeq.ms.gov>
Subject: Jackson technical meeting

The purpose of this meeting will be to discuss SSO locations listed as "ongoing-unresolved" in the quarterly reports. In preparation, please provide an Excel spreadsheet of the SSOs listed in Quarterly Reports 26 through 37. These reports cover the periods of July 2019 trhrough June 2022. This information should be readily available. Please provide an available date/time to meet (Teams meeting) from the list below.

Central times
8/22 – any time from 8:00 – 3:00
8/23 – 10 to 11
8/24 – 1 to 2, 2 to 3
8/25 – 1 to 2, 2 to 3
8/26 - any time from 8 to 2

Dennis Sayre: Inspector: Environmental Engineer
Wastewater Enforcement Section
Water Enforcement Branch
Enforcement and Compliance Assurance Division
404.562.9756 (office)

Message

From: Richardson, Susan [SRichardson@kilpatricktownsend.com]
Sent: 8/9/2022 8:47:09 PM
To: Pruss, John J [jjpruss@burnsmcd.com]; Hauser, Dave [dlhauser@burnsmcd.com]; Gretchen Zmitrovich [GZMITROVICH@mdeq.ms.gov]; Ammons, Brad [Ammons.Brad@epa.gov]; Sayre, Dennis [Sayre.Dennis@epa.gov]; Karl.Fingerhood@usdoj.gov; Castillo, Jairo [Castillo.Jairo@epa.gov]; Bailey Long [blong@mdeq.ms.gov]; Jerriot Smash [jsmash@ajaservices.com]; Andrew Jenkins - AJA Management & Technical Services (ajenkins@ajaservices.com) [ajenkins@ajaservices.com]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Michelle Clark [mrclark@mdeq.ms.gov]; Chavez, Araceli [Chavez.Araceli@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Ghosh, Mita [Ghosh.Mita@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Chris Sanders [csanders@mdeq.ms.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; KIEU-ANH TRAN [ka.tran@qsiworld.com]; Jan Mangana [jmangana@jacksonms.gov]; Jennifer Jorge [jennifer.jorge@waggonereng.com]; David Willis [david.willis@waggonereng.com]; Marlin King [mking@jacksonms.gov]; Louis Wright [louisw@city.jackson.ms.us]; Vinch, James [Vinch.James@epa.gov]; Thomas McKay [thomas.mckay@waggonereng.com]
CC: Mo, Angela (ENRD) [Angela.Mo@usdoj.gov]; Jennifer Wood [jwood@mdeq.ms.gov]; Tony Cox [tcox@mdeq.ms.gov]; jgammill [jgammill@mdeq.ms.gov]
Subject: City of Jackson Bi-Monthly Call (2nd Thursday Call)

All, we have cancelled the call for this Thursday. It will be replaced with a Technical Call. It is my understanding that Dennis will be sending out a new call in number to the participants for the Technical Call.

KILPATRICK TOWNSEND
ATTORNEYS AT LAW

Susan Richardson
Kilpatrick Townsend & Stockton LLP
Suite 2800 | 1100 Peachtree Street NE | Atlanta, GA 30309-4528
office 404 815 6330 | cell 678 984 4894 | fax 404 541 3366
srichardson@kilpatricktownsend.com | My Profile | vCard

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Message

From: Richardson, Susan [SRichardson@kilpatricktownsend.com]
Sent: 8/10/2022 2:54:12 PM
To: Pruss, John J [jjpruss@burnsmcd.com]; Hauser, Dave [dlhauser@burnsmcd.com]; Gretchen Zmitrovich [GZMITROVICH@mdeq.ms.gov]; Ammons, Brad [Ammons.Brad@epa.gov]; Sayre, Dennis [Sayre.Dennis@epa.gov]; Karl.Fingerhood@usdoj.gov; Castillo, Jairo [Castillo.Jairo@epa.gov]; Bailey Long [blong@mdeq.ms.gov]; Jerriot Smash [jsmash@ajaservices.com]; Andrew Jenkins - AJA Management & Technical Services (ajenkins@ajaservices.com) [ajenkins@ajaservices.com]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Michelle Clark [mrclark@mdeq.ms.gov]; Chavez, Araceli [Chavez.Araceli@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Ghosh, Mita [Ghosh.Mita@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Chris Sanders [csanders@mdeq.ms.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; KIEU-ANH TRAN [ka.tran@qsiworld.com]; Jan Mangana [jmangana@jacksonms.gov]; Jennifer Jorge [jennifer.jorge@waggonereng.com]; David Willis [david.willis@waggonereng.com]; Marlin King [mking@jacksonms.gov]; Louis Wright [louisw@city.jackson.ms.us]; Vinch, James [Vinch.James@epa.gov]; Thomas McKay [thomas.mckay@waggonereng.com]
CC: Mo, Angela (ENRD) [Angela.Mo@usdoj.gov]; Jennifer Wood [jwood@mdeq.ms.gov]; Tony Cox [tcox@mdeq.ms.gov]; jgammill [jgammill@mdeq.ms.gov]
Subject: RE: City of Jackson Bi-Monthly Call (2nd Thursday Call)

All, you may have received an update for the next call – just ignore this. I was trying to clean up the addresses for those of the group who have left us and I think the update went to all. (I need to delete Bailey, Charles W and Mita G).

Susan Richardson
Kilpatrick Townsend & Stockton LLP
Suite 2800 | 1100 Peachtree Street NE | Atlanta, GA 30309-4528
office 404 815 6330 | cell 678 984 4894 | fax 404 541 3366
srichardson@kilpatricktownsend.com | My Profile | vCard

From: Richardson, Susan
Sent: Tuesday, August 9, 2022 4:47 PM
To: Pruss, John J <jjpruss@burnsmcd.com>; 'Hauser, Dave' <dlhauser@burnsmcd.com>; 'Gretchen Zmitrovich' <GZMITROVICH@mdeq.ms.gov>; Ammons, Brad <Ammons.Brad@epa.gov>; Sayre, Dennis <Sayre.Dennis@epa.gov>; Karl.Fingerhood@usdoj.gov; Castillo, Jairo <Castillo.Jairo@epa.gov>; Bailey Long <blong@mdeq.ms.gov>; 'Jerriot Smash' <jsmash@ajaservices.com>; Andrew Jenkins - AJA Management & Technical Services (ajenkins@ajaservices.com) <ajenkins@ajaservices.com>; 'Wetherington, Michele' <Wetherington.Michele@epa.gov>; Michelle Clark <MRClark@mdeq.ms.gov>; Chavez, Araceli <Chavez.Araceli@epa.gov>; 'Rausch.Heidi@epa.gov' <Rausch.Heidi@epa.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Charles Williams <cwilliams@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Ghosh, Mita <Ghosh.Mita@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Chris Sanders <csanders@mdeq.ms.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; KIEU-ANH TRAN <ka.tran@qsiworld.com>; Jan Mangana <jmangana@jacksonms.gov>; Jennifer Jorge <jennifer.jorge@waggonereng.com>; David Willis <david.willis@waggonereng.com>; Marlin King <mking@jacksonms.gov>; 'Louis Wright' <louisw@city.jackson.ms.us>; Vinch, James <Vinch.James@epa.gov>; 'Thomas McKay' <thomas.mckay@waggonereng.com>
Cc: Mo, Angela (ENRD) <Angela.Mo@usdoj.gov>; Jennifer Wood <JWood@mdeq.ms.gov>; Tony Cox <tcox@mdeq.ms.gov>; James Gammill <jgammill@mdeq.ms.gov>
Subject: City of Jackson Bi-Monthly Call (2nd Thursday Call)

All, we have cancelled the call for this Thursday. It will be replaced with a Technical Call. It is my understanding that Dennis will be sending out a new call in number to the participants for the Technical Call.

KILPATRICK TOWNSEND

ATTORNEYS AT LAW

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Appointment

From: Richardson, Susan [SRichardson@kilpatricktownsend.com]
Sent: 2/16/2022 9:10:57 PM
To: Pruss, John J [jjpruss@burnsmcd.com]; Hauser, Dave [dlhauser@burnsmcd.com]; Gretchen Zmitrovich [GZMITROVICH@mdeq.ms.gov]; Ammons, Brad [Ammons.Brad@epa.gov]; Sayre, Dennis [Sayre.Dennis@epa.gov]; Karl.Fingerhood@usdoj.gov; Castillo, Jairo [Castillo.Jairo@epa.gov]; Bailey Long [blong@mdeq.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Michelle Clark [mrclark@mdeq.ms.gov]; Chavez, Araceli [Chavez.Araceli@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Ghosh, Mita [Ghosh.Mita@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Chris Sanders [csanders@mdeq.ms.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; KIEU-ANH TRAN [ka.tran@qsiworld.com]; Jan Mangana [jmangana@jacksonms.gov]; Jennifer Jorge [jennifer.jorge@waggonereng.com]; Andrew Jenkins - AJA Management & Technical Services (ajenkins@ajaservices.com) [ajenkins@ajaservices.com]; David Willis [david.willis@waggonereng.com]; Marlin King [mking@jacksonms.gov]; Louis Wright [louisw@city.jackson.ms.us]; Vinch, James [Vinch.James@epa.gov]
CC: Mo, Angela (ENRD) [Angela.Mo@usdoj.gov]; Jennifer Wood [jwood@mdeq.ms.gov]

Subject: Canceled: City of Jackson Bi-Monthly Call (4th Thursday Call)
Location: Revised to WebEx Meeting

Start: 2/24/2022 4:00:00 PM
End: 2/24/2022 5:00:00 PM
Show Time As: Free

Importance: High

Recurrence: (none)

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FY 2022-2026 EPA Strategic Plan

March 28, 2022

ED_013319_00000072-00001

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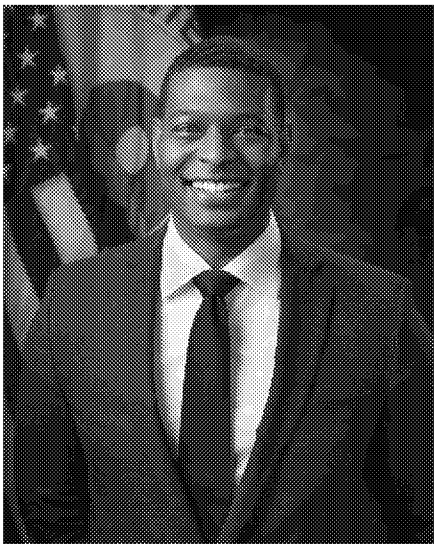
Administrator Regan's Message



The Biden-Harris Administration is deeply committed to protecting human health and the environment for **all** Americans, including those historically marginalized, overburdened, underserved, and living with the legacy of structural racism. I am proud to present the *FY 2022-2026 EPA Strategic Plan* that will serve as the foundation to achieve the Biden-Harris Administration's priorities and the critical mission of this Agency for years to come.

Growing up in eastern North Carolina, I suffered from asthma that was exacerbated by the car exhaust from heavy traffic and hog farm processing activities. From an early age, I understood that living near sources of pollution meant lost school days or being unable to enjoy spending time outdoors with my father and grandfather. I know I am not alone in this experience. The life-changing impact that pollution can have on an individual happens all too often in underserved communities. Not long after arriving at EPA, I had the privilege of meeting with underserved communities throughout the Southeast region that have been heavily affected by environmental injustices. I toured neighborhoods severely impacted by pollution and met with environmental justice leaders to discuss ways to address these deep-rooted problems. These discussions made it very clear that EPA has a responsibility to pursue justice as we jointly confront environmental and climate challenges with our federal, Tribal, state, and local partners, including through the vigorous enforcement of civil rights. That's why, in this *Strategic Plan*, we are taking the principles first outlined by EPA Administrator William Ruckelshaus to follow the science, follow the law, and be transparent, and adding a fourth foundational principle for the Agency: advance justice and equity. As President Biden stated in announcing the Administration's management agenda, "While we have plenty of work ahead to build an equitable, effective and accountable government that delivers results for all, we are building on a strong foundation, and the possibilities before us are limitless."

This *Strategic Plan* is bold and unprecedented in its commitment to advancing environmental justice and civil rights, and tackling climate change. We sought to be more inclusive and accessible in developing the *Plan*. For the first time, we conducted early outreach to hear from both traditional and new partners and stakeholders on what is important and how we can work more effectively together. We considered this input as we crafted our strategies and developed measures. We added new performance measures on drinking water and sanitation and adjusted our strategy for solid waste management programs and infrastructure. To support public comment on the *Draft Plan*, we translated the Strategic Plan Communications Fact Sheet into eight languages. We received and considered comments from Tribes, state agencies, local governments, associations, advocacy groups, businesses, and individuals, and have incorporated feedback to make our *Plan* even stronger.

We will employ the full array of policy and legal tools at our disposal to incorporate environmental and climate justice considerations in our analysis, rulemaking, permitting, enforcement, grantmaking, operations, disaster response and recovery, and other activities. From replacing lead pipe drinking

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water service lines to targeting enforcement in communities impacted by harmful air pollutants, communities that have been plagued by multiple sources of pollution for decades should finally see progress. The historic investment in EPA from the Bipartisan Infrastructure Law[1] will expand our capacity to deliver for the American people.

EPA will also support the Administration's Justice40 initiative by prioritizing benefits to underserved communities in developing requests for grant applications and in making grant award decisions, to the extent permitted by law. We have already seen an increase in external civil rights cases being referred to the EPA, and we are investigating them to ensure that recipients of EPA dollars do not discriminate based on race, color, national origin, sex, disability, age, or retaliation.

EPA plays a critical role in the Biden-Harris Administration's whole-of-government approach to tackling climate change. In 2021, EPA issued a rule to phase down production and consumption of hydrofluorocarbons, a potent greenhouse gas. EPA will further reduce greenhouse gas emissions by issuing rules to reduce pollution from the power sector, setting vehicle emission standards, and partnering with the public and private sectors to increase energy and resource efficiency in the residential, commercial, and industrial sectors. In addition, the Agency's Climate Adaptation Action Plan describes our commitment and the steps we will take to help the country anticipate, prepare for, and avoid disruptive impacts due to climate change. EPA will lead by example and refocus our internal operations on carbon pollution-free energy use and net-zero emissions in line with federal sustainability goals.

In addition, we will continue to advance EPA's goal to protect public health and the environment from per- and polyfluoroalkyl substances (PFAS), long-lasting "forever chemicals" that are present in our water, soil, air, and food, exposing most people in the United States.[2] To safeguard communities and ecological systems from PFAS contamination, EPA will leverage the full range of statutory authorities, developing technologies, and partnerships with other federal agencies to prevent PFAS from entering air, land, and water; accelerate the cleanup of PFAS contamination; and invest in the necessary research.

How we work is critical to achieving the goals in EPA's *Strategic Plan.* EPA will renew our Tribal government-to-government relationships, expand our intergovernmental collaboration with our state and local government partners, and reach out to the regulated community and key stakeholders. We are committed to improving on-the-ground community engagement, enhancing our collaboration with the business community, delivering high-impact environmental education programs, and increasing public trust and transparency. We will protect our most vulnerable, especially children, where they live, learn, play, pray, and work, to ensure their lifelong health and well-being. We will strive for organizational excellence by working more effectively, efficiently, securely, equitably, and with a smaller carbon footprint. We will secure fair, equitable, and transparent acquisitions. And most importantly, we will build a workforce of the future that is representative of our diverse American population.

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[1] The Infrastructure Investment and Jobs Act was signed into law on November 15, 2021. It is referred to as the Bipartisan Infrastructure Law (BIL) in the *Strategic Plan*.

[2] For more information, see: https://www.epa.gov/pfas/pfas-explained.

This is a transformational opportunity, and we are prepared to meet the moment. Working with the talented and committed EPA team and our partners across this beautiful country, I have great confidence that we will accomplish these ambitious goals together.

Michael S Regan

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Introduction

EPA's *FY 2022-2026 Strategic Plan* communicates the Agency's priorities and provides the roadmap for achieving its mission to protect human health and the environment. In this *Strategic Plan*, the Agency renews its commitment to the three principles articulated by William Ruckelshaus, who served as the EPA's first Administrator (1970 – 1973, and then again from 1983 – 1985), to follow the science, follow the law, and be transparent. EPA also adds a fourth foundational principle: advance justice and equity. It is time to include this principle to infuse the consistent and systematic fair, just, and impartial treatment of all individuals into all EPA policies, practices, and programs. These principles form the basis of the Agency's culture and will guide its operations and decision making now and into the future.

Building on work already begun under President Biden's Executive Orders,[3] and in alignment with the Administration's whole-of-government approach, EPA is charting a course in this *Strategic Plan* where tackling climate change and advancing environmental justice and civil rights are integral to all the Agency does in carrying out the mission. In accordance with these priorities, EPA has established new strategic goals on addressing climate change and environmental justice to signal the importance of these issues. The Agency will embed this focus in its work toward the five programmatic strategic goals for enforcement and compliance, air quality, water quality, land revitalization, and chemical safety.

The four cross-agency strategies describe the essential ways EPA will carry out its mission. These strategies include reinforcing science as foundational to Agency decision making; protecting children's environmental health; building back EPA's workforce with particular

EPA Mission

To Protect Human Health and the Environment

Principles

Follow the Science
Follow the Law
Be Transparent
Advance Justice and Equity

Strategic Goals

Goal 1: Tackle the Climate Crisis

Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights

Goal 3: Enforce Environmental Laws and Ensure Compliance

Goal 4: Ensure Clean and Healthy Air for All Communities

Goal 5: Ensure Clean and Safe Water for All Communities

Goal 6: Safeguard and Revitalize Communities

Goal 7: Ensure Safety of Chemicals for People and the Environment

Cross-Agency Strategies

Strategy 1: Ensure Scientific Integrity and Science-Based Decision Making

Strategy 2: Consider the Health of Children at All Life Stages and Other Vulnerable Populations

Strategy 3: Advance EPA's Organizational Excellence and Workforce Equity

Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement

[3] Executive Order 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government* (January 20, 2021): https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-advancing-racial-equity-and-support-for-underserved-communities-through-the-federal-government/.
Executive Order 14008: *Tackling the Climate Crisis at Home and Abroad* (January 27, 2021): https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/27/executive-order-on-tackling-the-climate-crisis-at-home-and-abroad/.

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attention to equity and enhancing mission-support functions to achieve organizational excellence; and renewing EPA's commitment to its trust responsibility to Tribal nations[4] and engagement with Tribal, state, and local government partners, stakeholders, the regulated community, and the public.

EPA's *Strategic Plan* includes a suite of long-term performance goals (LTPGs) that reflect the quantifiable outcomes the Agency will achieve for each strategic objective and cross-agency strategy by 2026. LTPGs will help to understand, monitor, and tell the story of progress being made to partners and stakeholders, Agency employees, and the public. LTPGs provide the means for accountability.

In addition, EPA has identified three FY 2022-2023 Agency Priority Goals (APGs), which are intended to jumpstart actions and showcase progress toward Administrator Regan's priorities:

- Phase down the production and consumption of hydrofluorocarbons (HFCs);
- Deliver tools and metrics for EPA and its Tribal, state, local, and community partners to advance environmental justice and external civil rights compliance; and
- Clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities.

For the first time, EPA's *Strategic Plan* incorporates a Learning Agenda and Capacity Assessment, consistent with the requirements of the Foundations for Evidence-Based Policymaking Act of 2018.[5] The goal is to achieve a culture of evidence-building, continuous learning, and evaluation in EPA's operations and decisions. The Learning Agenda will address key questions across priority areas by leveraging high-quality data. The Capacity Assessment will guide Agency efforts to develop the skills, expertise, and infrastructure that support routine, rigorous use of data. The Agency also identified emerging issues and external factors for consideration in developing strategies to carry out the *Plan*. This included strategic foresight horizon scanning, which involved literature reviews and interviews with experts to identify emerging issues on selected topics.

Engaging with federal, Tribal, state, and local government partners and the Agency's many stakeholders is an integral part of strategic planning. For the first time, EPA conducted early outreach prior to issuance of the *Draft Plan*. Through this engagement, the Agency sought to understand what matters most to its Tribal and state partners and stakeholders as it works to achieve the mission and find ways to work together to achieve the goals. EPA issued a *Federal Register* notice and used www.regulations.gov to encourage and share feedback on the *Draft Plan*. EPA sent notification of the availability of the *Draft Plan* to partner and stakeholder organizations. The Agency also initiated consultation with Tribal partners and Congress. As a result of this concerted outreach, EPA received and considered comments from a wide range of organizations and individuals,[6] which has made this *Strategic Plan* stronger and more inclusive.

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[4] In this Strategic Plan, the terms "Tribe" and "Tribal nation" are referring to federally recognized Indian Tribes. Federally recognized Indian Tribes are those Tribes that have met criteria established by the Department of the Interior or are designated by law as eligible to receive federal benefits, federal services, and federal protections. The special relationship federally recognized Tribes have with the United States is known as the government-to-government relationship.

[5] Full-text of the Foundations for Evidence-Based Policymaking Act of 2018: https://www.congress.gov/bill/115th-congress/house-bill/4174/text.

[6] Public comments are available at: https://www.regulations.gov/docket/EPA-HQ-OA-2021-0403/comments.

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Strategic Goals and Objectives

Goal 1: Tackle the Climate Crisis

- Objective 1.1: Reduce Emissions that Cause Climate Change
- Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts
- Objective 1.3: Advance International and Subnational Climate Efforts

Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights

- Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels
- Objective 2.2: Embed Environmental Justice and Civil Rights into EPA's Programs, Policies, and Activities
- Objective 2.3: Strengthen Civil Rights Enforcement in Communities with Environmental Justice Concerns

Goal 3: Enforce Environmental Laws and Ensure Compliance

- Objective 3.1: Hold Environmental Violators and Responsible Parties Accountable
- Objective 3.2: Detect Violations and Promote Compliance

Goal 4: Ensure Clean and Healthy Air for All Communities

- Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts
- Objective 4.2: Reduce Exposure to Radiation and Improve Indoor Air

Goal 5: Ensure Clean and Safe Water for All Communities

- Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure
- Objective 5.2: Protect and Restore Waterbodies and Watersheds

Goal 6: Safeguard and Revitalize Communities

- Objective 6.1: Clean Up and Restore Land for Productive Uses and Healthy Communities
- Objective 6.2: Reduce Waste and Prevent Environmental Contamination
- Objective 6.3: Prepare for and Respond to Environmental Emergencies

Goal 7: Ensure Safety of Chemicals for People and the Environment

- Objective 7.1: Ensure Chemical and Pesticide Safety
- Objective 7.2: Promote Pollution Prevention

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Goal 1: Tackle the Climate Crisis

Cut pollution that causes climate change and increase the adaptive capacity of Tribes, states, territories, and communities.

Introduction

The impacts of climate change affect people in every region of the country, threatening lives and livelihoods and damaging infrastructure, ecosystems, and social systems. Global annually-averaged surface air temperature has increased by about 1.8°F (1.0°C) over the last 115 years (1901–2016), making this period the warmest in the history of modern civilization. The last few years have seen record-breaking, climate-related weather extremes; increased droughts, flooding, and wildfires; increasing surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor.

Climate change also exacerbates existing pollution problems and environmental stressors impacting the nation's land, air, and water and the people who depend on them. Overburdened and underserved communities and individuals are particularly vulnerable to these impacts, including low-income communities and communities of color, children, the elderly, Tribes, and indigenous peoples.[7] In addition, climate-driven famine, property loss, mass migrations, human conflict, species extinctions, and ecosystem failures have significant humanitarian and national security implications.

EPA will take bold steps and align its actions to respond decisively to the climate crisis. As part of a whole-of-government approach, EPA must aggressively tackle the climate crisis by helping the nation reduce greenhouse gas (GHG) emissions and anticipate, prepare for, and adapt to or recover from the impacts of climate change. Policies to tackle climate change must address the disproportionate vulnerability of low-income communities and communities of color while also dealing with the legacy pollution those communities continue to endure.

Definitions

Climate change refers to changes in global or regional climate patterns attributed largely to human-caused increased levels of atmospheric greenhouse gases.

Climate change adaptation or climate adaptation means taking action to prepare for and adjust to both the current and projected impacts of climate change.

Climate change mitigation refers to actions limiting the magnitude and rate of future climate change by reducing greenhouse gas emissions and/or advancing nature-based solutions.

Adaptive capacity is the ability of a human or natural system to adjust to climate change (including climate variability and extremes) by moderating potential damages, taking advantage of opportunities, or coping with the consequences.

Climate resilience can be generally defined as the capacity of a system to maintain function in the face of stresses imposed by climate change and to adapt the system to be better prepared for future climate impacts.

Climate change is a global issue and domestic action must go hand in hand with international leadership. EPA will continue to share its expertise internationally, while learning from the expertise of others. EPA's programs will not only drive emissions reductions and resilience across the country but will help the U.S. to lead by example on the global stage and provide the foundation for science-based national and international climate mitigation and adaptation goals.

[7] EPA. 2021. Climate Change and Social Vulnerability in the United States: A Focus on Six Impacts. U.S. Environmental Protection Agency, EPA 430-R-21-003.

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Objective 1.1: Reduce Emissions that Cause Climate Change

Aggressively reduce the emissions of greenhouse gases from all sectors while increasing energy and resource efficiency and the use of renewable energy.

Introduction

Greenhouse gases (GHGs) from human activities are the most significant driver of observed climate change since the mid-20th century.[8] As GHG emissions from human activities increase, they build up in the atmosphere and warm the climate, leading to increasingly destructive changes around the world—in the atmosphere, on land, and in the oceans. Steep and swift reductions in GHG emissions are essential to avoid the most catastrophic consequences of climate change.

With its regulatory authority, technical and programmatic expertise, and mission to protect human health and the environment, EPA can drive significant emissions reductions to mitigate climate change. EPA will cut emissions by exercising its authorities to regulate GHG pollutants, including carbon dioxide (CO_2), methane, and hydrofluorocarbons (HFCs), across key sectors. As a complement, EPA will accelerate private and public sector mitigation with partnership programs that address market barriers, encourage leadership, and support Tribal, state, and local governments' efforts to drive down emissions. Tackling the climate crisis will require deep gains in energy efficiency and in decarbonization of buildings, transportation, and the power and industrial sectors. EPA will collaborate closely with stakeholders to drive energy efficiency, grid decarbonization, and zero emissions mobility.

EPA publishes GHG emissions data and applies tools such as the social cost of greenhouse gases, multipollutant analysis, reviews of environmental impact statements, permitting, and technical assistance. EPA also promotes recycling and encourages reducing the use of resources. Together, these approaches will produce measurable reductions in GHG emissions.

Deep emission reductions will require significant transitions in technologies and energy systems that must be informed by community-level engagement, input, and analysis. Climate change is a crisis for the United States and the world, and EPA must respond accordingly and make the transition to a less carbon-intensive existence. EPA will take all measures within its authorities to speed this transition and will do so in a just, equitable, and inclusive manner.

Long-Term Performance Goals

- By September 30, 2026, promulgate final rules to reduce greenhouse gas (GHG) emissions from light duty, medium-duty, and heavy-duty vehicles; electric utility generating units; and the oil and gas industry.
- By September 30, 2026, EPA's climate partnership programs will reduce expected annual greenhouse gas (GHG) emissions by 545 million metric tons of carbon dioxide equivalent ($MMTCO_2e$). EPA's climate partnership programs reduced 518.6 $MMTCO_2e$ of annual GHG emissions in 2019.

[8] IPCC (Intergovernmental Panel on Climate Change). 2013. Climate Change 2013: The Physical Science Basis. Working Group I Contribution to the IPCC Fifth Assessment Report. Cambridge, United Kingdom: Cambridge University Press. www.ipcc.ch/report/ar5/wg1.

FY 2022-2023 Agency Priority Goal (APG)

- **Phase down the production and consumption of hydrofluorocarbons (HFCs).** By September 30, 2023, annual U.S. consumption of HFCs will be 10% below the baseline[9] of 303.9 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) consistent with the HFC phasedown schedule in the American Innovation and Manufacturing (AIM) Act and codified in the implementing regulations. A 10% reduction would decrease the U.S. consumption limit to less than 273.5 $MMTCO_2e$ in 2023.

Strategies

As part of the Administration's comprehensive approach to tackling the climate crisis, EPA will act boldly to drive down GHG emissions and reduce future climate change impacts. EPA will ensure a robust process of engagement with communities that have historically experienced disproportionate exposure to pollution to ensure policy solutions begin to repair this harmful legacy.

Regulatory Approaches: EPA regulations will reduce the emissions of GHGs from mobile and stationary sources. Under the American Innovation and Manufacturing (AIM) Act of 2020,[10] EPA will phase down the production and import of HFCs, which are highly potent GHGs commonly used in refrigerators, air conditioners, and many other applications. The AIM Act directs EPA to sharply reduce production and consumption of these harmful GHG pollutants by using an allowance allocation and trading program. EPA's implementation of the AIM Act will decrease the production and import of HFCs in the United States by 85 percent over the next 15 years. A global HFC phasedown is expected to avoid up to 0.5°C of global warming by 2100. EPA will also consider complementary regulations consistent with the AIM Act to require sector-based transitions away from high Global Warming Potential HFCs and establish additional HFC management requirements to further reduce use and emissions of HFCs.

The transportation sector is the largest source of GHG emissions in the United States. EPA will reduce GHGs from the two largest sources of GHG emissions in the transportation sector: light-duty and heavy-duty vehicles. EPA will set robust federal GHG emissions standards for passenger cars and light-duty trucks to secure pollution reductions through Model Year (MY) 2026. EPA also will set standards for MY 2027 and beyond to speed the transition of the light-duty vehicle fleet toward a zero emissions future and will update air pollution standards for heavy-duty vehicles. The regulations will set the U.S. on a course to achieve aggressive reductions in GHG and other harmful pollutant emissions from highway transportation. EPA will drive GHG reductions while protecting fair competition in the marketplace by testing motor vehicles, heavy-duty engines, nonroad engines, and fuels that enter the

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[9] EPA's final rule, "Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the AIM Act" establishes the HFC production and consumption baselines from which the phasedown steps are measured. Using the equation provided in the AIM Act, and based on the data available to the Agency through the Greenhouse Gas Reporting Program (GHGRP) and outreach conducted for this rulemaking, EPA determined that the production baseline is 382.6 million metric tons of exchange value equivalent (MMTEVe) and the consumption baseline is 303.9 MMTEVe. EPA has determined that the exchange values included in subsection (c) of the AIM Act are identical to the Global Warming Potentials included in IPCC (2007). Therefore, one million metric tons of carbon dioxide equivalent ($MMTCO_2e$) is numerically equivalent to one MMTEVe. EPA is using the measurement $MMTCO_2e$ in this document since the public is more familiar with this term than MMTEVe. For more information, see: https://www.epa.gov/climate-hfcs-reduction/final-rule-phasedown-hydrofluorocarbons-establishing-allowance-allocation.

[10] For more information about the American Innovation and Manufacturing Act, see: https://www.epa.gov/climate-hfcs-reduction/aim-act#:~:text=The%20AIM%20Act%20directs%20EPA,transition%20to%20next%2Dgeneration%20technologies.

U.S. market to certify they comply with federal clean air, GHG, and fuel economy standards. This will pave the way for faster adoption of zero-emission technologies and substantial improvements in air quality, particularly in communities living near heavily traveled corridors.

Electricity production generates the second largest share of GHG emissions. Approximately 62 percent of U.S. electricity comes from burning fossil fuels, mostly coal and natural gas.[11] Executive Order 13990: *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*[12] directs EPA to revise and address, as appropriate, the regulation of GHGs from power plants under Section 111 of the Clean Air Act. Section 111(d) specifically provides states with a central role in developing plans to implement and enforce limits on pollution from existing sources, subject to emission guidelines issued by EPA. EPA will issue and implement rules to reduce GHG pollution from fossil-fuel fired power plants and work closely with Tribes, states, and local agencies to implement them.

The oil and natural gas industry is the largest industrial source of U.S. emissions of methane, a potent GHG, and its facilities and operations also emit smog-forming volatile organic compounds and toxic air pollutants such as benzene. As part of the Administration's comprehensive approach to tackling the climate crisis, EPA will issue and implement rules to reduce methane and other harmful pollutants from new and existing sources in the oil and natural gas industry. These actions meet the requirements of President Biden's Executive Order 13990 and are key steps toward EPA's commitment to deliver public health protections from methane pollution for communities across America.

Congress created the Renewable Fuel Standard (RFS) program to reduce GHG emissions and expand the nation's renewable fuels sector while reducing reliance on imported oil. The RFS program requires a certain volume of renewable fuel to replace or reduce the quantity of petroleum-based transportation fuel, heating oil, or jet fuel. EPA will continue to implement the RFS program, including the associated credit trading systems. Separately, EPA will continue work with partners on programs to control emissions from marine and aircraft engines, which are significant contributors to U.S. and global GHG emissions.

EPA will facilitate net emission and air quality analyses of increased electric vehicle (EV) use.

Science and Disclosure: EPA will improve models of climate change impacts, including how risks and economic impacts can be reduced under mitigation and adaptation scenarios. The Agency will advance the scientific literature on climate impacts by publishing scientific assessments of climate impacts and responses, including those developed through the Climate Impacts and Risk Analysis (CIRA) project and by EPA's research and development program, quantifying and monetizing the risk of climate change on vulnerable populations, and by making EPA's Climate Change Indicators website, which compiles key indicators related to the causes and effects of climate change, more accessible. EPA will also continue its role as a key contributor along with technical experts across the Federal Government to update estimates of the social cost of GHGs to reflect the best available climate science and economics. This

[11] Electricity Explained – Electricity in the United States: https://www.eia.gov/energyexplained/electricity/electricity-in-the-us.php.

[12] Executive Order 13990: *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis* (January 20, 2021): https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/20/executive-order-protecting-public-health-and-environment-and-restoring-science-to-tackle-climate-crisis/.

metric—a range of estimates, in dollars, of the long-term damage imposed by one ton of GHG emissions—combines climate science and economics to help policy makers and the public understand the benefits of reducing GHG emissions and account for those benefits in decision making.

Under the National Environmental Policy Act (NEPA) and Clean Air Act Section 309, EPA will promote robust consideration of climate change mitigation, adaptation, and resilience in the reviews of proposed actions, such as federal land management actions, transportation projects, and publicly owned facility construction, as applicable. EPA fulfills its NEPA and Section 309 responsibilities, in part, by annually reviewing approximately 280 Environmental Impact Statements developed by other federal agencies. EPA will review the adequacy and acceptability of environmental impacts, including those related to climate change, and will identify and recommend appropriate measures to avoid and mitigate significant environmental impacts associated with each proposal.

EPA will continue to implement the U.S. Greenhouse Gas Reporting Program. Under this Clean Air Act regulatory program, EPA annually collects data from over 8,100 facilities from 41 large industrial source categories in the U.S. to support federal and state-level policy development; support regulatory development; and share GHG emissions and supply data with stakeholders, including state and local governments, industry, academia, the research community, and the public in general.

EPA will continue to compile and publish the annual *Inventory of U.S. Greenhouse Gas Emissions and Sinks*[13] to fulfill U.S. treaty obligations, under Article 4 of the 1992 Framework Convention on Climate Change. The *Inventory* provides information on total annual U.S. emissions and removals by source, economic sector, and GHG. The *Inventory* is used to inform U.S. policy and for tracking progress towards the U.S. Nationally Determined Contribution[14] under the Paris Agreement.[15] EPA will continue to improve and refine inventory methodologies in areas such as oil and gas, land-use, and waste, consistent with Intergovernmental Panel on Climate Change (IPCC) guidelines, and to meet upcoming Paris reporting requirements.

Market Drivers and Incentives: EPA's partnership programs will help the transition to a clean energy economy. These programs overcome market barriers, support state and local partners in the public and private sectors, and channel marketplace ingenuity towards climate action. Climate partnership programs will improve delivery of energy efficiency, transportation efficiency, clean energy, and heat mitigation solutions to communities. For example, EPA's domestic methane partnership programs will focus on advancing methane reductions from agriculture, coal mines, landfills, oil and gas systems, and municipal wastewater. ENERGY STAR will achieve significant and growing GHG reductions by promoting the adoption of cost-effective, energy-efficient technologies and practices and by working with state and local governments to improve efficiency in the residential, commercial, and industrial sectors. ENERGY STAR also supports equitable energy solutions that can deliver significant cost savings for low-income families and other underserved populations, prioritizing

[13] Inventory of U.S. Greenhouse Gas Emissions and Sinks: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks.

[14] The United States of America Nationally Determined Contribution: https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/United%20States%20of%20America%20First/United%20States%20NDC%20April%2021%202021%20Final.pdf.

[15] For more information on the Paris Agreement, see: https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement.

outreach to low-income populations on products that have the greatest potential to save energy and dollars. EPA will continue to provide tools, data, and technical expertise to help subnational governments implement clean energy policies and programs that reduce emissions, maximize co-benefits, and prioritize overburdened and underserved communities.

EPA will also continue to drive down emissions of black carbon. This component of particulate matter contributes the most to global warming when deposited on snow or ice, so it is important to prioritize emission sources that impact the Arctic. Domestically, our regulatory and voluntary programs will continue to reduce emissions from residential wood-burning appliances and diesel vehicles. New GHG regulations on light-duty and heavy-duty vehicles, described above, will further lower emissions of particles and black carbon. Also, implementation of the $PM_{2.5}$ National Ambient Air Quality Standards will result in particulate matter and black carbon emission reductions in many areas designated as not attaining standards. Relative to 2013, EPA programs will lead to a 50 percent reduction in black carbon emissions by 2028. Globally, emissions from household energy/cookstoves are the largest controllable source of black carbon (>50 percent). Cookstove emissions also include methane and CO_2. More than 3 billion low-income people around the world, including 600,000 low-income Americans, cook their food and/or heat their homes with open fires or with rudimentary stoves. These activities are also a significant source of air pollutants that adversely affect public health, especially of women and children.[16] EPA will work with domestic and international partners to reduce these exposures and address these inequities—for example, by supporting cookstove design and performance standards and providing technical assistance to foster adoption of improved fuels and stoves. Domestically and globally, these regulations and programs will deliver both public health benefits by reduced exposure to particulate matter and climate change mitigation benefits.

EPA will reduce GHG emissions by promoting a circular economy, which minimizes extraction of finite resources, reduces waste and pollution, keeps products and materials in use, and regenerates natural systems. Extraction and processing of natural resources, including fossil fuels, biomass, minerals, and metals, comprise approximately 50 percent of global GHG emissions.[17] Over one-third of the food produced in the United States is never eaten, wasting the resources used to produce it and creating a myriad of environmental impacts. Food waste is the single most common material landfilled and incinerated in the U.S., comprising 24 and 22 percent of landfilled and combusted municipal solid waste, respectively. Reducing and preventing food waste can increase food security, foster productivity and economic efficiency, promote resource and energy conservation, and address climate change.[18] Investing in domestic recycling, as well as solid waste and food waste infrastructure, that supports a circular economy will help resources maintain their highest and best use and reduce GHG emissions. Through its National Recycling Strategy,[19] EPA is working to develop a stronger, more resilient, and cost-effective U.S. municipal solid waste recycling system, a key component of a circular economy. By moving towards a system that designs out waste while being restorative to the environment, the U.S. will be positioned to find more productive and sustainable ways to extract, use,

[16] For more information, see: https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health.
[17] International Resource Panel's *Global Resources Outlook 2019:* https://www.resourcepanel.org/reports/global-resources-outlook.
[18] For more information, see: https://www.epa.gov/land-research/farm-kitchen-environmental-impacts-us-food-waste.
[19] The National Recycling Strategy is at: https://www.epa.gov/system/files/documents/2021-11/final-national-recycling-strategy.pdf.

and manage materials and generate measurable GHG reductions. For more information about EPA efforts to reduce the environmental impacts of materials across their lifecycle, see Objective 6.2.

External Factors and Emerging Issues

Future GHG emissions levels and resulting impacts depend on many economic, political, and demographic factors as well as other emerging issues, some of which are described below.

- Transformation to Advanced Technology: There is an unprecedented transformation taking place in many highly-emitting GHG sectors, including more widespread adoption of electrified vehicles, electric heats pumps for space and water heating, and other advanced technologies. To prepare for this change, EPA is investing in technologies to support anticipated future test requirements for light-duty and heavy-duty electric vehicles and is preparing for testing of hydrogen fuel cell technologies. EPA is also promoting the adoption of electric heat pump technologies in residential and commercial buildings through ENERGY STAR and other partnership programs.
- Multi-Environmental Media Analytics: The interaction of rising temperatures due to climate change, more heat waves, and the heat island effect will be increasingly harmful to people's health and the air and water quality in communities. A rapid transition to low-carbon energy and transportation systems and the deployment of heat mitigation strategies will have cross-media impacts, and EPA will need to advance analytical efforts to better identify and evaluate these effects.
- Leveraging EPA Emission Expertise Internationally: High-level diplomatic efforts to increase climate mitigation may result in additional requests for EPA expertise related to quantifying current and projected future emissions, assessing mitigation options in other countries, and implementing programs and regulations. EPA is uniquely positioned to contribute to this effort given both its sectoral expertise and emission quantification and modeling tools.

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Objective 1.2: Accelerate Resilience and Adaptation to Climate Change Impacts

Deliver targeted assistance to increase the resilience of Tribes, states, territories, and communities to the impacts of climate change.

Introduction

EPA is committed to taking necessary actions to anticipate, prepare for, adapt to, and recover from the impacts of climate change while advancing the climate resilience of Tribes and indigenous peoples, states, territories, and communities across the nation.

Climate change poses significant risks to EPA's ability to fulfill its mission and affects how the Agency designs and implements its programs. EPA will ensure its programs, policies, rulemaking processes, enforcement and compliance assurance activities, and operations consider the current and future impacts of climate change and how those impacts will disproportionately affect overburdened and underserved communities. Through adaptation planning and implementation activities, EPA will continue to protect human health and the environment even as the climate changes.

EPA will provide targeted assistance to Tribes and indigenous peoples, states, territories, local governments, communities, and businesses to transform their environmental programs, strengthen their adaptive capacity, and increase the resilience of the nation, with a particular focus on advancing environmental justice. This includes preparing for and responding to climate-related impacts and disasters (e.g., wildfires, extreme heat, droughts, floods, sea level rise, damage to estuaries and ecosystems, health impacts, storm surge, and melting permafrost) and ensuring that infrastructure investments increase resilience to climate change.

EPA's commitments are part of a whole-of-government approach to pursue actions at home and abroad to avoid the most catastrophic impacts of climate change.

Long-Term Performance Goals

- By September 30, 2026, implement all priority actions in EPA's Climate Adaptation Action Plan and the 20 National Program and Regional Climate Adaptation Implementation Plans to account for the impacts of the changing climate on human health and the environment.[20]
- By September 30, 2026, assist at least 400 federally recognized Tribes to take action to anticipate, prepare for, adapt to, or recover from the impacts of climate change.
- By September 30, 2026, assist at least 450 states, territories, local governments, and communities, especially communities that are underserved and disproportionally at risk from climate change, to take action to anticipate, prepare for, adapt to, or recover from the impacts of climate change.

Strategies

In 2021, EPA issued a Policy Statement signed by Administrator Regan and a Climate Adaptation Action Plan, which advance Executive Order (E.O.) 14008: *Tackling the Climate Crisis at Home and Abroad*. EPA's Climate Adaptation Action Plan accelerates and focuses attention on five priority actions the

[20] These plans are available at: https://www.epa.gov/climate-adaptation/climate-adaptation-plan.

Agency will take over the next four years to increase human and ecosystem resilience as the climate changes and disruptive impacts increase:

1. Integrate climate adaptation into EPA programs, policies, rulemaking processes, and enforcement activities.
2. Consult and partner with Tribes, states, territories, local governments, environmental justice organizations, community groups, businesses, and other federal agencies to strengthen adaptive capacity and increase the resilience of the nation, with a particular focus on advancing environmental justice.
3. Implement measures to protect the Agency's workforce, facilities, critical infrastructure, supply chains, and procurement processes from the risks posed by climate change.
4. Measure and evaluate performance.
5. Identify and address climate adaptation science needs.

EPA will closely coordinate with other federal agencies on climate change adaptation challenges that cut across Agency jurisdictions to improve the efficiency and effectiveness of the combined federal effort.

Integrating Climate Adaptation into EPA Programs, Policies, and Operations: EPA programs and regions will update or develop 20 Climate Change Adaptation Implementation Plans to align with and advance the five priorities in the 2021 EPA Adaptation Action Plan. Program and regional plans will focus on program- or region-specific issues (e.g., the implications for water quality of more frequent and intense storms on agricultural lands). Each plan will build on progress to date and identify actions that integrate climate adaptation into remedies, permits, infrastructure investments, enforcement and compliance assistance, grants, loans, technical assistance, and operations. In addition, programs and regions will identify climate adaptation strategies, informed by the best available science, that deliver co-benefits for mitigation of GHG and other pollution, public health, economic growth and job creation, national security, and environmental justice—all of which will be central to building a more resilient future.

Increasing Resilience of Tribes, States, and Communities: EPA will ensure its grants, loans, and technical assistance consider climate change to the greatest extent possible and help empower Tribes, states, and communities across the nation to anticipate, prepare for, adapt to, and recover from the impacts of climate change. Of particular concern is that the impacts of climate change across the U.S. and the world will not be distributed equally. Certain communities and individuals are particularly vulnerable to the impacts of climate change, including low-income communities, children, the elderly, communities of color, Tribal communities, and indigenous peoples. EPA will actively engage with organizations representing overburdened and underserved communities, such as the National Environmental Justice Advisory Council, the National Tribal Operations Committee, and the Local Government Advisory Committee, with the goal of attaining a more equitable, just, and climate-resilient future.

EPA will work with Tribes and indigenous peoples, states, territories, local governments, regional programs, environmental justice organizations, community groups, businesses, other federal agencies, and other partners to leverage existing efforts and provide targeted support to build adaptive capacity and resilience. For example, EPA will work with the Federal Emergency Management Agency (FEMA) to

assist and support communities with disaster mitigation and recovery planning. In addition, EPA will collaborate with, support, and learn from international partners on climate adaptation and capacity building.

Climate Adaptation Literacy and Science: EPA will increase the climate literacy of EPA employees and Tribal, state, local, and community partners. EPA will equip staff and partners with an understanding of projected climate-related impacts and how to use climate adaptation tools to incorporate climate adaptation into decision making. EPA will develop, update, and expand its existing climate adaptation training modules to prioritize two primary goals: (1) to increase awareness about the importance of climate adaptation and encourage all EPA staff and partners to consider the changing climate in the normal course of business; and (2) to introduce specific methods (e.g., nature-based solutions and green infrastructure) and tools for integrating climate adaptation into decision-making processes.

EPA will support an Agencywide approach to identify and update priority climate adaptation research needs. EPA will advance a rigorous exploratory and applied climate adaptation science program by conducting climate-related research in its labs and centers, supporting research through its grants program, conducting policy-relevant assessments, communicating research and assessment results, and delivering innovative and sustainable solutions. EPA will coordinate and collaborate with other federal agencies and the scientific community to provide access to the best available science, technologies, and practices.

EPA will establish a central repository of information and tools related to climate adaptation to facilitate the ongoing sharing of information. EPA programs and regions will contribute to the repository by documenting adaptation integration methods that may also be applicable to others within the Agency or its partners. EPA will collaborate with other federal agencies to develop and maintain a means to ensure access to climate adaptation data by all staff and partners.

External Factors and Emerging Issues

Communities across the country are already feeling the impacts of climate change. More frequent and intense extreme weather and climate-related events, as well as changes in average climate conditions, are expected to continue to damage infrastructure, ecosystems, and social systems that provide essential benefits to communities and the nation. The increasing frequency of climate-related disruptions may stress already limited federal, Tribal, and state resources to support planning and preparedness to minimize long-term impacts.

The transformation required to integrate climate adaptation planning and preparedness into EPA's programs and operations also must be undertaken by EPA's Tribal, state, and local government partners. To anticipate, prepare for, adapt to, and recover from the impacts of climate change will require all levels of government to transform together.

There is an increasing need to measure community climate risk and resiliency so limited resources can be targeted most effectively; for example, to communities with environmental justice concerns at greatest risk. Data related to local impacts and effective actions to reduce risk are not consistent or widely available. This may limit the Agency's ability to identify and invest in the most vulnerable communities using the highest impact actions.

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Objective 1.3: Advance International and Subnational Climate Efforts

Collaborate with Tribal, state, local, and international partners and provide leadership on the global stage to address climate change.

Introduction

Climate change is a global issue that has far-reaching human health, social, economic, and biodiversity impacts on the planet, with direct adverse effects in the United States. EPA is prioritizing efforts to help countries respond to the climate crisis by reducing domestic GHG emissions as well as increasing equitable adaptation and resiliency to climate change impacts. Building on EPA's responsibilities for protecting human health and the environment, EPA plays a critical role internationally by providing technical expertise, guidance, and capacity building to help countries set and meet ambitious GHG reductions, improve adaptive capacity, and strengthen climate governance.

E.O. 14008 directs federal agencies to develop plans for integrating climate considerations into their international work, as appropriate and consistent with applicable law. In response, EPA developed an International Climate Strategy Plan[21] to advance climate assistance internationally at the national, city, and local levels, including climate assistance to indigenous peoples, and provide leadership on the global stage to address climate change.

EPA support will increase partner countries' ability to integrate climate change mitigation and adaptation actions and information into their relevant domestic policy and engagement decisions. This is consistent with the Agency's domestic climate work and its mission to protect human health and the environment, including from transboundary pollution sources.

Long-Term Performance Goal

- By September 30, 2026, implement at least 40 international climate engagements that result in an individual partner commitment or action to reduce greenhouse gas (GHG) emissions, adapt to climate change, or improve resilience in a manner that promotes equity.

Strategies

EPA's International Climate Strategy Plan outlines activities where EPA can help address the global climate crisis. These activities include a focus on overburdened and underserved communities that are most susceptible to impacts from climate change and so would derive even greater protections from climate change mitigation and adaptation actions. To achieve the goals of E.O. 14008, EPA will promote tools and initiate capacity building and technical assistance programs in countries where EPA expects to have the greatest potential to make a difference in:

- Reducing potent climate forcers: black carbon, methane, ozone, and hydrofluorocarbons (HFCs).
- Improving household and commercial energy efficiency.
- Reducing GHG emissions from the transport sector.
- Improving integrated air quality management.

[21] For more information, see https://www.epa.gov/system/files/documents/2021-09/epa-climate-adaptation-plan-pdf-version.pdf.

- Supporting fulfillment of commitments under the Paris Agreement and other international climate related agreements.
- Strengthening climate governance through a suite of model laws, regulations, partnerships, and strategies that build countries' capacity to strengthen, implement, and enforce domestic policies.
- Boosting national and local adaptation and resilience strategies to the impacts of climate change in an equitable and just manner.
- Supporting resource efficiency actions to reduce GHG emissions from overlooked sources.

Reducing Potent Climate Forcers with Near-Term Benefits: EPA will partner with other countries to establish a global methane emissions reduction goal and will provide technical assistance to build capacity for countries to meet that goal. EPA will also partner with the European Union and the International Criminal Police Organization to reduce illegal trading of hydrofluorocarbons (HFCs) through improved international tracking and capacity-building activities. EPA will help countries reduce global black carbon emissions from solid fuel combustion to meet household energy needs (e.g., cooking, heating) by partnering with international organizations such as the United Nations Environment Program (UNEP), Climate and Clean Air Coalition (CCAC), and the Clean Cooking Alliance (CCA), to enable transitions to clean energy sources through research and capacity-building programs.

Improving Household and Commercial Energy Efficiency: To address the rapidly expanding use of air conditioning and refrigeration globally, EPA will collaborate with international organizations to provide technical assistance to draft energy efficient cooling standards and permitting requirements for air conditioning and refrigeration. EPA will collaborate with international organizations, including the International Organization for Standards (ISO), to provide countries with information and technical assistance on efficiency and emissions standards to improve the energy efficiency of residential and commercial appliances. EPA will share tools and information on various solid waste management practices and their associated GHG reductions to help incentivize commercial industries to reduce GHG emissions.

Reducing GHG Emissions from the Transportation Sector: EPA will collaborate with international organizations to equip countries with information, knowledge, and tools needed as they transition to zero emissions transportation and improve efficiency of their vehicle fleets. EPA will collaborate with international organizations, such as the International Maritime Organization (IMO), to provide tools and technical assistance for priority countries, including helping them reach the IMO's goal of zero emissions from international shipping by 2050. EPA will also continue working with the International Civil Aviation Authority (ICAO) on programs to control emissions from aircraft.

Improving Integrated Air Quality Management, including Consideration of Clean Air and Climate Co-Benefits and GHG Modeling, Monitoring, and Reporting: EPA will provide tools to countries to improve GHG modeling, monitoring, and reporting. EPA will partner with UN bodies such as the Food and Agricultural Organization (FAO) and the UN Framework Convention on Climate Change (UNFCCC) to improve data and methods for specific source inventories and improve countries' national GHG inventory software. This assistance is in support of national requirements for reporting and review of GHG emissions inventories under the Paris Agreement.

Strengthening Climate Governance and Equity at All Levels of Government: EPA will provide climate and equity governance capacity building and technical assistance to help countries develop, implement, and enforce laws, regulations, partnerships, and policies to reduce GHG emissions, enforce climate regulations, and adapt to climate impacts in pursuit of the goals of the Paris Agreement in a manner that engages and protects vulnerable and underserved communities. This work will also improve adaptive capacity and mitigation strategies of countries at all levels of government, including subnational governments and vulnerable and underserved communities. EPA will also provide technical assistance to countries to help address the social impacts of GHG emissions.

Boosting Strategies for National and Local Adaptation and Resilience: EPA will engage internationally to assist countries with planning, monitoring, and managing climate change adaptation and resilience strategies, factoring in equity for vulnerable and underserved communities. This includes sharing information and technical assistance on adaptation and resilience strategies for protecting vulnerable coastal ecosystems, building resilient water infrastructure, managing flood and fire risk, and mitigating public health impacts of natural disasters and other extreme weather events.

Supporting Resource Efficiency Actions to Reduce GHG Emissions from Overlooked Sources: EPA will collaborate with international organizations to provide technical assistance to help countries assess environmental, economic, and social impacts of the production and consumption of goods and services, including food loss and waste. This assistance will use models to incorporate GHG emission factors in the evaluation of options for inputs and outputs to the supply chain and to increase the resilience of their economic and natural resource systems. EPA will collaborate with multilateral partners to provide tools and information for countries and the private sector in mineral supply-chain transparency for critical minerals and rare-earth metals to incentivize climate-friendly decisions that shape more sustainable industrial processes.

External Factors and Emerging Issues

EPA cannot control how countries will use the Agency's climate change tools and information, capacity-building trainings and guidance, and technical assistance to develop and implement climate governance regulations and policy to reduce GHG emissions. Ongoing COVID-19 travel restrictions could limit in-country activities around the world.

EPA will target all engagement and technical assistance toward countries where EPA expects to have the greatest potential impact and where EPA can leverage the work of other federal departments or agencies, as appropriate. These expectations are predicated on the experience of past successes with bilateral engagements and with existing multilateral agreements or partnerships, or with countries otherwise identified by the White House's Special Presidential Envoy for Climate.

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Goal 2: Take Decisive Action to Advance Environmental Justice and Civil Rights[22]

Achieve tangible progress for historically overburdened and underserved communities and ensure the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in developing and implementing environmental laws, regulations, and policies.

Introduction

EPA will center its mission on the integration of justice, equity, and civil rights across the nation's environmental protection enterprise. This will hold as true for communities within the contiguous 48 states as it will for communities in the non-contiguous states and all other territories and protectorates of the United States. By doing so, EPA will advance the promise of clean air, clean water, and safe land to the many communities across the country that have not received the full benefits from EPA's decades of progress. Centering its work on justice is especially important in an era when EPA must simultaneously break the cycle of historic environmental injustices while maximizing protection for these same communities as they are too often hit worst and first from the impacts of a changing climate.

EPA's ultimate goal of centering its mission on these priorities is to achieve measurable environmental, public health, and quality of life improvements in the most overburdened, vulnerable, and underserved communities. Achieving this goal will require significant transformations in how EPA understands and implements its work, including how EPA prioritizes program resources, allocates funding, implements statutory authorities, and engages the communities most affected by environmental and public health threats, especially as the climate changes. Critical to achieving this goal is for EPA to proactively engage with Tribes, states, and local governments to discuss and address disproportionate impacts through their implementation of EPA authorities and engage in meaningful joint planning with communities to advance community visions and priorities.

The vigorous enforcement of civil rights is also key to addressing historical and systemic barriers. These efforts lead to more responsible and equitable siting and permitting decisions by recipients of EPA funding; reductions in racial and ethnic disparities in levels of air pollutants and exposure to toxins; reductions in racial and ethnic disparities in access to clean and reliable water infrastructure that are free of lead and other toxins; reductions in racial and ethnic disparities among communities enduring mismanaged solid waste programs and processes; reductions of harmful exposures in communities by assessing and cleaning up contaminated sites; better health outcomes in impacted communities; and increased public participation in critical decision making.

This goal includes three objectives that focus EPA on: (1) increasing the capacity of Tribes, states, and communities working to address environmental justice and civil rights concerns; (2) embedding

[22] Civil Rights in this context refers to EPA's responsibility to enforce several civil rights laws which, together, prohibit discrimination on the basis of: race, color, or national origin (including on the basis of limited-English proficiency); sex; disability; age; and retaliation by applicants for and recipients of federal financial assistance from EPA. (Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, Section 504 of the Rehabilitation Act of 1973, and the Age Discrimination Act of 1975, respectively.) EPA is also responsible for enforcing Section 13 of the Federal Water Pollution Control Act Amendments of 1972, which prohibits discrimination based on sex under programs or activities receiving financial assistance under the Clean Water Act.

environmental justice and civil rights in the Agency's core work; and (3) strengthening civil rights enforcement in communities overburdened by pollution. The first focuses on EPA's ability to advance this priority outside of EPA — through the support the Agency provides directly to communities, EPA's direct implementation of federal environmental programs, and the implementation of these programs by co-regulators. The second objective focuses on advancing equity, justice, and civil rights through EPA's internal program activities such as permitting actions, responding to emergencies, and cleaning up contamination. EPA recognizes that environmental justice and external civil rights programs and their authorities are distinct and they share a deep connection and ability to reinforce and leverage one another to make significant progress in addressing disproportionate adverse impacts burdening communities. For example, civil rights laws, taken together with EPA's environmental justice efforts, can effectively target disparities in exposure to pollution on the basis of race, color, national origin, and other characteristics such as disability. The final objective focuses on EPA's commitment to strengthen the EPA's External Civil Rights Office and its ability to enforce federal civil rights laws to their fullest extent, including by fully implementing its authority to conduct affirmative investigations in overburdened communities, issue policy guidance, and secure timely and effective resolutions to address discrimination.

Furthermore, this goal sets targets that align closely with Administration priorities set forth in Executive Orders (E.O.s) 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government* and 14008: *Tackling the Climate Crisis at Home and Abroad*. Both E.O.s require that EPA develop implementation plans to ensure that underserved communities and individuals have full, fair, and equitable access to the benefits of the Agency's programs. The actions in these upcoming plans will be developed to help achieve those objectives. The E.O.s also provide the platform for interagency collaboration since many objectives benefit from actions by other federal agencies. EPA will take these and any other opportunities to use the Administration's whole-of-government approach to implementing environmental justice.

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Objective 2.1: Promote Environmental Justice and Civil Rights at the Federal, Tribal, State, and Local Levels

Empower and build capacity of underserved and overburdened communities to protect human health and the environment.

Introduction

EPA has the potential to make transformative progress on environmental justice and civil rights at the Tribal, state, and local levels, through a whole-of-government approach that involves communities as authentic partners. This is evidenced by increasing commitments, innovations, and capacities at the state level. In addition, communities are increasingly well organized and equipped to develop their own visions of well-being and resilience, advocate for change, and influence public policy.

Fulfilling the promise of these opportunities requires pursuing three strategies:

- Building capacity and climate resilience and maximizing benefits to overburdened and underserved communities.
- Engaging and supporting federal, state, and local governments to achieve results in communities.
- Integrating environmental justice principles into the implementation of federal environmental programs in Indian country[23] and in other areas of interest to Tribes, in partnership with federally recognized Tribes.

Long-Term Performance Goals

- By September 30, 2026, all EPA programs that seek feedback and comment from the public will provide capacity-building resources to communities with environmental justice concerns to support their ability to meaningfully engage and provide useful feedback to those programs.[24]
- By September 30, 2026, include commitments to address disproportionate impacts in all written agreements between EPA and Tribes and states (e.g., grant work plans) implementing delegated authorities.
- By September 30, 2026, EPA programs with direct implementation authority will take at least 100 significant actions that will result in measurable improvements in Indian country.

[23] Indian country is defined at 18 U.S.C. § 1151 to mean: (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and, including rights-of-way running through the reservation, (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. See EPA Policy on Environmental Justice for Working with Federally Recognized Tribes and Indigenous Peoples: https://www.epa.gov/sites/default/files/2017-10/documents/ej-indigenous-policy.pdf?VersionId=_fETfCeyPmlV.T5FztQcZWMsw.a5JgCG.

[24] First year activities of this LTPG will focus on definition and scope of program participation and what qualifies as capacity-building resources.

- By September 30, 2026, all state recipients of EPA financial assistance will have foundational civil rights programs in place.[25]
- By September 30, 2026, increase by 40% the number of Office of Research and Development (ORD) activities related to environmental justice that involve or are applicable to Tribes, states, territories, local governments, and communities.[26]

Strategies

Building Community Capacity and Climate Resilience and Maximizing Benefits to Overburdened and Underserved Communities: EPA will increase support for community-led action by providing unprecedented investments and benefits directly to communities with environmental justice concerns and by integrating equity throughout Agency programs. E.O. 14008's Justice40 mandate elevates this approach to a national initiative to deliver at least 40 percent of the overall benefits from certain federal investments to underserved communities. Over the next four years, EPA will strive to not only meet this goal but exceed it. EPA's programs – particularly regulatory programs whose policies and activities must be responsive to the realities of communities with EJ concerns – will actively engage and support impacted communities to influence program implementation and maximize the benefits from the investment of resources to achieve meaningful change on the ground. Supporting communities as they adapt to and recover from climate change is also central to this commitment.

E.O. 13985 mandates a comprehensive effort to advance equity throughout all of EPA's policies, programs, and activities. A fundamental element of achieving such equity and justice is ensuring communities have the capacity they need to meaningfully engage government programs and for these programs to listen and respond to commmunity voices. Critical to EPA's success in this area is supporting the efforts of community members and organizations to provide EPA with their expertise and viewpoints. To meet this responsibility, EPA commits to establishing the necessary policies, tools, and other mechanisms to provide this support to communities. In addition, the Agency must take concrete action to further include the voices, experiences, and passions of the full diversity of the nation in EPA's workforce.

Engaging and Supporting Federal, State, and Local Governments to Achieve Results in Communities: Virtually all national programs interact with other federal agencies, state, and local governments in multiple ways, including funding and oversight of delegated programs. EPA national and regional offices will work proactively to integrate environmental justice and civil rights into policies and activities as a fundamental element of the Agency's relationships with federal, state, and local partners to jointly affect beneficial changes on the ground for communities. EPA will invest in oversight, guidance, and assistance for states and local governments to advance environmental justice integration in coordination with enhanced civil rights enforcement with an aim to increase accountability across the board.

[25] For reference only, and as an example from a smaller subset of state recipients - EPA's proactive initiative involving foundational civil rights programs of state agencies in Regions 1, 5, and 7, which consisted of 14 state agencies, the baseline from the proactive initiative in FY 2020 was 6.5%.
[26] Baseline to be developed in FY 2022.

EPA will also initiate a new era of proactive support and engagement with its federal partners. Through its regulatory responsibility under the National Environmental Policy Act (NEPA)[27] and Section 309 of the Clean Air Act, EPA will promote robust consideration and mitigation of environmental impacts on overburdened, underserved communities in the review of other federal agencies' environmental impact statements. Proposed actions may include federal land management activities, transportation-related projects, and publicly owned facility construction, as applicable.

Integrating Environmental Justice Principles into the Implementation of Federal Environmental Programs in Indian Country and in Other Areas of Interest to Tribes, in Partnership with Federally Recognized Tribes: Equity principles and equal protection require that implementation of federal environmental law protections be as robust inside Indian country as EPA requires these protections to be outside of Indian country. At this time, EPA directly implements the vast majority of federal environmental programs in Indian country where EPA seeks to apply key environmental justice principles, such as equity, meaningful involvement, and fair treatment. Ensuring EPA direct implementation of federal environmental programs in Indian country is in keeping with the federal trust responsibility. When the Agency directly implements federal environmental programs the agency also advances environmental justice for federally recognized Tribes.

EPA will continue its long commitment to assisting Tribes in building the capacity to receive delegated programs. In those instances when Tribal governments are authorized to implement federal programs, EPA supports Tribal governments' inclusion of environmental justice principles, community engagement, and decision-making processes. Integration of environmental justice principles into all EPA activities with Tribal governments and in Indian country is designed to be flexible enough to accommodate EPA's Tribal program activities and goals, while at the same time meeting the Agency's environmental justice goals.

External Factors and Emerging Issues

EPA's ability to effectively guide and oversee the integration of environmental justice and civil rights will be challenging due to the structure of the nation's environmental regulatory system, which places the bulk of implementation responsibilities on partner agencies, such as in environmental permitting, contamination clean-up, prioritization of infrastructure investments, facility siting, and transportation.

Additionally, while many communities face a legacy of environmental justice issues — such as toxic chemical exposure, hazardous facilities siting, and lack of safe drinking water — these same communities may also face a rapidly growing set of impacts from climate change. For example, the majority of Superfund sites are located near communities with environmental justice concerns, and many of these communities are subject to flooding from natural disasters. This will further compound problems for low-income communities of color that have limited resources to anticipate, respond to, and recover from climate-related changes and disasters. EPA will work with community partners and Tribal, state, and local governments to provide support for climate adaptation, prioritizing areas with environmental justice concerns.

[27] National Environmental Policy Act: https://www.epa.gov/nepa.

Objective 2.2: Embed Environmental Justice and Civil Rights into EPA's Programs, Policies, and Activities

Integrate environmental justice and civil rights in all of the Agency's work to maximize benefits and minimize impacts to underserved and overburdened communities.

Introduction

Commitments to achieving change on the ground and accountability for such change will be the ultimate measure of the Agency's success in advancing justice, civil rights, and equity, including the implementation of E.O.s 13985 and 14008. These efforts include incorporating feedback from impacted communities while analyzing and addressing disproportionate impacts. EPA must not only better support community efforts to engage with the Agency but also advance the Agency's ability to engage in community-driven work through the regions and across all programs. EPA must follow and implement the Civil Rights Act as equally as environmental statutes. Agency strategies to achieve this include the following elements:

- Making commitments on measurable environmental and public health improvements in overburdened and underserved communities.
- Ensuring that EPA decision making incorporates meaningful community involvement and analyses that identify disproportionate impacts.
- Building EPA capacity to support community-driven approaches to developing healthy, sustainable, and climate-resilient communities.
- Ensuring consideration of civil rights by EPA programs (as distinct from civil rights enforcement under Objective 2.3).

Long-Term Performance Goals

- By September 30, 2026, reduce disparities in environmental and public health conditions represented by the indicators identified through the FY 2022-2023 Agency Priority Goal.[28]
- By September 30, 2026, 80% of significant EPA actions with environmental justice implications will clearly demonstrate how the action is responsive to environmental justice concerns and reduces or otherwise addresses disproportionate impacts.[29]
- By September 30, 2026, all EPA programs that work in and with communities will do so in ways that are community-driven, coordinated and collaborative, support equitable and resilient community development, and provide for meaningful involvement and fair treatment of communities with environmental justice concerns.[30]

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[28] EPA will monitor progress through a holistic system that tracks the actions and responsibilities individual national programs have identified to support reducing disparities through the implementation of their statutory authorities, coordinated efforts of regulatory partners, support for community action, and other key actions.

[29] First year activities of this LTPG will focus on definition and scope of significant EPA action and what qualifies as environmental justice implications, responsiveness to community concerns, and addressing disproportionate impacts.

[30] First year activities of this LTPG will focus on definition and scope of program participation and what qualifies as adoption of the community-driven approach.

- By September 30, 2026, all EPA programs and regions will identify and implement areas and opportunities to integrate environmental justice considerations and achieve civil rights compliance in their planning, guidance, policy directives, monitoring, and review activities.
- By September 30, 2026, all EPA programs and regions will implement program and region-specific language assistance plans.
- By September 30, 2026, all EPA programs and regions will implement program and region-specific disability access plans.

FY 2022-2023 Agency Priority Goal (APG)

- **Deliver tools and metrics for EPA and its Tribal, state, local, and community partners to advance environmental justice and external civil rights compliance.** By September 30, 2023, EPA will develop and implement a cumulative impacts framework, issue guidance on external civil rights compliance, establish at least 10 indicators to assess EPA's performance in eliminating disparities in environmental and public health conditions, and train staff and partners on how to use these resources.

Strategies

Making Commitments on Measurable Environmental and Public Health Improvements in Overburdened and Underserved Communities: EPA will set ambitious goals of achieving meaningful change on the ground for communities with environmental justice concerns. EPA believes that setting such ambitious goals that speak to priority environmental justice issues is critical to stimulating a deeper assessment of the use of all EPA authorities and the Agency's ability to lead and support efforts by public and private sector partners to strive collectively towards attainment of those goals. EPA will focus on several elements of progress towards achieving such ambitious commitments. These include delineating the responsibilities of programs and regions towards meeting their objectives, identifying data gaps, building tracking systems, and putting in place any needed policy, guidance, or regulatory changes. EPA will also incorporate responsibility and measurable accountability for advancing environmental justice into Agency plans, including the EPA annual operating plan and annual performance plans of key political, senior executive, and general schedule staff. EPA will commit to at least ten measures of progress towards achieving meaningful environmental and public health outcomes on the ground. Some examples include:

- Providing access to safe and sustainable sources of drinking water and clean surface water for the entire population of the United States.
- Minimizing public health disparities such as the difference in childhood blood lead levels and the prevalence of asthma for children living in families below the federal poverty level and children living in older housing, who are often children of color.
- Reducing exposure to pollutants such as air toxics that disproportionately impact communities with environmental justice concerns.
- Reducing harmful exposures in communities by assessing and cleaning up contaminated sites.
- Reducing pesticide exposure to farmworkers, their families, and the agricultural community.

Ensuring that EPA Decision Making Incorporates Meaningful Community Involvement and Analyses that Identify Disproportionate Impacts: The knowledge attained from community engagement activities, along with other actions to consider more fully environmental justice and civil rights, must be regularly reflected and addressed throughout EPA's documented decisions. As a first step, EPA will engage in a process and establish all necessary policies to determine which actions are of major significance for environmental justice and civil rights purposes. This will help ensure that the Agency's most important decisions address the needs of impacted communities; respond to policy analyses of potential environmental justice impacts; and consider recommendations from the National Environmental Justice Advisory Council.[31]

EPA must make significant and urgent progress in fundamentally grounding its work in addressing disproportionality, which includes understanding of and reacting to issues of cumulative impacts and cumulative risks, and rapidly advance its ability to conduct analyses that indentify disproportionate impacts. One way to catalyze such progress is to ensure that all EPA programs develop guidance on using environmental justice tools such as EJSCREEN to support their decision making.[32]

Building EPA Capacity to Support Community-Driven Approaches to Developing Healthy, Sustainable, and Climate-Resilient Communities: Achieving meaningful change necessitates that EPA not only improve its decision making and program implementation, but that the Agency significantly advance its ability to work on the ground with communities as a regular means of achieving its mission. EPA will build upon the many ways that programs and regions currently work with and in communities by elevating and expanding the use of coordinated and collaborative community-driven partnerships to address community priorities. EPA will leverage and coordinate its investments in communities and collaborate with partners and other external stakeholders to advance comprehensive and strategic community-driven approaches. EPA will ensure that its programs fully integrate the key principles of effective community-driven work and over time increase the number of collaborative partnerships centered on community priorities initiated or supported through EPA activities.

Ensuring Consideration of Civil Rights and Environmental Justice by EPA Programs: As a federal agency charged with enforcing federal civil rights laws, EPA must ensure that all Agency programs and activities comply with and implement civil rights obligations and integrate environmental justice considerations. To do so, EPA must recognize that in addition to the enforcement and implementation of federal civil rights laws carried out through EPA's external civil rights compliance program and addressed in Objective 2.3, EPA program and regional offices also must recognize and address civil rights and environmental justice issues that arise as they implement their responsibilities under environmental laws, such as their permit review responsibilities. Civil rights vigilance is an EPA-wide responsibility and a critical means for the Agency to advance justice and equity. To accomplish this, EPA will communicate requirements and expectations to agency staff through education, training, outreach, and technical assistance. This training will enhance civil rights enforcement awareness and ability to inegrate environmental justice considerations, strengthen intra-Agency collaboration, and help the agency identify whether recipient programs and activities are abiding by civil rights laws or

[31] National Environmental Justice Advisory Council Recommendations: https://www.epa.gov/environmental-justice/national-environmental-justice-advisory-council-recommendation-reports-0.
[32] EJSCREEN: Environmental Justice Screening and Mapping Tool: https://www.epa.gov/ejscreen.

engaging in prohibited discrimination. EPA programs must reference and/or include applicable civil rights requirements in non-civil rights guidance documents, such as in program strategic plans and environmental policy directives. In addition, all EPA program and regional office staff must understand and appreciate the civil rights requirements that apply to federal agencies, including their responsibility to develop and implement program and region-specific limited English language assistance and disability access plans that apply to all of the public-facing activities of EPA program and regional offices.

External Factors and Emerging Issues

Many of the problems that need to be addressed have been well-known but unsolved for decades. Communities that have multiple industrial and energy facilities and are saturated with legacy pollution want to see EPA realign its enforcement in a way that provides action, accountability, and guidance for taking cumulative impacts and risks into account, even if they cannot be measured with precision.

Permitting and rulemaking have typically not reflected the reality of overburdened communities, which means that it is often easier to site an eighth facility in a community that already has seven than in a community that has none. Since permitting is primarily implemented by other governmental partners with delegated authority from EPA, the work of integrating environmental justice and external civil rights considerations throughout all EPA programs and activities will require commitment, relationship building, and trust from partner agencies.

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Objective 2.3: Strengthen Civil Rights Enforcement in Communities with Environmental Justice Concerns

Strengthen enforcement of and compliance with civil rights laws to address the legacy of pollution in overburdened communities.

Introduction

To address the legacy of pollution in overburdened communities that results from discriminatory actions, whether direct or indirect, intentional, or unintentional, EPA must use the full extent of its authority and resources to vigorously enforce federal civil rights laws. EPA is required to enforce federal civil rights laws that prohibit discrimination on the basis of race, color, national origin (including limited English proficiency), disability, gender, and age, in programs or activities that receive Agency financial assistance. To ensure EPA financial assistance is not being used in a manner that discriminates and subjects already overburdened communities to further harm, EPA must support and promote a robust and mature external civil rights compliance program for execution of EPA responsibilities and to provide a strong partner to its environmental justice program. As stated earlier, robust enforcement of civil rights law coupled with EPA's environmental justice efforts provides EPA with the strongest ability to address disparities.

Long-Term Performance Goals

- By September 30, 2026, initiate 45 proactive post-award civil rights compliance reviews to address discrimination issues in environmentally overburdened and underserved communities.[33]
- By September 30, 2026, complete 305 audits to ensure EPA financial assistance recipients are complying with nondiscrimination program procedural requirements.[34]
- By September 30, 2026, complete 84 information sharing sessions and outreach and technical assistance events with overburdened and underserved communities and environmental justice advocacy groups on civil rights and environmental justice issues.[35]

Strategies

The classifications protected by federal civil rights laws encompass most of the underserved and overburdened communities that have been exposed to a disproportionate level of harmful environmental, quality of life, and health impacts from pollution sources. Federal laws authorize agencies such as EPA to enact rules, regulations, or orders to achieve the laws' objectives. EPA's nondiscrimination regulation prohibits recipients of EPA financial assistance from taking actions in their programs or activities that are intentionally discriminatory and/or have a discriminatory effect. It is EPA's inherent mission and legal mandate to dismantle discriminatory barriers and systematic injustice with respect to the federal programs and statutes it implements — and the Agency must have a more robust and effective civil rights compliance program to ensure achievement of this mandate.

[33] For comparison, EPA did not initiate a civil rights compliance review in FY 2021.
[34] For comparison, EPA completed no such audits in FY 2021.
[35] For comparison, EPA completed five such sessions and events in FY 2021.

EPA has begun revitalizing its external civil rights mission and will launch a significant number of critical initiatives that will directly impact overburdened communities. The external civil rights compliance program will strengthen enforcement of civil rights laws by increasing: the number of affirmative compliance reviews targeting critical environmental health and quality of life impacts in overburdened communities; the number of outreach, information sharing, and technical assistance sessions provided to improve implementation; and timeliness and effectiveness of complaint investigations and resolutions.

External Factors and Emerging Issues

For EPA to move its external civil rights program from a reactive program, responding only to complaints, to a proactive program, as the goals envision, involves: making expectations clear by providing clarifying guidance to recipients; using the Agency's affirmative authority to initiate compliance reviews and audits; and providing enhanced outreach, technical assistance, and informal resolution facilitation opportunities.

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Goal 3: Enforce Environmental Laws and Ensure Compliance

Improve compliance with the nation's environmental laws and hold violators accountable.

Introduction

A robust compliance monitoring and enforcement program is necessary to ensure communities get the environmental and human health benefits intended by environmental statutes and EPA's regulations. EPA regulates more than 1.2 million facilities adhering to a variety of environmental statutes that protect human health and the environment. Likewise, EPA regulates a wide range of products including automobiles and pesticides. EPA, Tribes, states, and territories work cooperatively to achieve compliance, with delegated or authorized states conducting most enforcement activities across the country. EPA collaborates with Tribes in Indian country, by both directly implementing compliance monitoring and enforcement programs and through oversight of programs implemented by Tribes.

EPA will collaborate with Tribes, states, and territories to focus federal enforcement resources on the most serious environmental problems where noncompliance with environmental statutes and regulations is a significant contributing factor and where federal enforcement can have a significant impact on the nation's air, water, and land. In addition to EPA's other core work, this will include targeting and screening to prioritize inspections in communities facing substantial burdens from environmental noncompliance. EPA will continue to identify a small number of key areas, called National Compliance Initiatives,[36] where focused EPA attention will be especially value-added. EPA will seek to increase inspections, prioritize enforcement cases, identify remedies with tangible benefits for impacted communities, and increase engagement with communities about enforcement cases. EPA will continue to initiate enforcement actions to protect against children's health hazards in areas such as exposure to lead paint, the presence of lead and other contaminants in drinking water, and particulate air emissions that aggravate asthma.

The Agency will address climate change by directing resources to ensure effective enforcement responses for those sources with noncompliant emissions of greenhouse gases (GHGs) and develop remedies that are consistent with GHG mitigation and climate resilience. In addition, EPA will enforce against the illegal import, distribution and use within the United States of hydrofluorocarbons (HFCs), which are chemicals with potent global warming potential, and pursue violators of the Renewable Fuel Standard.

[36] More information on National Compliance Initiatives, see: https://www.epa.gov/enforcement/national-compliance-initiatives.

Objective 3.1: Hold Environmental Violators and Responsible Parties Accountable

Use vigorous and targeted civil and criminal enforcement to ensure accountability for violations and to clean up contamination.

Introduction

Enforcement is essential to ensuring that everyone is protected by the nation's environmental laws and regulations. EPA strives to not only return violators to compliance but also to obtain the relief needed to address the underlying causes of the violations, to prevent reoccurrence and, in appropriate cases, mitigate the harm to the communities impacted by noncompliance.

Long-Term Performance Goal

- By September 30, 2026, reduce to not more than 93 the number of open civil judicial cases more than 2.5 years old without a complaint filed.[37]

Strategies

Taking Timely Enforcement Action: Timely enforcement is effective enforcement. EPA has set a long-term performance goal that reflects the commitment of the enforcement program to address noncompliance as expeditiously as possible. For example, one area of focus has been to reduce the number of Referred No Complaint Filed (RNCF) cases; namely, the number of open civil judicial cases that EPA referred to the Department of Justice (DOJ) more than 2.5 years ago and a complaint has not been filed.

Complex cases often take longer to resolve; some of EPA's enforcement cases involve national companies with multiple facilities across the country. Many cases also involve extremely complex facilities that must comply with multiple federal statutes based on the nature of their operations. Municipal cases often involve multiple neighboring communities with varying economic means who share a failing sewer or drinking water system and who must agree together on injunctive relief that is a very significant expense for the defendants. These types of cases, justifiably, often take a long time to resolve. During the time it takes to achieve case resolutions, EPA will endeavor to provide early injunctive relief and monitoring, where appropriate, and will increase communication to affected communities about the progress of enforcement efforts.

Since implementation of the RNCF measure in 2018, EPA has been steadily resolving older referred cases, primarily through settlement. Through timely resolution of environmental violations EPA can address both the public health concerns of overburdened, disproportionately affected communities and the emissions of GHGs or other compounds that contribute to or exacerbate the effects of climate change.

[37] For comparison, there were 129 cases more than 2.5 years old without a complaint filed as of June 30, 2018. The number of cases fluctuates and is therefore difficult to predict how many cases will "age in" in a given year. EPA reduces the number of older cases using a number of different tools. For example, sometimes the United States government needs to file a complaint in order to make progress in resolving a case; other times, it needs to drop a claim or shift its injunctive relief or penalty demand because of litigation risk.

Using All Appropriate Injunctive Relief Tools in Civil Enforcement Settlements:[38] EPA is committed to using the full array of policy and legal tools available to ensure that environmental laws and the policies to implement them deliver benefits to all individuals and communities. In determining the most appropriate resolution for a particular matter, EPA will first consider which compliance tools will be effective to promptly ensure the regulated party returns to and remains in compliance. Tools like Advanced Monitoring, Audits and Independent Third-party Verification, Electronic Reporting, and Increased Transparency of Compliance Data can help provide information in a more readily available format to members of the public, who can assist in monitoring compliance. Many tools also benefit the settling party. For example, third party verification helps the facility identify future non-compliance early, allowing for a quick response to remedy the problem; and electronic reporting provides a more transparent demonstration of compliance, which may help the settling party's relationship with its neighboring community. When appropriate, an Alternative Dispute Resolution process is used to reach a solution that meets the needs of both EPA and the settling party.

Strengthening Environmental Justice Through a Robust Enforcement Program: EPA will continue to rely on mapping and screening tools, including EJSCREEN, in combination with local knowledge to help identify overburdened communities that may be disproportionally impacted by pollution. EPA will focus on strengthening enforcement and resolving environmental noncompliance through remedies with tangible benefits for the impacted community, including:

- Preventing further pollution due to noncompliance, mitigating past impacts from pollution, and securing penalties to recapture economic benefit of noncompliance and deter future violations.
- Seeking early and innovative relief (e.g., fenceline monitoring and transparency tools).
- Incorporating Supplemental Environmental Projects (SEPs) in settlements, where appropriate and to the extent permitted by law and policy.[39]
- Seeking restitution for victims of environmental crimes.[40]

The Agency uses its statutory authorities under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund) and Resource Conservation and Recovery Act (RCRA) to protect overburdened communities by requiring responsible parties to take early and expedited cleanup actions, developing more robust enforcement instruments, ensuring the oversight of those enforcement instruments, and building trust and capacity through community engagement. Superfund enforcement efforts maximize Potentially Responsible Parties' (PRP) involvement at

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[38] Memorandum: Using All Appropriate Injunctive Relief Tools in Civil Enforcement Settlements (April 26, 2021): https://www.epa.gov/sites/default/files/2021-04/documents/usingallappropriateinjunctiverelieftoolsincivilenforcementsettlement0426.pdf.

[39] For more information on Supplemental Environmental Projects, see: https://www.epa.gov/enforcement/supplemental-environmental-projects-seps. The inclusion of SEPs in judicial settlements is currently severely limited by a regulation promulgated by the Department of Justice (28 C.F.R. § 50.28(c)(1)), as well as other DOJ policies. Those are now under review at DOJ, and until further guidance is provided, inclusion of SEPs and stipulated remedies in civil judicial settlements should be limited to those that involve diesel emission reductions. EPA is coordinating closely with DOJ about SEPs.

[40] Memoranda: Strengthening Enforcement in Communities with Environmental Justice Concerns (April 30, 2021) https://www.epa.gov/sites/default/files/2021-04/documents/strengtheningenforcementincommunitieswithejconcerns.pdf; and Strengthening Environmental Justice through Criminal Enforcement (June 21, 2021) https://www.epa.gov/system/files/documents/2021-07/strengtheningejthroughcriminal062121.pdf.

Superfund sites, ensuring that viable, liable PRPs clean up sites, rather than taxpayers, and by recovering costs if the EPA expends Superfund-appropriated dollars to clean up sites.[41]

In addition, EPA will strengthen tools for the detection of environmental crimes in overburdened communities, improve outreach to the victims of such crimes, and ensure that investigations are structured to provide maximum assistance to DOJ in its exercise of prosecutorial discretion and pursuit of remedies that will guarantee adequate protection for those communities.

Tackling Climate Change Through Enforcement: To advance Agency efforts to tackle the climate crisis and mitigate GHG emissions, EPA will target violators of the American Innovation and Manufacturing (AIM) Act, the Renewable Fuel Standard, and regulations that apply to oil and gas sources and landfills. EPA will make effective use of civil judicial litigation and, if appropriate, administrative orders to achieve suitable remedies. EPA also will include climate change adaptation measures, flare efficiency and flare gas recovery requirements, and clean renewable energy projects in case resolutions as appropriate. Case teams will assess climate vulnerabilities and ensure that the injunctive relief measures implemented to resolve environmental violations are resilient to the impacts of climate change. EPA will vigorously enforce its regulations to prevent and deter illegal importation of HFCs.

External Factors and Emerging Issues

To address pollution caused by contaminants of emerging concern (e.g., per- and polyfluoroalkyl substances (PFAS), which are a current priority), the enforcement program will continue to use the Agency's enforcement authorities to ensure the manufacturers and generators of these dangerous compounds are held responsible. The civil enforcement program will take action to compel parties that manufacture or release PFAS or other chemicals in violation of the law to return to compliance. Where such parties are causing or may cause an imminent and substantial endangerment, the EPA enforcement program can also compel the parties to address the potential endangerment.

COVID-19 has presented unique challenges, and to ensure the safety of EPA personnel and the public, the Agency decreased the number of onsite inspections. However, EPA's enforcement program has used many off-site compliance monitoring techniques, including remote and virtual inspections, expanded use of information requests, and desk audits, to bolster the compliance assurance program.

Many environmental justice advocates have raised concerns about the number of facilities permitted and re-permitted in their communities. EPA cannot take enforcement action against these facilities unless they are in violation of the law and therefore faces constraints in addressing the concerns of cumulative impacts in these communities through enforcement alone. Advocates have also called for strengthening enforcement of Title VI of the Civil Rights Act to address claims that siting numerous facilities in communities of color imposes disparate pollution impacts in violation of the law. Title VI issues in a community often serve as a prompt to consider conducting an environmental compliance review.

[41] Memorandum: Strengthening Environmental Justice through Cleanup Enforcement Actions (July 1, 2021). https://www.epa.gov/system/files/documents/2021-07/strengtheningenvirjustice-cleanupenfaction070121.pdf.

Objective 3.2: Detect Violations and Promote Compliance

Ensure high levels of compliance with federal environmental laws and regulations through effective compliance tools – including inspections, other monitoring activities, and technical assistance supported by evidence and advanced technologies.

Introduction

Effective targeting of compliance monitoring, including inspections in communities with environmental justice concerns, plays a critical role in achieving the goals EPA has set forth for protecting health and the environment. Achieving high rates of compliance with environmental laws and regulations requires the use of a wide range of compliance tools, including compliance monitoring. EPA and Tribal, state, and territorial co-regulators conduct inspections, investigations, and review of self-reported compliance monitoring information to determine if regulated entities are complying with environmental statutes as well as applicable regulations and permit conditions. These activities help identify conditions that may present imminent and substantial endangerment to human health and the environment and thereby warrant immediate response. EPA works with co-regulators to achieve the shared goals of considering environmental justice concerns in its enforcement and compliance work and timely returning violators to compliance with environmental laws.

Achieving high rates of compliance with environmental laws and regulations is aided by the use of other compliance tools, including technical assistance to the regulated community (e.g., Enforcement Alerts and Compliance Advisories), and sharing information with affected communities to help them monitor compliance.

Long-Term Performance Goals

- By September 30, 2026, send 75% of EPA inspection reports to facilities within 70 days of inspection.[42]
- By September 30, 2026, conduct 55% of annual EPA inspections at facilities that affect communities with potential environmental justice concerns.[43]

Strategies

Through its ongoing process of selecting National Compliance Initiatives in collaboration with Tribes, states, and territories, EPA will focus its work on critical areas of noncompliance. Recent examples include National Compliance Initiatives to address toxic Clean Air Act (CAA) and RCRA air emissions, improve drinking water compliance, reduce the rate of Clean Water Act (CWA) significant noncompliance, and reduce the number of chemical accidents. Notably, EPA is carrying out evidence-building activities to address priority questions related to drinking water systems out of compliance, one of EPA's Learning Agenda priority areas. By proactively working with Tribes, states, and territories to identify areas of serious noncompliance and then bringing the right compliance and enforcement tools to bear, EPA will make the most effective use of its resources.

[42] For comparison, 46% of inspection reports were sent within 70 days of inspection at the end of FY 2018.
[43] The baseline for this measure is 27% based on average of FY 2017 - FY 2019.

EPA's Compliance Assistance Centers Program (CACP) and Local Government Environmental Assistance Network (LGEAN) also help to improve compliance with environmental laws and regulations, and EPA will continue to fund the CACP and LGEAN grants.

EPA will continue to promote innovative enforcement remedies that are based on reliable data or other robust evidence to substantiate their effectiveness, through the development of a compliance Learning Agenda. The Agency will identify the most pressing programmatic questions and create a venue for EPA, Tribes, states, and territories to collaborate in the development of evidence-based enforcement tools and techniques that will ensure the biggest impact on environmental compliance.

Producing Timely Inspection Reports: EPA has set a long-term performance goal to reduce the time from when EPA conducts an on-site inspection to the time that EPA provides the facility with a completed inspection report notifying it of any potential compliance issues. Improving the timeliness of these activities allows the facility to address compliance issues more quickly, which would directly benefit the communities affected by the environmental and human health impacts of the alleged violations. EPA balances the desire for fast action against the fundamental need to ensure quality inspections. Thus, where inspections are extremely complex and multi-faceted, more time for the completion of the inspection report may be needed.

Focusing Compliance Assurance Activities on Communities, Especially Those with Environmental Justice Concerns: EPA has set a long-term performance goal to increase the percentage of inspections at facilities affecting overburdened communities. Communities that are already burdened with high pollution levels are more vulnerable to the harmful effects of permit violations and are a high priority for inspections and compliance review. These efforts will advance the detection and resolution of noncompliance activities in communities with environmental justice concerns.

EPA also will provide greater public access to compliance data to help communities better understand and manage risks. The Agency will increase engagement with communities so that communities and EPA can share resources and work together to improve compliance. EPA is also continuing to expand its Compliance Advisor Program (formerly known as the Circuit Rider Program) to help small drinking water and wastewater systems – many in communities with environmental justice concerns – to return to, and maintain, compliance. EPA has found that many such systems are unable to maintain compliance due to lack of technical, managerial, and financial capacity as well as aging infrastructure, workforce shortages, and declining rate bases. Part trainer and part consultant, compliance advisors troubleshoot issues, develop plans to return systems to compliance, and increase the technical capacity of operators. EPA will continue work to ensure that funded activities increase systems' capacity, including those in vulnerable communities and Indian country.

Improving Compliance Assurance Data Management and Enforcement Targeting Capabilities: Effective compliance monitoring and enforcement increasingly depends on effective use of data management and data science capabilities. EPA will improve its collection and management of compliance monitoring information through modernization of existing data systems and creation of new tools to streamline the compliance monitoring process.

EPA will modernize its key compliance information system, the Integrated Compliance Information System (ICIS), and will support better integration with the Enforcement and Compliance History Online

(ECHO) website. Improvements to ICIS and ECHO will facilitate better access to compliance data and community information (e.g., from EPA's EJSCREEN tool) for the Agency, Tribes, states, and the public. This will enhance EPA's efforts to address compliance concerns in underserved communities and help EPA and authorized Tribes and states ensure better compliance with clean air and clean water requirements.

EPA will also continue to expand software solutions for field inspectors to improve the effectiveness and efficiency of compliance inspections conducted by the Agency and authorized states. EPA's Smart Mobile Tools for Inspectors software streamlines the process of documenting field inspections and preparing reports on their results. This software will allow EPA, Tribes, and states to use their compliance monitoring resources more efficiently, including monitoring for noncompliance, which affects underserved communities, or which may have climate impacts. ICIS Modernization and Smart Mobile Tools for Inspectors are two of the key efforts under the Agency's E-Enterprise for the Environment program.

Tackling Climate Change Through Compliance Assurance: EPA will advance its efforts to address climate change mitigation and adaptation issues through targeting, monitoring, and technical assistance. For example, EPA will direct monitoring and targeting efforts to sources with the most potential for noncompliant emissions of GHGs and other compounds that contribute to or exacerbate climate change, such as oil and gas wells that are a large source of methane emissions. In addition, EPA's compliance advisors for sustainable water systems will continue to provide technical assistance on climate resilience to wastewater and drinking water facilities. Further, EPA will vigorously enforce its regulations to prevent and deter the illegal importation of HFCs.

External Factors and Emerging Issues

Advanced monitoring technology and information technology continue to evolve, and advances in these fields offer great opportunities for improving the ability of EPA, Tribes, and states to ensure compliance. While continuing research and growing knowledge may offer innovative approaches, EPA, Tribes, states, and territories often face challenges in keeping up with emerging technologies. Through its evidence-based approach, EPA, in collaboration with Tribes and states, is working with the academic community to identify new ways to improve compliance.

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Goal 4: Ensure Clean and Healthy Air for All Communities

Protect human health and the environment from the harmful effects of air pollution.

Introduction

All people regardless of race, color, national origin, or income deserve to breathe clean air outdoors and indoors, and it is especially important that the health of vulnerable and sensitive populations, such as children and persons adversely affected by persistent poverty or inequality, be protected. Levels of pollutants linked to health impacts continue to decline as the economy has grown significantly over the long term. Between 1970 and 2020, the combined emissions of six key pollutants dropped by 78 percent, while the U.S. economy remained strong — growing 272 percent over the same time. EPA will continue to build on this progress and work to assure clean air for all Americans, with a particular focus on those in underserved and overburdened communities, who are impacted disproportionately.

Numerous scientific studies have linked air pollution and specific pollutants to a variety of health problems and environmental impacts. Long-term exposure to elevated levels of certain air pollutants is associated with increased risk of cancer, premature mortality, and damage to the immune, neurological, reproductive, cardiovascular, and respiratory systems. Over the next four years, EPA will work to ensure clean and healthy air for communities by reducing emissions of ozone-forming pollutants, particulate matter, and air toxics. EPA will also work to address high-risk indoor air quality pollutants in homes, schools, and workplaces. EPA will rely on proven approaches including regulatory tools, innovative market-based techniques, public and private-sector partnerships, community-based approaches, technical assistance programs that promote environmental stewardship, and programs that encourage adoption of cost-effective technologies and practices.

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Objective 4.1: Improve Air Quality and Reduce Localized Pollution and Health Impacts

Reduce air pollution on local, regional, and national scales to achieve healthy air quality for people and the environment.

Introduction

The United States is continuing to see strong improvement in air quality on the national level as the combined emissions reductions efforts by EPA and Tribal, state, and local air agencies have proven to be very effective. Between 1970 and 2020, the combined emissions of the six common National Ambient Air Quality Standards (NAAQS) pollutants (particulate matter ($PM_{2.5}$ and PM_{10}), sulfur dioxide (SO_2), oxides of nitrogen (NO_x), volatile organic compounds (VOCs), carbon monoxide (CO), and lead (Pb)) dropped by 78 percent. Also, the number of days each year reaching the "Unhealthy for Sensitive Groups" level or above on the Air Quality Index has continued to trend downward since 2000.[44]

Despite this national record of success, air quality disparities due to disproportionate pollution impacts exist in multiple areas across the country. Approximately 97 million Americans lived in counties with air quality concentrations above the level of one or more NAAQS in 2020.[45] Studies show substantial disparities exist in $PM_{2.5}$-related risk between groups. Nonwhites, particularly blacks, are at increased risk for $PM_{2.5}$-related health effects, in part due to disparities in exposure.[46] One study estimated people of color were exposed to 25 percent higher $PM_{2.5}$ (as compared to the rest of the population) in 2014 from domestic anthropogenic sources.[47] Neighborhoods with the highest poverty rates had 14 percent higher $PM_{2.5}$ levels in 2016 compared with neighborhoods with the lowest poverty rates.[48] Multiple areas are disproportionately impacted by local sources emitting air toxics, and the scientific understanding of health risks related to exposure to air toxics continues to emerge.[49]

All people regardless of race, color, national origin, or income deserve to breathe clean air, and it is especially important that the nation's laws protect the health of vulnerable and sensitive populations, such as children and those with preexisting respiratory conditions. Over the next four years, EPA will work collaboratively with air agencies to maintain and improve the nation's air quality. EPA will particularly focus on advancing environmental justice by engaging with communities on key activities including technical assistance, regulation development, and financial assistance.

Long-Term Performance Goals

- By September 30, 2026, reduce ozone season emissions of nitrogen oxides (NO_x) from electric power generation sources by 21% from the 2019 baseline of 390,354 tons.

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[44] Our Nation's Air: Trends through 2020: https://gispub.epa.gov/air/trendsreport/2021/#home.
[45] Our Nation's Air: Trends through 2020: https://gispub.epa.gov/air/trendsreport/2021/#home.
[46] Integrated Science Assessment (ISA) for Particulate Matter (Final Report, Dec 2019) (EPA/600/R-19/188) https://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=347534.
[47] Tessum, CW, Paolella, DA, Chambliss, SA, Apte, JS, Hill, JD, Marshall, JD. $PM_{2.5}$ polluters disproportionately and systemically affect people of color in the United States. Sci Adv, 28 APR 2021: EABF4491.
[48] Colmer, J, Hardman, I, Shimshack, J, Voorheis, J. Disparities in $PM_{2.5}$ air pollution in the United States. Science, 31 JUL 2020: 575-578.
[49] National Air Toxics Assessment: https://www.epa.gov/national-air-toxics-assessment.

- By September 30, 2026, improve measured air quality in counties not meeting the current National Ambient Air Quality Standards (NAAQS) from the 2016 baseline by 10%.
- By September 30, 2026, strive to ensure all people with low socio-economic status (SES) live in areas where the air quality meets the current fine particle pollution ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS).
- By September 30, 2026, ensure U.S. consumption of hydrochlorofluorocarbons (HCFCs) is less than 76.2 tons per year of ozone depletion potential.[50]

Strategies

Taking into account the most current research on health effects and changing conditions from a warming climate, EPA will continue to periodically review the NAAQS. The Agency will reconsider the December 2020 decision to retain the PM NAAQS because available scientific evidence and technical information indicate that the current standards may not be adequate to protect public health and welfare, as required by the Clean Air Act.[51] In reviewing the NAAQS, the Agency will assess whether the current standards provide adequate protection for the people most at-risk, including people with heart or lung disease, children and older adults, and nonwhite populations.

The Agency will focus on evaluating environmental justice considerations related to the NAAQS during review and implementation. EPA will continue to work closely with air agencies to ensure that they are working to improve air quality in areas that do not meet the NAAQS, including the 2010 SO_2 NAAQS, the 2012 $PM_{2.5}$ and PM_{10} NAAQS, and the 2008 and 2015 Ozone NAAQS. EPA will also continue to work closely with air agencies on the regional haze program to improve visibility in the larger national parks and wilderness areas.

Stationary fuel combustion sources, such as electric utilities and industrial boilers, continue to represent a significant proportion of the nation's emissions inventory.[52] In meeting statutory and legal requirements to regulate stationary sources, EPA will maximize public health benefits and make environmental justice and community outreach central in these rulemaking efforts. EPA will lead the development of comprehensive and cost-effective emission reduction strategies and multipollutant regulations governing air emissions from stationary sources, including technology and health-based standards and voluntary or non-regulatory initiatives.

EPA will continue to operate nationwide and multi-state programs, such as the Acid Rain Program and the Cross-State Air Pollution Rules, that address major global, national, and regional air pollutants from the power sector and other large stationary sources. These flexible, cost-effective, and environmentally effective air pollution control programs help reduce air toxics emissions, regional haze, and interstate pollution that interferes with the attainment and maintenance of the NAAQS.

EPA will also continue to set and enforce technology-based air toxics emissions standards and, where appropriate, amend those standards to address residual risk and technology advancements. This includes revisiting aspects of the Mercury and Air Toxics Standards for power plants, as directed by Executive Order 13990: *Protecting Public Health and the Environment and Restoring Science to Tackle*

[50] The U.S. HCFC consumption baseline is 15,240 ODP-weighted metric tons effective as of January 1, 1996.
[51] For more information on the Clean Air Act, see: https://www.epa.gov/clean-air-act-overview/clean-air-act-text.
[52] Our Nation's Air: Trends Through 2020: https://gispub.epa.gov/air/trendsreport/2021/#home.

the Climate Crisis. These regulations limit toxic air pollution from stationary sources, reducing pollution in communities and providing tools to help communities and other stakeholders meaningfully engage in the process. EPA will consider multipollutant impacts in the development and implementation of Maximum Achievable Control Technology standards and New Source Performance Standards, where appropriate. To address unacceptable risks that may remain after implementing national strategies, EPA works with air agencies to understand the risks at the local level, target problem areas, and tailor reduction strategies and approaches to the unique situations in those areas.

EPA will promote early integration of environmental justice considerations in the regulatory process. For example, the Agency will develop new and enhanced applications of environmental justice analytics to inform how power sector rules can mitigate impacts on overburdened communities. This effort will include modeling of power sector emissions down to the county level as well as improved representation of fine particulate matter that includes toxic heavy metals.

The Agency will continue to develop and make available the necessary technical data and tools to support air quality planning and environmental justice analyses. This includes critical information on emissions and ambient concentrations of air pollution, and associated data systems, such as AirNow, the Air Quality System, and the National Emissions Inventory. In addition, EPA will work with air agencies and, as appropriate, with other federal agencies to develop improved measurement methods (e.g., for woodsmoke, PM emissions, PFAS, and air toxics, such as ethylene oxide) and emissions data (e.g., for agricultural sources and for air toxics). To support air agencies, promote national consistency, and ensure information is publicly available, EPA will continue to operate, maintain, and upgrade as needed the State Planning Electronic Collaboration System (SPeCS), the Combined Air Emissions Reporting System (CAERS), and the Electronic Permit System (EPS). EPA will also test, evaluate, and refine draft tools for incorporating environmental justice considerations into EPA-issued permits and ensure opportunities for meaningful public involvement in the permit process.

EPA will work with air agencies and local communities to prioritize engagement with low-income and marginalized communities that for decades have been overburdened with air pollution and other environmental hazards. EPA will undertake air monitoring and other assessment approaches to address these long-neglected air quality and public health problems. The Agency will work to assess the current state of the nation's monitoring network and pursue collaborative approaches to modernize the technologies, equipment, and network design used to measure air quality as well as enhance the quality and security of critical data collection, handling, and reporting from the network.

EPA will collect and evaluate mobile source emission data to help guide future program priorities related to reducing criteria pollutant and greenhouse gas emissions from light-duty cars and trucks, heavy-duty trucks and buses, nonroad engines and equipment, and from the fuels that power these engines. The Agency will develop the next round of multi-pollutant emission standards for light-duty and highway heavy-duty vehicles, which will improve air quality and reduce pollution near roads and other areas of high truck activity, such as warehouses and ports. EPA will also continue to work to ensure that Clean Air Act requirements are met for new transportation projects with heavy-duty diesel traffic, such that they do not worsen air quality near communities with environmental justice concerns. The Agency will address air quality concerns in these communities through implementing regulations, developing improved air quality models and mitigation measures, and collaborating with a broad range

of stakeholders — including state air quality agencies and communities with environmental justice concerns — to develop targeted, sector-based, and place-based strategies for diesel fleets (including school buses, ports, and other goods movement facilities). EPA will support and oversee projects for the replacement of existing school buses with low- or zero-emission school buses funded under the Bipartisan Infrastructure Law, which will be implemented in alignment with Justice40.

EPA will implement its Air Toxics Strategy[53] to more effectively identify and address existing, emerging, and future air toxics issues in the U.S. Identifying air toxics issues and appropriate approaches for addressing them requires strong communication, coordination, and collaboration between EPA, regulatory partners, and stakeholders as well as sound technical information and analyses to support technical and policy solutions. EPA will assess risks to public health from exposure to air toxics such as ethylene oxide, chloroprene, and benzene from stationary sources. This will be done in support of upcoming regulatory and other program efforts, including for source categories with significant disproportionate impacts such as chemical manufacturing, to ensure that the air toxics rules appropriately protect public health, especially for neighboring communities. EPA will also improve delivery of information to the public on the status of air toxics pollution and potential exposure and risk levels through the Air Toxics Data Update. The Agency is developing an approach to provide annual emissions, air quality, and risk information nationally as well as how to best provide interim risk information to communities as needed.

EPA is continuing to implement provisions of Title VI of the Clean Air Act Amendments and the Montreal Protocol, to protect and restore the stratospheric ozone layer by reducing the use, emissions, import, and production of ozone-depleting substances in the United States. By 2022, U.S. consumption of hydrochlorofluorocarbons, chemicals that deplete the Earth's protective ozone layer, will be less than 76.2 tons per year of ozone depletion potential from the 2015-2019 target of 1,520 tons per year. EPA will continue to use regulatory approaches to reduce the production import, use, and production of ozone-depleting substances, including reviewing and listing alternatives that are safer for the ozone layer.

External Factors and Emerging Issues

The increasing intensity, duration, and scale of wildfires occurring in the western United States as the climate changes worsens air quality across the country. Older adults, children, pregnant women, people with cardiovascular or respiratory disease, people of low socio-economic status, and outdoor workers may be at heightened risk for severe health effects from exposure to smoke.[54] In partnership with other federal partners, EPA is working to protect public health during wildfire-smoke events by improving smoke forecasting abilities, identifying and communicating when and where smoke events are occurring, building local capacity to be Smoke Ready, and providing tools and resources for communities for health protection during smoke events.

[53] EPA Air Toxics Strategy: https://www.epa.gov/haps/air-toxics-strategy.

[54] Which Populations Experience Greater Risks of Adverse Health Effects Resulting from Wildfire Smoke Exposure?: https://www.epa.gov/wildfire-smoke-course/which-populations-experience-greater-risks-adverse-health-effects-resulting.

Objective 4.2: Reduce Exposure to Radiation and Improve Indoor Air

Limit unnecessary radiation exposure and achieve healthier indoor air quality, especially for vulnerable populations.

Introduction

To improve indoor air and reduce exposure to radiation, EPA leads programs that educate the public about radiation and indoor air quality concerns, including radon, asthma triggers, and poor ventilation. These programs promote public action to reduce potential risks in homes, schools, and workplaces. Included among the people most exposed to indoor air pollutants are those most susceptible to the effects—the young, the elderly, and the chronically ill. Recognizing the potential hazards of radiation, Congress charged EPA with the primary responsibility for protecting people and the environment from harmful and avoidable exposures.

Because Americans spend most of their time indoors, where pollutant levels are often significantly higher than outdoors, poor indoor air is a major health concern. For example, radon is the second leading cause of lung cancer, responsible for 21,000 lung cancer deaths annually. Nationally, one in 15 homes is estimated to have elevated radon levels. In many communities, this ratio is much higher. Low-income families often lack resources to test for and mitigate radon in their homes. As another example, nearly 24 million Americans have asthma. Low-income communities of color suffer disproportionately from asthma and substandard housing and lack of access to care underlie this disparity. Indoor allergens and irritants play a significant role in making asthma worse and triggering asthma attacks. The COVID-19 pandemic further highlighted the importance of healthy indoor air quality and ventilation in homes, schools, and other buildings.

To address these and other hazardous indoor air pollutants, EPA collaborates with Tribal and state organizations; environmental and public health officials; housing, energy, and building organizations; personnel who manage school environments; and health care providers who treat children prone to or suffering disproportionately from asthma. The focus of these non-regulatory efforts is to create, expand, and leverage policy, systems, and individual action to promote healthy indoor environments and reduce exposure to harmful indoor air pollutants.

Long-Term Performance Goal

- By September 30, 2026, prevent 2,250 lung cancer deaths annually through lower radon exposure as compared to the FY 2020 baseline of 1,684 prevented lung cancer deaths.

Strategies

The COVID-19 pandemic, along with increased prevalence of wildfires and other natural disasters that impact indoor air, generated unprecedented awareness and demand for healthier indoor air in homes, schools, and other buildings. EPA will work to restore, leverage, and scale up programs to reduce exposures to radon through home testing and mitigation, promote in-home asthma management, improve air quality in homes and schools, and build capacity for Tribes, states, and communities with environmental justice concerns to comprehensively address indoor air risks.

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EPA estimates that there are 12,000 avoidable lung cancer deaths annually attributable to indoor radon exposure.[55] To reduce this high public health risk, EPA will co-lead the National Radon Action Plan (NRAP), a multisector public-private coalition committed to eliminating avoidable radon-induced lung cancer in the United States and addressing radon as a health equity challenge. It is estimated there are more than seven million homes in the U.S. at or above the EPA radon action level.[56] EPA will continue to provide State Indoor Radon Grant funding, and technical assistance to Tribes and states, with a focus on increasing access to testing and mitigation in underserved communities.

In-home asthma management is a critical component of asthma care, particularly in low-income populations. EPA, in partnership with the Centers for Disease Control and Prevention (CDC) and Department of Housing and Urban Development (HUD) through the Federal Asthma Disparities Action Plan,[57] is supporting state Medicaid programs and private health plans to pay for in-home asthma interventions through reimbursement mechanisms. In addition, EPA is working to reduce asthma disparities for low-income people and communities of color by supporting public health and housing organizations to train and deploy community health workers to deliver in-home asthma interventions and care.

EPA will continue to reduce indoor air quality risks in schools through the Indoor Air Quality Tools for Schools program, with a focus on technical assistance, training, assessments, and implementation support for in-need communities. EPA will expand technical assistance to advance best indoor air quality practices through ventilation improvements, operation and preventive maintenance, and appropriate sanitation in school and childcare buildings. EPA will also expand federal coordination and collaboration through the Federal Partners in School Health, a multi-agency collaboration led by the Department of Education, CDC, and EPA.

EPA will update the Indoor airPLUS new home construction specifications and expand the program to address indoor air quality (IAQ) protections during home renovations and upgrades. EPA will work with federal, state, and local weatherization and energy efficiency programs to incorporate IAQ protective practices through the Energy Savings Plus Health suite of guidances and tools. EPA will provide technical assistance and other support to Tribes through the Tribal Air Monitoring Support (TAMS) Center and tools to build local expertise and indoor air quality capacity among Tribal air quality professionals to help reduce exposure to harmful indoor air pollutants, including through radon testing and mitigation technologies.

EPA will review and update the Federal Radiation Protection Guidance, currently based on protecting an adult male, to include protection for all members of the U.S. population, with particular emphasis on the most vulnerable. These updates will address considerations for all ages, genders, and the increased sensitivity of pregnant individuals and children to radiation exposure. EPA will provide clear,

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[55] National Research Council. 1999. Health Effects of Exposure to Radon: BEIR VI. Washington, DC: The National Academies Press. Report available for purchase at: https://doi.org/10.17226/5499.

[56] Overview of EPA's State Indoor Radon Grants Program: A Focus on Activities Conducted during 2019: https://www.epa.gov/sites/default/files/2021-03/documents/sirg_2019_annual_summary_report_final.revised.pdf.

[57] Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities: https://www.epa.gov/asthma/coordinated-federal-action-plan-reduce-racial-and-ethnic-asthma-disparities.

accurate, and accessible risk communications products that allow individuals and communities to make informed decisions about reducing radiation exposure.

EPA will maintain personnel expertise, capabilities, and equipment readiness of the radiological emergency response program under the National Response Framework and the National Contingency Plan, including the Agency's Radiological Emergency Response Team. EPA will provide oversight of the Waste Isolation Pilot Plant (WIPP), including review of the Department of Energy plans for additional waste panels and surplus plutonium disposal, to ensure safe, long-term disposal of radioactive waste and the continued cleanup of nuclear weapons program legacy sites. EPA will also meet its Clean Air Act obligation to control radionuclide emissions by updating and bolstering inspector training programs and guidance to ensure a sustainable level of expertise.

External Factors and Emerging Issues

Impacts from a changing climate and the continued threat of disease may worsen existing indoor environmental problems and introduce new ones as temperatures change and the frequency or severity of wildfires, heatwaves, floods, and other climate-driven events increase. These impacts include increased mold from water damage and more time spent indoors where air may be of poorer quality.

The use of novel or advanced nuclear fuel for power generation and for space application, both foreign and domestic, is an emerging issue with direct impact to EPA's core mission areas of radiation protection, response, and waste management. EPA will fill gaps in expertise to meet these emerging needs to support, as appropriate, advanced nuclear energy applications while responding to concerns raised by communities living near nuclear facilities.

Goal 5: Ensure Clean and Safe Water for All Communities

Provide clean and safe water for all communities and protect our nation's waterbodies from degradation.

Introduction

Clean and safe water is a vital resource that is essential to the protection of human health. Without clean water, communities and economies cannot thrive. EPA is committed to ensuring clean and safe water for all, especially for vulnerable communities of color, underserved communities, and Tribal communities. EPA has made significant progress in protecting water resources since the enactment of the Clean Water Act (CWA);[58] Safe Drinking Water Act (SDWA);[59] and Marine Protection, Research, and Sanctuaries Act.[60] As a result, most communities enjoy and depend upon reliable sources of clean and safe water. Many formerly impaired waters have been restored and now support recreational and public health uses. Still, the nation faces significant challenges, including water equity and affordability, aging infrastructure, legacy lead pipes, nutrient pollution, per- and polyfluoroalkyl Substances (PFAS) contamination, cybersecurity threats, and the climate crisis.

Many communities need upgrades in both drinking water and wastewater infrastructure as well as greater capacity to comply with new and existing risks and standards. Tens of thousands of homes, primarily in Tribal communities and underserved communities and territories, lack access to basic sanitation and drinking water. EPA is committed to prioritizing equity, environmental justice, and the lived experience of those most impacted by water pollution in the Agency's policy and regulatory development. Climate change compounds these problems. For example, warmer temperatures are exacerbating harmful algal blooms in freshwater lakes and storms of increasing intensity are further stressing aging infrastructure. These challenges highlight the need to work with EPA's partners to evaluate options and implement programs for protecting and improving the resilience of both built and natural infrastructure.

Over the next four years, EPA will work to protect and improve the quality of groundwater, surface waters, and drinking water. The Bipartisan Infrastructure Law directs significant investments in the health, equity, and resilience of American communities. With unprecedented funding to support upgrades to our aging national infrastructure, and in alignment with Justice40, EPA will improve people's health and safety, help create good paying jobs, and increase climate resilience throughout the country.

EPA is committed to strengthening collaborative problem-solving with federal agencies, Tribal, state, and local governments, communities, and nongovernmental partners; advancing science; completing key rulemakings (e.g., Lead and Copper Rule Revisions, definition of "waters of the United States," Clean Water Act Section 401 water quality certification); protecting underground sources of drinking water; providing technical assistance; improving data accessibility and risk communication; facilitating

[58] For more information on the Clean Water Act, see: https://www.epa.gov/laws-regulations/summary-clean-wate r-act.
[59] For more information on the Safe Drinking Water Act, see: https://www.epa.gov/sdwa.
[60] For more information on the Marine Protection, Research and Sanctuaries Act, see: https://www.epa.gov/laws-regulations/summary-marine-protection-research-and-sanctuaries-act.

innovative program action; and using its authority to help protect the health of all people and the nation's waterbodies. EPA will ensure that science is respected, elevated, and prioritized in all decisions and is released to the public in a timely and transparent manner. EPA will also address a critical public health issue by working with states and water utilities to remove lead service lines that contribute to high lead levels in drinking water. EPA will help utilities identify their lead service lines and work with federal and state funding authorities to help utilities remove the lines.

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Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure

Protect public health from the risk of exposure to regulated and emerging contaminants in drinking and source waters by improving the reliability, accessibility, and resilience of the nation's water infrastructure to reduce the impacts of climate change, structural deterioration, and cyber threats.

Introduction

The United States enjoys one of the world's most reliable and safest supplies of drinking water. More than 93 percent of the population receives safe drinking water from approximately 50,000 community water systems. Similarly, the use of sewage collection systems has provided dramatic improvements in public health. Today, approximately 15,000 municipal wastewater treatment facilities operate nationwide, serving more than 76 percent of the population.[61]

Some communities across the country, however, face the challenge of aging or inadequate drinking water, wastewater, and stormwater infrastructure. Many marginalized, underserved, or Tribal communities lack crucial access to clean and safe water and are the most vulnerable to exposure to contaminants such as lead and PFAS. The COVID-19 pandemic, cyber-attacks, and climate change have compounded these challenges and heightened the urgency to reinvest in water infrastructure (i.e., gray and green infrastructure, or natural systems such as wetlands). EPA is committed to investing in water infrastructure improvements to address these challenges so that all communities have access to clean and safe drinking water.

Long-Term Performance Goals

- By September 30, 2026, reduce the number of community water systems still in noncompliance with health-based standards since March 31, 2021 from 752 to 500.[62]
- By September 30, 2026, reduce the number of community water systems in Indian country still in noncompliance with health-based standards since March 31, 2021 from 110 to 70.
- By September 30, 2026, leverage an additional $45 billion in non-federal dollars through EPA's water infrastructure finance programs (CWSRF, DWSRF and WIFIA).
- By September 30, 2026, in coordination with other federal agencies, provide access to basic sanitation for an additional 36,500 American Indian and Alaska Native homes.
- By September 30, 2026, provide 2,203 Tribal, small, rural, or underserved communities with technical, managerial, or financial assistance to improve operations of their drinking water or wastewater systems.

[61] For more information on the Clean Watersheds Needs Survey 2012 Report to Congress, see: https://www.epa.gov/cwns/clean-watersheds-needs-survey-cwns-2012-report-and-data.

[62] This baseline is a subset of the 3,508 systems, including systems in Indian country, that have been in long-term noncompliance since September 30, 2017.

FY 2022-2023 Agency Priority Goal (APG)

- **Clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities.** By September 30, 2023, EPA will provide technical assistance to at least 10 communities to help achieve clean and safe water and reduced exposures to hazardous substances.

Strategies

EPA's water infrastructure programs can deliver multiple benefits including improving public health and environmental protection while creating jobs, collaborating with community partners, and setting the stage for long-term economic development. EPA's State Revolving Funds (SRFs) are invested in partnership with states.[63] This federal investment is designed to be used in concert with other sources of funds to address water quality needs. EPA's Drinking Water State Revolving Fund (DWSRF) is designed to assist public water systems in financing the costs of drinking water infrastructure improvements needed to achieve or maintain compliance with SDWA requirements, protect public health, and support state and local efforts to protect and provide drinking water. EPA works in close partnership with states to build on the federal investment to protect public health, safeguard valuable aquatic resources, and meet environmental standards benefiting hundreds of millions of people. Furthermore, the Water Infrastructure Finance and Innovation Act (WIFIA) loan program provides low interest loans with flexible repayment options for qualified borrowers. With a small expenditure of federal funds, the WIFIA program creates powerful leverage resulting in significant funding for water infrastructure projects that protect public health and deliver environmental benefits while supporting local economies and creating jobs. Eligible public and private borrowers can finance a wide variety of wastewater, drinking water, water reuse, stormwater, and other water quality improvement capital projects with WIFIA loans. In addition, the Water Infrastructure Improvements for the Nation Act of 2016 (WIIN) and America's Water Infrastructure Act of 2018 (AWIA) strengthened many existing programs within EPA while creating new programs to tackle significant public health concerns and environmental needs. They range from the creation of grant programs to promoting water workforce development. These programs are vital to protecting public health, growing the American economy, and ensuring that rural and urban communities from coast-to-coast can thrive.

Low-income, people of color, Tribal, smaller, and rural communities are disproportionately impacted by water related challenges and face historical hurdles in accessing water infrastructure funding. EPA will ensure that infrastructure investments reach communities that need them the most, which will be supported by work to implement the Justice40 initiative and advance racial equity and environmental justice for communities who too often have been left behind. EPA will support this effort by identifying and addressing barriers to support these communities (including how best to pursue SRF loans or grants for infrastructure funding); assisting and training state programs, Tribal water officials, and technical assistance providers to achieve and maintain compliance at water systems; developing best practices; and strengthening Tribal and state program capacity.

[63] For additional information, see: http://www.epa.gov/cwsrf.

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EPA also will support water sector efforts to strengthen the workforce by providing assistance to state agencies and external stakeholders and promoting the importance of water operators, who are critical to providing safe drinking water. EPA will ensure that the water sector is aware of threats posed by cyber-attacks and will provide resources and assistance to states and systems so they understand how to prepare for, identify, respond to, and recover from cyber-attacks. Work under this objective will support the FY 2022-2023 Agency Priority Goal to clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities. Under this Agency Priority Goal, EPA plans to engage with communities that are overburdened and underserved to provide technical assistance supporting community-identified needs addressing water and clean-up challenges.

Many water systems and communities are facing challenges with lead and PFAS. Some communities do not know where their lead service lines are located. Many system operators and communities are not familiar with emerging contaminants like PFAS with respect to decisions, for example, about the best treatment solutions or remediation options. EPA will work with states to identify and prioritize infrastructure projects supported by the BIL and in alignment with Justice40 to replace lead service lines and address PFAS contamination, particularly in small and underserved communities.

EPA is taking multiple actions to reduce drinking water lead exposure in underserved communities that have been disproportionately impacted by this public health crisis. In 2021, EPA completed the review of the Lead and Copper Rule Revision under Executive Order 13990 and announced the development of a new regulation, Lead and Copper Rule Improvements (LCRI), to better protect communities form exposure to lead in drinking water. EPA is working with partners to test for lead in the drinking water of schools and childcare facilities and to provide resources for remediation. EPA is completing guidance documents to assist communities in identifying lead service lines, the most significant sources of lead in drinking water, to prioritize their replacement. EPA will provide training and technical assistance to drinking water service providers to protect children and households in impacted communities and will help providers improve outreach to drinking water consumers to take actions to reduce their lead exposure.

PFAS contamination is another urgent public health and environmental threat facing communities across the United States, with significant potential equity and environmental justice implications. EPA created a cross-agency Council on PFAS, staffed by senior policy and technical experts, to coordinate and accelerate a whole-of-agency response to this crisis and leverage partnerships with other federal agencies. The Council developed the PFAS Strategic Roadmap[64] – laying out a whole-of-agency approach that maximizes the use of existing authorities and scientific capacity to research, restrict, and remediate PFAS. The roadmap sets timelines by which EPA plans to take specific actions and commits to bolder new policies to safeguard public health, protect the environment, and hold polluters accountable. As described in the Roadmap, EPA will publish a proposed PFAS National Primary Drinking Water Regulation. EPA will also begin PFAS monitoring under the Unregulated Contaminant Monitoring Rule and conduct occurrence analyses in FY 2023 through 2025. In addition, EPA has determined that

[64] For additional information, see: https://www.epa.gov/pfas/pfas-strategic-roadmap-epas-commitments-action-2021-2024.

effluent limitation guidelines under the CWA should be developed to address PFAS in industrial wastewater discharged by the PFAS manufacturing and the metal finishing industries and is initiating rulemaking to do so. EPA is committed to lifting up the voices of all communities, particularly those who have suffered disproportionately from the impacts of PFAS; supporting those least able to access technical assistance, filtration, and other control and remediation solutions; and working together to address this complex environmental challenge. EPA will confront the issue of PFAS by fully leveraging the Agency's authorities and working closely with federal, Tribal, state, and local partners.

While advances in science, sensor, and measurement technologies may improve EPA's ability to identify additional contaminants in drinking and source waters, understanding and communicating the potential health risks of individual and mixtures of contaminants, especially those with little to no toxicity data, remains a challenge. A good example of this challenge is the detection in water of multiple PFAS, for which no toxicity data currently exists.

Understanding the potential risks of drinking water contaminants to the public remains a key priority for EPA. The Agency will continue to evaluate health effects information for drinking water contaminants to support SDWA activities. Considering those potentially most at risk — including sensitive populations and children at all life stages — is essential when developing health effects assessments for water contaminants. EPA will also update and develop new health advisories and benchmarks that can be used by federal and state partners, drinking water utilities, and others to better characterize the potential health risks associated with drinking water contaminants. To protect source waters such as lakes, reservoirs and rivers, EPA will continue to take an integrated approach to source water protection by leveraging CWA tools, particularly national-scale recommended ambient water quality criteria.

In addition, EPA is carrying out evidence-building activities to address priority questions related to drinking water systems out of compliance, one of EPA's Learning Agenda priority areas. EPA will gather existing reports and analyses on the quality of its drinking water compliance data to address priority questions on federal and state drinking water program policies, identify what additional data are needed, search for other sources of information, and identify ways to fill data gaps. With this data analysis, EPA will identify system characteristics that support compliance and those that cause compliance challenges and use the findings to inform and develop policy instruments that are more effective in increasing drinking water compliance.

External Factors and Emerging Issues

Changing and more extreme precipitation patterns, including drought and flooding, as well as increasingly sophisticated and prevalent cyber-attacks, pose serious challenges to drinking water, wastewater, and storm water infrastructure and facilities. Safeguarding the integrity of the nation's public health and communities requires that the nation's water infrastructure is of sufficient capacity and properly maintained, and that the workforce that supports it is well-trained and resourced.

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Another challenge is the capacity limitations of states that are facing heavy demands on annual budgets because tax revenues and system revenues are down due to the COVID-19 pandemic and other reasons. EPA continues to work with states regarding this issue and explore sources of matching funds and other potential resource options.

In addition, the potential scaling up of carbon capture to remove CO_2 from the atmosphere and safely sequester it underground may pose new scientific, technological, and permitting capacity challenges to EPA and its regulatory partners.

To help address these challenges, the Agency has established the Water Workforce Initiative, collaborating with partners to work with stakeholders across the water sector to ensure that the sector workforce is strong, diverse, resilient, and attracts and retains talented individuals from many different backgrounds. EPA's Critical Infrastructure Protection program provides water utilities access to information, tools, training, and protocols designed to enhance the security (including cybersecurity), preparedness, and resiliency from terrorist threats and all-hazard events.

The frequency and potential severity of cyber-attacks against critical water infrastructure continues to grow. EPA, states, and sector partners have offered guidance, training, and technical assistance to promote the voluntary adoption of cybersecurity best practices; however, water utilities continue to be highly vulnerable to cyber-attacks. The risk to the environment and public health from cyber-attacks and the limited adoption of cybersecurity practices within the water sector gives urgency to federal-state engagement on improving the operational security of public water systems and publicly owned treatment works.

EPA also is assisting the water sector in developing a clear understanding of climate change impacts on utilities and water supplies, and potential long-term adaptation and risk management options for decision making related to water utility infrastructure. EPA also will work to facilitate compliance with updated Federal Flood Risk Management Standards for critical infrastructure, which includes many water systems.

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Objective 5.2: Protect and Restore Waterbodies and Watersheds

Address sources of water pollution and ensure water quality standards are protective of the health and needs of all people and ecosystems.

Introduction

Clean and safe water is an essential resource that provides for healthy ecosystems, communities, and economies across the nation. Pollution and degradation of lakes, rivers, streams, and wetlands endangers aquatic ecosystems, threatens the safety of drinking water, compromises water quality planning and flood protections, impacts commercial and recreation opportunities (e.g., fishing, hunting, kayaking, swimming), and reduces the natural benefits these resources provide to communities. EPA needs to protect these resources against threats such as climate change, drought, sea level rise, invasive species, plastics, and nutrient pollution.

EPA's water programs will maintain, restore, and improve water quality and availability and ecosystem services. EPA is focused on its core mission to protect the nation's waters and reiterates the principles of science, equity, environmental justice, and Tribal sovereignty as fundamental standards that should be woven throughout its programs.

Long-Term Performance Goal

- By September 30, 2026, increase by 41,000 square miles the area of watersheds with surface water meeting standards that previously did not meet standards.[65]

Strategies

EPA uses a suite of programs to protect and improve water quality and ecosystem health in the nation's watersheds—as well as estuarine, coastal, and ocean waters. In partnership with other federal agencies, Tribes, states, territories, local governments, and a broad range of non-governmental partners, EPA recognizes the disproportionate impact of pollution and climate stress on communities with environmental justice concerns and Tribal treaty rights and will work collaboratively with public and private sector stakeholders nationally and locally to establish innovative, location-based programs to achieve the Agency's goals. EPA water programs will:

- Conduct monitoring and assessments.
- Collect and share data following Internet of Water[66] principles, which will help connect water data to inform policy and community decision making.
- Improve tools for early and rapid detection of harmful algal blooms and pathogens in recreational waters.
- Ensure the protection of ecosystems, endangered and threatened species, and designated critical habitat by continuing to consult on discretionary federal actions with National Marine Fisheries Service and Fish and Wildlife Service (the Services) under the Endangered Species Act.

[65]Draft July 2021 baseline: 425,198 square miles of watersheds with surface water meeting standards and 652,609 square miles of watersheds with surface water not meeting standards. Final baseline will be available the second half of FY 2022.
[66]For additional information, see: https://internetofwater.org/.

- Review and update regulations, such as:
    - Work with the Department of the Army to revise the definition of "waters of the United States". This process anticipates completing and implementing two rulemakings: a foundational rule to restore longstanding protections, and an anticipated second rule that builds on that regulatory foundation.
    - Reconsider and revise the 2020 CWA Section 401 Certification Rule, which provides states and authorized Tribes an important tool to help protect the water quality of federally regulated waters within their borders.
    - Produce effluent limitation guidelines for chemical manufacturers and metal finishing companies to address PFAS, for steam electric power generators to address toxics and other pollutants, and for meat and poultry products to address nutrient discharges.
    - Evaluate state-specific rules that arise based on an EPA review of changes to state Water Quality Standards (WQS).
    - Review rules related to improving CWA protections on Tribal reservations and considering Tribal treaty rights when acting on state WQS that impact those rights.
- Augment water supplies by safe reuse practices and stormwater capture to recharge aquifers.
- Develop climate-related tools and technical assistance and support green infrastructure and nature-based solutions to protect and improve water quality and habitat, while also providing climate mitigation and adaptation benefits.
- Identify impaired waters.
- Develop water quality plans to restore and protect waters and wetlands, including total maximum daily loads (TMDLs) and protection approaches.
- Update WQS.
- Establish pollution reduction targets.
- Issue and enforce discharge and ocean disposal permits.
- Implement coastal and estuarine programs to reduce coastal wetland loss, adapt to sea level rise, protect coral reefs, and address other coastal hazards.
- Implement programs to prevent or reduce nonpoint source pollution, including nutrients and plastic pollution.
- Use geographic partnership programs to implement consensus-based actions that address critical issues such as climate resiliency and water equity in watersheds and communities.

EPA understands that the benefits of clean, safe water are not shared equally by all communities and ecosystems. Moving forward, EPA will work with its partners to protect and restore water quality and wetlands, especially in low-income and underserved communities. To address water quality challenges, EPA will apply the fundamental building blocks of the CWA, including the development and implementation of TMDLs for CWA Section 303(d) listed impaired waterbodies, development of technology-based and water-quality based standards, and the implementation of permit programs such as the National Pollutant Discharge Elimination System and Marine Protection, Research, and Sanctuaries Act programs. Another approach could include taking full advantage of the flexibilities in the CWSRF programs to help achieve broader watershed protection and restoration. Partnership, science, technology, and innovation will be key to EPA's efforts to reduce and control pollutants that

are discharged from industrial, municipal, agricultural, and stormwater sources, as well as to implement programs to prevent and reduce pollution that washes off the land during rain events, including nutrients and plastic pollution.

The Agency will improve the way existing initiatives are used to create and protect healthy watershed tools, explore how innovative tools can be applied, and enhance efforts and cross-media collaboration to protect and prevent water quality impairment in healthy watersheds. The Agency will use data collected, for example, under the National Aquatic Resource Survey, to track the effectiveness of these combined efforts at protecting and improving water quality over time. In addition, EPA will work with government and non-governmental partners to bring appropriate and effective solutions to small, rural, and underserved communities.

The Agency will continue to develop new and revised CWA national recommended water quality criteria for the protection of human health and aquatic life that Tribes, states, and territories may adopt into water quality standards for their waterbodies. Water quality criteria consider the health protection for susceptible populations and lifestages (e.g., pregnant individuals, children) but can be limited by data availability. EPA also is reviewing the water quality criteria methodology to further advance the health protection of communities and individuals who are disproportionately impacted by high pollution levels or susceptibilities (e.g., Tribes, underserved and overburdened communities, pregnant individuals, children). EPA is developing the necessary tools and obtaining data needed to conduct efficient, standardized human health risk assessments for PFAS and other chemicals found in biosolids. EPA is also fully committed to implementing programs that protect Tribal water resources—EPA will revise WQSs regulations to explicitly and sustainably protect Tribal reserved (e.g., treaty) rights in state waters.

EPA will continue to promote multi-benefit solutions, such as integrated planning for wastewater and stormwater management, to achieve water quality goals while considering community needs and priorities. Robust stakeholder engagement and collaboration across state and local government can lead to effective long-range plans that implement green infrastructure, nature-based solutions, and more resilient infrastructure that is less vulnerable to flooding and the effects of the changing climate. To respond and adapt to the current and potential impacts of climate change on aquatic resources, EPA has developed working relationships with partners across the country. Through planning tools, technical resources, and funding programs, EPA will promote adaptive solutions to meet the challenges communities face.

EPA and its partners will accelerate progress to protect and restore ecologically, economically,[67] and intrinsically valuable watersheds across the nation through its place-based and geographic programs such as the National Estuary Program and the Urban Waters Federal Partnership, by strategically focusing on the biggest threats to their ecosystems and associated human health issues. Using a collaborative watershed approach, these programs incorporate in their environmental protection work the principles of environmental justice and Tribal treaty rights and sovereignty. EPA's leadership, at the

[67] The economic value of coastal recreation in the United States – for beach going, angling, bird watching, and snorkeling/diving – has been estimated by the National Oceanic and Atmospheric Administration to be in the order of $20 billion to $60 billion annually.

regional and national levels, provides a foundation using technical expertise, science-based support, and funding to develop long-term strategies and actions to improve water quality, restore habitat, and foster sustainable human use. Through place-based and geographic programs, EPA plays an important role as a convener and facilitator with federal, Tribal, state, and local partners to align resources and authorities within regional, watershed, and basin-scaled collaborative networks. More specifically, EPA's place-based and geographic programs deliver technical and financial assistance to solve problems and support healthy, climate-resilient ecosystems that address water quality, water infrastructure, nutrient pollution, habitat loss, treaty rights, equity, and environmental justice.

EPA, in partnership with other federal agencies, has shown time and again that collaboration can deliver multiple benefits to achieve common goals. EPA will continue to foster partnerships, such as with the Hypoxia Task Force and U.S. Department of Agriculture, to protect sources of drinking water and overall water quality. This can be accomplished through watershed management and more effectively managed runoff from agricultural lands using nature-based approaches; participation in the Urban Waters Federal Partnership to promote more efficient and effective use of federal resources and build new partnerships to help local communities achieve their water quality priorities and increase their resilience to climate change; partnering with the Federal Emergency Management Agency, National Oceanic and Atmospheric Administration, U.S. Army Corps of Engineers, and others on both pre-disaster planning and post-disaster recovery; and serving as a Natural Resource Damage Assessment and Restoration Trustee in partnership with federal and state co-Trustees, for restoring Gulf resources and services impacted by the Deepwater Horizon oil spill.

External Factors and Emerging Issues

Climate change will continue to pose risks to wetlands, groundwater, and freshwater habitat quality and quantity. Sea-level rise will result in loss and compression of habitat for fish and wildlife and salt-water intrusion to coastal groundwater sources. Extreme weather events due to climate change also pose challenges such as increases in nutrient loadings and stormwater runoff, which place additional stress on waterbodies and ecosystems. There also are potential emerging risks to water and water quality from increased domestic mining for critical and rare earth elements needed to produce electric vehicles, motors, wind turbines, and other technologies that will be important to decarbonize the economy and reduce CO_2 emissions.

Microplastics, defined as pieces of plastic between 1 nanometer and 5 millimeters in length (about the size of a sesame seed), present potential risks to human health and the environment. While much remains unknown, microplastics leaking into the environment have been estimated to increase from 1.4 megatons per year in 2016 to 3.0 megatons per year in 2040. Another study estimates the concentrations of microplastics in some ocean areas are 60 times greater today than just 15 years ago. There are many potential sources of microplastic input to aquatic systems, including degradation of plastic waste, tire wear particles, textiles, improperly disposed fishing gear, scrubbers in cosmetics and other personal care products, and protective hull coatings on ships.

To address these challenges, EPA will support communities in developing water quality plans, promoting green infrastructure to achieve multiple benefits, and providing resources and training to reduce stormwater pollution. EPA will support Tribal, state, and local partners to understand and

respond to the risks to human health and the environment due to coastal hazards and climate change. EPA also will engage in both domestic and international partnerships to support trash pollution prevention programs, recycling efforts in rural and suburban communities, and waterfront revitalization. Research into the sources, fates, and effects of microplastics continues to be a priority and EPA participates on the Interagency Marine Debris Coordinating Committee, which plans for how federal agencies, in partnership with other stakeholders, can best pursue opportunities to reduce microfiber pollution substantially during the five-year period following the enactment of the Save Our Seas Act. The Agency also will help states and local communities address PFAS. EPA is pursuing a number of activities related to PFAS in ambient water, including development of national recommended water quality criteria, biosolids risk assessment, fish tissue monitoring, analytical method development, and a multi-industry wastewater study examining available information about PFAS use and discharge across several industries.

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Goal 6: Safeguard and Revitalize Communities

Restore land to safe and productive uses to improve communities and protect public health.

Introduction

EPA works directly with, in, and for thousands of communities across the country, protecting their health and the environment by cleaning up contaminated land, managing the safe disposal of solid, industrial, and hazardous waste, and planning for and responding to environmental emergencies. Sixty-one percent of the United States population, including 62 percent of children under the age of five, live near sites where EPA assesses and restores contaminated land. While there is no single way to characterize communities located near contaminated sites, the legacy of pollution disproportionally affects communities of color, low-income, linguistically isolated populations, and those without a high school education. EPA will engage early and collaborate with Tribal, state, local partners, and affected communities to improve the livelihood of all Americans by cleaning up and returning these sites to productive use, especially in underserved and overburdened communities.

Uncontrolled releases of hazardous substances, pollutants, and contaminants impact air, land, and water and threaten healthy ecosystems. Nationally, there are thousands of contaminated sites with challenging and complex environmental problems, including soil, sediment, and groundwater contaminated by chemicals such as per- and polyfluoroalkyl substances (PFAS). Over the next four years, EPA will prioritize the cleanup of legacy contamination and emerging pollutants and facilitate site redevelopment in collaboration with communities, local governments, businesses, and other stakeholders. The Bipartisan Infrastructure Law (BIL), implemented in alignment with Justice40, advances these efforts by investing in the health, equity, and resilience of American communities. With unprecedented funding to clean up Superfund sites, scale-up community-led brownfields revitalization, and support local waste management infrastructure and recycling programs, EPA will improve people's health and safety, help create good paying jobs, and increase climate resilience throughout the country.

As it addresses existing contamination, EPA also will focus on reducing waste and preventing pollution. EPA and states manage the safe disposal of 2.96 billion tons of solid, industrial, and hazardous waste every year. This includes protective standards for the roughly 60,000 facilities in the United States that annually generate and manage more than 30 to 40 million tons of hazardous waste. EPA, in partnership with Tribes, states, local governments, and other organizations, will work to prevent releases of contaminants, reduce waste by increasing materials recovery and recycling, and support sustainable materials management practices. Through prevention activities, EPA protects groundwater from releases from underground storage tanks (USTs). Through materials recovery and recycling, EPA also provides direct, measurable reductions in greenhouse gas (GHG) emissions since natural resource extraction and processing make up more than 50 percent of total GHG emissions.

EPA also has mission-essential functions to prepare for and respond to environmental emergencies, which are growing in frequency and risk because of climate change. EPA strives to prevent emergencies through inspections of high-risk facilities and maintains the capabilities to respond to

emergencies through planning and preparedness efforts. EPA follows the government-wide National Response Framework (NRF)[68] in responding to large-scale emergencies that involve chemicals, oil, biological agents, radiation, or natural disasters. As part of the framework, EPA supports other federal agencies on significant incidents, and works with Tribes, states, and local planning and response organizations. Due to their proximity to facilities, fenceline communities, often with environmental justice concerns, bear a disproportionate risk of exposure to releases. Over the next four years, EPA will work to find solutions for these disproportionately impacted communities by prioritizing inspection of high-risk facilities.

[68] For more information about the National Response Framework, see: https://www.epa.gov/emergency-response/national-response-framework-nrf.

Objective 6.1: Clean Up and Restore Land for Productive Uses and Healthy Communities

Clean up and restore contaminated sites to protect human health and the environment and build vibrant communities, especially in underserved and overburdened areas.

Introduction

Contaminated soil, sediment, mine waste, groundwater, and sub-slab vapor intrusion into indoor air space expose communities across the United States to dangerous pollution. Twenty-two percent of the U.S. population lives within three miles of a Superfund site. Similarly, within a half mile of a brownfields site receiving EPA funding, 21 percent of people live below the national poverty level, 17 percent have less than a high school education,[69] 56 percent are people of color, and seven percent are linguistically isolated. Children are disproportionately exposed to health risks and safety hazards, especially from lead in soil. At Superfund residential lead sites, 18 percent of the population live below the national poverty level, 15 percent do not have a high school degree, and 51 percent are people of color. By cleaning up and returning contaminated land to productive use, EPA will improve the health and livelihood and reduce the environmental and health effects of exposure to contamination in communities, especially overburdened communities. This includes lowering the risk of elevated blood lead levels for children living near lead-contaminated sites.[70]

Together with federal, Tribal, and state partners, EPA's cleanup programs will reduce risks to human health and the environment while also returning them to productive reuse and providing economic and additional environmental benefits. Thousands of sites across the country have been transformed—from abandoned, contaminated industrial sites into parks, landfills into solar farms, and former smelters into health clinics. By assessing and cleaning up brownfields properties, EPA will bring direct economic and environmental gains to communities. Through FY 2020, on average, $20.13 was leveraged for each EPA brownfields dollar, and 10.3 jobs were leveraged per $100,000 of EPA brownfields funds expended on assessment, cleanup, and revolving loan fund cooperative agreements.[71] Several studies have shown that environmental benefits accrue when brownfields sites are used for redevelopment, such as reduction of paved surfaces and vehicle miles traveled.[72]

Long-Term Performance Goals

- By September 30, 2026, bring human exposures under control at an additional 60 Superfund sites.
- By September 30, 2026, complete 225 Superfund cleanup projects that address lead as a contaminant.
- By September 30, 2026, clean up an additional 650 brownfields properties.

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[69] U.S. EPA, Office of Land and Emergency Management 2020. Data collected includes brownfields site information from EPA's Assessment, Cleanup and Redevelopment Exchange System (ACRES) database at the end of FY 2020 and population data from the 2015-2019 American Community Survey.

[70] Klemick, H., Mason, H., & Sullivan, K. (2019). Superfund cleanups and children's lead exposure. *Journal of Environmental Economics and Management, 100*, https://doi.org/10.1016/j.jeem.2019.102289.

[71] U.S. EPA, Office of Land and Emergency Management 2020. FY 2020 program accomplishments from EPA's ACRES Database.

[72] 2020 Environmental Benefits of Brownfields Redevelopment — A Nationwide Assessment. For more information, see: https://www.epa.gov/brownfields/2020-environmental-benefits-brownfields-redevelopment-nationwide-assessment-0.

- By September 30, 2026, make an additional 425 RCRA corrective action cleanups Ready for Anticipated Use.
- By September 30, 2026, conduct an additional 35,000 cleanups at Leaking Underground Storage Tank facilities.

Strategies

To return a formerly contaminated site to productive reuse takes strong local and regional economies and supportive federal, state, and local land use, housing, and transportation policies. EPA will collaborate with its partners to clean up sites and return them to productive use, and involve people in decisions that affect their environment or health, especially communities with environmental justice concerns. EPA will engage with and increase involvement of communities to develop their visions for revitalization by identifying economic drivers and connecting community needs to federal investments. In carrying out Superfund removal actions, EPA will partner with communities to ensure that their concerns are identified and accounted for while working with Tribal, state, local, and other stakeholders. Work under this objective will support the FY 2022-2023 Agency Priority Goal to clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities. Under this Agency Priority Goal, EPA plans to engage with communities that are overburdened and underserved to provide technical assistance supporting community-identified needs addressing water and clean-up challenges.

During FY 2019-2020, over 40 percent of Superfund removal completions were in communities with environmental justice concerns. EPA will continue to support marginalized and overburdened communities by removing or mitigating exposure to harmful substances and remediating contaminated land for reuse. EPA has identified nearly 1,200 Superfund National Priority List (NPL) and Superfund Alternative Approach (SAA) sites where lead is a contaminant of concern, potentially exposing children in communities across the country.[73] EPA will continue a cross-program effort focusing on environmental lead exposure reduction with emphasis on where the burden of lead exposure disproportionately impacts communities with lower socioeconomic status. EPA also will address lead-contaminated soil at Superfund sites by developing site-specific cleanup levels accounting for total lead exposure at a site. EPA also will work with Tribal and state agencies to advance cleanup of abandoned uranium mining impacted lands. In addition, EPA will consider climate change and weather science as part of standard operating practices in Superfund cleanup projects[74] and take steps to reduce the carbon footprint of Superfund remedies.

EPA will help build vibrant communities by supporting Tribes, states, local governments, and nonprofit organizations as they assess, cleanup and plan reuse of brownfields properties and by providing job training opportunities, particularly in underserved communities. Additionally, EPA will provide Tribal nations and states with critical financial and technical assistance resources to build their brownfields response programs. EPA will provide direct technical assistance to communities to support community visioning, engagement, market and feasibility studies, and project financing options. In carrying out

[73] For more information, see: https://www.epa.gov/leadactionplanimplementation/implementation-status-report-epa-actions-under-december-2018-federal.
[74] For more information, see: https://www.epa.gov/superfund/superfund-climate-resilience.

cleanup and redevelopment efforts, EPA will continue to strengthen community-driven approaches by working with neighborhoods, towns, and regions to help them revitalize in ways that support improved environmental outcomes and disaster resilience and respond to challenges of the 21st century. EPA will leverage federal, state, and local resources to strengthen partnerships across all levels of government and with the private sector, allowing these partners to build on each other's successes.

EPA is undertaking an Agencywide effort to determine the best way to mitigate and reduce PFAS pollution. EPA, responsible parties, and other federal agencies will assess the nature and extent of PFAS contamination and other contaminants of concern at sites, and EPA will coordinate with responsible parties and lead federal agencies to identify and use effective remediation approaches. As part of its oversight responsibility at federal facility sites, EPA will establish best practices for PFAS investigation and cleanup. EPA will work to keep pace with the surging number of actions for PFAS at Department of Defense and other federal facility sites and oversee cleanup efforts where PFAS releases have been identified as a risk to human health or the environment. EPA also will consider statutory and regulatory authorities to address PFAS contamination. For example, EPA is considering a proposal to designate PFOA and PFOS as hazardous substances under the Comprehensive Environmental Response, Compensation, and Liability Act.

EPA will support states in cleaning up leaking underground storage tanks (LUST),[75] and directly implement assessments and cleanups of petroleum contamination in Indian country. EPA will provide technical assistance and training to Tribes and states on how to conduct cleanups and improve the efficiency of state programs. Along with Tribal and state partners, EPA will work to revitalize abandoned facilities by implementing strategies to reduce the number of sites that have not reached cleanup completion and to address new releases as they are confirmed. EPA will create an environmental indicator with UST and LUST data in EJSCREEN, EPA's Environmental Justice Screening and Mapping Tool. The new indicator will include national information from active UST and LUST sites, including sites in Indian country. EPA will work to integrate environmental justice into cleanups' prioritization and decision making to ensure that the most vulnerable communities are protected from further environmental harm.

External Factors and Emerging Issues

Cleanup remedies at contaminated sites may be vulnerable to the impacts of climate change, including fires, floods, and extreme weather events.

The potential releases from emerging fuels (such as E15 and higher blends of ethanol) stored with incompatible tanks and equipment or corroded diesel fuel UST systems could significantly impact resources available for cleanup. A 2016 study[76] found moderate to severe corrosion inside 83 percent of examined diesel fuel tanks. EPA's coordination and cooperation efforts with the UST stakeholder community remains critical. The impacts of an aging UST infrastructure could lead to more frequent

[75] States as referenced here also include the District of Columbia and five territories as described in the definition of state in the Solid Waste Disposal Act.

[76] EPA's July 2016 research report, *Investigation of Corrosion-Influencing Factors in Underground Storage Tanks with Diesel Service* (EPA 510-R-16-001). July 2016. https://www.epa.gov/ust/investigation-corrosion-influencing-factors-underground-storage-tanks-diesel-service.

and more catastrophic releases. This would strain state resources to ensure appropriate oversight as well as negatively impacting available resources for cleanup.

New scientific information, including new toxicity information or a new analytical method, can call previous determinations into question. For example, the discovery of new pathways, such as vapor intrusion, and emerging contaminants make remediating contaminated sites more challenging.

State programs are likely to encounter resource challenges and have less money to support cleanup efforts as states experience declines in gas tax revenues associated with the emergence of electric vehicles and a downward trend in the amount of gasoline sold annually. Possible impacts of economic transition to electric vehicles, including battery recycling and legacies of petroleum-era infrastructure, pose challenges. Lead battery recycling facilities are a common type of cleanup the Superfund removal program conducts and, if recycling of lithium becomes a valuable economic venture in the future with minimal oversight, the pattern would likely repeat.

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Objective 6.2: Reduce Waste and Prevent Environmental Contamination

Prevent environmental pollution by preventing releases, reducing waste, increasing materials recovery and recycling, and ensuring sustainable materials management practices.

Introduction

To prevent future environmental contamination and protect the health of the approximately 5.3 million people living within one mile of a hazardous waste facility, EPA and its state partners issue RCRA permits for approximately 6,700 hazardous waste units (such as incinerators and landfills) at 1,300 facilities. EPA will ensure that permit decisions, including decisions to issue, renew, or deny permits, reflect the latest technology and standards, and remain protective under changing conditions, such as climate change. EPA will also ensure that all communities, including those who are marginalized and overburdened, have an equitable opportunity to engage in the permitting process.

Through its National Recycling Strategy,[77] EPA is working to develop a stronger, more resilient, and cost-effective U.S. municipal solid waste recycling system. Recycling has been a long-standing critical component of EPA's waste management efforts and is the foundation for Sustainable Materials Management, which aims to reduce the environmental impacts of materials across their lifecycle. Recycling is an important part of a circular economy, which refers to a system of activities that is restorative to the environment, enables resources to maintain their highest values, and designs out waste. A circular economy approach provides direct, measurable reductions in GHG emissions as natural resource extraction and processing make up approximately 50 percent of total global GHG emissions. Reducing waste helps alleviate burdens on populations that bear the brunt of poorly run waste management facilities and transfer stations and underinvestment in waste management infrastructure. When applied to critical minerals, a circular economy approach facilitates end-of-life recycling and the recovery of critical minerals in order to support a secure supply chain.

To protect groundwater sources from releases of petroleum from USTs, EPA will continue to work with Tribal and state partners to prevent these releases. This work will help mitigate the negative environmental impacts to communities that are historically underserved, marginalized, and adversely affected by persistent poverty and inequality. As of September 2020, approximately 53 million people live within one-quarter mile of an active UST facility, and they tend to be minority populations and have lower income than the average U.S. wage earner.[78]

Long-Term Performance Goal

- By September 30, 2026, increase the percentage of updated permits at RCRA facilities to 80% from the FY 2021 baseline of 72.7%.

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[77] For more information on the National Recycling Strategy, see: https://www.epa.gov/system/files/documents/2021-11/final-national-recycling-strategy.pdf.

[78] U.S. EPA, Office of Land and Emergency Management 2021. Data collected includes: (1) LUST information as of late-2018 to mid-2019, from the Office of Research and Development and Office of Underground Storage Tanks UST Finder, https://gispub.epa.gov/ustfinder; and (2) population data from the 2015-2019 American Community Survey.

Strategies

EPA will update the RCRA solid and hazardous waste regulations, as necessary, to ensure protective standards for managing solid and hazardous waste. From 2016 to 2019, EPA issued and implemented regulatory improvements for hazardous waste generators, recyclers, and for pharmaceutical waste. These revisions affect tens of thousands of manufacturers and businesses that generate, recycle, and otherwise manage solid and hazardous waste. EPA will continue to develop outreach and guidance to help stakeholders implement these protective requirements while encouraging resource conservation.

In implementing regulations for coal combustion residuals, EPA is taking action to ensure that the concerns of nearby communities are addressed in a protective manner. EPA is emphasizing proper monitoring of groundwater, protective closure, and corrective actions to address contamination. Furthermore, as authorized in the Water Infrastructure Improvements for the Nation Act of 2016,[79] EPA will continue to work to approve state permit programs for coal ash disposal as well as a federal coal ash permit program.

EPA has set goals through 2030 for recycling and reducing food waste as well as decreasing lifecycle environmental impacts of materials. EPA will collaborate with federal, Tribal, state, and local organizations, and other stakeholders to develop additional strategies for food waste and the built environment. EPA will administer grant programs to improve Tribal, state, and local solid waste management programs and infrastructure and education and outreach on waste prevention. EPA also will address land-based contributions to the mismanagement of post-consumer materials and plastic waste.

In order to support the Administration's efforts to secure supply chains for critical minerals, EPA will work with public and private sector partners on strategies to increase the circularity and recycling of products, such as batteries, that contain critical minerals as well as the recovery of critical minerals from mining waste.

To reduce risk posed by USTs located at nearly 200,000 facilities throughout the country, EPA and state partners will work to ensure that every UST system is inspected at least once every three years, as required by statute.[80] EPA is working to ensure biofuels and other emerging fuels are stored in compatible UST systems. In addition, EPA will implement these UST regulations in Indian country in partnership with the Tribes. EPA will focus on supporting all aspects of the Tribal prevention programs, including the development of inspection and compliance assistance capacity. EPA will provide facility-specific compliance assistance for UST facility owners and operators in communities with environmental justice concerns in Indian country. EPA will work to integrate environmental justice into release prevention prioritization and decision making, ensuring the most vulnerable communities are protected from further environmental harm.

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[79] For more information about the Water Infrastructure Improvements for the Nation Act (WIIN Act), see: https://www.epa.gov/coalash/permit-programs-coal-combustion-residual-disposal-units.

[80] For information about the Energy Policy Act of 2005, see: https://www.epa.gov/ust/energy-policy-act-2005-and-underground-storage-tanks-usts.

External Factors and Emerging Issues

The potential impacts of a changing climate, including extreme weather events such as tornadoes, fires, and hurricanes on hazardous waste and UST facilities across the nation will affect EPA's work. Also, new waste streams continue to emerge as technology advances and new products are designed and manufactured. The general trend away from landfills and toward the recycling of materials using new technologies will require further evaluation. In addition, the impacts of an aging UST infrastructure could lead to increased difficulty in preventing more frequent and more catastrophic releases. This would strain state resources for release prevention activities such as inspections because of the enhanced need to focus on riskier sites. The potential incompatibility of emerging fuels (such as E15 and higher blends of ethanol) stored with existing tanks and equipment, or increased corrosion in diesel fuel UST systems, also could create challenges to preventing releases.

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Objective 6.3: Prepare for and Respond to Environmental Emergencies

Prevent, prepare, and respond to environmental emergencies and support other agencies on nationally significant incidents, working with Tribes, states, and local planning and response organizations.

Introduction

Environmental emergencies are caused by both natural and anthropogenic effects. Those emergencies caused by natural forces are growing in frequency and in the risks they pose. EPA will strive to prevent such emergencies and be ready to respond when they occur, in coordination with and through the support of partner organizations. EPA's leadership for national preparedness for emergency responses is designated as a Primary Mission Essential Function. Agency coordination with Tribes, states, local communities, and industry helps to ensure national safety and security during responses.

EPA will continue to develop and implement regulations and policies that aim to prevent environmental emergencies and enhance the ability of communities and facilities to prepare for and respond to emergencies. EPA's highly trained corps of on-scene coordinators and special teams will prepare for the possibility of significant incidents by maintaining and providing guidance and technical assistance to Tribal, state, and local planning and response organizations to strengthen their preparedness.

Long-Term Performance Goal

- By September 30, 2026, ensure that 40% of annual emergency response and removal exercises that EPA conducts or participates in incorporate environmental justice.

Strategies

During an incident, EPA plays a central role in working to prevent, mitigate, or contain the release of chemical, oil, radiological, biological, or hazardous substances. The Agency will coordinate with Tribes, states, local communities, and industry to help ensure national safety and security during responses.

To strengthen its prevention and readiness framework for responding to environmental emergencies (including from climate and extreme weather), EPA will develop and update regulations under its statutory authorities, establish policies, and develop supporting capabilities and information. EPA also will coordinate with and provide technical assistance and training to support federal, Tribal, state, and local partner organizations to better prepare for and respond to environmental emergencies and ensure communities have access to chemical safety information. EPA will continue to operate RadNet, the Agency's national environmental radiation monitoring system, providing officials with access to data and improving their ability to make decisions during and after a radiological incident. The Agency also will maintain a robust physical and information security and preparedness infrastructure, ensuring that its numerous facilities and information systems are secured and protected in line with federal requirements.

Exercises are a key component of EPA's preparedness – they provide an opportunity to plan and assess capabilities needed to accomplish EPA's prevention and readiness objectives and address areas for

improvement. Results of these exercises identify strengths and areas for improvement that enhance the Agency's emergency response capabilities. Unannounced preparedness exercises at facilities subject to EPA's Facility Response Plan (FRP) requirements are an essential compliance monitoring activity performed by EPA Regions. For example, these field exercises help assess whether a facility is prepared to respond to a discharge of oil. As part of these exercises, EPA recognizes the importance of reflecting the needs and interests of communities with environmental justice concerns.

The Agency will continue to deploy its assets to support emergency response. The Portable High-throughput Integrated Laboratory Identification System (PHILIS) mobile laboratory asset provides on-site analysis of chemical warfare agents and environmental samples contaminated with toxic industrial compounds. This resource is part of EPA's Environmental Response Laboratory Network and will be pre-deployed in anticipation of incidents or deployed anywhere in the U.S. after an incident. The Airborne Spectral Photometric Environmental Collection Technology (ASPECT) is the nation's only airborne real-time chemical and radiological detection, infrared, and photographic imagery platform. EPA will use ASPECT to assist local, national, and international agencies with hazardous substance responses, radiological incidents, and situational awareness.

EPA's chemical safety and oil programs will prioritize inspection activities at high-risk facilities to protect communities, including those with environmental justice concerns. EPA will review the programs to determine if risks posed by climate change warrant modifications to the programs.

EPA homeland security research fills critical scientific and technological gaps that enhance the Agency's ability to carry out its national preparedness and emergency response and recovery obligations and inform disaster response and guidance. EPA will develop tools, methods, and data needed to implement environmental statutes effectively and support federal, Tribal, state, and local emergency responders in characterizing chemical, oil, biological, or radiological contamination; assessing exposure and risks to human health and the environment; cleaning up impacted areas; and improving community resilience. EPA also will consider regulatory modifications under Clean Air Act Section 112(r) to help prevent serious industrial chemical accidents, mitigate those that occur, and provide communities with better access to information about industrial chemical hazards.

External Factors and Emerging Issues

The risks posed by climate change are growing, with previously unforeseen risks developing and worsening, increasing the need for emergency response efforts. Chemical and oil facilities can be vulnerable to rising seas, wildfires, high heat, flooding, and other events that can endanger these facilities and result in, or worsen, an incident.

As infrastructure becomes more tightly coupled and dependent on remotely accessed or internet-connected data acquisition and control technologies, the threat of cyber terrorism will increase the potential for oil and chemical releases. EPA will need to continue to work with federal, Tribal, state, and local agency partners to prepare for and respond to this threat.

Goal 7: Ensure Safety of Chemicals for People and the Environment

Increase the safety of chemicals and pesticides and prevent pollution at the source.

Introduction

EPA is responsible for ensuring the safety of chemicals and pesticides for people at all life stages and the environment, improving access to information, and preventing pollution at the source before it occurs. The Agency focuses on assessing, preventing, and reducing releases and exposures resulting from the manufacture, processing, use and disposal of chemicals and pesticides, and advancing community right-to-know. Through risk evaluation/assessment and management, encouragement of safer alternatives, and effective data management, EPA strives to ensure protection of communities and the environment from unsafe exposures, especially to children, the elderly, and those with environmental justice concerns (including low income, people of color, and Indigenous peoples) who may already be disproportionately impacted by and at risk from exposure to other stressors. In addition, EPA works to ensure public access to chemical and pesticide data, analytical tools, and other sources of information and expertise; and promotes source reduction, integrated pest management, and other pollution prevention strategies by organizations and businesses.

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Objective 7.1: Ensure Chemical and Pesticide Safety

Protect the health of families, communities, and ecosystems from the risks posed by chemicals and pesticides.

Introduction

Chemicals are ubiquitous in the products Americans use daily and are present in the environment and people's bodies. EPA has significant responsibilities under the Toxic Substances Control Act (TSCA) for ensuring the safety of chemicals in or entering commerce and addressing unreasonable risks to human health and the environment. This work will play an important role in enhancing environmental justice and tackling the climate crisis as described in Executive Orders 13985: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government* and 14008: *Tackling the Climate Crisis at Home and Abroad.* Also, under TSCA, EPA is responsible for collecting and managing vast amounts of chemical data/information, securely managing Confidential Business Information, and reducing exposure to lead in paint and dust, especially in disproportionately affected communities.

The Frank R. Lautenberg Chemical Safety for the 21st Century Act, which amended TSCA in 2016, introduced far-reaching improvements to America's chemical safety scientific, regulatory, and information infrastructure and enhanced EPA's ability to protect human health and the environment from chemical risks. Under Section 5,[81] EPA assumed responsibility for making safety determinations in its review of hundreds of new chemical submissions annually. Under Section 6,[82] EPA assumed new responsibilities for systematically prioritizing and comprehensively evaluating at least 20 chemicals at a time, assessing additional chemicals at manufacturers' request, and managing identified unreasonable risks—all under statutory deadlines.

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Food Quality Protection Act of 1996 (FQPA), and the Pesticide Registration Improvement Extension Act of 2018 (PRIA 4), EPA is charged with protecting people and the environment from the risks that pesticide use can pose. EPA reviews and makes determinations on whether to register new pesticides andnew uses for existing pesticides and other registration requests in accordance with statutory requirements. EPA also makes sure exposure to subgroups and sensitive life stages, including infants and children, are reflected in the human health risk assessments supporting these regulatory determinations and that pesticides do not pose unreasonable adverse effects to the environment. In addition, under the registration review process the Agency reevaluates pesticides that are already in the market against current scientific standards for human health and the environment. Under the Endangered Species Act (ESA),[83] EPA is charged with ensuring that pesticide registration and registration review decisions do not jeopardize the continued existence of federally-listed threatened and endangered species or adversely modify designated critical habitat.

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[81] Actions under TSCA Section 5: https://www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca/actions-under-tsca-section-5.

[82] Regulation of Chemicals under Section 6(a) of the Toxic Substances Control Act: https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/regulation-chemicals-under-section-6a-toxic-substances.

[83] Summary of the Endangered Species Act: https://www.epa.gov/laws-regulations/summary-endangered-species-act.

Long-Term Performance Goals

- By September 30, 2026, complete at least eight High Priority Substance (HPS) TSCA risk evaluations annually within statutory timelines compared to the FY 2020 baseline of one.
- By September 30, 2026, initiate all TSCA risk management actions within 45 days of the completion of a final existing chemical risk evaluation.
- By September 30, 2026, review 90% of past risk mitigation requirements for TSCA new chemical substances decisions compared to the FY 2021 baseline of none.
- By September 30, 2026, recertify before the expiration date 36% of lead-based paint Renovation, Repair, and Painting (RRP) firms whose certifications are scheduled to expire compared to the FY 2021 baseline of 32%.
- By September 30, 2026, complete 78 pesticide registration review cases with statutory due dates that fall after October 1, 2022.
- By September 30, 2026, consider the effects determinations or protections of federally threatened and endangered species for new active ingredients in 90% of the risk assessments supporting pesticide registration decisions for new active ingredients compared to the FY 2020 baseline of 50%.
- By September 30, 2026, consider the effects determinations or protections of federally threatened and endangered species in 50% of the risk assessments supporting pesticide registration review decisions compared to the FY 2020 baseline of 27%.
- By September 30, 2026, support Agricultural Worker Protection Standard (WPS) pesticide safety training for 20,000 farmworkers annually compared to the FY 2018-2020 annual average baseline of 11,000.

Strategies

Over the next four years, EPA will focus on meeting statutory requirements and mandatory deadlines for ensuring that its chemical reviews are efficient, effective, and transparent to EPA's stakeholders. EPA will ensure that decisions stemming from chemical reviews are transparent, use methods and tools based on the weight of scientific evidence, are consistent with the best available scientific information, and are reasonable and consistent with the intended use of the information.

EPA is responsible for reviewing all new chemical submissions before they enter commerce to determine whether the chemicals may pose unreasonable risks to human health or the environment. EPA will conduct risk assessments for more than 500 new chemical notice and exemption submissions annually and make affirmative determinations on whether unreasonable risks are posed under those chemicals' conditions of use. This involves managing identified risks, publishing Significant New Use Rules, and requiring development of additional data when information is insufficient to conduct a reasoned evaluation.

EPA will continue to ensure that the public has access to as much chemical safety information as allowed by law to increase transparency and support stakeholder engagement in the agency's activities on chemical risks. EPA also will continue to reduce exposures to lead in paint by establishing

standards for inspection, risk assessment, and abatement of lead-based paint hazards, along with training and certification programs, among other efforts.

Consistent with its statutory responsibilities,[84] [85] [86] EPA will continue to review and register new pesticides and new uses for existing pesticides, and other covered applications under PRIA and act on other registration requests in accordance with FIFRA and FFDCA standards. Many of these registration actions will be for reduced-risk conventional pesticides and biopesticides, which, once registered and used by consumers, will increase benefits to society, including infants and children, and reduce ecological impacts. Additionally, EPA will continue to reevaluate existing pesticides in the marketplace every 15 years to ensure the FIFRA standard for registration continues to be met based on current science. Working together with the affected communities, through integrated pest management (IPM) activities, the Agency plans to accelerate the adoption of lower-risk products.

The Pesticide Environmental Stewardship Program (PESP)[87] is an EPA partnership program that works with the nation's pesticide-user community to promote IPM practices. Resources are focused on funding projects that reduce the impacts of pesticide use in agricultural settings, including reduced use of pesticides. Selected projects could address pesticide use in rural areas or in Indian country, promoting IPM practices that benefit these communities.

The Agency will partner in the development of training, outreach, tools, and informational brochures to promote IPM efforts and provide guidance to schools, farmers, other partners, and stakeholders. Millions of America's workers are exposed to pesticides in occupations such as agriculture, lawn care, food preparation, and landscape maintenance. The *Agricultural Worker Protection Standard* (WPS)[88] and the *Certification of Pesticide Applicators* (CPA)[89] revised rules (finalized in FY 2015 and FY 2017, respectively) are key elements of EPA's strategy for reducing occupational exposure to pesticides. EPA will continue to support the implementation of the regulations through education and outreach, guidance development, and grant programs. Efforts to implement the WPS include addressing environmental justice issues in rural communities, especially for farmworkers and their families.

Under the ESA,[90] EPA is responsible for ensuring that pesticide regulatory decisions will not destroy or adversely modify designated critical habitat or jeopardize the continued existence of species listed as threatened or endangered by the U.S. Fish and Wildlife Service (FWS) or the National Marine Fisheries Service (NMFS). EPA will assess in its FIFRA registration and registration review regulatory determinations whether listed endangered or threatened species or their designated critical habitat

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[84] Summary of Federal Insecticide, Fungicide, and Rodenticide Act: https://www.epa.gov/laws-regulations/summary-federal-insecticide-fungicide-and-rodenticide-act.

[85] Summary of the Federal Food, Drug, and Cosmetic Act: https://www.epa.gov/laws-regulations/summary-federal-food-drug-and-cosmetic-act.

[86] Pesticide Registration Improvement Extension Act of 2018 (PRIA 4): https://www.epa.gov/pria-fees.

[87] Pesticide Environmental Stewardship Program: https://www.epa.gov/pesp.

[88] Agricultural Worker Protection Standard: https://www.epa.gov/pesticide-worker-safety/agricultural-worker-protection-standard-wps.

[89] Revised Certification Standards for Pesticide Applicators: https://www.epa.gov/pesticide-worker-safety/revised-certification-standards-pesticide-applicators.

[90] For additional information on the Endangered Species Protection Program, see: https://www.epa.gov/endangered-species/about-endangered-species-protection-program.

may be affected. Where risks are identified in a biological evaluation, EPA will work with the Services through a consultation[91] process to ensure these new or existing pesticide registrations also will meet the ESA standard.[92] EPA will also continue to develop processes to protect listed species earlier in the regulatory and consultation processes and pursue other major improvements to its ESA compliance work in coordination with the Services.

External Factors and Emerging Issues

Advances in science and technology are continually expanding the range and nature of chemicals submitted for EPA review, which demands that the Agency keep pace with scientific knowledge and technological capabilities. As an example, the program has received submissions for new chemicals used in nanotechnology, batteries, and semiconductors. Likewise, new understandings of chemical exposures and risks can require EPA to reprioritize activities to protect human health and the environment. Chemical safety programs may be affected by changing levels of economic activity, as exemplified by the impacts of housing market fluctuations on lead renovation, repair, and painting work.

The impacts of climate change and subsequent alteration of ecosystems likely will change where crops are grown and result in more pests and diseases in many areas. This is expected to pose growing workload demands, including increases in ecological risk assessments to support new pesticide and registration review decisions that evaluate potential endangered species impacts.

In addition, there is great value in tracking occupational pesticide exposure incidents but there are limitations to existing systems in providing national trends. In the future and as resources allow, EPA will strive to improve its ability to track trends using available pesticide incidence data sources (e.g., NIOSH SENSOR-Pesticides data).

[91] For additional information, see: https://www.epa.gov/endangered-species/assessing-pesticides-under-endangered-species-act.

[92] For additional information on how EPA protects endangered species from pesticides, see: https://www.epa.gov/endangered-species.

Objective 7.2: Promote Pollution Prevention

Encourage the adoption of pollution prevention and other stewardship practices that conserve natural resources, mitigate climate change, and promote environmental sustainability.

Introduction

EPA's implementation of pollution prevention (P2) practices under the Pollution Prevention Act of 1990[93] is one of the Agency's primary tools for advancing environmental stewardship and sustainability by federal, Tribal, and state governments, businesses, communities, and individuals. These practices focus on reducing the amount of any hazardous substance, pollutant, or contaminant entering a waste stream or released into the environment prior to recycling of discarded material, treatment, or disposal, as well as conserving the use of natural resources. P2 grants contributed to the elimination of 16.9 million metric tons of greenhouse gases (GHGs) between 2011 and 2019.

Through these approaches, the Agency helps business, consumers, procurement officials, organizations, and others reduce costs and access market opportunities while achieving significant reductions in hazardous releases to air, water, and land; hazardous materials use; GHG generation; and water use. EPA's Toxics Release Inventory (TRI)[94] tracks implementation of pollution prevention activities by reporting releases from facilities and serves as a critical source of public chemical release, management, and P2 information to support community-right-to-know and advance EPA's chemical safety goals.

Long-Term Performance Goals

- By September 30, 2026, reduce a total of 6 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) released attributed to EPA pollution prevention grants.
- By September 30, 2026, EPA's Safer Choice program will certify a total of 2,300 products compared to the FY 2021 baseline of 1,950 total certified products.

Strategies

EPA will focus on carrying out sector-focused P2 National Emphasis Areas[95] and enabling the replication and leveraging of business successes. This work will be supported by the annual funding for administering P2 grants provided through 2026 by the Bipartisan Infrastructure Law, implemented in alignment with Justice40. The Agency will customize, develop, and deliver training to identify and deploy source reduction and engineering solutions to companies, consumers, and communities. EPA also will implement training and outreach for disproportionately affected communities, as well as Tribal, state, and local governments, to help with product and service procurement choices that are environmentally sound and promote human and environmental health.

EPA plans to update and strengthen the standards of the Safer Choice (SC) program,[96] which advances chemical safety by increasing the availability and identification of products containing ingredients that meet stringent health and environmental criteria, through a notice and comment process after

[93] Summary of the Pollution Prevention Act: https://www.epa.gov/laws-regulations/summary-pollution-prevention-act.
[94] Toxics Release Inventory Program: https://www.epa.gov/toxics-release-inventory-tri-program.
[95] P2 National Emphasis Areas: https://www.epa.gov/p2/p2-national-emphasis-areas-neas.
[96] For additional information on Safer Choice, see: https://www.epa.gov/saferchoice.

consultation with stakeholders. The Agency will conduct outreach with federal, Tribal, state, and local government procurement officials, and institutional and industrial purchasers, to communicate the benefits of SC and other environmentally preferable products, and work to make SC-certified products more widely available to people of color and low-income communities. EPA will offer technical assistance to businesses to help custodial staff and house cleaning companies gain access to protections from occupational exposure-related conditions (e.g., asthma) and to SC-certified products. EPA also will update the Safer Chemical Ingredients List to enhance transparency and facilitate expansion of safer chemical choices and products, including increasing the number and volume of SC-certified products.[97]

EPA will work to expand its recommendations for addressing product categories with positive climate change impacts in support of E.O. 14008, which directs federal agencies to align management of federal procurement in support of climate action. EPA will implement the Framework for the Assessment of Environmental Performance Standards and Ecolabels to provide a transparent, fair, and consistent approach to evaluating the environmental sustainability of product standards and ecolabels for federal purchasing. EPA also will contribute to the development of sustainability standards associated with critical minerals.

EPA will continue to facilitate market adoption and penetration of new commercially successful chemistries and technologies through the Green Chemistry Challenge Awards, which raise the profile and credibility of innovative green and sustainable chemistry technologies. This initiative has resulted in awards to 123 technologies from more than 1,800 nominations over the last 25 years. Winning technologies are estimated to eliminate 7.8 billion pounds of carbon dioxide equivalents released to air each year, which is equivalent to taking 770,000 cars off the road.

The TRI program has provided data to support partnerships between community groups and companies that resulted in decreased air emissions.[98] EPA will continue research on tools that can quickly and accurately identify vulnerable communities near TRI facilities, which would support prioritization of P2. EPA will continue to publish the TRI and use analyses of toxic chemical releases from industrial facilities located near overburdened and disproportionately affected communities to identify and develop sector-specific P2 case studies, best practices, outreach, and training. This will help facilitate adoption of P2 practices in the facilities and in the communities themselves.

External Factors and Emerging Issues

Interest and participation in P2 activities can be driven by economic conditions, the regulatory climate, and public pressure for industry to adopt P2 solutions such as safer alternatives to chemicals and products currently in the marketplace. The program will continue to engage with public and private sector stakeholders to facilitate adoption — and showcase accomplishments — of green chemistry advances, explore opportunities to further integrate green chemistry into federal procurement through product standards/specifications/ecolabels, and provide leadership on green chemistry across federal agencies.

[97] Safer Chemical Ingredients List: https://www.epa.gov/saferchoice/safer-ingredients.
[98] TRI for Communities: https://www.epa.gov/toxics-release-inventory-tri-program/tri-for-communities.

Cross-Agency Strategies

Strategy 1: Ensure Scientific Integrity and Science-Based Decision Making

Strategy 2: Consider the Health of Children at All Life Stages and Other Vulnerable Populations

Strategy 3: Advance EPA's Organizational Excellence and Workforce Equity

Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement

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Cross-Agency Strategy 1: Ensure Scientific Integrity and Science-Based Decision Making

Deliver rigorous scientific research and analyses to inform evidence-based decision making.

Introduction

EPA's ability to protect human health and the environment depends on the integrity and quality of the information, data, and evidence that provide the scientific foundation for Agency decisions. EPA is committed to restoring the public's trust in government through scientific integrity and science-based decision making. As both a producer and user of scientific information, data, and evidence, EPA is responsible for delivering scientific research and analyses to inform science-based decision making and for using the best available scientific information, data, and evidence to inform decisions and develop environmental policies, guidance, and regulations. EPA's cross-agency strategy will strengthen EPA's culture of scientific integrity, advance the delivery of rigorous and independent scientific evaluation and analyses, and ground EPA's actions in the best available science.

Science touches all parts of EPA, from regional laboratories that analyze scientific data to inform immediate and near-term decisions on environmental conditions, emergency response, compliance and enforcement, to national program scientists and engineers who conduct and use science to inform regulations and national compliance and enforcement initiatives. A major component of EPA's science enterprise is the research and development program,[99] which focuses on delivering leading-edge research to meet near-term and long-term science needs of the Agency, informing EPA decisions, and supporting the emerging needs of Tribal, state, and community partners.

Long-Term Performance Goals

- By September 30, 2026, increase the annual percentage of Office of Research and Development (ORD) research products meeting partner needs to 95% from a baseline of 93% in FY 2021.
- By September 30, 2026, implement 126 actions for scientific integrity objectives that are certified by Deputy Scientific Integrity Officials in each EPA program and region.

Actions

Over the next four years, EPA will strengthen the policies and procedures surrounding scientific integrity and the use of science and evidence to inform Agency decision making. There are a number of key actions that support the outcomes for this strategy.

Ensuring Scientific Integrity: Scientific integrity results from adherence to professional values and practices when conducting, communicating, supervising, and using science. It ensures objectivity, clarity, reproducibility, and utility, and it provides insulation from bias, fabrication, falsification, plagiarism, outside interference, censorship, and inadequate procedural and information security. At a fundamental level, scientific integrity safeguards the science that informs EPA's mission-driven work. EPA will advance and strenghten a culture of scientific integrity across the Agency by ensuring

[99]About the Office of Research and Development: https://www.epa.gov/aboutepa/about-office-research-and-development-ord.

adherence to the scientific and ethical standards outlined in EPA's Scientific Integrity Policy.[100] EPA will make sure that every EPA employee, contractor, grantee, and collaborator understands their personal responsibility to use and communicate science with honesty, integrity, and transparency, both within and outside the Agency. Agency officials also have the responsibility to recognize the distinction between scientific information and the decisions that are informed by such information and, in so doing, not suppress or alter scientific findings or impede the timely release of scientific findings or conclusions.

To improve and strengthen the Agency's culture of scientific integrity, EPA's national program offices and regional offices will reaffirm their commitment to fostering open, objective, and honest investigation and discussion of scientific activities, data, and conclusions. This includes supporting robust discussion of different scientific points of view,[101] which helps to guard against inadequate science and flawed analyses, and proactively taking action to enhance implementation of EPA's Scientific Integrity Policy throughout the Agency. EPA will also continue to provide employees and officials with access to a network of deputy scientific integrity officials to whom they can turn for advice to prevent lapses in scientific integrity or to report allegations of a loss of scientific integrity.

Delivering Rigorous Scientific Research and Analyses: EPA will develop and deliver rigorous scientific research, assessments, and analyses to meet near-term and long-term science needs of the Agency, inform EPA decisions, and support the emerging needs of Tribes, states, territories, and communities. The Agency carries out this effort through a network of scientists, engineers, and laboratories that span EPA's regional offices, national program offices, and research and development program. EPA will evaluate the quality, usability, and timeliness of select Agency scientific products to ensure that Agency science is relevant, timely, and of sufficient quality to inform evidence-based decision making and work to increase the percent of scientific products that meet decision makers' needs.

As part of its overall portfolio of scientific work, the EPA will renew and refocus efforts to develop the science and quality data needed to tackle climate change, advance environmental justice, and protect children's environmental health. To do this, EPA will restore the role of science and evidence in addressing the climate change crisis and advance a rigorous exploratory and applied climate adaptation science program. EPA will conduct climate-related research in its laboratories and centers, support research through its grants program, conduct policy-relevant assessments, communicate research and assessment results, and deliver innovative and sustainable solutions. EPA will conduct scientific research on cumulative impacts to better inform decisions aimed at advancing environmental justice. For example, EPA will conduct scientific research to improve understanding of disproportionate impacts that can arise from unequal environmental conditions and exposure to multiple chemical and non-chemical stressors, as well as how to evaluate interventions that would mitigate or eliminate such disproportionate impacts. EPA will also provide tools, training, and technical support to advance

[100] EPA's Scientific Integrity Policy: https://www.epa.gov/sites/default/files/2014-02/documents/scientific_integrity_policy_2012.pdf.

[101] Approaches for Expressing and Resolving Differing Scientific Opinions: https://www.epa.gov/scientific-integrity/approaches-expressing-and-resolving-differing-scientific-opinions#:~:text=EPA%20expects%20and%20encourages%20all,plausible%20explanations%20of%20that%20evidence.

community-led projects that develop scientific information, data, and evidence that inform local decisions. Finally, where feasible based on availability of data and methods, EPA will explicitly and consistently assess risks to childhood lifestages and other vulnerable populations as part of the Agency's approach for developing risk assessments and in its research agenda.

Underlying the Agency's scientific activities is a commitment to rigorous quality assurance, appropriate peer review, and the timely release of scientific information. EPA's quality program[102] provides the framework for planning, implementing, documenting, and assessing work performed by EPA, contractors, and grantees and for carrying out required quality assurance and quality control activities. EPA's quality program also includes the Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency,[103] which contain EPA's policy and procedural guidance for ensuring and maximizing the quality of information the Agency disseminates. Independent peer review is integral to ensuring the rigor of Agency analyses, methodologies, and scientific and technical products. EPA's Peer Review Handbook[104] provides a roadmap to ensure the Agency's peer review policy[105] is implemented effectively and that the integrity of its peer review activities can be demonstrated transparently to the public. EPA's Public Access Plan[106] details the Agency's commitment to the timely release of scientific information to the public. EPA's *Best Practices for Clearance of Scientific Products at EPA*[107] promotes the development of clearance procedures that are transparent, clear, timely, predictable, and consistent.

Under the Foundations for Evidence-Based Policymaking Act of 2018, EPA is developing and will fully implement an Agencywide policy for evaluations and other evidence-building activities to ensure that evaluations and evidence that inform policies and decisions are relevant, rigorous, independent and objective, transparent, equitable, and ethical.

Using Science in Decision Making: To restore public trust in EPA's decision making, the Agency is committed to reinforcing science as foundational to decision making. This means that EPA will strive to use and communicate science with honesty, integrity, and transparency and to make this information accessible to the public, including to overburdened and underserved communities. EPA is committed to ensuring that scientific integrity is upheld when conducting scientific, technical, or risk assessments and analyses and in the decisions that are informed by such assessments and analyses. Scientific assessments and analyses are of particular importance for informing the development of many decisions and include, but are not limited to, health or environmental effects, exposure, and impact or

[102] How EPA Manages the Quality of its Environmental Information: https://www.epa.gov/quality.
[103] Guidelines for Ensuring and Maximizing the Quality, Objectivity, Utility, and Integrity of Information Disseminated by the Environmental Protection Agency: https://www.epa.gov/quality/guidelines-ensuring-and-maximizing-quality-objectivity-utility-and-integrity-information.
[104] EPA's Peer Review Handbook: https://www.epa.gov/sites/default/files/2020-08/documents/epa_peer_review_handbook_4th_edition.pdf.
[105] EPA's Peer Review Policy: https://www.epa.gov/sites/default/files/2015-01/documents/peer_review_policy_and_memo.pdf.
[106] Plan to Increase Access to Results of EPA-Funded Scientific Research: https://www.epa.gov/sites/default/files/2016-12/documents/epascientificresearchtransperancyplan.pdf.
[107] Best Practices for Clearance of Scientific Products at EPA: https://www.epa.gov/sites/default/files/2018-05/documents/best_practices_for_clearance_of_scientific_products_at_epa_final_21may2018.pdf.

risk assessments; cost-benefit analyses; and other technical support documents. These assessments and analyses use, evaluate, and integrate existing and emerging information and data from diverse scientific disciplines to form scientific conclusions. Because of their importance to evidence-based decision making, EPA is committed to following well established, scientifically rigorous protocols and guidelines for conducting scientific, technical, or risk assessments or analyses, which help to guard against political interference and bias and promote consistency in scientific assessments and analyses. EPA will continue to use its cross-agency Science and Technology Policy Council, and the Risk Assessment Forum that it oversees, to develop high-quality, scientifically rigorous guidelines for conducting risk assessments that incorporate new advancements in science.

Restoring public trust and confidence in EPA's actions also means being transparent about how EPA makes decisions, including being transparent about the use of science in Agency actions. EPA will strive to clearly articulate the role of science in every major action the Agency undertakes. This includes identifying the science EPA considered and clearly describing how EPA evaluated and used the science and the confidence the Agency has in the resulting scientific conclusions. It also includes allowing for public review and comment on EPA's use of science in regulatory decisions (with appropriate protections for privacy). In addition, EPA's programs will review existing internal procedures and, if needed, modify them to explicitly document the integrity and quality of the relevant scientific information, data, and evidence and how that information, data, and evidence were considered in the decision-making process. This includes any discussion of differing scientific opinions or other scientific integrity issues raised during the process.

External Factors and Emerging Issues

Several external factors and emerging issues could impact EPA's ability to achieve the outcomes under this cross-agency strategy. EPA must continue to be able to attract and retain world-class scientists and engineers to bring innovation and cutting-edge scientific and technical expertise to inform EPA's work. This strategy may also be impacted by human-made or natural disasters—including climate-related disasters—that require EPA scientists and engineers to quickly pivot from conducting planned scientific activities to generating critical scientific information, data, and evidence to inform immediate or near-term human health and environmental actions or decisions at the federal, Tribal, state, and local levels. For example, the COVID-19 global pandemic brought unforeseen and unprecedented challenges to EPA. While EPA successfully pivoted to virtual work, some field and laboratory work was delayed and some scientific resources were redirected to assist with the federal response to the pandemic, including new research to reduce the risk of exposure to SARS-CoV-2, the virus that causes COVID-19. Future pandemics could impact the Agency's ability to conduct field and laboratory work in a similar fashion. In addition, advances in science and technology (e.g., machine learning, artificial intelligence, synthetic biology) may bring new opportunities for solving environmental challenges, while also presenting new challenges for the Agency (e.g., resources, training, ethics).

Cross-Agency Strategy 2: Consider the Health of Children at All Life Stages and Other Vulnerable Populations

Focus on protecting and improving the health of children at all life stages and other vulnerable populations in implementing our programs.

Introduction

By being able to live, learn, and play free from environmental exposures that contribute to harmful health effects, children and vulnerable populations are given the best opportunity to thrive throughout their lives. Protecting children against toxic exposures is essential to human health protection and therefore, must be included in all relevant EPA decisions and programs, both regulatory and voluntary. Throughout its programs, EPA strives to apply and promote the use of science, policy, partnerships, communications, and action to protect children at all life stages and vulnerable populations from adverse health effects resulting from harmful environmental exposures. EPA also will take actions to protect children and vulnerable populations in underserved communities who suffer disproportionately from the effects of exposures enhanced by socio-economic determinants of health, and to address any impacts that are exacerbated by climate change.

Children's environmental health refers to the effect of the environment on an individual's growth, wellness, development, and risk of disease at all life stages. EPA actions will be informed by two important considerations: (1) the scientific understanding of childhood as a sequence of life stages, from conception through infancy and adolescence to early adulthood (age 21); and (2) the recognition that protecting children's health at all life stages is necessary to achieve the Agency's mission. Children may be at greater risk to environmental contaminants than adults if exposure occurs during windows of enhanced toxicological susceptibility. Children may also experience greater exposure than adults as they eat more, drink more, and breathe more in proportion to their body size and due to their unique behaviors, such as breast feeding, crawling, and hand-to-mouth activity. Children can be exposed to environmental contaminants that their caregivers may inadvertently bring home from their workplace, while adolescent workers may be directly exposed to harmful chemicals in the workplace. Finally, the effects of early life exposures may become apparent during childhood and/or may not arise until adulthood or in later generations.

Long-Term Performance Goal

- By September 30, 2026, assess and consider environmental health information and data for children at all life stages for all completed EPA actions that concern human health.

Actions

Use Science and Policy to Strengthen Protections for Children at All Life Stages and Vulnerable Populations: To best protect children's environmental health at all life stages and vulnerable populations, EPA will identify, evaluate, develop, and promote the use of science to support its policies, decisions, and actions, including regulations and voluntary programs. EPA will ensure that Agency toxicity, exposure, and risk assessments consider all relevant and available science to address the unique vulnerabilities of children and vulnerable populations, including disproportionate impacts

related to racial, ethnic, income, or other social determinants of health. These assessments will inform the evaluation and selection of the levels of exposure for regulatory action that are protective of children and vulnerable populations, including the extent to which cumulative or concurrent exposures to chemical and social stressors can modify exposure or hazard considerations.

EPA will support the development of new science to address uncertainties related to the environmental health of children and vulnerable populations, including through intramural and extramural research. EPA will update existing and develop new environmental health indicator data, including factors related to social determinants of health, to track progress, communicate trends, and identify areas that warrant additional attention. EPA will develop additional measures of benefits arising from protecting the environmental health of children and vulnerable populations and take them into account in decision making. EPA will promote training of environmental and health professionals to respond to children's health issues related to climate change, such as natural disasters.

Strengthen and Expand Partnerships and Provide Leadership: EPA will provide national leadership by working with governmental and non-governmental environmental and health organizations and provide a forum to support understanding and application of evidence-based information to children's environmental health exposure and effects. EPA will develop and support internal and external partnerships and implement programs to support the protection of children particularly at home, in dependent child-care settings, and in school and childcare settings. The Agency will leverage the capabilities of diverse groups by engaging partners and stakeholders, providing forums to develop and share evidence-based information, and distributing information through training, tool sharing, conferences, and publicly available media. EPA will support healthcare professionals, including those who provide pediatric and obstetric expertise, to better address risks from childhood exposures.

EPA will co-chair the President's Task Force on Environmental Health Risks and Safety Risks to Children[108] with the Department of Health and Human Services (HHS). In this role, the Agency will make recommendations to the President on federal strategies to advance children's health nationwide by exchanging information, planning targeted research, establishing concerted planning and program implementation, and enhancing public outreach to support reduction in exposure and risks to children's environmental health throughout the country. EPA will also consult with the Children's Health Protection Advisory Committee[109] to seek input and advice on how the Agency can improve the effectiveness of its work aimed at protecting children's environmental health.

Address Disparities: EPA will protect children and vulnerable populations who live in disproportionately impacted communities. EPA will consider how social determinants of health affect children and vulnerable populations, especially as these challenges may reduce resiliency or ability to recover from exposure to environmental hazards. As the climate changes, it is especially critical that the Agency collaboratively develops solutions and implements strategies to protect children and sensitive populations from disproportionate impacts.

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[108] For more information on the President's Task Force on Environmental Health Risks and Safety Risks to Children, see: https://ptfceh.niehs.nih.gov/.

[109] Children's Health Protection Advisory Committee: https://www.epa.gov/children/chpac.

External Factors and Emerging Issues

EPA's ability to strengthen regulatory protections for children and vulnerable populations depends in large measure on the availability of robust science and information to inform decision making. Environmental and public health statutes also differ in the extent to which they require protection of children and sensitive populations. Nationally, children's environmental health stakeholders share common goals but face challenges in being heard due to the breadth and depth of children's environmental health topics that require attention.

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Cross-Agency Strategy 3: Advance EPA's Organizational Excellence and Workforce Equity

Foster a diverse, equitable, and inclusive workforce within an effective and mission-driven workplace.

Introduction

To support its mission to protect human health and the environment, EPA will advance organizational excellence and equity through a workforce that reflects the diversity of the American public and maintains and promotes a culture of inclusion and accessibility. The Agency will remove barriers that may prevent small and underserved businesses from doing business with EPA and focus on developing a workforce and workplace of the future that will meet the demands of the 21st century.

In support of Executive Order 14035: *Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce,*[110] the Agency will strengthen workforce planning of mission-critical positions and continue to prioritize equity and diversity across all aspects of work life at EPA including recruitment, hiring, development, and succession management for the next generation of workers. Additionally, the Agency will work to implement the Agency's Gender Equity and Equality Action Plan to create a more gender equitable workforce.

In support of the President's Management Agenda,[111] EPA will modernize information technology systems, improve Agency permitting efficiencies by developing and implementing automation solutions, enhance the physical workplace for a hybrid workforce, support employee-friendly work policies, and transition to a paperless work environment. EPA will implement efficient and effective processes across the Agency. The use of proven techniques and training will equip staff to solve problems, make improvements, and enhance EPA's ability to accomplish its mission. Additionally, EPA will continue to safeguard against cybersecurity risks to protect Agency assets and infrastructure from potentially malicious attacks. Further, EPA will be a leader in the Federal Government in advancing the sustainability of facilities and operations while developing resiliency to respond to the risks of climate change.

Long-Term Performance Goals

- By September 30, 2026, EPA will be in full compliance with the five high-priority directives in Executive Order 14028: *Improving the Nation's Cybersecurity*.[112]
- By September 30, 2026, award 4% of EPA contract spending to small businesses located in Historically Underutilized Business Zones (HUBZones) compared to the FY 2018-2020 average annual baseline of 2.2%.
- By September 30, 2026, initiate all priority climate resiliency projects for EPA-owned facilities within 24 months of a completed facility climate assessment and project prioritization.

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[110] Executive Order 14035: *Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce* (June 25, 2021): https://www.whitehouse.gov/briefing-room/presidential-actions/2021/06/25/executive-order-on-diversity-equity-inclusion-and-accessibility-in-the-federal-workforce/.

[111] President's Management Agenda, https://www.performance.gov/pma/.

[112] Adoption of Multifactor Authentication and Encryption; Encryption of Data at Rest and Data in Transit; Adoption of Enhanced Logging; and Adoption of Zero Trust Architecture.

- By September 30, 2026, EPA will achieve the highest Diversity, Equity, Inclusion and Accessibility (DEIA) Maturity Level of "Leading and Sustaining" as defined by the November 2021 *Government-wide Strategic Plan to Advance DEIA in the Federal Workforce* and achieve all EPA goals identified in the Agency's Gender Equity and Equality Action Plan.
- By September 30, 2026, automate all priority internal administrative processes.
- By September 30, 2026, automate the major EPA permitting programs.
- By September 30, 2026, improve 1,000 operational processes.

Actions

Fostering Diversity, Equity, Inclusion, and Accessibility in EPA's Workforce

Recruit and Maintain a Workforce Representative of the American Public: EPA strives to be a model employer for diversity, equity, inclusion, and accessibility in the Federal Government. EPA will strengthen its ability to recruit, hire, develop, promote, and retain a workforce that reflects the diversity of the American people. EPA will expand and further promote diversity, equity, inclusion, and accessibility principles and will identify and eliminate barriers that hinder such efforts. The Agency will promote diversity among EPA leadership by providing opportunities in management positions, including the Senior Executive Service. EPA will increase outreach to underrepresented and underserved communities, including minority-serving institutions, improve accessibility to Agency systems and applications, and better leverage special hiring authorities, such as Federal internship programs, to provide entry-level career development opportunities to students and recent graduates and Schedule A Hiring Authority for persons with disabilities.

In implementing Executive Order 14035 and in support of the *Government-Wide Strategic Plan to Advance Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce*,[113] EPA will develop an EPA Diversity, Equity, Inclusion, and Accessibility (DEIA) Plan. EPA's DEIA Plan will set goals for cultivating a balanced work-life-wellness environment for employees and establish measures for tracking progress. EPA will engage staff to shape Agency decisions, improve processes, and strengthen flexible work practices. EPA will strengthen its partnership with labor unions and advance equity, civil rights, racial justice, and equal opportunity across the Agency. EPA will champion fair and inclusive employee-friendly policies and opportunities for continuous learning. EPA also will develop collaboration tools to improve communication, cross-program integration, access to information, and transparency. EPA will use a maturity model to assess implementation across three levels of compliance as established in the *Government-Wide Strategic Plan To Advance Diversity, Equity, Inclusion, And Accessibility In The Federal Workforce.* The maturity model methodology will support EPA in effectively building an infrastructure for supporting DEIA according to EPA's specific structure and needs.

[113] Government-Wide Strategic Plan To Advance Diversity, Equity, Inclusion, And Accessibility In The Federal Workforce (November 2021): https://www.whitehouse.gov/wp-content/uploads/2021/11/Strategic-Plan-to-Advance-Diversity-Equity-Inclusion-and-Accessibility-in-the-Federal-Workforce-11.23.21.pdf.

Implement Workforce Planning/Succession Management: EPA's mission to protect human health and the environment requires a highly skilled and dedicated workforce. More than 25 percent and growing of EPA's workforce is or will be eligible for retirement in three years, which will impact every region and program. Along with changing workforce demographics, this presents a unique opportunity for EPA to transform its human capital processes, including workforce planning, knowledge transfer, and succession management. EPA is carrying out evidence-building activities to address priority questions related to workforce planning, one of EPA's Learning Agenda priority areas. The Agency will use the results to inform and develop policies and approaches that equip employees with the needed competencies, knowledge, and most up-to-date tools to advance EPA's mission.

Promoting an Effective and Mission-Driven Workplace

Create the EPA Workplace for the Future: EPA will work to modernize and enhance governance of information technology (IT), information management (IM) systems, and the associated infrastructure as well as enterprise software development and architecture capabilities. EPA will build capacity to conduct meaningful customer and stakeholder engagement and incorporate Customer Experience (CX) design practices into IT/IM systems. EPA will provide IM expertise and solutions that support programmatic planning, capacity building, and decision making. This includes geospatial capabilities, web support, access to IM solutions, and data collection, analytics, and visualization.

EPA will implement the Federal Data Strategy to leverage federal data in carrying out the Agency's work.[114] EPA also will continue to operate and maintain existing financial and administrative federal shared service IT solutions, and where appropriate, adopt additional federal shared services. EPA will incorporate remaining smaller legacy financial systems into the Agency's core financial system, leverage business process automation to improve efficiency, and increase transparency of financial data for internal Agency decision making while implementing appropriate security controls and data governance.

EPA will adopt new workforce and workplace innovations to support the future of work. The re-envisioned physical workspace will require adapting space to support the seamless collaboration and engagement of a hybrid workforce. It will allow the Agency to optimize its real estate portfolio, thus reducing the Agency's environmental footprint and facility costs in the long term through lease, utility, and security savings. EPA will adopt new IT tools to better manage shared space, reduce paper-based processes, and bridge the technology gaps in the workplace that exist when operating in a hybrid work environment. EPA also will evaluate workforce flexibilities to support the hybrid workforce transition. These actions will reimagine EPA as a model federal employer and strengthen the ability to attract, recruit, retain, and empower top talent while advancing diversity, equity, inclusion, and accessibility.

[114] For more information on the Federal Data Strategy, see: https://strategy.data.gov/.

As EPA envisions the future of work with a hybrid workforce, it is imperative that EPA rethinks paper and low-tech forms and processes to move toward a paperless work environment based on electronic workflows for administrative and programmatic functions. For example, as Information Collection Requests are renewed, the Chief Data Officer of the Agency will work to transition new requests to electronic submission to modernize how EPA receives data from outside parties.

EPA will advance the paperless transformation through the automation of permit application, review, and issuance processes for EPA's permitting programs.[115] Automation of the permit application process will reduce processing time on issuing permits, decrease the time between receiving monitoring data and engaging in enforcement actions, and foster transparency by allowing communities to search, track, and access permitting actions easily. Further, permit automation will enable the integration of climate change and environmental justice considerations into permit processes and ensure that they are addressed within the terms and conditions of the permit.

EPA will continue to digitize legacy paper records and information through the operations of EPA National Digitization Centers. The Agency will work to enhance the EPA content management system, which will leverage artificial intelligence and machine learning for content tagging in the records digitization process to improve the quality and overall availability of digitized permanent records. This will enable access to permanent records regardless of physical work location and the ability to access environmental health and safety information across organizational boundaries or environmental media.

Enhance Cybersecurity: EPA, in line with Executive Order 14028: *Improving the Nation's Cybersecurity*,[116] will modernize its cybersecurity defenses to protect EPA networks and IT assets and strengthen EPA's ability to respond to incidents as they occur. EPA will ensure Agency IT systems support multifactor authentication and encryption, address cybersecurity protection gaps through the continuous diagnostics and mitigation program, and quickly identify and respond to federal-wide cybersecurity threats and incidents. The Agency will implement a Zero Trust Architecture, which includes comprehensive security monitoring; granular risk-based access controls; and system security automation coordinated throughout all aspects of the infrastructure to focus on protecting data in real-time within a dynamic threat environment.

Advance Justice and Equity in EPA Acquisition and Grants: Working with EPA's Equity Team and Agency partners, EPA will focus on removing barriers that may prevent small and underserved businesses from conducting business with EPA. The Agency will increase spending significantly on small and underserved businesses and specifically target businesses located in Historically Underutilized Business Zones (HUBZones).[117] EPA will accomplish this by eliminating barriers to its procurement processes

[115] Broad statutory frameworks for the permitting programs are found in Sections 165, 173, and 502 of the Clean Air Act (42 U.S.C. §§ 7475, 7503, and 7661a), Section 402 of the Clean Water Act (33 U.S.C. § 1342), Section 3006 of the Resource Conservation and Recovery Act (42 U.S.C. § 6926), and Section 1422 and Section 1425 of the Safe Drinking Water Act (42 U.S.C. §§ 300h and 300h-4).

[116] Executive Order 14028: *Improving the Nation's Cybersecurity* (May 21, 2021): https://www.whitehouse.gov/briefing-room/presidential-actions/2021/05/12/executive-order-on-improving-the-nations-cybersecurity/.

[117] Small Business Administration's HUBZone Program: https://www.sba.gov/federal-contracting/contracting-assistance-programs/hubzone-program.

through greater diversification of the Agency's vendor base, increasing engagement and technical assistance, and enhancing the Agency's contracts with new vendors. For assistance agreements, EPA will develop requirements for tracking and reporting on grant place of performance, which is the location where grant dollars are spent and/or benefits are received, and incorporate equity and environmental justice considerations into the grant decision-making process to the maximum extent practicable. EPA also will partner with organizations that assist underserved communities to use EPA's acquisition and grant processes to benefit underserved communities through providing technical assistance and outreach to support grantees in meeting federal requirements for sound financial management and lowering the barriers to federal funding opportunities.

Support Administration Climate Sustainability and Resiliency Priorities: EPA will implement all Administration Executive Orders on climate and will refocus its internal operations on the carbon pollution-free energy use and net-zero emissions in line with federal sustainability goals. Specifically, EPA will work to implement the goals established in Executive Order 14057: *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability.*[118] To accomplish this, EPA will invest in energy infrastructure retrofits to mechanical systems for existing facilities, incorporating climate sustainability and resiliency into new facility commissioning, and transition its vehicle fleet to zero-emission electric vehicles, including charging infrastructure for EPA facilities. EPA will prioritize sustainable workplace choices that Agency employees can easily practice, such as recycling and composting initiatives and eliminating single-use containers to divert and reduce solid waste from landfills. The Agency will prioritize the acquisition of sustainable products that it can reuse, refurbish, or recycle in line with statutory purchasing requirements.

EPA is committed to the safety of its personnel, the integrity of its buildings, the efficiency of its operations, and the sustainability of the communities in which its facilities are located. However, the impacts of climate change, including more frequent and intense storms, wildfires, water shortages, and sea level rise, pose challenges to meeting these objectives. Adaptation planning to protect EPA's workforce, operations, underlying infrastructure, and supply chains is crucial. EPA will implement activities that protect the Agency's workforce, facilities, critical infrastructure, supply chains, and procurement processes from the risks posed by climate change. Further, EPA will leverage procurement practices to increase the energy and water efficiency of its buildings where it is feasible to do so, and ensure they are climate ready.

External Factors and Emerging Issues

EPA faces several factors that may impede its ability to advance organizational excellence and workforce equity. Faced with an aging workforce that is increasingly retirement eligible, the Agency's ability to attract staff for mission-critical occupations is a continuing challenge that impedes succession management and knowledge transfer. EPA competes with the private sector as well as other federal agencies for the diverse talent pool with skills needed for tomorrow's workforce. Additionally, there may be barriers to federal employment that disproportionally impact underserved populations and

[118] Executive Order 14057: *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability* (December 8, 2021): https://www.whitehouse.gov/briefing-room/presidential-actions/2021/12/08/executive-order-on-catalyzing-clean-energy-industries-and-jobs-through-federal-sustainability/.

limit the ability to recruit a workforce representative of the American public. Furthermore, continually changing IT/IM and cybersecurity technologies and requirements pose challenges to implementing Agencywide enterprise architecture standards, cybersecurity readiness, and ability to modernize systems and infrastructure. Lastly, the impacts of climate change on EPA operations and physical infrastructure continue to be an unknown for which EPA must prepare.

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Cross-Agency Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement

Collaborate and engage effectively with Tribal nations in keeping with the Federal Government's trust responsibilities, state and local governments, regulated entities, and the public to protect human health and the environment.

Introduction

Protecting human health and the environment is a shared responsibility of EPA and its Tribal, state, and local government partners. State and local governments provide the majority of on-the-ground environmental protection in this country, implementing federal environmental laws as well as their own. In Indian country EPA directly implements the majority of federal programs. Many innovative and effective public health and environmental programs are initiated at the Tribal, state, and local levels. Environmental outcomes are best achieved through collaborative and effective partnerships across all levels of government, successful oversight of federally delegated programs, and robust engagement with non-governmental organizations, national and community groups, industry, and the public, built on a foundation of public trust and transparency, including through timely responses to information requests. Through a renewed focus on intergovernmental relationships, improving on-the-ground community engagement, enhancing collaboration with the business community, delivering high-impact environmental education programs, and increasing public trust and transparency, EPA will forge stronger partnerships. As a result, EPA will advance durable policies to its most pressing challenges and ensure the equitable protection of all communities, including those who have historically been underserved and overburdened.

Long-Term Performance Goals

- By September 30, 2026, consider Tribal treaty rights as part of all EPA Tribal consultations that may affect Tribal treaty rights.
- By September 30, 2026, eliminate the backlog of overdue Freedom of Information Act (FOIA) responses, compared to the FY 2021 baseline of 1,056.

Actions

Strengthening the Nation-to-Nation Relationship with Sovereign Tribal Partners: In accordance with Executive Order 13175: *Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships,*[119] and in light of the disproportionate impact of environmental pollution on Native Americans, EPA is committed to strengthening its nation-to-nation relationship with American Indian and Alaska Native Tribal Nations. In keeping with the Federal Trust Responsibility, the Agency will endeavor to protect the environmental interests of Indian Tribes when carrying out its responsibilities that may affect Indian country.

[119] Executive Order 13175: *Memorandum on Tribal Consultation and Strengthening Nation-to-Nation Relationships* (January 26, 2021): https://www.whitehouse.gov/briefing-room/presidential-actions/2021/01/26/memorandum-on-tribal-consultation-and-strengthening-nation-to-nation-relationships/.

Consistent with the trust responsibility, EPA will continue its existing consultation activities under the EPA Policy on Consultation and Coordination with Tribes.[120] EPA will also renew focus on integrating consideration of Tribal treaty and reserved rights early into decision making and regulatory processes. EPA will continue to improve the Agency's web-based Tribal Consultation Opportunities Tracking System, a publicly accessible database used to communicate upcoming and current EPA consultation opportunities to Tribal governments.

In addition, EPA will focus on building Tribal capacity to increase the number of Tribal co-regulators and Tribes' ability to meaningfully participate and engage in environmental protection activities that inform, support, or enhance EPA direct implementation under federal environmental statutes. EPA will continue capacity-building activities under the Indian General Assistance Program, the development of mutual environmental goals on a government-to-government basis through EPA-Tribal Environmental Agreements, and active use of the flexibilities under the Tribal Performance Partnership Grants rule. The Agency will work through the EPA National Tribal Operations Committee and support EPA Tribal partnership groups, including regional Tribal operations committees. Through these groups and other Tribal meetings, EPA will strive to address pressing environmental issues such as climate change and environmental justice.

Fostering Tribal, State, and Local Partnerships: Environmental and human health protection is a shared responsibility of Tribes, states, and the Federal Government. More than 50 years after the creation of EPA, states and local governments serve as primary implementers of many of the nation's environmental laws. Due to these unique relationships, the early, meaningful, and substantial involvement of EPA's co-regulator partners is critical to the development, implementation, and enforcement of the nation's environmental programs. With a renewed focus on climate, environmental justice, and children's health, EPA will emphasize frequent and early communication as a keystone of its partnership with Tribal and state co-regulators, whose concerns and existing regulatory programs must be thoughtfully considered to develop effective and lasting policies for our most pressing environmental challenges.

Through E-Enterprise for the Environment, EPA, Tribal, and state leaders will prioritize shared concerns, collectively address challenges, and build efficient and effective solutions. By relying on three key principles to improve environmental program implementation — early and meaningful dialogue with partners who make decisions together, streamlined and simplified processes, and sharing of technology — EPA, Tribes, and states can make the best use of new tools and technologies to improve environmental results. EPA will work with Tribal and state partners to better understand the use of community-led data generation in environmental management, develop a compliance Learning Agenda, and advance environmental monitoring technologies. Furthermore, Tribes and states are encouraged to use E-Enterprise Workload Tradeoffs to adjust grant workplans to focus on collaborative efforts related to work modernization.

[120] EPA Policy on Consultation and Coordination with Indian Tribes: Guidance for Discussion Tribal Treaty Rights: https://www.epa.gov/tribal/epa-policy-consultation-and-coordination-indian-tribes-guidance-discussing-tribal-treaty.

Collaboration under the Exchange Network (EN), a standards-based, secure approach for EPA and its Tribal, state, territorial, and industry partners, will further enhance data management and electronic reporting. EPA will continue to administer the EN Grant Program[121] to support integration and development of tools leveraging EN technology, data standards, open-source software, shared services, and reusable components. Under Executive Order 1398: *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government*, EPA will foster increased Tribal participation in the EN, build data management and technical capacity, and enable the EN Grant Program to measure the effectiveness of these approaches in underserved communities. In addition, the Agency plans to continue to support the implementation of the National Environmental Performance Partnership System[122] and the Multipurpose Grant Program,[123] which are the key funding programs that support Tribal and state implementation of environmental programs.

EPA's oversight role is critical to supporting effective implementation of federally delegated environmental programs by Tribes, states, and local entities, ensuring protection of civil rights, and protecting communities that have historically been underserved and overburdened. The Agency will improve and strengthen oversight of state-delegated programs and collaborate with Tribes, states, territories, and local governments to identify opportunities for additional oversight improvements. EPA will ensure protections afforded by the Civil Rights Act are being implemented at all levels of government, which is vital to advancing equity and environmental justice. Robust oversight of compliance with civil rights laws will address historical and systemic barriers on the basis of race, color, and national origin that contribute to environmental injustice and the disproportionate burden of pollution in particular communities.

Improving On-the-Ground Community Engagement: Meeting communities where they are, to better understand the lived reality of people and the health and environmental challenges they face, is fundamental to developing effective programs and policies. EPA will meet regularly with stakeholder groups to seek perspectives on Administration priorities and engage early with relevant stakeholder groups on upcoming regulatory actions. EPA also will focus on opportunities like site visits, forums, and convenings to cultivate relationships and stay attuned to the needs and concerns of diverse groups, private sector partners, and others impacted by the Agency.

When needed, EPA will provide facilitation, mediation, and related services to support EPA's engagement with members of the public. When conflict is present or expected, EPA will provide collaboration and conflict resolution support, including an impartial intervener to help ensure the public's concerns are heard and fully considered in Agency decision making. EPA's public engagement efforts will establish coordination and communication systems that ensure public participation in rulemaking and Agency regulatory policy is inclusive, diverse, and accessible. EPA will develop and maintain an extensive, up-to-date database of stakeholders' interests and concerns to support engagement and inform policy.

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[121] Exchange Network Grant Program: https://www.epa.gov/exchangenetwork/exchange-network-grant-program.
[122] National Environmental Performance Partnership System: https://www.epa.gov/ocir/national-environmental-performance-partnership-system-nepps.
[123] Multipurpose Grants to State and Tribes: https://www.epa.gov/grants/multipurpose-grants-states-and-tribes.

Enhancing Private Sector Engagement: Solving the climate crisis and working toward an equitable and sustainable future will require commitment and action from every sector of the economy. EPA is committed to working with the business community to advance environmental progress through both its regulatory programs and its wide array of voluntary programs and non-regulatory initiatives. EPA will continue its commitment to give appropriate consideration to small business needs, interests, and impacts during policy and rule development. By engaging with business groups and individual companies, EPA will encourage and support private sector environmental action, including environmental justice initiatives and the pursuit of meaningful corporate and sector-wide climate and sustainability goals. The Agency will also continue its commitment to use and participate in Voluntary Consensus Standards (VCS) as directed by the National Technology Transfer and Advancement Act (NTTAA). Use of VCS in regulation, voluntary programs, research, and other activities helps the Agency achieve robust engagement with industry, academia, NGOs, and others, harnessing partnerships that enhance public trust and lead to durable policies that enjoy broad consensus and buy-in.

Promoting Environmental Education: Improving environmental literacy is a critical strategy to empowering Tribal and local communities with the capacity and resources to accelerate stewardship, environmental justice, and community-level understanding of climate impacts. EPA implements the National Environmental Education Act (NEEA)[124] and is charged with achieving the environmental education objectives and supporting public understanding of the Agency. EPA will ensure that environmental education tools, trainings, curricula, resources, and grants align with strategic priorities to address climate change, advance environmental justice, support fenceline communities, promote science, and protect public health. EPA will build strategic partnerships to include underserved communities and Minority Serving Institutions and increase the conversation around using environmental education as a tool to achieve environmental justice, climate equity, and economic prosperity. EPA will ask the National Environmental Education Advisory Council (NEEAC)[125] to provide a set of national recommendations on how frontline and underserved communities can use environmental education to build capacity to become resilient to the effects of climate change. EPA will create public and private partnerships through the National Environmental Education Foundation (NEEF)[126] to develop programs and initiatives that can empower frontline communities to address environmental threats, advance equity, and increase economic prosperity for all.

Increasing Public Trust and Transparency: Transparency in government and the ability to show tangible results are critical to bolstering public trust and confidence in the nation's environmental programs. EPA is carrying out evidence-building activities to address priority questions related to grants, one of EPA's Learning Agenda priority areas, to better communicate environmental outcomes stemming from EPA's grant programs. The Agency also will enhance its efforts to meet statutory deadlines for responding to Freedom of Information Act (FOIA) requests and eliminate the backlog of

[124] National Environmental Education Act: https://www.epa.gov/education/national-environmental-education-act.
[125] National Environmental Education Advisory Council: https://www.epa.gov/education/national-environmental-education-advisory-council-neeac.
[126] National Environmental Education Foundation: https://www.neefusa.org.

overdue responses. Through enhanced transparency, the public and local communities can participate more meaningfully and partner with EPA in protecting human health and the environment.

To increase transparency and improve EPA decision making for Tribal program implementation, the Agency will increase data availability and data quality for regulated facilities and entities in EJSCREEN, EPA's Environmental Justice Screening and Mapping Tool.

External Factors and Emerging Issues

Limited resources across all levels of government affect the ability for Tribal, state, and local governments to implement federal programs in a timely manner and to adequately protect human health and the environment.

Use of scientific data generated by the public, as covered by the Crowdsourcing and Citizen Science Act of 2016,[127] is an emerging issue that includes a broad range of activities and projects, from those originating in academic and government institutions that engage the public in data collection to create knowledge, to community-led projects intended to develop data and information that address particular issues of concern. New tools and technologies are making public contributions to science easier—from submitting photographs to using low-cost pollution sensors. However, there are significant challenges to the use of such data in environmental policy decisions and regulatory programs, particularly with respect to data quality and legal and ethical issues regarding objectivity of data. EPA is developing a strategy that considers the full spectrum of crowd-sourced and community-based science and research.

[127] 15 USC 3724: Crowdsourcing and citizen science: http://uscode.house.gov/view.xhtml?req=granuleid:USC-prelim-title15-section3724)&num=0&edition=prelim.

EPA Learning Agenda: Summary

Overview

The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act) provides a framework to promote a culture of evaluation, continuous learning, and decision making using the best available evidence. EPA's Strategic Plan incorporates learning priority areas for the first time as required by the Evidence Act, which is a significant part of developing this culture. EPA has identified four learning priority areas and associated priority questions through robust engagement with relevant EPA staff and external experts and stakeholders.

Learning Priority: Expanding EPA's Toolkit of Air Benefits Assessment Methodologies and Practices

Priority Questions

1. How can EPA more comprehensively characterize the health benefits associated with improved air quality?
2. How can EPA improve our approach for quantifying and valuing air pollution effects among populations most susceptible and vulnerable to poor air quality?
3. How can EPA better account for disproportionate impacts and distribution of disease burden within the exposed population?

Learning Priority: Drinking Water Systems out of Compliance

Priority Questions

1. To what extent does EPA have ready access to data to measure drinking water compliance reliably and accurately?
2. What factors determine system noncompliance and continuous compliance?
3. How can we determine if a system has the technical, managerial, and financial capacity to provide safe water on a continuous basis to its customers?
4. Does increased use of compliance assurance tools (inspections and enforcement) improve system compliance, and if so, under what circumstances?
5. What EPA oversight activities are effective at assessing and improving state programs' ability to drive compliance?

Learning Priority: Workforce

Priority Questions

1. To what extent does EPA have access to the tools and strategies needed to analyze and understand the Agency's near and long-term workforce needs?
2. What are the critical skills needed to support the Agency's mission, now and in the future?
3. What are the leading strategies to attract, recruit, train, and retain a diverse and talented workforce? What makes people stay in the Agency long-term?
4. How can EPA ensure knowledge is transferred from outgoing to current and incoming staff to support succession planning?

Learning Priority: Grant Commitments Met

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Priority Questions

1. How do EPA's existing grant award and reporting systems identify and track grant commitments?
2. What EPA practices and tools (1) effectively track grantee progress towards meeting workplan grant commitments including outputs and outcomes and/or (2) support communication of national program level outputs and outcomes?
3. Are the commitments established in EPA's grant agreements achieving the intended environmental and/or human health results, particularly for environmental justice and underserved communities?

To view EPA's full Learning Agenda, see: https://www.epa.gov/evaluate/evidence-act.

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EPA Capacity Assessment: Summary

Introduction

The Foundations for Evidence-Based Policymaking Act (Evidence Act) requires Chief Financial Officer Act agencies to conduct a Capacity Assessment to appraise their ability and infrastructure to carry out evidence-building activities. EPA's approach to its first Capacity Assessment in the Strategic Plan can be broadly described in two phases:

- The initial phase focuses on assessing EPA's ability to answer the priority questions in the Agency Learning Agenda.
- The second phase focuses on assessing EPA's skills, organizational structure, resources, expertise, and infrastructure to meet Agency Learning Agenda goals, as well as to implement the Evidence Act across the Agency.

Preliminary Results from the Initial Phase

The initial phase assessed whether the Agency has the skills and resources to answer the priority questions in the Learning Agenda.

In 2019, EPA established three of the four[128] learning priority area workgroups focusing on key topics of interest to develop and implement the Agency's Learning Agenda. In 2021, as part of the initial Capacity Assessment, the Agency conducted a survey and focus groups of the learning priority area workgroup members to examine whether the Agency has access to the skills and resources to answer the questions in these three learning priority areas. The survey respondents and focus group participants included members of the workgroups for the three initial learning priority areas: Drinking Water Systems Out of Compliance, Workforce, and Grant Commitments Met.

Preliminary Take-Aways: All three priority area workgroups expressed concern about data availability, data access, and available resources beyond FY 2022. Although these concerns remain, considerable progress is being made to answer the learning agenda questions. Key priorities for these workgroups include: communications and change management; engaging with states to fulfill data needs; and ensuring collaboration with various internal and external stakeholders throughout this effort.

Development of the Maturity Model Approach for the Agencywide Assessment

The second phase of the capacity assessment will be an Agencywide assessment based on a maturity model approach. The assessment will examine EPA's skills, organizational structure, resources, expertise, and infrastructure (e.g., access to training, hiring capability and contract vehicles) to conduct evidence building activities, as well as to implement the Evidence Act across the Agency.

EPA's maturity model addresses five domains: Evaluation, Data Use, Research, Statistics, and Lean Management. For each domain, the maturity model considers dimensions such as coverage, quality, methods, independence, and effectiveness. The final maturity model can be found in Appendix A of the FY 2022 Capacity Assessment Report.

To view EPA's full Capacity Assessment Report, see: https://www.epa.gov/evaluate/evidence-act.

[128] The following three learning priority areas were initiated in December 2019: Drinking Water Systems Out of Compliance; Workforce; and Grant Commitments Met. The fourth learning priority area, Expanding EPA's Toolkit of Air Benefits Assessment Methodologies and Practices, was added to the Agency Learning Agenda in April 2021 after the capacity assessment survey was underway.

STATE of MISSISSIPPI
FY2023
PWSS WORKPLAN

The EPA Grant Policy Issuance 11-03, *State Grant Workplans and Progress Reports* (GPI 11-03), requires that all workplans for state categorical program grants prominently display EPA's strategic goals and objectives as identified in the document [HYPERLINK "https://www.epa.gov/system/files/documents/2022-03/fy-2022-2026-epa-strategic-plan.pdf"].

The tasks identified in this workplan address the following goals and objectives:

Goal 2 – Take Decisive Action to Advance Environmental Justice and Civil Rights

Objective 2.1 – Promote Environment Justice and Civil Rights at the Federal, Tribe, State, and Local Levels
Objective 2.2 – Embed Environmental Justice and Civil Rights into EPA's Programs, Policies, and Activities
Objective 2.3 – Strengthen Civil Rights Enforcement in Communities with Environmental Justice Concerns

Goal 3 - Enforce Environmental Laws and Ensure Compliance
Objective 3.1 - Hold Environmental Violators and Responsible Parties Accountable
Objective 3.2 - Detect Violations and Promote Compliance

Goal 5 - Ensure Clean and Safe Water for All Communities
Objective 5.1 - Ensure Safe Drinking Water and Reliable Water Infrastructure

State Contacts

Program Contact	Phone Number	Email Address
State Point of Contact:		

EPA Region 4 Contacts

Program Contact	Phone Number	Email Address
EPA SPM/Technical Officer: Robert Burns	404-562-9456	[HYPERLINK "mailto:burns.robert@epa.gov"]
EPA Enforcement Officer: Amanda Driskell	404-562-9735	[HYPERLINK "mailto:driskell.amanda@epa.gov" \h]

Date of End-of-Year Report submittal: (DATE) **Draft or** Final **(Underline one) Date of latest workplan revision:**

EPA DWS Chief: Shawneille Campbell-Dunbar	404-562-9324	[HYPERLINK "mailto:campbell-dunbar@epa.gov" \h]
EPA DWES Chief: Bryan Myers	404-562-9603	[HYPERLINK "mailto:myers.bryan@epa.gov" \h]
EPA Project Officer: Sibyl Cole	404-562-9437	[HYPERLINK "mailto:cole.sibyl@epa.gov"]
Workplan Coordinator: Jennifer Shadle	404-562-9436	Shadle.jennifer@epa.gov

No.	Same/ New/ Revised	Workplan Commitments/Tasks	Schedule/ Due Date	Comments	State End-of-Year Report/ Comments
		GOAL 5 – ENSURE CLEAN and SAFE WATER FOR ALL COMMUNITIES			
		Objective 5.1: Ensure Safe Drinking Water and Reliable Water Infrastructure			
		Drinking Water Program Elements			
1		Ensure ongoing compliance with Primary Drinking Water Regulations by implementing State-Approved Rules for which State has received final primacy. **Basis for Task:** 40 CFR 141, 40 CFR 142. EPA Strategic Plan: 5.1 **Outputs:** Report on actions taken that demonstrate ongoing implementation of, and compliance with, Primary Drinking Water Regulations. Provide quarterly written information regarding the status of CWSs with health-based violations, that are not identified as priority CWSs by the Enforcement Response Policy's Enforcement Targeting Tool. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30 Quarterly; within 30 days (unless otherwise noted) of State's receipt of list from EPA.	*(EPA SPM ensures state is on track with implementation and compliance of rule requirements)*	

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2		Revise current primacy programs to adopt newly promulgated Federal Drinking Water rules and regulations to implement the Safe Drinking Water Act as amended in 1996. Submit a primacy application for EPA review and approval in accordance with SDWA requirements. Primacy Applications submitted & under EPA review (Interim Primacy): none Primacy Applications to be submitted to EPA (extension granted): none **Basis for Task:** 40 CFR 142.12. EPA Strategic Plan: 5.1; AWIA Sections 2008 and 2010 **Output:** Revise and/or adopt state regulations and submit a primacy application for EPA review and approval, in accordance with SDWA requirements. **Outcomes:** Protection of drinking water and human health.	Within two years of federal rule effective date or by compliance date specified in rule, OR Submit a two-year extension request.	*(EPA expects to finalize a Revised CCR Rule by early to mid-2024 and a Restructuring Rule (requiring states to adopt authority for requiring system restructuring assessments in the event of repeated health-based violations) by October 2023. State primacy applications must be submitted per deadlines in these final federal rules. During FY22-23, States may want to begin working on primacy applications for the Revised CCR and Restructuring Rules.)*	
3		Maintain a systematic sanitary survey program and follow up on any discrepancies discovered during sanitary surveys as required by regulation. Conduct sanitary surveys based on the cycle for water system size, source water, and type. **Basis for Task:** Regional Priority, 141.21(d), 142.16(b)(3), 142.16(o). EPA Strategic Plan: 5.1 **Output:** Report completed sanitary surveys for the current year in SDWIS, from which EPA can obtain a complete listing. Report annually on status of sanitary survey program. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		
4		Ensure all laboratories used by public water systems are certified or approved to conduct sample analysis for regulated and unregulated contaminants. Ensure receipt of current EPA LSASD certification approval letter (valid until next triennial review). **Basis for task:** 40 CFR 141.28. EPA Strategic Plan: 5.1 **Output:** Report on status of laboratory certification and approval. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		

5		Maintain a State program for the certification of labs in accordance with EPA lab certification requirements. **Basis for task:** 40 CFR 142.10. EPA Strategic Plan: 5.1 **Output:** Report on status of State laboratory certification program. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		
6		Maintain a water system design and construction plan and specification review program. **Basis for task:** 40 CFR 141.10(b)(5). EPA Strategic Plan: 5.1 **Output:** Report on status of state program and regulations to ensure adequate water system design and construction. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		
7		Ensure newly permitted public water systems have design/construction capable of compliance with present and future SDWA regulations. **Basis for task:** Program Priorities Guidance. EPA Strategic Plan: 5.1 **Output:** Report on implementation of state regulations/laws to permit new public water systems. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		
8		Maintain records for all rules/policies. Enforce reporting and record keeping as required. **Basis for task:** 40 CFR 141 Subpart D, 40 CFR 142 Subpart B. EPA Strategic Plan: 5.1 **Output:** Report on status of state record keeping for all rules/policies. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		
9		Ensure analytical methods are being applied to demonstrate compliance with the regulations. **Basis for task:** 40 CFR 141 Subpart C. EPA Strategic Plan: 5.1 **Output:** Report on State application of analytical methods to comply with regulations. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		

10		Provide a summary of the status of each effective Variance and Exemption to EPA. Provide a summary of new Variance or Exemption to EPA. **Basis for task:** 40 CFR 142.15(b)(2), 142.15(a)(3). EPA Strategic Plan: 5.1 **Output:** Provide status of each effective, or new, Variance and Exemption. **Outcomes:** Protection of drinking water and human health.	Quarterly February 15, May 15, August 15, November 15 Annually – by September 30		
11		Report the State's PWSS inventory at least annually to SDWIS/FED, according to the Revised SDWIS/FED Inventory Reporting Requirements for SDWIS/FED. EPA Region 4 encourages States to provide quarterly updates of the PWS Inventory in SDWIS/FED at the same time as the Actions and Samples submission. The inventory will be used to calculate the next fiscal year's grant allotment and will be frozen as of January 1st annually. **Basis for task:** 40 CFR 141 and 142. EPA Strategic Plan: 5.1 **Output:** Update inventory in SDWIS/STATE & upload to SDWIS/FED via CDX. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		
12		Establish and follow quality assurance procedures to ensure data entered into SDWIS/FED is of the highest reliability and maximum value to the public. Work with regional staff on trouble shooting errors. **Basis for task:** EPA Strategic Plan: 5.1 **Output:** Report on State implementation of QA procedures to ensure data in SDWIS/FED is of the highest reliability. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30		
13		Participate in File Reviews, attend State Directors Meetings (as scheduled), the Data Management Users Conference, ASDWA meetings, Area Wide Optimization Program (AWOP) multi-state meetings and technical performance improvement activities, new rules and/or program training and other meetings as needed. **Basis for task:** EPA Strategic Plan: 5.1 **Output:** Attend meetings and training to stay current with PWSS program priorities and revisions. Report on meeting/training attendance. **Outcomes:** Protection of drinking water and human health.	Annually – by September 30	Last Priority Review was conducted in 2019	

14		Develop and implement a Capacity Development strategy to assist public water systems in acquiring and maintaining technical, managerial, and financial capacity. **Basis for task:** SDWA §1420 (c). EPA Strategic Plan: 5.1; AWIA Section 2012 **Output(s):** Submit revisions to State Capacity Development Strategy that describe how the state will encourage PWSs to develop and maintain asset management plans and provide technical assistance to PWSs in implementing these plans. Submit the following report(s) to EPA Region 4 Drinking Water Section Capacity Development Coordinator and cc: the SPM: Annual Report to EPA Triennial Report to the Governor, that includes a description of how the state will encourage PWSs to develop asset management plans **Outcomes:** Protection of drinking water and human health	Deadline established in final EPA guidance 90 days after end of grant reporting period September 30, 2023	*(EPA finalized guidance on implementation of AWIA capacity development provisions in December 2019. A September 2021 follow-up letter to ASDWA requires states to submit revised capacity development strategies that address these provisions by December 31, 2022.)* The last Triennial Report was received on 09/15/2020.	
15		Assist EPA with UCMR 5. **Basis for task:** 40 CFR 141.35, 40 CFR 141.40. EPA Strategic Plan: 5.1 **Output:** If State completes voluntary Partnership Agreement (PA) provide assistance specified in PA. Provide voluntary updates on status of UCMR assistance provided to EPA. **Outcomes:** Protection of drinking water and human health.	Ongoing voluntary assistance, as noted in PA. Report annually – by September 30		
16		Assist EPA with ensuring that CWSs serving >3300 people certify completion of a water system risk assessment and emergency response plan in accordance with applicable deadlines established under Section 2013 of AWIA. **Basis for task:** SDWA §1433; AWIA Section 2013 **Output:** If State provides assistance to EPA with this activity, provide voluntary updates on the status of assistance provided to EPA. **Outcomes:** Protection of drinking water and human health.	Ongoing voluntary assistance. Report annually – by September 30	*(CWS deadlines for completing a water system emergency response plan extended to December 2021, depending on system size)*	

17		Provide annual documentation and ongoing implementation of the State Operator Certification Program. Perform an Internal Program Review once every three years Perform an External Program Review once every five years. **Basis for task:** F.R. Vol. 64, No. 24, Appendix A. EPA Strategic Plan: 5.1 **Output:** Submit Operator Certification Program Annual Submittal, and Internal/External Program Reviews as required, to EPA Region 4 Drinking Water Section Operator Certification Coordinator and cc: the SPM. **Outcomes:** Protection of drinking water and human health.	Annual – by May 1 With Annual Report, once every 3 yrs. With Annual Report, once every 5 yrs.		
18		Maintain an up-to-date, approved Quality Management Plan (QMP). Review the QMP at least annually to reconfirm its suitability and effectiveness. Revise and resubmit the QMP to EPA for review and approval as needed (i.e., to prevent expiration or whenever significant changes, as defined in EPA QA/R-2, occur). **Basis for task:** EPA Order 5360.1 A2 & *EPA Requirement for QMPs*, EPA QA/R-2. **Output:** Reconfirm Suitability of existing QMP on an ongoing basis. Update QMP if "significant changes" occur. Resubmit QMP as needed to prevent expiration. **Outcomes:** Protection of drinking water and human health.	As needed, allowing sufficient time for review and acceptance (e.g., prior to expiration of existing QMP).	State QMP was last approved by EPA on April 3, 2019 and expires on April 4, 2024.	
19		Commit to accepting for use only data that is generated in accordance with applicable methods and procedures presented or cited in 40 CFR Part 141, 40 CFR Part 142, 40 CFR Part 143, state PWSS Program primacy applications approved by EPA, and the EPA-approved QMP. **Basis for task:** EPA Order 5360.1 A1, 40 CFR 31.45. **Output:** Submit QA certification letter with FY22-FY23 PWSS Program grant application. Alternatively, submit and maintain an up-to-date, approved Quality Assurance Project Plan. **Outcomes:** Protection of drinking water and human health.	With FY22-FY23 PWSS Program grant application.		

20		Maintain up-to-date documentation that demonstrates State competency to generate and use environmental data. **Basis for task:** Agency Policy Directive #FEM-2012-02 **Output:** Written certification that scope of work for the use or generation of environmental data is similar to that in the previous Continuing Environmental Program (PWSS) award. Alternatively, submit and maintain an up-to-date, approved Competency Demonstration documentation package. **Outcomes:** Protection of drinking water and human health.	With FY22 - FY23 PWSS Program grant application.	EPA will determine data competency based on past performance under the PWSS program.	
21		The State will strive to provide its surface water assessment program a list of public water systems (including location) that monitor ambient/raw water so that the monitoring data may be considered in assessing water quality and determining impairment. **Basis for task:** EPA National Program Guidance. Coordinates with CWA 106 Workplan Task. **Output:** Provide state surface water assessment program with a list of public water systems (including location), as requested. **Outcomes:** Protection of drinking water and human health.	As requested.		
22		Develop and implement activities related to PFAS and/or emerging contaminants (if supplemental PFAS funding is awarded to the State). If funding is available, monitor PWSs for PFAS and/or other emerging contaminants based on suspected vulnerability of source(s) to potential contamination and/or lack of existing data. Funding would be used for sample collection and analysis. **Basis for task:** EPA Strategic Plan: 5.1 **Output(s):** Provide an annual status update on PFAS and emerging contaminant activities and deliverables implemented within the Fiscal Year. **Outcomes:** Protection of drinking water and human health.	Report annually – by September 30		

		GOAL 3: ENFORCE ENVIRONMENTAL LAWS and ENSURE COMPLIANCE			
		Objective 3.1: Hold Environmental Violators and Responsible Parties Accountable **Objective 3.2: Detect Violations and Promote Compliance**			
		Drinking Water Enforcement Program Elements			
1		Report State violations and enforcement actions at least quarterly to SDWIS/FED, but no later than 45 days following the end of the quarter. **Basis for task:** 40 CFR 141 and 142, EPA Guidance: "Consolidated Summary of Reporting Requirements for SDWIS/FED", EPA Strategic Plan: 3.2. **Output:** Uploads of violations and enforcement actions in SDWIS/FED in accordance with enforcement task due dates. **Outcomes:** Protection of drinking water and human health.	Quarterly February 15, May 15, August 15, November 15		
2		Provide required information when referring enforcement cases to EPA (as specified in Attachment – Enforcement Section 1). **Basis for task:** SDWA 1414(b)(2), EPA Strategic Plan: 3.1. **Output:** Provide appropriate and required information to EPA Region 4 Drinking Water & Wastewater Section in the Enforcement and Compliance Assurance Division (ECAD). **Outcomes:** Protection of drinking water and human health.	As needed.		
3		Address with a formal enforcement action or return to compliance the number of priority systems equal to the number of PWS's that have a score of 11 or higher on the July 2022 ETT report (for FY23) or the July 2023 ETT report (for FY24). Note: All data pertaining to compliance status (i.e., formal enforcement activity or Return to Compliance) must be uploaded to SDWIS-Fed in time to show in the July 2023 ETT list (for FY23) or July 2024 ETT list (for FY24) in order to be counted towards this commitment. (For most states this would be the May 15 upload unless a state is doing uploads more frequently than quarterly). **Basis for task:** National Priority, EPA Strategic Plan:3.1, "EPA Enforcement Response Policy for PWS Program Under the SDWA and Implementation of the Enforcement Targeting Tool-December 8, 2009" (EPA-ERP). **Output:** Enforcement actions or activities (e.g., formal enforcement (notices of violation, administrative orders, etc.) or RTC) and data uploaded to SDWIS-Fed. **Outcomes:** Protection of drinking water and human health.	Within two quarters for those systems being identified as priorities.		
4		Take immediate action to address 100% of health based and major monitoring/reporting violations for acute contaminants for PWSs with an ETT score of $\geq$ 11.	Within two quarters for		

No.	Same/ New/ Revised	Workplan Commitments/Tasks	Schedule/ Due Date	Comments	State End-of-Year Report/ Comments
		Basis for task: National Priority, Regional Priority, EPA Strategic Plan: 3.1, EPA-ERP. **Output:** Enforcement actions/activities (e.g., notices of violation, administrative orders, etc.) or RTC. **Outcomes:** Protection of drinking water and human health.	those systems being identified as priorities.		
5		Address PWSs with an ETT score of < 11 on an ongoing/rolling basis. **Basis for task:** National Priority, Regional Priority, EPA Strategic Plan: 3.1, EPA-ERP. **Output:** Enforcement actions/activities (e.g., notices of violation, administrative orders, etc.). **Outcomes:** Protection of drinking water and human health.	As appropriate.		
6		The State will escalate its response to violations in accordance with its enforcement management system to ensure return to compliance. **Basis for task:** National Priority, Regional Priority, EPA Strategic Plan: 3.1, EPA-ERP. **Output:** Enforcement actions/activities (e.g., administrative orders, referrals to EPA, etc.). **Outcomes:** Protection of drinking water and human health.	As appropriate.		
7		Provide a quarterly written response to EPA regarding the status of PWSs identified as priorities in the quarterly Enforcement Targeting Tool (ETT) report provided by EPA. **Basis for task:** National Priority, Regional Priority, EPA Strategic Plan: 3.1, EPA-ERP. **Output:** Provide Status Report to EPA Region 4 Drinking Water & Wastewater Section in ECAD. **Outcomes:** Protection of drinking water and human health.	Quarterly; within 30 days (unless otherwise noted) of State's receipt of list from EPA.		

ATTACHMENT – ENFORCEMENT SECTION 1

SECTION 1: Referring Enforcement Cases to EPA – please provide the following information: 1414 (b)(2)

Public Water System Name and Identification Number
Public Water System Owner/Operator Name
Ownership Information – The State will submit available evidence/documentation on ownership and whether ownership has ever been contested or raised as an issue at the State level.
Public Water System Current Address
Public Water System Telephone Number
Public Water System Population and Type of System
Number of Service Connections
Actual Count
Factoring Method
Evidence of Violations – At the time of referral, the State shall submit to EPA the entire file (or a copy of that file) that is pertinent to the case. EPA will work with the State to achieve the most efficient method for securing a copy of the file. Before an enforcement action is issued, EPA needs to ensure that there is evidence in the Region 4 office to support every violation listed – either hard copy evidence or a tabular summary from the State of its violation information.
Copies of all State enforcement actions
Date Case Referred by State Drinking Water Program (complete package with letter of referral by the State)
Date of most recent Sanitary Survey (please provide a copy to EPA)

State of Mississippi Department of Health
Water Directors Call
FY23 Continuing Environmental Programs (CEP) Workplans
June 16, 2022 – 9:00am EST

1. Introductions: State and EPA management and staff

2. Discuss [HYPERLINK "https://www.epa.gov/system/files/documents/2022-03/fy-2022-2026-epa-strategic-plan.pdf"]
   - Review Goals 2, 3, and 5

3. Discuss the Water Division FY23 Continuing Environmental Programs (CEP) grant and workplan process for Public Water System Supervision (PWSS)

4. Review FY23/24 Office of Water National Program Manager projected guidances and dates.

   The Office of Water's National Water Program Guidance (NWPG) link below will take you to a template and instructions for submitting comments.

   [HYPERLINK "https://www.epa.gov/planandbudget/national-program-guidances-npgs"].

5. EPA sent state draft FY23 workplan via invite to begin reviewing. Provide guidance for development of the FY23 workplan tasks based 2022-2026 EPA Strategic Plan
   - PWSS Program
   - Enforcement and Compliance Assurance Division

6. Workplans are due to EPA by 8/1; however, providing additional time until 8/19. Please send proposed workplans to Jennifer Shadle at shadle.jennifer@epa.gov. EPA will review and respond with either approve, conditionally approve, or continue negotiation within 60 days of state submittal date.

7. EPA proposes having state calls in:
   - April/May 2023 - negotiate FY24/25 NPM guidance and tasks into FY24/25 Continuing Environmental Program workplans.

8. Due date for applications – August 1, 2022, via Grants.gov
   *If you applied for two years of funding (FY22 and FY23) in your grant application submitted August 1, 2021, then no application is required for FY23 funding.

9. Questions or Follow-up items?

Message

From: Gettle, Jeaneanne [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D8E72AA7E1894FAEA44006FD9F22B637-GETTLE, JEANEANNE]
Sent: 3/8/2022 3:55:25 PM
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Subject: Implementation Memorandum for SRF funding through BIL
Attachments: EPA BIL SRF Implementation Memo.pdf; BIL SRF Memo Fact Sheet FINAL.pdf

State Water and SRF Directors:

Today, EPA signed the attached memorandum to guide collaborative implementation of the $43 billion in State Revolving Fund (SRF) investments through the Bipartisan Infrastructure Law (BIL)

This implementation memorandum provides information and guidelines on how EPA will award and administer supplemental SRF Capitalization Grants through the BIL. Among other the priorities the memorandum highlights the flexibility provided to states and borrowers to address a wide variety of local water quality and public health challenges. SRF funding through the BIL can be used in combination with additional funding sources to finance water infrastructure projects that meet the most pressing local needs. The memorandum also underscores provisions included in the BIL to ensure that disadvantaged communities fully benefit from these historic investments in the water sector. Additionally, the memorandum specifies strategies for making rapid progress on lead service line replacement and addressing PFAS and other emerging contaminants.

EPA will be working with you and other stakeholders as we move forward with next steps—including hosting national webinars and providing training and technical assistance.

For more information, visit: https://www.epa.gov/infrastructure.

My thanks for your efforts in this area. I am very excited about the results that this investment and our joint efforts can bring about. I look forward to our continued collaboration to make those results a reality.

Jeaneanne

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

March 8, 2022

MEMORANDUM

SUBJECT: Implementation of the Clean Water and Drinking Water State Revolving Fund Provisions of the Bipartisan Infrastructure Law

FROM: Radhika Fox
Assistant Administrator

TO: EPA Regional Water Division Directors
State SRF Program Managers

Overview

President Biden signed the Bipartisan Infrastructure Law on November 15, 2021. The law's investment in the water sector is nothing short of transformational. It includes $50 billion to the U.S. Environmental Protection Agency (EPA) to strengthen the nation's drinking water and wastewater systems – the single largest investment in clean water that the federal government has ever made.

EPA is committed to a productive partnership with states, tribes, and territories to maximize the impact of these funds in addressing urgent water challenges facing communities. The majority of water infrastructure dollars will flow through the Clean Water and Drinking Water State Revolving Funds (SRFs). For decades, the SRFs have been the foundation of water infrastructure investments, providing low-cost financing for local projects across America. EPA, states, tribes, and territories have successfully worked together to steward more than $200 billion in SRF funds since 1988.

This memorandum provides information and guidelines on how EPA will award and administer SRF Capitalization Grants appropriated to the State and Tribal Assistance Grants (STAG) account in the Bipartisan Infrastructure Law (BIL) (P.L. 117-58), also known as the "Infrastructure Investment and Jobs Act of 2021" (IIJA). The information is organized in the following manner:

- **Implementation Memorandum.** This memorandum reviews key priorities for SRF BIL implementation. EPA Regional Water Divisions and Office of Water stand ready to work closely with states, tribes, and territories to collaboratively accomplish these goals.

- **Attachment 1: BIL Funding Implementation.** Attachment 1 provides detailed technical information pertaining to program requirements for the five SRF funds through the BIL: CWSRF General Supplemental Funding, CWSRF Emerging Contaminants Funding, DWSRF General

Supplemental Funding, DWSRF Emerging Contaminants Funding, and DWSRF Lead Service Line Replacement Funding.

- **Attachment 2: CWSRF Base Program Implementation.** Attachment 2 reviews key BIL amendments to the Clean Water Act (CWA), which include new provisions applicable to the base CWSRF programs and, unless otherwise directed, are also applicable to projects funded in whole or in part with funds made available by BIL.

- **Attachment 3: DWSRF Base Program Implementation.** Attachment 3 reviews key BIL amendments to the Safe Drinking Water Act (SDWA), which include new provisions applicable to the base DWSRF programs and, unless otherwise directed, are also applicable to projects funded in whole or in part with BIL funds.

This implementation memorandum is expected to be applicable to all five years of BIL appropriations. EPA will issue procedures during FYs 2023 through 2026 with allotment tables and any other necessary program updates. EPA will also issue, and periodically update, a list of questions and answers.

Key Priorities

Provide Flexibility to Meet Local Water Needs

A fundamental principle of the SRFs – which is reaffirmed in this BIL implementation memorandum – is the flexibility provided to states and borrowers to address a wide variety of local water quality and public health challenges. EPA continues to support and actively encourage flexibility in the implementation of BIL SRF funding. For borrowers, the SRFs remain a flexible source of capital that can be used in combination with additional funding sources to finance water infrastructure projects. With supplemental funding to the CWSRF and DWSRF – and creation of dedicated funding within the SRFs to tackle lead and emerging contaminants – states have a great deal of flexibility in program administration. This implementation memorandum and accompanying technical attachments confirm state flexibilities for the BIL SRF funding, including, but not limited to, the following:

As it relates to program administration and processes, states have the flexibility to:

- Determine priorities and select projects.
- Combine Intended Use Plans (IUPs) and Project Priority Lists (PPLs) for both the BIL and base funding or submit separate IUPs and PPLs for both base and BIL funding.
- Apply for conditional or partial grants.
- Craft single assistance agreements (e.g., loans or grants) that contain multiple types of construction components and activities funded by multiple pots if the funds are tracked separately.
- Design and manage the application process.
- Take administrative funds from each funding stream.
- Transfer funds between programs to address state needs.
- Use recycled funds for any eligible purpose.
- Set interest rates and repayment terms.

As it relates to the additional subsidy, states have the flexibility to:

- Define disadvantaged community and affordability criteria in a manner that is consistent with SDWA and CWA.
- Determine the amount of additional subsidization provided in each assistance agreement.

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As it relates to emerging contaminants, states have the flexibility to:

- Choose projects that are CWSRF eligible whose primary purpose is to address emerging contaminants using a broad definition.
- Select projects that are DWSRF eligible whose primary purpose must be to address emerging contaminants, with a focus on PFAS, using the broad CCL 1-5.

Additionally, the Department of the Treasury has determined that State and Local Financial Recovery Funds under the American Rescue Plan Act available for the provision of government services, up to the amount of the recipient's reduction in revenue due to the public health emergency, may be used to meet the non-federal match requirements of the DWSRF and CWSRF programs. This provides states additional flexibility to meet match requirements included in the BIL. EPA will be providing a fact sheet to state SRF programs to support utilization of this flexibility.

Increase Investment in Disadvantaged Communities

A key priority of BIL is to ensure that disadvantaged communities benefit equitably from this historic investment in water infrastructure. Disadvantaged communities can include those with environmental justice concerns that often include low-income people and communities of color. Disadvantaged communities exist in every state, tribe, and territory and encompass urban, suburban, and rural areas across America. Disadvantaged communities experience, or are at risk of experiencing, disproportionately high exposure to pollution – whether in air, land, or water.

The BIL mandates that 49% of funds provided through the DWSRF General Supplemental Funding and DWSRF Lead Service Line Replacement Funding must be provided as grants and forgivable loans to disadvantaged communities. The BIL also requires that not less than 25% of funds provided through the DWSRF Emerging Contaminants Funding be provided as grants and forgivable loans to disadvantaged communities or public water systems serving fewer than 25,000 people. The SDWA requires states to establish a definition of disadvantaged communities that can receive this additional subsidization.

For the CWSRF, the BIL mandates that 49% of funds provided through the CWSRF General Supplemental Funding must be provided as grants and forgivable loans to the following assistance recipients or project types:

- Municipalities that meet the state's affordability criteria.
- Municipalities that do not meet the state's affordability criteria but seek additional subsidization to benefit individual ratepayers in the residential user rate class.
- Entities that implement a process, material, technique, or technology that addresses water or energy efficiency goals; mitigates stormwater runoff; or encourages sustainable project planning, design, and construction.

Congress, acting in a bipartisan fashion, included these provisions to ensure that disadvantaged communities fully benefit from these historic investments in the water sector. EPA will actively work with states to fully meet Congressional intent. This will include helping states identify communities in need, affirmatively reviewing SRF IUPs, and conducting annual reviews that evaluate progress toward this bipartisan requirement.

EPA will collaborate with state SRF programs to share models, examples, and build state capacity to target resources to disadvantaged communities. In addition to the technical assistance offered by the states to disadvantaged communities, EPA will launch a substantial technical assistance program – in

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close collaboration with states – to provide assistance directly to disadvantaged communities that lack the financial, managerial, and technical capacity to access the SRF program.

Throughout the five years of BIL implementation, EPA expects states to:

- **Evaluate and revise, as needed, the DWSRF disadvantaged community definition and CWSRF affordability criteria.** This definition and these criteria should capture both urban and rural disadvantaged communities and include criteria that are consistent with the appropriate statute. For example, a state definition of "disadvantaged" under the SDWA entirely based on population and without reference to affordability is problematic. The technical guidance in Attachment 1, Appendix E provides further information on disadvantaged community definitions/affordability criteria and EPA oversight of this provision.

- **Evaluate the SRFs' priority point system for project ranking commensurate with need.** Priority points may need to be redistributed to ensure disadvantaged communities are receiving funding. For example, states should evaluate the weight associated with points given for different ranking criteria to determine whether they act as a barrier to, or encourage, funding for disadvantaged communities.

- **Technical assistance funding.** EPA recommends states use the full DWSRF 2% small system technical assistance set-aside and the newly available CWSRF 2% technical assistance funds to enhance or build programs that proactively identify, reach out to, and provide assistance to rural, small, and tribal publicly owned treatment works and drinking water systems, particularly in disadvantaged communities. The programs should be designed to help disadvantaged communities identify needs, develop projects, apply for funding, design and implement projects, build capacity, and create training and career pathways.

- **Engage residents and community stakeholders in disadvantaged communities.** SRFs have successfully funded many projects in small and disadvantaged communities in the past. To continue and deepen this success, it may be necessary to develop relationships with new constituencies to reach disadvantaged communities with technical assistance and funding. EPA encourages states to reach beyond traditional stakeholder organizations and engage neighborhood and other organizations connected to the community to help identify needs, comment on IUPs, and communicate priorities.

Working collaboratively, EPA and SRF programs can make progress towards Justice40, which aims to ensure that federal agencies deliver at least 40% of benefits from certain investments to disadvantaged communities.

Make Rapid Progress on Lead Service Line Replacement

The BIL contains a historic $15 billion in dedicated funding through the DWSRF for lead service line (LSL) identification and replacement. This funding is being provided to states with no match requirement. EPA will collaborate with state SRF programs to share models, guidance, and build state capacity to assist local communities and ensure lead service line funding is effectively and equitably deployed. DWSRF supplemental funding and base funding can be used for LSL identification and replacement.

As states plan for the use of these funds, EPA recommends:

- **Working closely with local water agencies to rapidly complete LSL inventories.** While inventories do not need to be complete before LSL replacement begins, EPA strongly encourages

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states to devote funding and technical assistance to help local water systems develop LSL inventories and undertake replacement planning. Under the Lead and Copper Rule Revisions, all water systems must have initial inventories by October 2024, but EPA urges states to employ technical assistance set-aside funds to help water systems develop inventories more quickly, wherever practicable. Preparing the inventory will allow systems to assess the magnitude of their LSLs, better identify sampling locations, and begin planning for LSL removal actions, including applying for BIL funds.

- **Supporting water agencies in planning for full, not partial, LSL replacement.** Any project funded under this $15 billion appropriation for the replacement of LSLs must replace the entire LSL, not just a portion, unless a portion has already been replaced. States should affirmatively convey this to potential SRF applicants to ensure that they propose projects that fully replace, and pay for, both public and private LSLs. This BIL requirement helps address a long-standing equity challenge – for some Americans, the cost to replace their portion of LSLs is prohibitively high. Americans unable to replace their portion of the LSL remain disproportionately exposed to lead and its harmful impacts.

Address PFAS and Emerging Contaminants

The BIL provides $5 billion through the SRFs to reduce people's exposure to perfluoroalkyl and polyfluoroalkyl substances (PFAS) and other emerging contaminants through their drinking water and to help address discharges through wastewater and, potentially, nonpoint sources. This is a unique opportunity to prioritize investment to local communities that are on the frontlines of PFAS contamination and that have few options to finance solutions through traditional programs. The BIL provides emerging contaminants funding through the SRFs that must be distributed to communities entirely as forgivable loans or grants. States are not required to provide matching funds. This demonstrates an unprecedented commitment from Congress to addressing PFAS water contamination across the nation.

PFAS are not the only emerging contaminants that threaten our water supplies and environment. Water projects that address other emerging contaminants will also be eligible for funding under this program. In Attachment 1, Appendices B and C, EPA has provided a description of emerging contaminants for the SRF programs to use in evaluating project eligibility.

Support Resilience and One Water Innovation

One of the defining features of the SRFs is the broad range of eligible projects that states can fund to flexibly support priority needs. EPA encourages states to utilize the significant increase in SRF funding for infrastructure projects that make water systems more resilient to all threats – whether it is natural disasters, climate change, or threats such as bioterrorism and cyber-attacks.

States are strongly encouraged to fund projects that:

- **Foster resilience to all threats and hazards.** Consistent with Presidential Policy Directive (PPD) 21, critical infrastructure must be secure and resilient to all threats and hazards, both natural and manmade, in an increasingly electrified, digitized, and interconnected society. EPA urges states to use the historic increase in SRF funding to foster water, wastewater, and stormwater system resilience to all hazards, including new and emerging threats like cyber-attacks.

- **Support climate adaptation.** EPA strongly encourages states to support water, wastewater, and stormwater infrastructure projects that apply the best available and most geographically relevant

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climate information, projections, and standards, such as the Federal Flood Risk Management Standard. States should consider how to incorporate climate resilience criteria into their prioritization of SRF funding under the BIL.

- **Drive toward energy efficient and climate smart water systems.** Water and wastewater systems are significant energy users and release potent greenhouse gases, including nitrous oxide and methane. EPA strongly encourages states to utilize BIL funding to support local water and wastewater agencies' efforts to reduce nitrous oxide and methane emissions, incorporate renewable energy generation, and complete other projects that reduce the greenhouse gas footprint of the water industry.

Support American Workers and Renew the Water Workforce

The BIL is not only an opportunity to reinvest in America's water infrastructure, but also an opportunity to invest in the American worker. BIL investments will create jobs in construction, operations, and maintenance, and other family-supporting careers – at a pivotal moment when more than one-third of the water workforce will retire in the next five years. Throughout BIL implementation, EPA is committed to working with states, tribes, and territories – as well as labor organizations, employers, and educators – to renew America's water workforce and create good-paying jobs in communities across America.

As states implement SRF funding, they should:

- Enforce long-standing Davis-Bacon related act prevailing wage requirements across projects that receive CWSRF and DWSRF resources, as required under federal law.

- Encourage pre-apprenticeship, registered apprenticeship, and youth training programs that open pathways to employment.

- Encourage SRF funding recipients to support safe, equitable, and fair labor practices by adopting collective bargaining agreements, local hiring provisions (as applicable), project labor agreements, and community benefits agreements. EPA, in collaboration with the Department of Labor, will provide information and tools to support these efforts.

Cultivate Domestic Manufacturing

Acting in a bipartisan fashion, Congress passed the Build America Buy America (BABA) Act in 2021, concurrently with the BIL. Congress established this domestic preference program to create long-term opportunities for domestic manufacturers and manufacturing jobs and build resilient domestic supply chains for a wide range of products.

For SRF recipients, BABA expands existing American Iron and Steel (AIS) requirements (which EPA has implemented since 2014) to include construction materials and manufactured goods.

The Office of Management and Budget will release program guidance to federal agencies. EPA will then issue implementation procedures for BABA compliance for federal water infrastructure funding programs. EPA recognizes this is a new and complex provision, and we will work closely with states, tribes, and territories on technical assistance and training.

As states deploy BIL SRF funding, programs should:

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- Oversee BABA implementation across state SRF-funded projects, as applicable, and provide detailed information on BABA compliance requirements, flexibilities, and processes to recipients.

- Inform SRF grant and loan recipients of the domestic preference requirements. EPA will work with states to develop and provide information to SRF recipients.

- Collaborate with EPA and industry to incentivize and grow domestic supply chains and U.S. manufacturing capacity for products essential to drinking water, wastewater, and stormwater infrastructure.

- Educate funding recipients about their eligibility for waivers and provide help applying for waivers. EPA will develop appropriate waivers and processes to facilitate a smooth transition to these expanded requirements.

Fully Enforce Civil Rights

Under Title VI of the Civil Rights Act, EPA has a responsibility to ensure that federal funds are not being used to subsidize discrimination based on race, color, or national origin. This prohibition against discrimination under Title VI has been a statutory mandate since 1964, and EPA has had Title VI regulations since 1973. EPA's nondiscrimination regulations prohibit recipients of EPA financial assistance from taking actions in their programs or activities that are intentionally discriminatory and/or have a discriminatory effect based on race, color, national origin (including limited English proficiency), age, disability, or sex. EPA intends to carefully evaluate the implementation of SRF funding under the BIL to ensure compliance with civil rights laws. EPA will provide interested states with technical assistance and training to support their compliance with Title VI obligations.

Refine State SRFs to Build the Pipeline of Projects

EPA encourages states to strategically use new authorities and funds from BIL as a catalyst to continue building and maintaining a robust project pipeline of SRF projects. It is critical that states use all funds– both from BIL and the base SRF programs – in a timely and expeditious manner. At the same time, sustainable projects are necessary to transforming the sector. To help achieve this balance, EPA recommends states use practices already exemplified in some SRF programs:

- **Simplify and streamline the application process.** Burdensome application processes, additional program requirements, or other barriers may discourage program participation from disadvantaged communities. States should take actions that reduce the burden including moving to a digital application process, coordinating applications and requirements across funding programs, and more. States are encouraged to introduce greater flexibility to the application timeline, such as eliminating application deadlines or operating a year-round application cycle with quarterly project ranking.

- **Use set-asides and technical assistance.** Some disadvantaged communities lack the capacity to navigate the SRF application process and manage the project. States should offer and expand pre-development and pre-construction funding to seed project development for small and disadvantaged communities.

- **Encourage integrated, regional approaches.** Regionalization, partnerships, and/or non-physical consolidation may be the best option for some systems. This can be encouraged and

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incentivized through the SRFs. State SRF programs should explore ways to provide funding to communities that agree to connect small systems to their wastewater and drinking water systems. SRF programs should also employ state-led regional education and planning opportunities, giving emphasis to integrated planning as authorized under CWA Section 402(s).

- **Increase internal and external outreach and communications about the SRF programs and the BIL funding.** This could include presentations or other marketing events to municipal and utility officials, targeted outreach to distressed water systems or those with substantial infrastructure needs, workshops and webinars, in-person training programs, training video or digital modules on the application process, and partnering with community groups and philanthropic organizations.

Conclusion

Building on the long and successful history of the SRFs, EPA, state and tribal water programs, and local governments can transform the water sector through this funding. EPA is committed to ensuring all communities have access to drinkable, fishable, and swimmable water – particularly historically disadvantaged communities. EPA is committed to a productive partnership with states, tribes, and territories to maximize the impact of these funds in addressing urgent water challenges facing communities.

Attachments

Attachment 1: BIL Funding Implementation
Guidance on CWSRF General Supplemental Funding, CWSRF Emerging Contaminants Funding, DWSRF General Supplemental Funding, DWSRF Emerging Contaminants Funding and DWSRF Lead Service Line Replacement Funding.

Appendices to Attachment 1

A. Bipartisan Infrastructure Law: Environmental Protection Agency: 2022 State Revolving Fund (SRF) Grants to States, Tribes, and Territories by Program
B. CWSRF Definition of Emerging Contaminants
C. Detailed List of DWSRF Emerging Contaminants Project and Activity Examples
D. Detailed List of DWSRF Lead Service Line Replacement Project and Activity Examples
E. Additional Information to Assist States with Developing a Disadvantaged Community Definition and Affordability Criteria

Attachment 2: Implementation of CWSRF-Related Amendments in the BIL
The BIL amends the CWA to include new provisions applicable to the base CWSRF programs and unless otherwise directed, applicable to projects funded in whole or in part with funds made available by BIL.

Attachment 3: Implementation of DWSRF-Related Amendments in the BIL
The BIL amends the SDWA to include new provisions applicable to the base DWSRF programs and unless otherwise directed, applicable to projects funded in whole or in part with funds made available by BIL.

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Attachment 1:
BIL Funding Implementation

Implementation of CWSRF and DWSRF Funding in the Bipartisan Infrastructure Law (BIL)

This attachment assists states in implementing funding appropriated from the Bipartisan Infrastructure Law (BIL), also known as the Infrastructure Investment and Jobs Act (IIJA) of 2021, (P.L. 117-58), signed by President Biden on November 15, 2021. The following information guides the implementation of five BIL appropriations:

- CWSRF General Supplemental Funding
- CWSRF Emerging Contaminants Funding
- DWSRF General Supplemental Funding
- DWSRF Emerging Contaminants Funding
- DWSRF Lead Service Line Replacement Funding

I. BACKGROUND

The BIL appropriates more than $43 billion to be administered through the existing CWSRF and DWSRF programs from fiscal years (FYs) 2022 through 2026. There are two appropriations per year for the CWSRF and three appropriations per year for the DWSRF. Table 1 below shows a summary of the five distinct appropriations and annual appropriation amounts. Per statute, EPA will use the existing SRF allotment formulas[1] for all BIL SRF appropriations. For the DWSRF, the allotment formula will change upon release of new data derived from the Seventh Drinking Water Needs Survey and Assessment (DWINSA). Allotment tables for FY 2022 are included in Appendix A.

Funds will remain available for obligation to states for the fiscal year in which they are appropriated and the following fiscal year, per the Clean Water Act (CWA) and Safe Drinking Water Act (SDWA).[2] For example, EPA will make the FY 2022 funds available for obligation to states during FY 2022 and FY 2023. EPA strongly encourages states to apply in the first fiscal year of availability. States must make commitments (i.e., they must sign assistance agreements, such as loans, with eligible recipients) within one year after the receipt of each capitalization grant payment from EPA.[3] Once EPA obligates the capitalization grants to the states, the funds will be available to states pursuant to grant regulations.

States administer the funds through the existing SRF programs. SRF requirements and procedures apply to these new funds. The partnership between the federal government and states is key to addressing our significant water infrastructure challenges. A central tenant of this partnership is the flexibility provided to states that allow for funding to be used to address each state's unique needs. General information on the SRF programs can be found at: https://www.epa.gov/cwsrf and https://www.epa.gov/dwsrf.

[1] 33 U.S.C. §1384(c) and 42 U.S.C. 300j-12 (a)(1)(E)
[2] 33 U.S.C. §1384(c)(2) and 42 U.S.C. 300j-12 (a)(1)(E)
[3] 40 CFR § 35.3135(c) and §35.3550(e)

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Local drinking water and wastewater systems (and other eligible assistance recipients) apply for BIL SRF funding directly through their state CWSRF and DWSRF programs. Local leaders should direct questions about applications and state program eligibilities to their state SRF managers.

Table 1. Summary of BIL Appropriations (FY 2022 through FY 2026)						
Appropriation	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**Five Year Total**
CWSRF General Supplemental	$1,902,000,000	$2,202,000,000	$2,403,000,000	$2,603,000,000	$2,603,000,000	**$11,713,000,000**
CWSRF Emerging Contaminants	$100,000,000	$225,000,000	$225,000,000	$225,000,000	$225,000,000	**$1,000,000,000**
DWSRF General Supplemental	$1,902,000,000	$2,202,000,000	$2,403,000,000	$2,603,000,000	$2,603,000,000	**$11,713,000,000**
DWSRF Emerging Contaminants	$800,000,000	$800,000,000	$800,000,000	$800,000,000	$800,000,000	**$4,000,000,000**
DWSRF Lead Service Line Replacement	$3,000,000,000	$3,000,000,000	$3,000,000,000	$3,000,000,000	$3,000,000,000	**$15,000,000,000**

II. APPLICATION REQUIREMENTS FOR BIL CAPITALIZATION GRANT FUNDS

EPA recommends that states submit grant applications to EPA as soon as possible. States have the flexibility to combine Intended Use Plans (IUPs) and Project Priority Lists (PPLs) for both the BIL and base funding or submit separate IUPs and PPLs for both base and BIL funding. If combined, states must construct the IUPs and PPLs to ensure that EPA and the public can clearly identify BIL- and base-eligible projects, including identifying additional subsidization and funding amounts. The IUPs and PPLs must meet existing SRF requirements. Because of the BIL's appropriations for particular purposes, and to be consistent with existing grants regulations and reporting requirements, states must submit separate grant applications for each BIL appropriation, and separately from "base" SRF capitalization grant applications in grants.gov.

To receive BIL funding, states must submit the following documents to EPA:

A. INTENDED USE PLANS

Section 606(c) of the CWA and section 1452(b) of the SDWA require the states to prepare a plan identifying the intended uses of the funds in the SRF and describing how those uses support the goals of the SRF. An IUP, meeting all requirements of Title VI of the CWA and regulations, or section 1452 of the SDWA and regulations, will be required for EPA's approval of a grant award and release of awarded funds. Public engagement is strongly encouraged during the state's solicitation stage to ensure an abundance of diverse applicants as the IUP is being developed. EPA will review IUPs to ensure consistency between the state's DWSRF disadvantaged community definition or CWSRF affordability criteria and the statutory requirements.

1. List of Projects: States have flexibility to fund a wide variety of projects. Under CWA §606(c)(1), the IUP must include a list of publicly owned treatment works projects on the state's Project Priority List (PPL), developed pursuant to section 216 of the CWA, that are eligible for

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SRF construction assistance. This list must include: the name of the community; permit number or other applicable enforceable requirement, if available; the type of financial assistance; and the projected amount of eligible assistance. The IUP must also contain a list of the activities eligible under section 603(c) of the CWA, including the nonpoint source and national estuary protection activities that the state expects to fund from its SRF. The fundable list must contain eligible projects for which the total cost of assistance requested is at least equal to the amount of the grant(s) being applied for. States should make every effort to identify projects for all available SRF funds (i.e., capitalization grants, recycled funds, interest earnings, etc.) to ensure previously appropriated dollars revolve.

Under SDWA, states retain similar funding flexibility. SDWA §1452(b)(3)(B), requires state IUPs to include a list of projects that are eligible for assistance under section 1452 and are to be assisted pursuant to the plan (i.e., a PPL). This list must include: the name of the public water system, a description of the project, the priority assigned to the project, the expected terms of financial assistance, and the size of the community served. The IUP must contain a fundable list of projects for which the total cost of assistance requested is at least equal to the amount of the grant being applied for. States should make every effort to identify projects for all available SRF funds (i.e., capitalization grants, recycled funds, interest earnings, etc.) to ensure previously appropriated dollars revolve. The IUP must also contain a comprehensive list of projects that may receive DWSRF assistance in the future. A state may combine the fundable and comprehensive lists into one list, provided that projects which are expected to receive assistance from available funds designated for use in the current IUP are identified.

2. Priority Setting: The IUP must include a priority system for ranking individual projects for funding that provides sufficient detail for the public and EPA to readily understand the criteria used for ranking. The priority for the use of funds should address water quality, the most serious risks to public health, ensure compliance, and assist systems most in need based on the state's affordability criteria and disadvantaged community definition. States should review their SRF priority setting system to ensure they adequately address these priorities.

3. Explanation About Administrative Funds: The maximum *annual* amount of CWSRF and DWSRF money (not including any fees collected that are placed in the fund) that may be used to cover the reasonable costs of administering the fund (i.e., all BIL and base appropriations) is the greatest of the following: an amount equal to 4% of all grant awards to the fund received by a state CWSRF (less any amounts that have been used in previous years to cover administrative expenses) or DWSRF for the fiscal year; $400,000; or 1/5 percent of the current valuation of the fund. The BIL did not alter these options or the calculation of available administrative funds and verification procedures already in place.

4. CWSRF 2% Technical Assistance: BIL includes the following provision:

> *(k) Additional Use of Funds.--A State may use an additional 2 percent of the funds annually awarded to each State under this title for nonprofit organizations (as defined in section 104(w)) or State, regional, interstate, or municipal entities to provide technical assistance to rural, small, and tribal publicly owned treatment works (within the meaning of section 104(b)(8)(B)) in the State.*

States have the flexibility to use up to an amount equal to 2% of their annual CWSRF capitalization grant for the purpose of hiring staff, nonprofit organizations, or regional, interstate,

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or municipal entities to assist rural, small, and tribal publicly owned treatment works. The form of that assistance is flexible and could include, but is not limited to, community outreach, technical evaluation of wastewater solutions, preparation of applications, preliminary engineering reports, and financial documents necessary for receiving SRF assistance. This provision applies to the base program, the BIL CWSRF General Supplemental fund, and the BIL CWSRF Emerging Contaminants fund.

The maximum amount of CWSRF money that may be used to provide technical assistance consistent with section 603(k) of the CWA is an amount equal to 2% of all grant awards received by a state CWSRF after November 15, 2021. If a state does not utilize the full amount of the technical assistance funds allowed under a capitalization grant, they may reserve the right to utilize the unused portion at a later date.

States must include in the IUP the amount of the technical assistance funds they plan to use and a description of the activities they plan to fund. In the Annual Report and the SRF Reporting System, states must provide a detailed accounting of the use of the funds. EPA encourages states to maximize the use of the 2% technical assistance funds to identify and conduct proactive outreach to, and facilitate applications from, disadvantaged communities previously unable to begin or complete SRF funding requirements.

5. Public Review and Comment: The IUP must contain a statement of how the state met the requirement of CWA section 605 or SDWA section 1452(b)(1) for meaningful public review and comment on the preparation of the IUP. When seeking public review, states should include a diverse set of potential interested parties, including community groups, neighborhood associations, environmental organizations, environmental justice organizations, and public health groups, that represent a broad spectrum of community interests and extend beyond those on existing mailing lists and traditional participants in the SRF process. In addition, states should strive to achieve the following objectives when seeking public review: (1) assure that the public has the opportunity to understand official programs and proposed actions, and that the state fully considers the public's concerns; (2) assure that the state does not make any significant decision on any SRF activity without consulting interested and affected segments of the public; (3) assure that the state action is as responsive as possible to public concerns; (4) encourage public involvement in implementing the SRFs; (5) keep the public informed about significant issues and proposed project or program changes as they arise; (6) foster a spirit of openness and mutual trust between the state and the public; and (7) use all feasible means to create opportunities for public participation, and to stimulate and support public participation. States should make a particular effort to identify and engage organizations that work in disadvantaged communities. EPA will review IUPs with particular focus on whether the state has meaningfully engaged an inclusive spectrum of community interests.

6. Draft IUPs for Purposes of Conditional Grants: States may need additional time to complete public review or approval of an IUP by boards or state governments and have the flexibility to request conditional grants to facilitate expeditious use of funds upon final public review and/or approval. To receive a conditional grant, a draft IUP must be ready for public review and/or consideration by state government bodies and include the information shown above. Conditional awards will contain a grant condition stating that funds may not be drawn until an IUP has completed the review process. States must submit an IUP that has completed the public review process and satisfied the term and condition of the grant before funds may be drawn. This option provides additional flexibility to states to accelerate the grants process.

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7. IUPs for Purposes of Partial Grants: States that have not identified projects in an amount equal to the funds they are eligible to receive under each BIL appropriation have the flexibility to apply for a partial award. The IUP for a partial award must include the information shown above. EPA will only make a partial award for an amount equal to the total cost of the project list. An amended IUP including projects in an amount equal to the remaining funds available to the state under BIL must be submitted by the state to EPA before the grant is amended to award the remaining funds. This includes a revised grant application package through grants.gov. Certain requirements (e.g., additional subsidization and green project reserve) are calculated based on a percentage of the capitalization grant *awarded*. Per statute, states may not apply exclusively for the set-asides or the additional subsidization portion of the capitalization grant.

B. OTHER APPLICATION COMPONENTS

1. SF-424 Application for Federal Assistance, with original signature, including:
    a. SF-424A, Budget by categories and indirect cost rate.
    b. SF-424B, Assurances for non-construction programs.
2. Certification regarding lobbying and SF LLL (applicable if EPA funds are over $100,000).
3. EPA Form 4700-4 pre-award compliance review report.
4. Detailed itemized budget.
5. Copy of negotiated indirect cost rate agreement.
6. Key contacts form.
7. Attorney General's opinion, as required by 40 CFR §35.3110(d)(2), and 40 CFR §35.3545(d).
8. If applicable, workplans for DWSRF set-asides.

III. SUMMARY OF BIL PROVISIONS

The BIL amends the CWA and SDWA to include several new provisions that apply to both base SRF programs as well as projects funded in whole or in part with funds made available by the BIL. The BIL also includes several provisions specific to projects funded in whole or in part with BIL. These provisions are described below.

All provisions promulgated through statute, guidance, or regulations issued by EPA for the implementation of the CWSRF and DWSRF programs will remain in effect (e.g., American Iron and Steel and Davis-Bacon related prevailing wage requirements) unless they are inconsistent with the BIL, capitalization grant conditions, or the requirements contained in this document. The BIL supplemental appropriations are federal funds and therefore all equivalency requirements apply to projects funded by BIL.

A. CWSRF GENERAL SUPPLEMENTAL PROVISIONS

1. Eligible Use of Funds: All CWSRF-eligible projects and activities may be funded from this appropriation.

2. Match: BIL contains the following provision:

> *"Provided further, That for the funds provided under this paragraph in this Act in fiscal year 2022 and fiscal year 2023, the State shall deposit in the State loan fund from State moneys an amount equal to at least 10 percent of the total amount of the grant to be made to the State, notwithstanding sections 602(b)(2), 602(b)(3) or 202 of the Federal Water Pollution Control Act"*

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This language reduces the state match requirement to 10% of the total amount of the capitalization grant in fiscal years 2022 and 2023. The match requirement returns to 20% of the capitalization grant in fiscal year 2024 and thereafter.

3. <u>Additional Subsidization</u>: BIL contains the following provision:

> *Provided further, That for the funds made available under this paragraph in this Act, forty-nine percent of the funds made available to each State for Clean Water State Revolving Fund capitalization grants shall be used by the State to provide subsidy to eligible recipients in the form of assistance agreements with 100 percent forgiveness of principal or grants (or any combination of these), notwithstanding section 603(i)(3)(B) of the Federal Water Pollution Control Act (33 U.S.C. 1383):*

This language requires states to provide 49% of the capitalization grant amount as additional subsidization in the form of principal forgiveness or grants.

Additional subsidization must be provided to eligible CWSRF assistance recipients or project types as described in section 603(i) of the CWA:

- to benefit a municipality that meets the state's affordability criteria as established under the CWA section 603(i)(2);
- to benefit a municipality that does not meet the state's affordability criteria but seeks additional subsidization to benefit individual ratepayers in the residential user rate class; or
- to any eligible recipient to implement a process, material, technique, or technology that addresses water or energy efficiency goals; mitigates stormwater runoff; or encourages sustainable project planning, design, and construction.

<u>State Affordability Criteria</u>
Section 603(i)(2) of the CWA specifically requires states to develop affordability criteria for distribution of additional subsidization based on income, unemployment data, population trends, and other data determined relevant by the state. The IUP must include the state's criteria for providing additional subsidy.[4] The BIL explicitly seeks to ensure that disadvantaged communities have access to funds to improve their wastewater infrastructure to protect public health and improve water quality. Given the level of funding under BIL, the state should review its definition to ensure that it is sufficient to address affordability issues that impact the goals of the Clean Water Act within the state.

Within the CWA statutory framework, EPA expects states will review, refine, and improve their CWSRF affordability definitions and priority point systems to ensure that additional subsidy is provided to disadvantaged communities to the maximum extent possible. EPA recognizes some communities will require assistance in meeting requirements to receive SRF funds and expects states to use the 2% technical assistance funds noted above to attract disadvantaged communities including those previously unable to complete SRF funding requirements. EPA encourages state SRF programs to identify and proactively reach out to disadvantaged communities that have wastewater needs but are not yet on a state PPL. EPA also expects states to offer benefits to

[4] 40 CFR § 35.3150

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disadvantaged communities in addition to additional subsidization, including lower interest rates and extended loan terms.

Allocating Additional Subsidy
States must include in the IUP, the amount and type of additional subsidy that is available under each appropriation, the projects that will receive this subsidy, and the respective amounts. The BIL explicitly seeks to ensure that disadvantaged communities receive funds to improve their water and wastewater infrastructure. Although the CWA does not require states to provide additional subsidization only to communities that meet the state's affordability criteria, states are strongly encouraged to use these funds for communities or subsets of communities that are most in need and use the 2% technical assistance funds to provide support necessary to ensure these communities receive needed funding.

Additional information on the management of the additional subsidization can be found in Section IV.B. of this guidance.

B. CWSRF EMERGING CONTAMINANTS PROVISIONS

1. **Eligible Use of Funds:** BIL contains the following provision:

> *"Provided further, That funds provided under this paragraph in this Act shall be for eligible uses under section 603(c) of the Federal Water Pollution Control Act that address emerging contaminants"*

Emerging contaminants refer to substances and microorganisms, including manufactured or naturally occurring physical, chemical, biological, radiological, or nuclear materials, which are known or anticipated in the environment, that may pose newly identified or re-emerging risks to human health, aquatic life, or the environment. These substances, microorganisms, or materials can include many different types of natural or manufactured chemicals and substances – such as those in some compounds of personal care products, pharmaceuticals, industrial chemicals, pesticides, and microplastics. A description of emerging contaminants for the purposes of CWSRF financing can be found in Appendix B.

For a project or activity to be eligible under this appropriation, it must be otherwise eligible under section 603(c) of the CWA and the primary purpose must be to address emerging contaminants. States may utilize an amount up to 2% of this appropriation to provide technical assistance to small, rural, and tribal publicly-owned treatment works. The technical assistance funds must be used in a manner that meets the statutory purpose of this appropriation ("to address emerging contaminants").

States have the flexibility to craft single assistance agreements (e.g., loans or grants) that contain multiple types of construction components and activities. Given the narrower eligibilities under this appropriation, states must be careful to only charge eligible project components to this appropriation. For a project component to be eligible to receive funds under this appropriation, the primary purpose of that component must be to address emerging contaminants.

2. **Match:** BIL contains the following provision:

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"Provided further, That funds provided under this paragraph in this Act shall not be subject to the matching or cost share requirements of sections 602(b)(2), 602(b)(3), or 202 of the Federal Water Pollution Control Act"

This language waives the requirement of Title VI of the CWA to provide state match for the CWSRF Emerging Contaminants capitalization grant.

3. **Additional Subsidization:** BIL contains the following provision:

"Provided further, That funds provided under this paragraph in this Act deposited into the state revolving fund shall be provided to eligible recipients as assistance agreements with 100 percent principal forgiveness or as grants (or a combination of these)"

This language requires states to provide 100% of the capitalization grant amount as additional subsidization in the form of principal forgiveness and/or grants. Additional subsidization may be provided to any eligible CWSRF assistance recipient for any project eligible under section 603(c) of the CWA that addresses emerging contaminants. EPA expects states to review, refine, and improve their CWSRF affordability criteria and priority point systems to ensure that additional subsidy is provided to disadvantaged communities. EPA encourages states to prioritize communities that meet the state's affordability criteria or communities that do not meet the state's affordability criteria but seek additional subsidization to benefit individual ratepayers in the residential user rate class in providing additional subsidy, and to use the 2% technical assistance funds to provide the support necessary to ensure these communities receive needed funding.

Additional information on the management of additional subsidization can be found in Section IV.B. of this memorandum.

C. DWSRF GENERAL SUPPLEMENTAL PROVISIONS

1. **Eligible Use of Funds:** All DWSRF-eligible projects and set-aside activities may be funded from this appropriation.

Any project funded under this appropriation involving the replacement of a lead service line must replace the entire lead service line, not just a portion, unless a portion has already been replaced or is concurrently being replaced with another funding source. To address household affordability concerns, we encourage states to fund the private portion of service line replacements at no additional cost to the homeowner.

2. **Match:** BIL contains the following provision:

"Provided further, That for the funds provided under this paragraph in this Act in fiscal year 2022 and fiscal year 2023, the State shall deposit in the State loan fund from State moneys an amount equal to at least 10 percent of the total amount of the grant to be made to the State, notwithstanding section 1452(e) of the Safe Drinking Water Act"

This language reduces the state match to 10% of the total amount of the capitalization grant in fiscal years 2022 and 2023. The match requirement returns to 20% of the capitalization grant in fiscal year 2024 and thereafter.

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3. **Additional Subsidization:** BIL contains the following provision:

> *"Provided further, That for the funds made available under this paragraph in this Act, forty-nine percent of the funds made available to each State for Drinking Water State Revolving Fund capitalization grants shall be used by the State to provide subsidy to eligible recipients in the form of assistance agreements with 100 percent forgiveness of principal or grants (or any combination of these), notwithstanding section 1452(d)(2) of the Safe Drinking Water Act (42 U.S.C. 300j-12)"*

This language requires states to provide 49% of the capitalization grant amount as additional subsidization in the form of principal forgiveness and/or grants. States must provide additional subsidization to water systems that meet the state's disadvantaged community criteria as described in section 1452(d) of the SDWA. That SDWA subsection defines a "disadvantaged community" as:

> *"...the service area of a public water system that meets affordability criteria established after public review and comment by the State in which the public water system is located."*[5]

Pursuant to 40 CFR § 35.3555, the IUP must describe how a state's disadvantaged community program will operate including the state's definition of a disadvantaged community, a description of affordability criteria used to determine the amount of disadvantaged assistance, the amount and type of loan subsidies that may be made available to disadvantaged communities, and an identification of projects that will receive disadvantaged assistance and the respective amounts.

Given the level of funding under BIL, states should review the current disadvantaged community definition to ensure that it is sufficient to address public health and affordability issues within the state. The BIL explicitly seeks to ensure disadvantaged communities have access to funds to improve their water infrastructure to protect public health. EPA expects states to review, refine, and improve their DWSRF disadvantaged community definitions and priority point systems to ensure that additional subsidy is provided to disadvantaged communities. EPA recognizes that some communities will require assistance to meet requirements to receive SRF funds and expects states to use set-aside funds to attract and assist disadvantaged communities previously unable to complete SRF funding requirements. EPA encourages state SRF programs to identify and proactively communicate with water systems with health-based violations and significant deficiencies but are not yet on a state PPL. EPA also expects states to offer benefits to disadvantaged communities beyond additional subsidization, as needed, including lower interest rates and extended loan terms.

Additional information on the management of the additional subsidization can be found in Section IV.B. of this guidance.

D. DWSRF EMERGING CONTAMINANTS PROVISIONS

1. **Eligible Use of Funds:** BIL contains the following provision:

> *"Provided further, That funds provided under this paragraph in this Act shall be to address emerging contaminants in drinking water with a focus on perfluoroalkyl and*

[5] 42 U.S.C. 300j-12 (d)(3)

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polyfluoroalkyl substances through capitalization grants under section 1452(t) of the Safe Drinking Water Act for the purposes described in section 1452(a)(2)(G) of such Act"

For a project or activity to be eligible for funding under this appropriation, it must be otherwise DWSRF eligible and the primary purpose must be to address emerging contaminants in drinking water. Given the clear Congressional intent that these funds focus on projects addressing perfluoroalkyl and polyfluoroalkyl substances (hereinafter PFAS), EPA expects states to actively solicit and prioritize PFAS-focused projects. States, however, have the flexibility to fund projects for any contaminant in any of EPA's Contaminant Candidate Lists. For example, EPA also encourages states to consider using these funds to address perchlorate as well as contaminants that have higher levels of occurrence or health concerns.

If EPA has promulgated a National Primary Drinking Water Regulation (NPDWR) for a contaminant, then a project whose primary purpose is to address that contaminant is not eligible for funding under this appropriation, with the PFAS exception explained below. For example, a project for which the primary purpose is to address arsenic or nitrate in drinking water is not eligible because arsenic and nitrate are regulated under the NPDWRs. It should be noted that these projects may be eligible for funding under the DWSRF Base or General Supplemental appropriations.

EPA expects to establish a NPDWR for PFOA and PFOS. The Agency is also evaluating additional PFAS and groups of PFAS. Given stated Congressional intent of this appropriation, PFAS-focused projects will be eligible for funding under this appropriation regardless of whether EPA has established a NPDWR for that particular PFAS or group of PFAS. More information on PFAS is located here: https://www.epa.gov/pfas.

Congress has established multiple set-asides under the DWSRF. States have the flexibility to take set-asides from this appropriation. Set-asides must be used to either administer this capitalization grant or meet the statutory purpose of these funds: "to address emerging contaminants in drinking water with a focus on perfluoroalkyl and polyfluoroalkyl substances."

Appendix C contains examples of projects and activities eligible for funding under this DWSRF appropriation.

EPA recommends that states coordinate with other funding programs, such as the Assistance for Small and Disadvantaged Communities Grant program, SDWA 1459A, that also received BIL funding specifically to address emerging contaminants in drinking water.

States have the flexibility to craft single assistance agreements (e.g., loans or grants) that contain multiple types of construction components and activities. Given the narrower eligibilities under this appropriation, states must be careful to only charge eligible project components to this appropriation. For a project component to be eligible to receive funds under this appropriation, the primary purpose of that component must be to address emerging contaminants. For example, if an assistance agreement includes the construction of both an activated carbon treatment facility (whose primary purpose is to treat PFAS) *and* the replacement of water mains (whose primary purpose is to replace failing pipes as part of the water system's capital improvement plan), only the activated carbon treatment facility may be charged to this capitalization grant.

2. **Match:** BIL contains the following provision:

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"Provided further, That funds provided under this paragraph in this Act shall not be subject to the matching or cost share requirements of section 1452(e) of the Safe Drinking Water Act"

This language waives the requirement of section 1452(e) of the SDWA to provide state match for the emerging contaminants capitalization grant.

3. **Additional Subsidization:** BIL contains the following provision:

"Provided further, That funds provided under this paragraph in this Act deposited into the State revolving fund shall be provided to eligible recipients as loans with 100 percent principal forgiveness or as grants (or a combination of these)"

This language requires states to provide 100% of the capitalization grant amount, net of set-asides taken, as additional subsidization in the form of principal forgiveness and/or grants. Per SDWA, states must direct at least 25% of these funds to disadvantaged communities (as defined by the state under SDWA 1452(d)) or public water systems serving fewer than 25,000 persons.[6] EPA encourages states to offer benefits to disadvantaged communities in addition to grants and/or principal forgiveness including lower interest rates and extended loan terms.

Pursuant to 40 CFR § 35.3555, the IUP must describe how a state's disadvantaged community program will operate including the state's definition of a disadvantaged community, a description of affordability criteria used to determine the amount of disadvantaged assistance, the amount and type of loan subsidies that may be made available to disadvantaged communities, and an identification of projects that will receive disadvantaged assistance and the respective amounts.

Given the level of funding under BIL, this is an opportunity for the state to review its disadvantaged community definition to ensure that it is sufficient to address public health and affordability issues within the state as well as be broad enough to accommodate this increased SRF funding. The BIL explicitly seeks to ensure that disadvantaged communities have access to funds to improve their water infrastructure to address public health concerns. EPA encourages states to identify potential opportunities to refine and improve their DWSRF disadvantaged community definitions and priority point systems to ensure additional subsidy is provided to disadvantaged communities and communities with affordability concerns to the maximum extent possible.

Additional information on the management of the additional subsidization can be found in Section IV.B. of this guidance.

E. DWSRF LEAD SERVICE LINE REPLACEMENT PROVISIONS

1. **Eligible Use of Funds:** BIL contains the following provision:

"Provided further, That the funds provided under this paragraph in this Act shall be for lead service line replacement projects and associated activities directly connected to the identification, planning, design, and replacement of lead service lines"

[6] 42 U.S.C. 300j-12 (a)(2)(G)(ii)(I)

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For a project or activity to be eligible for funding under this appropriation, it must be otherwise DWSRF eligible and be a lead service line replacement (LSLR) project or associated activity *directly connected* to the identification, planning, design, and replacement of lead service lines. Any project funded under this appropriation involving the replacement of a lead service line must replace the entire lead service line, not just a portion, unless a portion has already been replaced or is concurrently being replaced with another funding source. To address household affordability concerns and to minimize adverse public health effects, we encourage states to fund the private portion of service line replacements at no additional cost to the homeowner.

To define a "lead service line" for the purpose of this appropriation, EPA will use an amended version of the Lead and Copper Rule Revisions' regulatory definition, which is,

> *"...a service line made of lead, which connects the water main to the building inlet. A lead service line may be owned by the water system, owned by the property owner, or both. For the purposes of this subpart, a galvanized service line is considered a lead service line if it ever was or is currently downstream of any lead service line or service line of unknown material. If the only lead piping serving the home or building is a lead gooseneck, pigtail, or connector, and it is not a galvanized service line that is considered an LSL the service line is not a lead service line."*

EPA has expanded the eligible uses beyond the definition above to also include the replacement of lead goosenecks, pigtails, and connectors as eligible expenses, whether standalone or connected to a lead service line.

Appendix D contains examples of eligible projects and activities under this appropriation. Corrosion control studies, corrosion control infrastructure, and water meters are not eligible under this appropriation, but are eligible under the DWSRF base program and BIL General Supplemental. Consistent with the base DWSRF program, funding for bottled water and premise plumbing are not eligible under this appropriation. Temporary pitcher filters or point-of-use (POU) devices certified by an American National Standards Institute accredited certifier to reduce lead during or for a short time period after LSLR projects are eligible.

Congress has established multiple set-asides under the DWSRF. States have the flexibility to take set-asides from this appropriation. Set-asides must be used to either administer this capitalization grant or meet the statutory purpose of these funds: "for lead service line replacement projects and associated activities directly connected to the identification, planning, design, and replacement of lead service lines."

Under the DWSRF program, states have the flexibility to craft single assistance agreements (e.g., loans or grants) that contain multiple types of construction components and activities. Given the narrower eligibilities under this appropriation, states must be careful to only charge eligible project components consistent with the purpose of this appropriation. For example, if an assistance agreement includes the replacement of lead service lines and the replacement of water mains, only the LSLR and associated components may be charged to this capitalization grant.

2. **Match:** BIL contains the following provision:

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"Provided further, That the funds provided under this paragraph in this Act shall not be subject to the matching or cost share requirements of section 1452(e) of the Safe Drinking Water Act"

This language waives the requirement of section 1452(e) of the SDWA to provide state match for the lead service line capitalization grant.

3. **Additional Subsidization:** BIL contains the following provision:

"Provided further, That for the funds made available under this paragraph in this Act, forty-nine percent of the funds made available to each State for Drinking Water State Revolving Fund capitalization grants shall be used by the State to provide subsidy to eligible recipients in the form of assistance agreements with 100 percent forgiveness of principal or grants (or any combination of these), notwithstanding section 1452(d)(2) of the Safe Drinking Water Act (42 U.S.C. 300j-12)"

This language requires states to provide 49% of the capitalization grant amount as additional subsidization in the form of principal forgiveness and/or grants. States must provide additional subsidization to water systems that meet the state's disadvantaged community criteria as described in section 1452(d) of SDWA. That SDWA subsection defines a "disadvantaged community" as:

"...the service area of a public water system that meets affordability criteria established after public review and comment by the State in which the public water system is located."[7]

Pursuant to 40 CFR § 35.3555, the IUP must describe how a state's disadvantaged community program will operate including the state's definition of a disadvantaged community, a description of affordability criteria used to determine the amount of disadvantaged assistance, the amount and type of loan subsidies that may be made available to disadvantaged communities, and an identification of projects that will receive disadvantaged assistance and the respective amounts.

Given the level of funding under BIL, the state should review its disadvantaged community definition to ensure that it is sufficient to address public health and affordability issues within the state. The BIL explicitly seeks to ensure that disadvantaged communities have access to funds to improve their water infrastructure. EPA expects states to review, refine, and improve their DWSRF disadvantaged community definitions and priority point systems to ensure that additional subsidy is provided to disadvantaged communities. EPA recognizes that some communities will need assistance to meet requirements to receive SRF funds and expects states to use set-aside funds to support disadvantaged communities previously unable to complete SRF funding requirements. EPA encourages state SRF programs to identify and proactively reach out to disadvantaged communities that could benefit from this funding but are not yet on a state PPL. EPA also expects states to offer benefits to disadvantaged communities beyond additional subsidization, including lower interest rates and extended loan terms.

Additional information on the management of the additional subsidization can be found in Section IV.B. of this guidance.

[7] 42 U.S.C. 300j-12 (d)(3)

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F. OTHER APPLICABLE PROVISIONS

1. Equivalency: BIL supplemental appropriations are federal funds and therefore all equivalency requirements apply to projects funded by each BIL capitalization grant. Projects funded through the base SRF programs cannot be used to meet the equivalency requirements of the BIL capitalization grants. Each BIL capitalization grant must meet the equivalency requirements separately.

2. Build America, Buy America Act: BIL creates the Build America, Buy America (BABA) Act domestic sourcing requirements for Federal financial assistance programs for infrastructure, including the SRF programs.[8] For more specific information on BABA implementation, please refer to the Office of Management and Budget's Build America, Buy America Act Implementation Guidance. EPA will issue a separate memorandum for BABA after the United States Office of Management and Budget (OMB) publishes its guidance. The American Iron and Steel provisions of both the CWSRF and DWSRF continue to apply.

3. Reporting: Transparency and consistency is of the utmost importance to ensure that the funds are being used effectively and efficiently. States must use EPA's SRF Data System to report key BIL project characteristics and milestone information no less than quarterly. Additional reporting will be required through the terms and conditions of the grant award.

The Federal Funding Accountability and Transparency Act (FFATA) of 2010 requires SRF programs to report on recipients that received federal dollars in the FFATA Subaward Reporting System (www.fsrs.gov). FFATA reporting must exactly equal the capitalization grant amount.

4. Blending Funds and Cash Draws: States have the flexibility to craft single assistance agreements (e.g., loans) that contain multiple types of construction components and activities. These assistance agreements may commit funds from multiple BIL capitalization grants and base program funds. Upon disbursement of funds, these assistance agreements may draw from both BIL and base SRF capitalization grants for eligible project components. For example, state DWSRF programs may sign a single loan with a community water system for a project to replace lead service lines *and* replace water mains. In that example, the state may draw funds from the BIL DWSRF LSLR appropriation for the eligible LSLR project components and the 2022 DWSRF base appropriation for the water main components.

BIL and base funds must be separately managed and tracked for accounting purposes. States are encouraged to draw BIL funds first when projects are funded with both BIL and base funds.

5. Green Project Reserve: If provided for in the annual appropriation, the green project reserve (GPR) is applicable to the BIL capitalization grants for the corresponding fiscal year.

6. Inter-SRF Transfers: Per SRF statute and regulation, states have the flexibility to transfer funds between the CWSRF and DWSRF.[9] Given BIL's requirements, authorities, and narrower SRF eligibilities, states may only transfer funds between the specific BIL appropriations in the equivalent CWSRF or DWSRF program. In other words, states may only transfer funds between the CWSRF and DWSRF General BIL capitalization grants and between the CWSRF and

[8] BIL §70901
[9] 42 U.S.C. 300j- 12 note and 40 CFR § 35.3530(c)

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DWSRF BIL Emerging Contaminants capitalization grants. Because there is no similar CWSRF appropriation to the DWSRF BIL LSLR appropriation, no funds may be transferred from or to the DWSRF BIL LSLR appropriation. States may not transfer BIL appropriations to or from base appropriations.

Transfers do not impact the state match calculation, the set-asides calculations in the DWSRF, or the administration and 2% technical assistance calculations in the CWSRF. Those calculations are based upon the original capitalization grant allotment amounts for each SRF.

All BIL supplemental funds are federal capitalization grant funds. Therefore, transferred funds carry the same requirements from the transferring SRF with respect to additional subsidization and GPR. For example, if a state's original BIL General allotments are $60M for DWSRF and $30M for CWSRF and the state chooses to transfer $10M from the DWSRF grant to the CWSRF grant, then the post-transfer capitalization grants will be $50M for DWSRF and $40M for CWSRF and the state must calculate the additional subsidy requirement using those *post*-transfer amounts.

States also have the flexibility to reserve *authority* for BIL inter-SRF transfers and use that authority in later years from subsequent BIL appropriations.[10] Funds may be transferred between the CWSRF and DWSRF on a net basis, as long as the statutory 33% ceiling is not breached. Transfers of BIL CWSRF and DWSRF Emerging Contaminants Supplemental funds are calculated based on BIL DWSRF Emerging Contaminants Supplemental allotments.

For details on inter-SRF transfers, see the SRF Transfer Policy.

7. Reservation of DWSRF Set-Aside Authority: Consistent with the DWSRF regulations, states have the flexibility to reserve the *authority* (under the 2%, 4%, and 10% set-asides) to take from future capitalization grants those set-aside funds they have not included in workplans.[11] However, given the narrower eligibilities under the BIL Emerging Contaminants and LSLR appropriations, future use of authority reserved under those BIL capitalization grants will be limited to eligible uses under those grants. For example, reserved authority for LSLR set-asides can only be used in the future for BIL LSLR eligible set-aside activities. Reserved authority for Emerging Contaminants set-asides can only be used in the future for BIL Emerging Contaminants-eligible set-aside activities.

8. Recycled Funds: To the extent assistance recipients repay BIL funds or provide interest payments to the state SRF program, those repaid funds and interest have the flexibility to be used for any SRF-eligible purpose. For example, repaid DWSRF BIL LSLR funds are not limited to future LSLR projects and activities.

9. Potential State Match Flexibility: To support implementation of the SRF program, the Department of the Treasury has determined that State and Local Financial Recovery Funds under the American Rescue Plan Act (ARPA) available for the provision of government services, up to the amount of the recipient's reduction in revenue due to the public health emergency, may be used to meet the non-federal match requirements of the DWSRF and CWSRF programs. EPA

[10] 40 CFR §35.3530(c)(4)
[11] 40 CFR §35.3540(d)(2)

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will be providing a fact sheet in the near future to state SRF programs to support utilization of this additional flexibility.

10. Federal Civil Rights Responsibilities, Including Title VI of the Civil Rights Act of 1964: In 1994, Executive Order 12898[12] was issued to direct Federal agencies to incorporate achieving environmental justice into their mission. The Presidential Memorandum[13] accompanying that Executive Order required in part, that consistent with Title VI of the Civil Rights Act of 1964, each Federal agency "...ensure that all programs or activities receiving Federal financial assistance that affect human health or the environment do not directly, or through contractual or other arrangements, use criteria, methods, or practices that discriminate on the basis of race, color, or national origin."[14]

EPA has a responsibility to ensure that recipients and subrecipients of federal financial assistance from EPA comply with federal civil rights laws that prohibit discrimination on the basis of race, color, national origin (including limited English proficiency), disability, sex and age, including Title VI of the Civil Rights Act of 1964.[15]

EPA's implementing regulation generally prohibits discrimination in any programs, activities and services receiving federal financial assistance. 40 CFR § 7.30. In addition, EPA's implementing regulations at 40 CFR § 7.35, states that programs or activities receiving EPA assistance "shall not directly or through contractual, licensing, or other arrangements on the basis of race, color, or national origin…":

- Subject a person to segregation or separate treatment;
- Deny a person or group the opportunity to participate as members of any planning or advisory body;
- Restrict a person in any way in the enjoyment of any advantage or privilege enjoyed by others receiving any service, aid, or benefit provided by the program;
- Use criteria or methods of administration "which have the effect of subjecting individuals to discrimination;" or
- Choose a site or location of a facility with "the purpose or effect of excluding individuals from, denying them the benefits of, or subjecting them to discrimination," among other things.

EPA's nondiscrimination regulation in 40 CFR Parts 5 and 7 also contain longstanding procedural requirements applicable to applicants for and recipients (including sub-recipients) of EPA financial assistance.[16] These requirements include having a notice of nondiscrimination, nondiscrimination coordinator, grievance procedures, a process for collecting and maintaining nondiscrimination compliance information, and pursuant to Title VI and the Rehabilitation Act of 1973, developing policies and procedures for ensuring meaningful access to programs and

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[12] Executive Order 12898: Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, 59 FR 7629, February 16, 1994.
[13] Presidential Memorandum on Executive Order for Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations (pdf).
[14] *Id.*
[15] Title VI of the Civil Rights Act of 1964, 42 U.S.C. §§ 2000(d) *et seq*. (Title VI); Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C., 29 U.S.C. § 794, Title IX of the Education Amendments of 1972, as amended, 20 U.S.C. §§ 1681 et seq.; Age Discrimination Act of 1975, 42 U.S.C. §§ 6101 et seq.; Federal Water Pollution Control Act Amendments of 1972, Pub. L. 92 500 § 13, 86 Stat. 903 (codified as amended at 33 U.S.C. § 1251 (1972)); 40 CFR Parts 5 and 7.
[16] EPA's nondiscrimination regulation at 40 CFR Parts 5 and 7 requires recipients to establish and implement their own nondiscrimination programs. *See* 40 CFR §§ 7.80-7.100.

activities for individuals with limited-English proficiency and individuals with disabilities. In addition, recipients' public participation processes must also be implemented consistent with the federal civil rights laws.[17]

EPA intends to carefully evaluate the implementation of BIL SRF funding to ensure compliance with civil rights laws by recipients of EPA funding and to confirm no community is excluded from receiving or denied benefit of SRF funding based on race, color, national origin (including limited English proficiency), age, disability or sex. EPA expects the state to review program activities to ensure compliance with Title VI of the Civil Rights Act of 1964 and make an affirmative statement documenting the review and commitment to Title VI requirements in IUPs. Further, financial award agreements and contracts must include appropriate Title VI nondiscrimination language.

For more information about the federal civil rights laws enforced by EPA, including Title VI, please visit: https://www.epa.gov/ocr/title-vi-laws-and-regulations and https://www.epa.gov/ogc/external-civil-rights-compliance-office-title-vi.

IV. PROGRAM IMPLEMENTATION

A. EXPEDITIOUS COMMITMENTS AND EXPEDITURES

BIL funds must be committed and expended in an expeditious and timely manner, consistent with law, regulation, and guidance. States must make commitments (i.e., they must sign assistance agreements, such as loans, with eligible recipients) within one year after the receipt of each capitalization grant payment from EPA.[18] States must make effort to draw down (expend) funds within two years of capitalization grant award.

B. MANAGEMENT OF ADDITIONAL SUBSIDIZATION

1. **Opportunities to Address Disadvantaged Communities and Affordability:** The BIL is designed to rebuild America's infrastructure and invest in communities that have too often been left behind – from rural towns to struggling cities. The level of funding provided under BIL and the amount of additional subsidy available that must be directed to these communities presents a unique opportunity for the SRF programs. The CWA and SDWA require states to develop "affordability criteria" and definitions of "disadvantaged communities" to best address

[17] *See* Title VI, 42 U.S.C. 2000(d) *et seq.*; Section 504 of the Rehabilitation Act of 1973, as amended, 29 U.S.C. § 794; *Lau v. Nichols*, 414 U.S. 563, 568-69 (1974) (finding that the government properly required language services to be provided under a recipient's Title VI obligations not to discriminate based on national origin); 40 CFR § 7.35(a). *See also* U.S. EPA, Guidance to Environmental Protection Agency Financial Assistance Recipients Regarding Title VI Prohibition Against National Origin Discrimination Affecting Limited English Proficient Persons. 69 FR 35602 (June 25, 2004) (available at https://www.epa.gov/sites/production/files/2020-02/documents/title_vi_lep_guidance_for_epa_recipients_2004.06.25.pdf); U.S. EPA, Title VI Public Involvement Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs, 71 FR 14207 (March 21, 2006) (available at https://www.epa.gov/sites/production/files/2020-02/documents/title_vi_public_involvement_guidance_for_epa_recipients_2006.03.21.pdf); U.S. EPA, Procedural Safeguards Checklist for Recipients, at https://www.epa.gov/sites/production/files/2020-02/documents/procedural_safeguards_checklist_for_recipients_2020.01.pdf (rev. Jan. 2020) (which provides a more detailed explanation of nondiscrimination obligations and best practices); U.S. EPA, Disability Nondiscrimination Plan Sample, at https://www.epa.gov/sites/production/files/2020-02/documents/disability_nondiscrimination_plan_sample_for_recipients_2020.01.pdf. (2017).

[18] 33 U.S.C. §1382(b)(3) and 40 CFR §35.3550(e)(1)

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affordability needs consistent with other laws, including federal non-discrimination statutes, such as, Title VI of the Civil Rights Act of 1964, discussed above.

Given this new influx of funding, EPA expects states to review, refine, and improve as necessary, their disadvantaged community definition and affordability criteria to ensure that they are reflective of current affordability issues within the state. In Appendix E, EPA provides examples of factors that states may consider in updating their disadvantaged community definition or affordability criteria. States must include the disadvantaged community definition and the state affordability criteria in the IUP, which provides an opportunity for meaningful public review and comment.

EPA is committed to working with states to ensure additional subsidy is provided to disadvantaged communities and communities with affordability concerns to the maximum extent possible. EPA will use a variety of tools to accomplish this goal:

- **Review of the Effective Integration of the Program to Reach Disadvantaged Communities**: Recognizing that the communities in greatest need are often the least equipped or prepared to move forward with an SRF project and application, EPA will review how the state is utilizing the flexibilities and set-asides to support the disadvantaged communities' efforts to undertake deficiency or need identification, project development, and preliminary engineering steps that are necessary to apply for funding. States should also make funding sources available to communities for planning, design, and other pre-projects costs, as these steps can be a barrier to communities working to access SRF funding for water infrastructure needs. Working collaboratively, EPA and SRF programs can make progress towards Justice40, which aims to ensure that federal agencies deliver at least 40% of benefits from certain investments to disadvantaged communities.

- **Review of Disadvantaged Community Definition and Affordability Criteria:** EPA will review IUPs with a particular focus on the definition of disadvantaged community, state affordability criteria, and communities on the PPL slated for additional subsidization. EPA will actively work with states to identify potential opportunities to refine and improve DWSRF disadvantaged community definitions and CWSRF affordability criteria to be consistent with the language and intent of SDWA and the CWA.

- **Reaching Disadvantaged Neighborhoods within Larger Communities:** The CWA specifically allows CWSRF programs to provide additional subsidization to communities that do not meet a state's affordability criteria, but where the assistance recipient seeks additional subsidization to benefit individual ratepayers in the residential user rate class that will experience a significant hardship from the increase in rates necessary to finance the project if additional subsidization is not provided. EPA expects states to work with EPA and stakeholders to identify how this provision can be implemented. EPA expects states to evaluate their affordability criteria to determine whether it can be crafted broadly to include neighborhoods with affordability concerns within larger communities.

The SDWA authorizes states to define a "disadvantaged community." Note that some states define a disadvantaged community to include a large public water system where a particular project within the system addresses a sub-set of the service area that meets affordability criteria. EPA has accepted this type of definition and believes that it is consistent with the definition of "disadvantaged community" at 42 U.S.C. §1452(d)(3). These definitions are not prohibited and

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serve to make the DWSRF definition of "disadvantaged community" consistent with the CWSRF affordability criteria which considers particular ratepayers.

- **Terms and Conditions of State Grants:** EPA will provide a term and condition on the grants detailing the amount and eligible uses of additional subsidy to meet statutory language and congressional intent to ensure that disadvantaged communities that have historically struggled to access SRF funding can do so through the BIL.

- **Reallocation and Partial Awards:** States must identify in the IUP sufficient eligible projects that will receive additional subsidization. States that are unable to identify sufficient eligible projects may receive partial grant awards until they are able to fund sufficient communities or projects that meet the criteria for receiving additional subsidization. Funds will be reallotted in instances where states are unable to identify sufficient eligible communities or projects to receive additional subsidization by the end of the second fiscal year of grant availability. This is consistent with both SRF statutes.

- **Oversight:** EPA will discuss the state's affordability criteria and disadvantaged community definition during the capitalization grant application process and annual review so that any needed adjustments can be made for BIL funding. One focus will be how project priority systems support the goal of reaching disadvantaged communities and address the most serious risks to human health. EPA will amend the annual review checklist to include detailed questions related to additional subsidization assistance to disadvantaged communities, capacity development, technical assistance, and solicitation.

2. **Eligible Forms of Additional Subsidy:** Loans with principal forgiveness and grants are the only authorized methods states may use to deliver BIL additional subsidy to assistance recipients.

3. **Calculation of Additional Subsidization Provided:** Appendix A includes additional subsidy tables for each state and BIL appropriation. The additional subsidization requirement is considered met when the subsidy funds required have been disbursed. Each state must report on the use of additional subsidization in the SRF Reporting System and in the state's Annual or Biennial Report.

4. **Eligible Recipients of Additional Subsidy:** For the CWSRF General Supplemental, the DWSRF General Supplemental, and the DWSRF LSLR funding, BIL requires 49% of the funds be made available as additional subsidy. Congress specified that it made this appropriation "notwithstanding" the specific provisions of the CWA and SDWA (CWA 603(i)(3)(B) and SDWA1452(d)(2)) that provide for minimum and maximum percentages that may be additional subsidy. In doing so, Congress made clear its intent that the only-exception it was making to EPA's underlying authority was to the provision specifying the minimum and maximum additional subsidization levels and not to any of the other provisions regarding additional subsidization. Therefore, Congress expected the other limitations on additional subsidization, including the limitation to the eligible uses, to remain intact. For the DWSRF, states must provide additional subsidization to water systems that meet the state's disadvantaged community criteria as described in section 1452(d) of the SDWA, and for the CWSRF additional subsidy must be provided to eligible CWSRF assistance recipients or project types as described in section 603(i) of the CWA.

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For the CWSRF Emerging Contaminants Funding, BIL requires 100% of the funds be made available as additional subsidy. For this funding, Congress did not use the "notwithstanding" language. Therefore, as it has in prior appropriations bills containing similar language, Congress is creating a new subsidization program separate from the statutorily authorized program which provides additional subsidy to any eligible CWSRF assistance recipient for any project eligible under section 603(c) of the CWA that addresses emerging contaminants.

For the DWSRF Emerging Contaminants funding, BIL requires 100% of the funding to be made available as additional subsidy. For this funding, Congress did not use the "notwithstanding" language. In addition, in the SDWA, Congress established separate provisions for emerging contaminants (SDWA §1452(a)(2)(G)). Appropriations language in the BIL can be read along with the DWSRF provisions in the SDWA – there is no conflict between the provisions in the BIL and the SDWA statutory provision. Therefore, with respect to the DWSRF Emerging Contaminants appropriation, each state must provide at least 25% of the funds to either disadvantaged communities (as defined in subsection (d)(3)) or public water systems serving fewer than 25,000 persons that address emerging contaminants in drinking water with a focus on perfluoroalkyl and polyfluoroalkyl substances.

5. **Structuring Assistance Agreements:** Assistance agreements may include any combination of additional subsidization (i.e., principal forgiveness or grant) and repayable financing, subject to the limitations of the BIL. For example, a state might structure a $1 million loan to include $200,000 of repayable principal and $800,000 of forgiven principal. In that example, the $800,000 in principal forgiveness counts towards the limitations of the BIL. A state may structure an individual assistance agreement to provide 100% principal forgiveness, as well. The state has the flexibility to determine the amount of additional subsidization provided in a given assistance agreement.

6. **Laws, Regulations, and Requirements for Assistance Agreements in the Form of Grants**: BIL allows state CWSRF and DWSRF programs to provide grants to eligible recipients. States should be aware that "grant" recipients are legally considered "subrecipients" for the purposes of OMB's grant regulations at 2 CFR Part 200 *et. seq*. In other words, assistance recipients receiving additional subsidy in the form of a grant are subject to additional cross-cutting federal requirements not applicable to those receiving other forms of additional subsidy. EPA's subaward policy establishes the requirements and procedures for Grants Management Offices and Program Offices in making determinations regarding subrecipient eligibility, overseeing pass-through entity monitoring and management of subawards, and authorizing fixed amount subawards under 2 CFR 200.331, 200.332, and 200.333 ("the applicable regulations").

   Note that the use of a "grant" as an additional subsidy instrument does not change the established SRF cash draw rules.[19] SRF assistance recipients (e.g., a water or wastewater system) must first incur a cost associated with an executed assistance agreement for the state SRF to have the authority to draw capitalization grant funds from the Treasury and disburse those funds to the assistance recipient.

C. REALLOTMENT

[19] 40 CFR §35.3155(d)(2) and §35.3565(a)(1)

Consistent with the CWA and SDWA,[20] EPA will reallot unobligated BIL funds after the second fiscal year of availability. The procedure is explained in *State Revolving Fund Capitalization Grant Reallotment Procedure* memorandum, September 2020.

V. EPA Oversight

To fulfill our critical programmatic and fiduciary oversight responsibilities for the SRF programs, each EPA Region will provide oversight of the BIL funds. Oversight will include BIL project file and transaction reviews in addition to the reviews of the base SRF files and transaction tests. During the on-site reviews, EPA Regions will discuss ongoing implementation of BIL funding with the states, including supporting disadvantaged communities and how they are utilizing additional subsidization. BIL observations, findings, and/or corrective actions will be documented in the Program Evaluation Report (PER).

[20] 33 U.S.C. §1384(c)(2) and 42 U.S.C. 300j-12 (a)(1)(E)

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Attachment 1 – Appendix A:
Bipartisan Infrastructure Law: Environmental Protection Agency 2022 State Revolving Fund (SRF) Grants to States, Tribes, and Territories by Program

	DWSRF General	DWSRF Lead Service Line Replacement	DWSRF Emerging Contaminants	CWSRF General	CWSRF Emerging Contaminants
Alabama	$38,787,000	$61,114,000	$16,286,000	$19,901,000	$1,045,000
Alaska	$17,992,000	$28,350,000	$7,555,000	$10,652,000	$559,000
Arizona	$32,359,000	$50,986,000	$13,587,000	$12,021,000	$632,000
Arkansas	$27,070,000	$42,653,000	$11,367,000	$11,642,000	$612,000
California	$158,733,000	$250,107,000	$66,649,000	$127,290,000	$6,687,000
Colorado	$35,550,000	$56,015,000	$14,927,000	$14,236,000	$747,000
Connecticut	$17,992,000	$28,350,000	$7,555,000	$21,804,000	$1,145,000
Delaware	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000
District of Columbia	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000
Florida	$70,829,000	$111,601,000	$29,741,000	$60,077,000	$3,156,000
Georgia	$42,400,000	$66,808,000	$17,804,000	$30,092,000	$1,581,000
Hawaii	$17,992,000	$28,350,000	$7,555,000	$13,785,000	$724,000
Idaho	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000
Illinois	$67,885,000	$106,964,000	$28,505,000	$80,494,000	$4,229,000
Indiana	$27,502,000	$43,334,000	$11,548,000	$42,893,000	$2,253,000
Iowa	$28,504,000	$44,913,000	$11,969,000	$24,088,000	$1,265,000
Kansas	$20,875,000	$32,891,000	$8,765,000	$16,065,000	$844,000
Kentucky	$29,649,000	$46,717,000	$12,450,000	$22,652,000	$1,190,000
Louisiana	$26,930,000	$42,433,000	$11,308,000	$19,565,000	$1,028,000
Maine	$17,992,000	$28,350,000	$7,555,000	$13,777,000	$724,000
Maryland	$32,960,000	$51,934,000	$13,840,000	$43,046,000	$2,261,000
Massachusetts	$41,750,000	$65,783,000	$17,531,000	$60,428,000	$3,175,000
Michigan	$44,168,000	$69,593,000	$18,546,000	$76,528,000	$4,020,000
Minnesota	$27,465,000	$43,276,000	$11,533,000	$32,713,000	$1,719,000
Mississippi	$19,368,000	$30,518,000	$8,133,000	$16,035,000	$842,000
Missouri	$31,720,000	$49,980,000	$13,319,000	$49,339,000	$2,592,000
Montana	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000
Nebraska	$17,992,000	$28,350,000	$7,555,000	$9,103,000	$478,000
Nevada	$20,857,000	$32,864,000	$8,758,000	$8,738,000	$459,000
New Hampshire	$17,992,000	$28,350,000	$7,555,000	$17,786,000	$935,000
New Jersey	$30,708,000	$48,385,000	$12,894,000	$72,730,000	$3,821,000
New Mexico	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000
New York	$73,481,000	$115,781,000	$30,854,000	$196,443,000	$10,318,000
North Carolina	$55,254,000	$87,062,000	$23,201,000	$32,122,000	$1,688,000
North Dakota	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000

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	DWSRF General	DWSRF Lead Service Line Replacement	DWSRF Emerging Contaminants	CWSRF General	CWSRF Emerging Contaminants
Ohio	$45,251,000	$71,300,000	$19,001,000	$100,195,000	$5,264,000
Oklahoma	$25,508,000	$40,192,000	$10,711,000	$14,379,000	$755,000
Oregon	$23,673,000	$37,300,000	$9,940,000	$20,106,000	$1,056,000
Pennsylvania	$55,403,000	$87,296,000	$23,264,000	$70,500,000	$3,704,000
Puerto Rico	$17,992,000	$28,350,000	$7,555,000	$23,214,000	$1,220,000
Rhode Island	$17,992,000	$28,350,000	$7,555,000	$11,950,000	$628,000
South Carolina	$23,302,000	$36,716,000	$9,784,000	$18,233,000	$958,000
South Dakota	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000
Tennessee	$31,253,000	$49,243,000	$13,123,000	$25,855,000	$1,358,000
Texas	$140,993,000	$222,155,000	$59,202,000	$81,347,000	$4,274,000
Utah	$17,992,000	$28,350,000	$7,555,000	$9,378,000	$493,000
Vermont	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000
Virginia	$29,357,000	$46,256,000	$12,327,000	$36,424,000	$1,914,000
Washington	$40,196,000	$63,336,000	$16,878,000	$30,951,000	$1,626,000
West Virginia	$17,992,000	$28,350,000	$7,555,000	$27,745,000	$1,457,000
Wisconsin	$30,666,000	$48,319,000	$12,877,000	$48,116,000	$2,527,000
Wyoming	$17,992,000	$28,350,000	$7,555,000	$8,738,000	$459,000
States Total	**1,772,254,000**	**2,792,475,000**	**$744,167,000**	**$1,753,080,000**	**$92,094,000**
American Samoa	$6,778,000	$10,680,000	$2,846,000	$9,997,000	$526,000
Guam	$6,301,000	$9,928,000	$2,646,000	$7,234,000	$380,000
Northern Marianas	$5,305,000	$8,359,000	$2,228,000	$4,646,000	$245,000
Virgin Islands	$8,605,000	$13,558,000	$3,613,000	$5,802,000	$305,000
Territories Total	**$26,989,000**	**$42,525,000**	**$11,333,000**	**$27,679,000**	**$1,456,000**
Tribes	**$38,040,000**	**$60,000,000**	**$16,000,000**	**$38,040,000**	**$2,000,000**
CWA 604(b) Total	**$0**	**$0**	**$0**	**$17,984,000**	**$950,000**
EPA Admin	**$57,060,000**	**$90,000,000**	**$24,000,000**	**$57,060,000**	**$3,000,000**
OIG Oversight	**$6,657,000**	**$15,000,000**	**$4,000,000**	**$6,657,000**	**$500,000**
AIS M & O	**$1,000,000**	**$0**	**$500,000**	**$1,500,000**	**$0**
Grand Total	**$1,902,000,000**	**$3,000,000,000**	**$800,000,000**	**$1,902,000,000**	**$100,000,000**

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Bipartisan Infrastructure Law:
Environmental Protection Agency
2022 Clean Water Act (CWA) 604(b) Grants to States and Territories by Program

	604(b)	604(b) Emerging Contaminants	604(b) BIL Total
Alabama	$201,000	$11,000	$212,000
Alaska	$108,000	$6,000	$114,000
Arizona	$121,000	$6,000	$127,000
Arkansas	$118,000	$6,000	$124,000
California	$1,286,000	$68,000	$1,354,000
Colorado	$144,000	$8,000	$152,000
Connecticut	$220,000	$12,000	$232,000
Delaware	$88,000	$5,000	$93,000
District of Columbia	$88,000	$5,000	$93,000
Florida	$607,000	$32,000	$639,000
Georgia	$304,000	$16,000	$320,000
Hawaii	$139,000	$7,000	$146,000
Idaho	$88,000	$5,000	$93,000
Illinois	$813,000	$43,000	$856,000
Indiana	$433,000	$23,000	$456,000
Iowa	$243,000	$13,000	$256,000
Kansas	$162,000	$9,000	$171,000
Kentucky	$229,000	$12,000	$241,000
Louisiana	$198,000	$10,000	$208,000
Maine	$139,000	$7,000	$146,000
Maryland	$435,000	$23,000	$458,000
Massachusetts	$610,000	$32,000	$642,000
Michigan	$773,000	$41,000	$814,000
Minnesota	$330,000	$17,000	$347,000
Mississippi	$162,000	$9,000	$171,000
Missouri	$498,000	$26,000	$524,000
Montana	$88,000	$5,000	$93,000
Nebraska	$92,000	$5,000	$97,000
Nevada	$88,000	$5,000	$93,000
New Hampshire	$180,000	$9,000	$189,000
New Jersey	$735,000	$39,000	$774,000
New Mexico	$88,000	$5,000	$93,000
New York	$1,984,000	$104,000	$2,088,000
North Carolina	$324,000	$17,000	$341,000
North Dakota	$88,000	$5,000	$93,000
Ohio	$1,012,000	$53,000	$1,065,000

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	604(b)	604(b) Emerging Contaminants	604(b) BIL Total
Oklahoma	$145,000	$8,000	$153,000
Oregon	$203,000	$11,000	$214,000
Pennsylvania	$712,000	$37,000	$749,000
Puerto Rico	$234,000	$12,000	$246,000
Rhode Island	$121,000	$6,000	$127,000
South Carolina	$184,000	$10,000	$194,000
South Dakota	$88,000	$5,000	$93,000
Tennessee	$261,000	$14,000	$275,000
Texas	$822,000	$43,000	$865,000
Utah	$95,000	$5,000	$100,000
Vermont	$88,000	$5,000	$93,000
Virginia	$368,000	$19,000	$387,000
Washington	$313,000	$16,000	$329,000
West Virginia	$280,000	$15,000	$295,000
Wisconsin	$486,000	$26,000	$512,000
Wyoming	$88,000	$5,000	$93,000
States Total	**$17,704,000**	**$936,000**	**$18,640,000**
American Samoa	$101,000	$5,000	$106,000
Guam	$73,000	$4,000	$77,000
Northern Marianas	$47,000	$2,000	$49,000
Virgin Islands	$59,000	$3,000	$62,000
Territories Total	**$280,000**	**$14,000**	**$294,000**
Grand Total	**$17,984,000**	**$950,000**	**$18,934,000**

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Bipartisan Infrastructure Law:
Environmental Protection Agency
2022 State Revolving Fund (SRF) Additional Subsidy Amounts

	DWSRF General[21]	DWSRF Lead Service Line Replacement[22]	DWSRF Emerging Contaminants[23]	CWSRF General[24]	CWSRF Emerging Contaminants[25]
Alabama	$19,005,630	$29,945,860	$16,286,000	$9,751,490	$1,045,000
Alaska	$8,816,080	$13,891,500	$7,555,000	$5,219,480	$559,000
Arizona	$15,855,910	$24,983,140	$13,587,000	$5,890,290	$632,000
Arkansas	$13,264,300	$20,899,970	$11,367,000	$5,704,580	$612,000
California	$77,779,170	$122,552,430	$66,649,000	$62,372,100	$6,687,000
Colorado	$17,419,500	$27,447,350	$14,927,000	$6,975,640	$747,000
Connecticut	$8,816,080	$13,891,500	$7,555,000	$10,683,960	$1,145,000
Delaware	$8,816,080	$13,891,500	$7,555,000	$4,281,620	$459,000
Florida	$34,706,210	$54,684,490	$29,741,000	$29,437,730	$3,156,000
Georgia	$20,776,000	$32,735,920	$17,804,000	$14,745,080	$1,581,000
Hawaii	$8,816,080	$13,891,500	$7,555,000	$6,754,650	$724,000
Idaho	$8,816,080	$13,891,500	$7,555,000	$4,281,620	$459,000
Illinois	$33,263,650	$52,412,360	$28,505,000	$39,442,060	$4,229,000
Indiana	$13,475,980	$21,233,660	$11,548,000	$21,017,570	$2,253,000
Iowa	$13,966,960	$22,007,370	$11,969,000	$11,803,120	$1,265,000
Kansas	$10,228,750	$16,116,590	$8,765,000	$7,871,850	$844,000
Kentucky	$14,528,010	$22,891,330	$12,450,000	$11,099,480	$1,190,000
Louisiana	$13,195,700	$20,792,170	$11,308,000	$9,586,850	$1,028,000
Maine	$8,816,080	$13,891,500	$7,555,000	$6,750,730	$724,000
Maryland	$16,150,400	$25,447,660	$13,840,000	$21,092,540	$2,261,000
Massachusetts	$20,457,500	$32,233,670	$17,531,000	$29,609,720	$3,175,000
Michigan	$21,642,320	$34,100,570	$18,546,000	$37,498,720	$4,020,000
Minnesota	$13,457,850	$21,205,240	$11,533,000	$16,029,370	$1,719,000
Mississippi	$9,490,320	$14,953,820	$8,133,000	$7,857,150	$842,000

[21] States must provide 49% of the BIL DWSRF General capitalization grant amount as additional subsidization in the form of principal forgiveness or grants. This additional subsidization must be provided to eligible DWSRF assistance recipients that meet the state's disadvantaged community criteria as described in SDWA §1452(d).
[22] States must provide 49% of the BIL DWSRF Lead Service Line Replacement capitalization grant amount as additional subsidization in the form of principal forgiveness or grants. This additional subsidization must be provided to eligible DWSRF assistance recipients that meet the state's disadvantaged community criteria as described in SDWA §1452(d).
[23] States must provide 100% of the BIL DWSRF Emerging Contaminants capitalization grant amount, net of set-asides taken, as additional subsidization in the form of principal forgiveness or grants. Per SDWA §1452(a)(2)(G)(ii)(I), at least 25% of these funds must be provided to eligible DWSRF assistance recipients that meet the state's disadvantaged community criteria as described in SDWA §1452(d) or to public water systems serving fewer than 25,000 persons.
[24] States must provide 49% of the CWSRF general capitalization grant amount as additional subsidization in the form of principal forgiveness or grants. Additional subsidization must be provided to eligible CWSRF assistance recipients or project types as described in section 603(i) of the CWA.
[25] States must provide 100% of the emerging capitalization grant amount as additional subsidization in the form of principal forgiveness and/or grants. Additional subsidization may be provided to any eligible CWSRF assistance recipient for any project eligible under section 603(c) of the CWA that addresses emerging contaminants.

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	DWSRF General[21]	DWSRF Lead Service Line Replacement[22]	DWSRF Emerging Contaminants[23]	CWSRF General[24]	CWSRF Emerging Contaminants[25]
Missouri	$15,542,800	$24,490,200	$13,319,000	$24,176,110	$2,592,000
Montana	$8,816,080	$13,891,500	$7,555,000	$4,281,620	$459,000
Nebraska	$8,816,080	$13,891,500	$7,555,000	$4,460,470	$478,000
Nevada	$10,219,930	$16,103,360	$8,758,000	$4,281,620	$459,000
New Hampshire	$8,816,080	$13,891,500	$7,555,000	$8,715,140	$935,000
New Jersey	$15,046,920	$23,708,650	$12,894,000	$35,637,700	$3,821,000
New Mexico	$8,816,080	$13,891,500	$7,555,000	$4,281,620	$459,000
New York	$36,005,690	$56,732,690	$30,854,000	$96,257,070	$10,318,000
North Carolina	$27,074,460	$42,660,380	$23,201,000	$15,739,780	$1,688,000
North Dakota	$8,816,080	$13,891,500	$7,555,000	$4,281,620	$459,000
Ohio	$22,172,990	$34,937,000	$19,001,000	$49,095,550	$5,264,000
Oklahoma	$12,498,920	$19,694,080	$10,711,000	$7,045,710	$755,000
Oregon	$11,599,770	$18,277,000	$9,940,000	$9,851,940	$1,056,000
Pennsylvania	$27,147,470	$42,775,040	$23,264,000	$34,545,000	$3,704,000
Puerto Rico	$8,816,080	$13,891,500	$7,555,000	$11,374,860	$1,220,000
Rhode Island	$8,816,080	$13,891,500	$7,555,000	$5,855,500	$628,000
South Carolina	$11,417,980	$17,990,840	$9,784,000	$8,934,170	$958,000
South Dakota	$8,816,080	$13,891,500	$7,555,000	$4,281,620	$459,000
Tennessee	$15,313,970	$24,129,070	$13,123,000	$12,668,950	$1,358,000
Texas	$69,086,570	$108,855,950	$59,202,000	$39,860,030	$4,274,000
Utah	$8,816,080	$13,891,500	$7,555,000	$4,595,220	$493,000
Vermont	$8,816,080	$13,891,500	$7,555,000	$4,281,620	$459,000
Virginia	$14,384,930	$22,665,440	$12,327,000	$17,847,760	$1,914,000
Washington	$19,696,040	$31,034,640	$16,878,000	$15,165,990	$1,626,000
West Virginia	$8,816,080	$13,891,500	$7,555,000	$13,595,050	$1,457,000
Wisconsin	$15,026,340	$23,676,310	$12,877,000	$23,576,840	$2,527,000
Wyoming	$8,816,080	$13,891,500	$7,555,000	$4,281,620	$459,000
States Total	**$859,588,380**	**$1,354,421,250**	**$736,612,000**	**$854,727,580**	**$91,635,000**

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Attachment 1 – Appendix B:
CWSRF Definition of Emerging Contaminants

Emerging contaminants refer to substances and microorganisms, including manufactured or naturally occurring physical, chemical, biological, radiological, or nuclear materials, which are known or anticipated in the environment, that may pose newly identified or re-emerging risks to human health, aquatic life, or the environment.[26] These substances, microorganisms or materials can include many different types of natural or manufactured chemicals and substances – such as those in some compounds of personal care products, pharmaceuticals, industrial chemicals, pesticides, and microplastics.[27,28]

The main categories of emerging contaminants include but are not limited to:

- **Perfluoroalkyl and polyfluoroalkyl substances (PFAS) and other persistent organic pollutants (POPs)** such as polybrominated diphenyl ethers (PBDEs; used in flame retardants, furniture foam, plastics, etc.) and other persistent organic contaminants such as perfluorinated organic acids, PFAS free foam flame retardants;
- **Biological contaminants and microorganisms**, such as antimicrobial resistant bacteria, biological materials, and pathogens;
- **Some compounds of pharmaceuticals and personal care products (PPCPs)**, including a wide suite of human prescribed drugs (e.g., antidepressants, blood pressure medications, hormones), over-the-counter medications (e.g., ibuprofen), bactericides, fragrances, UV filters (sunscreen agents), detergents, preservatives, and repellents;[29]
    - Insect Repellents, Cosmetics and UV filters: DEET, Methylparabens, Benzophenone[30]
    - Fragrances: HHCB and AHTN (7-acetyl-1,1,3,4,4,6-hexamethyl-1,2,3,4-tetrahydronaphthalene; CAS 21145-77-7; Tonalide)[31]
    - Cosmetic and food preservatives: BHA (butylated hydroxyanisole) and BHT (butylated hydroxytoluene)[32]
    - Veterinary medicines such as antimicrobials, antibiotics, anti-fungals, growth promoters, investigational new animal drugs, and hormones;
    - Substances that illicit endocrine-disrupting chemicals (EDCs), including synthetic estrogens (e.g.,17αethynylestradiol, which also is a PCPP) and androgens (e.g., trenbolone, a veterinary drug), naturally occurring estrogens (e.g.,17ß-estradiol, testosterone), as well as many others (e.g., organochlorine pesticides, alkylphenols)
- **Nanomaterials** such as carbon nanotubes or nano-scale particulate titanium dioxide, of which little is known about either their environmental fate or effects.

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[26] 2020 White House Office of Science & Technology Policy document which focused on drinking water/human health
[27] Contaminants of Emerging Concern under the Clean Water Act 2019, Congressional Research Services
[28] White Paper Aquatic Life Criteria for Contaminants of Emerging Concern 2008
[29] Peck, A.M. Analytical methods for the determination of persistent ingredients of personal care products in environmental matrices. *Anal Bioanal Chem* **386**, 907–939 (2006). https://doi.org/10.1007/s00216-006-0728-3
[30] Diana Montes-Grajales, Mary Fennix-Agudelo, Wendy Miranda-Castro,
Occurrence of personal care products as emerging chemicals of concern in water resources: A review,
Science of The Total Environment, Volume 595, 2017, Pages 601-614, ISSN 0048-9697,
https://doi.org/10.1016/j.scitotenv.2017.03.286. (https://www.sciencedirect.com/science/article/pii/S0048969717308161)
[31] J Environ Eng (New York). Author manuscript; available in PMC 2010 Feb 1. Published in final edited form as:
J Environ Eng (New York). 2009 Nov 1; 135(11): 1192. doi: 10.1061/(ASCE)EE.1943-7870.0000085
[32] Soliman, Mary A., et al. "Human Pharmaceuticals, Antioxidants, and Plasticizers in Wastewater Treatment Plant and Water Reclamation Plant Effluents." Water Environment Research, vol. 79, no. 2, 2007, pp. 156–167., https://doi.org/10.2175/106143006x111961.

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- **Microplastics/Nanoplastics:** synthetic solid particle or polymeric matrix, with regular or irregular shape and with size smaller than 5 mm, of either primary or secondary manufacturing origin, or larger plastic materials that degrade into smaller pieces, including from tire wear (such as 6PPD), which are insoluble in water.[33] Primary microplastics include particles produced intentionally of this very small dimension, like pre-production pellets used as intermediate in plastic production, microbeads for abrasive functions or microfibers that form from synthetic textiles.[34]

Projects that address contaminants with water quality criteria established by EPA under CWA section 304(a), except for PFAS are not eligible for CWSRF Emerging Contaminants funds.

[33] J.P.G.L. Frias, Roisin Nash, Microplastics: Finding a consensus on the definition, Marine Pollution Bulletin, Volume 138, 2019, Pages 145-147, ISSN 0025-326X, https://doi.org/10.1016/j.marpolbul.2018.11.022. (https://www.sciencedirect.com/science/article/pii/S0025326X18307999)

[34] Silvia Galafassi, Luca Nizzetto, Pietro Volta, Plastic sources: A survey across scientific and grey literature for their inventory and relative contribution to microplastics pollution in natural environments, with an emphasis on surface water

Attachment 1 – Appendix C:
Detailed List of DWSRF Emerging Contaminants Project and Activity Examples

Below are non-exhaustive lists of DWSRF-eligible projects and activities under the BIL DWSRF Emerging Contaminants capitalization grants. For a project or activity to be eligible for funding under this appropriation, it must be otherwise DWSRF eligible, and the primary purpose must be to address emerging contaminants in drinking water with a focus on perfluoroalkyl and polyfluoroalkyl substances (PFAS) Projects that address any contaminant listed on any of EPA's Contaminant Candidate Lists are eligible (i.e., CCL1 – draft CCL5).

From the DWSRF Infrastructure Fund:

- Emerging contaminants costs associated with the construction of a new treatment facility or upgrade to an existing treatment facility that addresses emerging contaminants.
- Development of a new source (i.e., new/replacement well or intake for a public water system) that addresses an emerging contaminant issue [Note: water rights purchases must still meet the criteria in the Class Deviation for Water Rights].
- Consolidation with another water system that does not have emerging contaminants present or has removal capability.
- Costs for planning and design and associated pre-project costs.
- Infrastructure related to pilot testing for treatment alternatives.
- Creation of a new community water system to address unsafe drinking water provided by individual (i.e., privately-owned) wells or surface water sources.

From the DWSRF Set-asides:

- Direct technical assistance to public water systems (of any size) with emerging contaminants and treatment problems which could lead to a loan application.
- PFAS and other emerging contaminants project pre-development activities (such as determining if and where there is a problem).
- Technical assistance for eligible systems to diagnose emerging contaminants problems at their water systems.
- Project planning, preliminary engineering, and design.
- Funding state PWSS staff who are working on PFAS and emerging contaminants oversight.
- Incorporating training on PFAS and emerging contaminants into state operator certification materials.
- Obtain test kits/laboratory equipment for systems to test for newly recognized contaminants of concern and training to use that equipment.
- Pilot testing and studies on improving public water system operation.
- Source water protection activities (e.g., developing source water protection plans, well abandonment, etc.).
- Conducting initial, special (non-routine/non-compliance) monitoring to establish a baseline understanding of a contaminant of concern or operation of newly-used technology.

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Attachment 1 – Appendix D:
Detailed List of DWSRF Lead Service Line Replacement Project and Activity Examples

Below are non-exhaustive lists of DWSRF-eligible projects and activities under the BIL DWSRF Lead Service Line Replacement (LSLR) capitalization grants. For a project or activity to be eligible for funding under this appropriation, it must be otherwise DWSRF eligible and be a LSLR project or associated activity *directly connected* to the identification, planning, design, and replacement of lead service lines. Any project funded under this appropriation involving the replacement of a lead service line must replace the entire lead service line, not just a portion, unless a portion has already been replaced.

From the DWSRF Infrastructure Fund:

- Complete removal of lead service lines (public and privately owned portion) or service lines made of galvanized iron or galvanized steel (that are currently or have previously been downstream of lead components) and replacement with a pipe that meets the requirements established under 40 CFR 143 and which complies with state and local plumbing codes and or building codes.
- Removal of lead or galvanized goosenecks, pigtails, and connectors, and replacement with an acceptable material that meets the requirements established under 40 CFR 143 and which complies with state and local plumbing codes and or building codes.
- Replacement of curb stops, curb stop boxes, and other service line appurtenances that are removed as part of full LSLR.
- Site restoration, including landscaping, sidewalks, driveways, etc. if the removal was necessary to replace the lead service line.
- Permit fees if the fees are normal, required, and specific to the LSLR. It is recommended that communities waive these fees.
- Temporary pitcher filters or point-of-use (POU) devices certified by an American National Standards Institute accredited certifier to reduce lead during or for a short time period after LSLR projects.
- Development or updating of lead service line inventories, including locating and mapping lead service lines.
    - Methods of investigation to develop inventories could include visual observation, water quality sampling (non-compliance), excavation, vacuum or hydro-excavation, statistical analysis, or other emerging technologies.
- Planning and design for infrastructure projects listed above.
- Non-routine lead sampling (if not for compliance purposes) as part of a LSLR project.

From the DWSRF Set-asides:

- Planning and design for LSLR infrastructure projects.
- Developing or updating lead service line inventories, including locating and mapping lead service lines.
- Providing technical assistance to small water systems undertaking lead service line inventories or construction projects.
- Funding state staff and contractors to work on LSLR education and outreach and inventory plans, etc.
- Non-routine lead sampling (if not for compliance purposes).

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Attachment 1 – Appendix E:
Additional Information to Assist States with Developing a Disadvantaged Community Definition and Affordability Criteria

Congress established that 49% of funding allocated to the SRF programs through the General Supplemental and Lead Service Line Replacement (LSLR) capitalization grants must be provided as additional subsidization for eligible CWSRF assistance recipients or project types as described in section 603(i) of the Clean Water Act (CWA) and water systems that meet the state's disadvantaged community criteria as described in section 1452(d) of the Safe Drinking Water Act (SDWA) for the DWSRF. Also, for the DWSRF Emerging Contaminants funding, states must direct at least 25% of these funds to disadvantaged communities (as defined by the state under SDWA 1452(d)) or public water systems serving fewer than 25,000 persons.

Under Section 50216 of the BIL, EPA must conduct an analysis of programs under CWA title VI and SDWA section 1452 to identify historical distribution of funds to small and disadvantaged communities and new opportunities and methods to improve the distribution of funds under those programs to low-income, rural, minority, and indigenous communities. A report must be submitted to the congressional committees upon completion of the analysis by November 15, 2023.

There is significant variation across the country in the amount of assistance directed to disadvantaged communities and the characteristics of communities that qualify for this assistance. The CWA and the SDWA both state that the Administrator may publish information to assist states in establishing affordability criteria. The information in this memo is one step in an ongoing EPA effort to analyze criteria and adjust them as needed to ensure that the definitions used are compliant with the CWA and SDWA as well as meet the community affordability needs within states. Some key considerations are described below for evaluating how different affordability criteria can capture communities in need. EPA will work with states to strengthen their criteria for distributing additional subsidization. EPA may also provide additional information identified as part of Justice 40. Any criteria or thresholds should be modified by SRF programs to reflect state conditions and considerations.

Examples of criteria within affordability and disadvantaged community definitions that can be barriers include:

- Definitions solely based or contingent upon an "unaffordable" rate. Some state rate considerations serve to assist in affordability determinations, but others do so in a way that can be a barrier to systems with low capacity and a poor rate structure.
- Definitions that include a low cap on additional subsidy (e.g., 30%) are a barrier to communities that need a higher amount of additional subsidization to be able to take the loan.
- Definitions based solely on population or definitions that include population as a determining factor.

EPA strongly encourages states to amend their affordability and disadvantaged community definitions if they currently utilize any of these three criteria.

CWSRF Affordability Criteria

Section 603(i)(2) of the CWA states:

> *AFFORDABILITY CRITERIA.—*
> *(A) ESTABLISHMENT.—*

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(i) IN GENERAL.—Not later than September 30, 2015, and after providing notice and an opportunity for public comment, a State shall establish affordability criteria to assist in identifying municipalities that would experience a significant hardship raising the revenue necessary to finance a project or activity eligible for assistance under subsection (c)(1) if additional subsidization is not provided.

(ii) CONTENTS.—The criteria under clause (i) shall be based on income and unemployment data, population trends, and other data determined relevant by the State, including whether the project or 16 activity is to be carried out in an economically distressed area, as described in section 301 of the Public Works and Economic Development Act of 1965 (42 U.S.C. 3161).

(B) EXISTING CRITERIA.—If a State has previously established, after providing notice and an opportunity for public comment, affordability criteria that meet the requirements of subparagraph (A)—

(i) the State may use the criteria for the purposes of this subsection; and

(ii) those criteria shall be treated as affordability criteria established under this paragraph.

(C) INFORMATION TO ASSIST STATES.—The Administrator may publish information to assist States in establishing affordability criteria under subparagraph (A).

The CWA section 603(i)(2) requires states to develop affordability criteria that will assist them in identifying applicants that would have difficulty financing projects without additional subsidization. The CWA section 603(i)(2)(A) requires that criteria be based on:

- income;
- unemployment data;
- population trends; and
- other data determined relevant by the state.

Income, unemployment data, and population trends must be reflected in state affordability criteria; however, the statute does not prescribe the weight that must be given to each type of criteria. States have the flexibility to determine which of the required criteria are most relevant to their CWSRF programs and may structure their program's criteria accordingly. States should periodically review and update their criteria to ensure that is it still appropriate for economic conditions in the state and that they are utilizing the most current data.

Additional Information to Assist States in Establishing Affordability Criteria

Per section 603(i)(2) of the CWA, the CWSRF affordability criteria must include income, unemployment data, and population trends. As demonstrated by the wide range of criteria developed by the states, there are many factors to consider within each criterion. The following are examples of metrics that EPA suggests states consider when reviewing their affordability criteria. States have the flexibility to use different percentages based on demographics and other state-specific factors. The metrics may be set numbers for a state or tiered numbers to address specific yet diverse state needs. States should also consider how a mix of affordability criteria may be used to meet community needs. States should periodically review their affordability criteria to ensure that it is still appropriate for the socioeconomic conditions in the state and uses the most current available data.

Income:

- Community MHI is less than 80% of State MHI
- Communities with $25,766 or less upper limit of Lowest Quintile Income
- Communities with ≥ 30.9% Population Living Under 200% of Poverty Level

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- Community with census tracts that have a poverty rate greater than or equal to 20%[35]

Unemployment Data:
- Communities with ≥ 3.4% Unemployed Population ≥ 16 years in Civilian Labor Force

Population Trends:
- Communities with ≥ 12.1% Vacant Households

Other Data Determined Relevant by the State:
- Community in a county with a Social Vulnerability Index score higher than 0.80[36]
- Combined sewer and drinking water costs are greater than 2% of the 20th percentile household income (i.e., the Lowest Quintile of Income for the Service Area)
- Communities with 10% of failing decentralized systems
- Communities with ≥ 11.7% Population Receiving Food Stamps/SNAP Benefits
- Communities with Lagoon systems not achieving water quality standards

DWSRF Disadvantaged Communities

Section 1452 (d) of the SDWA states:

> *Assistance for disadvantaged communities*
>
> *(3) "Disadvantaged community" defined*
>
> > *In this subsection, the term "disadvantaged community" means the service area of a public water system that meets affordability criteria established after public review and comment by the State in which the public water system is located. The Administrator may publish information to assist States in establishing affordability criteria.*

Additional Information to Assist States in Establishing a Disadvantaged Community Definition

The following are examples of criteria that states are currently using or may want to consider using. Note that some states define a disadvantaged community to include a large public water system where a particular project within the system addresses a sub-set of the service area that meets affordability criteria. States may use different percentages and thresholds based on demographics and other state-specific factors. The metrics may be set numbers for a state or tiered numbers to address specific state needs to best address the health protection objectives of SDWA. States should also consider how a mix of affordability criteria may be used to meet community needs. States should periodically review their affordability criteria and disadvantaged community definition to ensure that it is still appropriate for the economic conditions in the state and uses the most current available data.

- Communities with census tracts that have [X poverty indicator] are eligible for lead service line additional subsidy if the recipient uses those funds for the direct benefit of those residents
- Community MHI is less than 80% of State MHI
- Communities with $25,766 or less upper limit of Lowest Quintile Income
- Communities with ≥ 30.9% Population Living Under 200% of Poverty Level
- Community with census tracts that have a poverty rate greater than or equal to 20%[37]
- Communities with ≥ 3.4% Unemployed Population ≥ 16 years in Civilian Labor Force
- Communities with ≥ 12.1% Vacant Households

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[35] Using the Census Bureau's official poverty measure (OPM).

[36] Using the most recent SVI score calculated by the Centers for Disease Control and Prevention (CDC) using the American Community Survey (ACS). https://svi.cdc.gov/map.html

[37] Using the Census Bureau's official poverty measure (OPM).

- Community in a county with a Social Vulnerability Index score higher than 0.80[38]
- Combined sewer and drinking water costs are greater than 2% of the 20th percentile household income (i.e., the Lowest Quintile of Income for the Service Area)
- Communities with ≥ 11.7% Population Receiving Food Stamps/SNAP Benefits

[38] Using the most recent SVI score calculated by the Centers for Disease Control and Prevention (CDC) using the American Community Survey (ACS). https://svi.cdc.gov/map.html

Attachment 2:
Implementation of CWSRF-Related Amendments in the Bipartisan Infrastructure Law

On November 15, 2021, President Biden signed the Bipartisan Infrastructure Law (BIL) into law. Among its provisions are amendments to Title VI the Clean Water Act (CWA) that make changes to the base CWSRF program. This document summarizes the key changes and provides the relevant legislative text. These changes apply to all capitalization grants awarded after November 15, 2021.

Summary of Changes to Base CWSRF

- **Reauthorization of CWSRF:** The BIL reauthorized the CWSRF from federal fiscal years 2022 through 2026. The funding levels will be set by through the annual appropriations process. Authorized levels are provided in the table below.

FY22	FY23	FY24	FY25	FY26
$2.4B	$2.75B	$3.0B	$3.25B	$3.25B

- **Additional Authorization:** The BIL authorizes additional appropriations of $1,639,000,000 for each fiscal year 2022 through 2026. The funding levels will be set by through the annual appropriations process.

- **Additional Subsidization:** The BIL amended requirements related to additional subsidization. States are required to use at least 10% (an increase from 0%), but no more than 30%, of the capitalization grant amount to provide additional subsidy to the following:
  - municipalities that meet the state's affordability criteria;
  - municipalities that do not meet the state's affordability criteria but seek additional subsidization to benefit individual ratepayers in the residential user rate class;
  - entities that implement a process, material, technique, or technology that addresses water or energy efficiency goals; mitigates stormwater runoff; or encourages sustainable project planning, design, and construction.

  The BIL also expands the eligible uses of additional subsidy to include:
  - grants;
  - buying, refinancing, or restructuring of debt; and
  - other loan forgiveness.

- **Technical Assistance Funding:** The BIL includes a provision that allows states to use up to an amount equal to 2% of their annual CWSRF capitalization grant for the purpose of hiring staff, nonprofit organizations, or regional, interstate, or municipal entities to assist rural, small, and tribal publicly owned treatment works.

- **Analysis of Fund Distribution to Disadvantaged Communities:** The BIL included a provision that directs EPA to conduct an analysis of fund distributions to small and disadvantaged communities by November 15, 2023. EPA Headquarters and Regions will work collaboratively with states in this analysis.

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- **Build America, Buy America:** The BIL established the Build America, Buy America (BABA) Act domestic sourcing requirements for federal financial assistance programs for infrastructure, including the SRF programs. EPA water infrastructure programs must comply with the BABA provision. EPA will be issuing BABA guidance for all water infrastructure programs upon publication of Office of Management and Budget agency-wide guidance.

- **Clean Watersheds Needs Survey:** The BIL expands the Clean Watersheds Needs Survey to include all capital projects eligible for CWSRF funding. It also authorizes $5 million for implementing the Clean Watershed Needs Survey.

Amended Legislative Text and Explanation

Text in *italics* is new and text in ~~strikethrough~~ was deleted.

BIL §50210(a)(1)(A): Types of Assistance

Section 603(d)
As amended, CWA section 603(d) now states:

> (d) TYPES OF ASSISTANCE.—Except as otherwise limited by State law *and provided in subsection (k),* a water pollution control revolving fund of a State under this section may be used only—

Explanation: The CWA now incorporates an additional type of CWSRF assistance, as described in subsection (k). See below for additional information about this type of assistance.

BIL §50210(a)(1)(B): Additional Subsidization

Section 603(i)
As amended, the CWA section 603(i) now states:

> (i) ADDITIONAL SUBSIDIZATION.—
> (1) IN GENERAL.—In any case in which a State provides assistance to an eligible recipient under subsection (d), the State may provide additional subsidization *(including forgiveness of principal, grants, negative interest loans, other loan forgiveness, and through buying, refinancing, or restructuring debt)*~~including forgiveness of principal and negative interest loans—~~
> (A) to benefit a municipality that—
> (i) meets the affordability criteria of the State established under paragraph (2); or
> (ii) does not meet the affordability criteria of the State if the recipient—
> (I) seeks additional subsidization to benefit individual ratepayers in the residential user rate class;
> (II) demonstrates to the State that such ratepayers will experience a significant hardship from the increase in rates necessary to finance the project or activity for which assistance is sought; and
> (III) ensures, as part of an assistance agreement between the State and the recipient, that the additional subsidization provided under

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this paragraph is directed through a user charge rate system (or other appropriate method) to such ratepayers; or

(B) to implement a process, material, technique, or technology—

(i) to address water-efficiency goals;

(ii) to address energy-efficiency goals;

(iii) to mitigate stormwater runoff; or

(iv) to encourage sustainable project planning, design, and construction.

(2) AFFORDABILITY CRITERIA.—

(A) ESTABLISHMENT.—

(i) IN GENERAL.—Not later than September 30, 2015, and after providing notice and an opportunity for public comment, a State shall establish affordability criteria to assist in identifying municipalities that would experience a significant hardship raising the revenue necessary to finance a project or activity eligible for assistance under subsection (c)(1) if additional subsidization is not provided.

(ii) CONTENTS.—The criteria under clause (i) shall be based on income and unemployment data, population trends, and other data determined relevant by the State, including whether the project or activity is to be carried out in an economically distressed area, as described in section 301 of the Public Works and Economic Development Act of 1965 (42 U.S.C. 3161).

(B) EXISTING CRITERIA.—If a State has previously established, after providing notice and an opportunity for public comment, affordability criteria that meet the requirements of subparagraph (A)—

(i) the State may use the criteria for the purposes of this subsection; and

(ii) those criteria shall be treated as affordability criteria established under this paragraph.

(C) INFORMATION TO ASSIST STATES.—The Administrator may publish information to assist States in establishing affordability criteria under subparagraph (A).

(3) LIMITATIONS.—

(A) IN GENERAL.—A State may provide additional subsidization in a fiscal year under this subsection only if the total amount appropriated for making capitalization grants to all States under this title for the fiscal year exceeds $1,000,000,000.

(B) TOTAL AMOUNT OF SUBSIDIZATION.—

(i) In general.--For each fiscal year, of the amount of the capitalization grant received by the State under this title, the total amount of additional subsidization made available by a State under paragraph (1)—

(I) may not exceed 30 percent; and

(II) to the extent that there are sufficient applications for assistance to communities described in that paragraph, may not be less than 10 percent.

(ii) Exclusion.--A loan from the water pollution control revolving fund of a State with an interest rate equal to or greater than 0 percent shall not be considered additional subsidization for purposes of this subparagraph.

~~(B) ADDITIONAL LIMITATION.—~~

~~(i) GENERAL RULE.—Subject to clause (ii), a State may use not more than 30 percent of the total amount received by the State in capitalization~~

~~grants under this title for a fiscal year for providing additional subsidization under this subsection.~~

~~(ii) EXCEPTION.—If, in a fiscal year, the amount appropriated for making capitalization grants to all States under this title exceeds $1,000,000,000 by a percentage that is less than 30 percent, clause (i) shall be applied by substituting that percentage for 30 percent.~~

(C) APPLICABILITY.—The authority of a State to provide additional subsidization under this subsection shall apply to amounts received by the State in capitalization grants under this title for fiscal years beginning after September 30, 2014.

(D) CONSIDERATION.—If the State provides additional subsidization to a municipality or intermunicipal, interstate, or State agency under this subsection that meets the criteria under paragraph (1)(A), the State shall take the criteria set forth in section 602(b)(5) into consideration.

Explanation: Section 603(i) of the CWA now requires states to provide between 10% and 30% of their capitalization grant as additional subsidization whenever the annual appropriation is greater than $1,000,000,000, "to the extent there are sufficient applications for assistance." States unable to find sufficient eligible projects should explain in their Intended Use Plan (IUP) and Annual Report why the provision was not met and what they are doing to ensure that this provision is met in future years (e.g., marketing, outreach, technical assistance).

Additional subsidization may only be provided for the following:

- to benefit a municipality that meets the state's affordability criteria as established under the CWA section 603(i)(2);
- to benefit a municipality that does not meet the state's affordability criteria but seeks additional subsidization to benefit individual ratepayers in the residential user rate class; or
- to any eligible recipient to implement a process, material, technique, or technology that addresses water or energy efficiency goals; mitigates stormwater runoff; or encourages sustainable project planning, design, and construction.

If additional subsidization is being used to benefit individual ratepayers in the residential user rate class of a municipality that does not meet the affordability criteria, then the recipient must demonstrate to the CWSRF's satisfaction that these ratepayers would otherwise experience a significant hardship from the increase in rates necessary to finance the project or activity for which assistance is being sought. Additionally, the assistance agreement between the CWSRF and the recipient must include language indicating that the additional subsidization would be provided to these ratepayers through a user charge rate system or other appropriate method.

This section has also been amended by BIL to expand the eligible types of additional subsidy that states may offer to assistance recipients. Prior to the passage of BIL, CWA authorized additional subsidies explicitly in the form of a *loan* (e.g., loans which include principal forgiveness and/or a negative interest rate).

As amended by BIL, CWA section 603(i) now explicitly adds grants as an eligible form of additional subsidy.[39] States should be aware that "grant" recipients are legally considered "subrecipients" for the purposes of OMB's grant regulations at 2 CFR Part 200 *et. seq*. In other words, assistance recipients

[39] Though not explicitly mentioned, states could still provide additional subsidy as grants under CWA section 603(i)

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receiving additional subsidy in the form of a grant are subject to additional cross-cutting federal requirements not applicable to those receiving other forms of additional subsidy. EPA's subaward policy establishes the requirements and procedures for Grants Management Offices and Program Offices in making determinations regarding subrecipient eligibility, overseeing pass-through entity monitoring and management of subawards, and authorizing fixed amount subawards under 2 CFR 200.331, 200.332, and 200.333 ("the applicable regulations").

As amended by BIL section 603(i) also adds "buying, refinancing, or restructuring of debt" as options for offering additional subsidy to eligible assistance recipients. States may only purchase, refinance, or restructure debt that was associated with a CWSRF-eligible project. It is not necessary for the debt to have originated with the state's CWSRF program. However, the projects must still have been CWSRF-eligible and met all applicable CWSRF requirements. It is important to note that BIL codifies that an assistance agreement with a 0% or higher interest rate is not considered to be additional subsidy. In other words, the monetary savings to an assistance recipient for a loan with, for example, a 2% interest rate versus a 4% interest rate is not considered additional subsidization.

Finally, CWA section 603(i) allows states to provide additional subsidy in the form of other loan forgiveness. Any state intending to offer other loan forgiveness must provide sufficient documentation within the Intended Use Plan, showing that such assistance is consistent with the other eligible forms of additional subsidy by resulting in a permanent reduction in principal that must be repaid.

BIL §50210(a)(1)(C): Technical Assistance

Section 603(k)
As amended, the CWA now includes section 603(k), which states:

> *(k) Additional Use of Funds.--A State may use an additional 2 percent of the funds annually awarded to each State under this title for nonprofit organizations (as defined in section 104(w)) or State, regional, interstate, or municipal entities to provide technical assistance to rural, small, and tribal publicly owned treatment works (within the meaning of section 104(b)(8)(B)) in the State.*

Explanation: States may use up to an amount equal to 2% of their annual capitalization grant to provide assistance to nonprofit organizations[40] or State, regional, interstate, or municipal entities to provide technical assistance to rural, small, and tribal publicly owned treatment works. Examples of such assistance include, but are not limited to, retaining circuit riders to provide technical assistance; contracting with technical assistance providers; contracting with engineering firms directly to help develop projects; retaining certified public accountants or financial institutions to help recipients

[40] Consistent with the definition of *Nonprofit organization* at 2 CFR § 200.1, the term nonprofit organization means any corporation, trust, association, cooperative, or other organization that is operated mainly for scientific, educational, service, charitable, or similar purpose in the public interest and is not organized primarily for profit; and uses net proceeds to maintain, improve, or expand the operation of the organization. The term includes nonprofit colleges, universities, other educational institutions and tax-exempt nonprofit neighborhood and labor organizations. Nonprofit organizations that are not exempt from taxation under section 501 of the Internal Revenue Code must submit other forms of documentation of nonprofit status; such as certificates of incorporation as nonprofit under state or tribal law. Nonprofit organizations exempt from taxation under section 501(c)(4) of the Internal Revenue Code that lobby are not eligible for EPA funding as provided in the Lobbying Disclosure Act, 2 U.S.C. 1611.

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complete the financial portions of SRF application packages; and retaining entities to complete Davis-Bacon related acts and/or AIS/BABAA compliance for recipients.

The maximum amount of CWSRF money that may be used to provide technical assistance consistent with section 603(k) of the CWA is an amount equal to 2% of all grant awards received by a state CWSRF after November 15, 2021. If a state does not utilize the full amount of the technical assistance funds allowed under a capitalization grant, they may reserve the right to utilize the unused portion at a later date.

States must include in the Intended Use Plan the amount of the technical assistance funds they plan to use as well as a description of the activities they plan to fund. In the Annual Report and the SRF Reporting System, states must provide a detailed accounting of the use of the funds.

BIL §50210(b): Capitalization Grant Reauthorization

Section 607
As amended, CWA section 607 now states:

> **SEC. 607. AUTHORIZATION OF APPROPRIATIONS.—**
> There is authorized to be appropriated to carry out the purposes of this title ~~the following sums:~~
> ~~(1) $1,200,000,000 per fiscal year for each of fiscal year 1989 and 1990;~~
> ~~(2) $2,400,000,000 for fiscal year 1991;~~
> ~~(3) $1,800,000,000 for fiscal year 1992;~~
> ~~(4) $1,200,000,000 for fiscal year 1993; and~~
> ~~(5) $600,000,000 for fiscal year 1994.~~
> *(1) $2,400,000,000 for fiscal year 2022;*
> *(2) $2,750,000,000 for fiscal year 2023;*
> *(3) $3,000,000,000 for fiscal year 2024; and*
> *(4) $3,250,000,000 for each of fiscal years 2025 and 2026.*

Explanation: This section reauthorizes the CWSRF from federal fiscal years 2022 through 2026. The funding levels will be set through the annual appropriations process.

BIL §50220: Clean Watersheds Needs Survey

As amended, the CWA now includes section 609, which states:

> ***SEC. 609. CLEAN WATERSHEDS NEEDS SURVEY.***
> *(a) Requirement.--Not later than 2 years after the date of enactment of this section, and not less frequently than once every 4 years thereafter, the Administrator shall---*
> *(1) conduct and complete an assessment of capital improvement needs for all projects that are eligible under section 603(c) for assistance from State water pollution control revolving funds; and*
> *(2) submit to Congress a report describing the results of the assessment completed under paragraph (1).*
> *(b) Authorization of Appropriations.--There is authorized to be appropriated to carry out the initial needs survey under subsection (a) $5,000,000, to remain available until expended.*

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Explanation: This section expands the Clean Watersheds Needs Survey to include all capital projects eligible for CWSRF funding under CWA section 603(c). It also authorizes $5 million for implementing the Clean Watershed Needs Survey.

Other BIL sections involving the CWSRF

BIL §50216: Small and Disadvantaged Community Analysis

This section is part of BIL and relates to the CWSRF but is not a new section of the CWA.

> ***(a) ANALYSIS.***—*Not later than 2 years after the date of enactment of this Act, using environmental justice data of the Environmental Protection Agency, including data from the environmental justice mapping and screening tool of the Environmental Protection Agency, the Administrator shall carry out an analysis under which the Administrator shall assess the programs under title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) and section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j–12) to identify historical distributions of funds to small and disadvantaged communities and new opportunities and methods to improve on the distribution of funds under those programs to low income communities, rural communities, minority communities, and communities of indigenous peoples, in accordance with Executive Order 12898 (42 U.S.C. 4321 note; 60 Fed. Reg. 6381; relating to Federal actions to address environmental justice in minority populations and low-income populations).*
> ***(b) REQUIREMENT.***—*The analysis under subsection (a) shall include an analysis, to the extent practicable, of communities in the United States that do not have access to drinking water or wastewater services.*
> ***(c) REPORT.***—*On completion of the analysis under subsection (a), the Administrator shall submit to the Committee on Environment and Public Works of the Senate and the Committees on Energy and Commerce and Transportation and Infrastructure of the House of Representatives a report describing—*
> *(1) the results of the analysis; and*
> *(2) the criteria the Administrator used in carrying out the analysis.*

Explanation: This section directs EPA to conduct an analysis of fund distributions to small and disadvantaged communities by November 15, 2023.

BIL §70901: Build America, Buy America Act

Title IX of BIL creates the Build America, Buy America (BABA) Act domestic sourcing requirements for Federal financial assistance programs for infrastructure, including the SRF programs. See Title IX language beginning on page 866 of the BIL. For more specific information on BABA implementation, please refer to the upcoming Office of Management and Budget's Build America, Buy America Act Implementation Guidance. EPA will issue a separate memorandum for BABA after OMB publishes its guidance.

EPA General Provisions Section 614: CWSRF Additional Authorization

This section is part of the EPA General Provisions in BIL:

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SEC. 614. (b) Clean Water.*—There is authorized to be appropriated to carry out the purposes of title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.), in addition to amounts otherwise authorized to be appropriated for those purposes, an additional $1,639,000,000 for each of fiscal years 2022 through 2026.*

***Explanation*:** This section authorizes additional appropriations from federal fiscal years 2022 through 2026. The funding levels will be set by through the annual appropriations process.

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Attachment 3:
Implementation of DWSRF-Related Amendments in the Bipartisan Infrastructure Law

On November 15, 2021, President Biden signed the Bipartisan Infrastructure Law (BIL) into law. Among its provisions are amendments to the Safe Drinking Water Act §1452 (42 U.S.C. 300j-12) that make changes to the base DWSRF program. This document summarizes the key changes and provides the relevant legislative text. These changes apply to all capitalization grants awarded after November 15, 2021.

Summary of Changes to Base DWSRF

- **Reauthorization of DWSRF:** The BIL reauthorized the DWSRF from federal fiscal years 2022 through 2026. The funding levels will be set through the annual appropriations process. Authorized levels are provided in the table below.

FY22	FY23	FY24	FY25	FY26
$2.4B	$2.75B	$3.0B	$3.25B	$3.25B

- **Additional Authorization:** The BIL authorizes additional appropriations of $1,126,000,000 for each fiscal year 2022 through 2026 for the DWSRF. The funding levels will be set through the annual appropriations process.

- **Assistance for Disadvantaged Communities:** The BIL amended requirements related to additional subsidy assistance for disadvantaged communities. States are required to use at least 12% (an increase from 6%), but no more than 35%, of the capitalization grant amount for additional subsidy for state-defined Disadvantaged Communities. The BIL also expands the eligible uses of additional subsidy to include:
  - grants;
  - buying, refinancing, or restructuring debt; and
  - other loan forgiveness.

- **Technical Assistance Set-Aside:** The EPA Administrator is authorized to take a portion of DWSRF appropriations for the small system technical assistance national set-aside. The authorized set side is up to 2% and is taken prior to the calculation of the state allotments. This authorization lasts through federal fiscal year 2026. This authorization has existed since the 1996 SDWA Amendments.

- **Analysis of Fund Distribution to Disadvantaged Communities:** The BIL directs EPA to conduct an analysis of fund distributions to small and disadvantaged communities by November 15, 2023. EPA Headquarters and Regions will work collaboratively with states in this analysis.

- **Build America, Buy America:** The BIL established the Build America, Buy America (BABA) Act domestic sourcing requirements for federal financial assistance programs for infrastructure, including the SRF programs. EPA water infrastructure programs must comply with the BABA provision. EPA will be issuing BABA guidance for all water infrastructure programs upon publication of Office of Management and Budget agency-wide guidance.

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- **American Iron and Steel (AIS):** AIS is now permanent for all DWSRF-funded projects.

Amended Legislative Text and Explanation

Text in *italics* is new and text in ~~strikethrough~~ was deleted.

BIL §50102(a): American Iron and Steel Requirement

As amended, the SDWA §1452(a)(4)(A) now states:

(4) American iron and steel products

(A) In general

~~During fiscal years 2019 through 2023, funds~~ *Funds* made available from a State loan fund established pursuant to this section may not be used for a project for the construction, alteration, or repair of a public water system unless all of the iron and steel products used in the project are produced in the United States.

***Explanation*:** This section makes the American Iron and Steel (AIS) provision permanent for DWSRF-funded projects.

BIL §50102(a): Authorization of Appropriations

As amended, the SDWA §1452(m) now states:

(m) Authorization of appropriations

(1) There are authorized to be appropriated to carry out the purposes of this section, except for subsections (a)(2)(G) and (t)-

(A) $1,174,000,000 for fiscal year 2019;

(B) $1,300,000,000 for fiscal year 2020; ~~and~~

(C) $1,950,000,000 for fiscal year 2021~~.~~*; and*

(D) $2,400,000,000 for fiscal year 2022;

(E) $2,750,000,000 for fiscal year 2023;

(F) $3,000,000,000 for fiscal year 2024; and

(G) $3,250,000,000 for each of fiscal years 2025 and 2026.

(2) To the extent amounts authorized to be appropriated under this subsection in any fiscal year are not appropriated in that fiscal year, such amounts are authorized to be appropriated in a subsequent fiscal year. Such sums shall remain available until expended.

***Explanation*:** This section reauthorizes the DWSRF from federal fiscal years 2022 through 2026. The funding levels will be set through the annual appropriations process.

BIL §50102(a): Authorization of Small System Technical Assistance Set-aside

As amended, the SDWA §1452(q) now states:

(q) Small system technical assistance

The Administrator may reserve up to 2 percent of the total funds made available to carry out this section for each of fiscal years ~~2016 through 2021~~ *2022 through 2026* to carry out the provisions of section 300j–1(e) of this title (relating to technical assistance for small systems), except that the total amount of funds made available for such purpose in any fiscal year through

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appropriations (as authorized by section 300j–1(e) of this title) and reservations made pursuant to this subsection shall not exceed the amount authorized by section 300j–1(e) of this title.

Explanation: This section reauthorizes the EPA Administrator to take up to 2% of the Congressional DWSRF appropriation, prior to the calculation of the state allotments, for the small system technical assistance national set-aside. This authorization lasts through federal fiscal year 2026. This authorization has existed since the 1996 SDWA Amendments.

BIL §50102(b): Assistance for Disadvantaged Communities

As amended, the SDWA §1452(d) now states:

(d) Assistance for disadvantaged communities

(1) Loan subsidy

~~Notwithstanding any~~ *(A) IN GENERAL.—Notwithstanding any* other provision of this section, in any case in which the State makes a loan pursuant to subsection (a)(2) to a disadvantaged community or to a community that the State expects to become a disadvantaged community as the result of a proposed project, the State may provide additional subsidization (including forgiveness of principal~~)~~*, grants, negative interest loans, other loan forgiveness, and through buying, refinancing, or restructuring debt)*.

(B) EXCLUSION.—A loan from a State loan fund with an interest rate equal to or greater than 0 percent shall not be considered additional subsidization for purposes of this subsection.

(2) Total amount of subsidies

For each fiscal year, of the amount of the capitalization grant received by the State for the year, the total amount of loan subsidies made by a State pursuant to paragraph (1)-

(A) may not exceed 35 percent; and

~~(B) to the extent that there are sufficient applications for loans to communities described in paragraph (1), may not be less than 6 percent.~~

(B) to the extent that there are sufficient applications for loans to communities described in paragraph (1), may not be less than 12 percent.

(3) "Disadvantaged community" defined

In this subsection, the term "disadvantaged community" means the service area of a public water system that meets affordability criteria established after public review and comment by the State in which the public water system is located. The Administrator may publish information to assist States in establishing affordability criteria.

Explanation: This section requires states to use at least 12%, but no more than 35%, of the capitalization grant amount for additional subsidy for state-defined Disadvantaged Communities. Before BIL, the floor was 6%. This requirement pertains to capitalization grants awarded by EPA to states after November 15, 2021. For most states, this is the Federal Fiscal Year 2022 capitalization grant. Note that the Disadvantaged Community Additional Subsidy authority is distinct from the additional subsidy authority Congress provided under recent appropriations acts.

States must continue to implement a Disadvantaged Community Program and solicit applications from water systems. EPA encourages states to maximize the use of this authority to help address affordability of drinking water in disadvantaged communities.

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This section also expands the eligible types of Disadvantaged Community Additional Subsidy that states may offer to assistance recipients. Prior to the passage of BIL, SDWA authorized additional subsidies exclusively in the form of a *loan* (e.g., loans which include principal forgiveness and/or a negative interest rate).

States may now offer additional subsidization under this authority to assistance recipients in the form of grants. States should be aware that "grant" recipients are legally considered "subrecipients" for the purposes of OMB's grant regulations at 2 CFR Part 200 *et. seq.* In other words, assistance recipients receiving additional subsidy in the form of a grant are subject to additional cross-cutting federal requirements not applicable to those receiving other forms of additional subsidy, including a *loan* with principal forgiveness or a negative interest rate. EPA's subaward policy establishes the requirements and procedures for Grants Management Offices and Program Offices in making determinations regarding subrecipient eligibility, overseeing pass-through entity monitoring and management of subawards, and authorizing fixed amount subawards under 2 CFR 200.331, 200.332, and 200.333 ("the applicable regulations").

BIL also adds "other loan forgiveness" and "buying, refinancing, or restructuring of debt" as additional subsidization options for states to consider offering to assistance recipients. States may only purchase, refinance, or restructure debt and provide "other loan forgiveness" for projects that were DWSRF-eligible and met DWSRF requirements. It is not necessary for the debt to have originated with the state's DWSRF program. Like all DWSRF projects, these assistance agreements must be scored and ranked amongst all other projects and have met all DWSRF requirements.

BIL codifies that a loan with a 0% or higher interest rate is not considered to be additional subsidy. In other words, the monetary savings to an assistance recipient for a loan with, for example, a 2% interest rate versus a 4% interest rate is not considered additional subsidization. This affirms what is written in the current DWSRF regulations.[41]

As a reminder, fees included as principal in a loan cannot be assessed on a disadvantaged community receiving additional subsidy under the Disadvantaged Community Additional Subsidy authority.[42]

EPA Regions must verify whether a state satisfies the mandate to use between 12% and 35% of the capitalization grant amount for the Disadvantaged Community Additional Subsidy at the time of grant application and during reviews.

Other BIL Sections Involving the DWSRF

BIL §50216: Small and Disadvantaged Community Analysis

This section is part of BIL and relates to the DWSRF but is not a new section of SDWA.

(a) ANALYSIS.*—Not later than 2 years after the date of enactment of this Act, using environmental justice data of the Environmental Protection Agency, including data from the environmental justice mapping and screening tool of the Environmental Protection Agency, the Administrator shall carry out an analysis under which the Administrator shall assess the programs under title VI of the Federal Water Pollution Control Act (33 U.S.C. 1381 et seq.) and section 1452 of the Safe Drinking Water Act (42*

[41] 40 CFR §35.3525(b)
[42] 40 CFR §35.3530(b)(3)

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U.S.C. 300j–12) to identify historical distributions of funds to small and disadvantaged communities and new opportunities and methods to improve on the distribution of funds under those programs to low income communities, rural communities, minority communities, and communities of indigenous peoples, in accordance with Executive Order 12898 (42 U.S.C. 4321 note; 60 Fed. Reg. 6381; relating to Federal actions to address environmental justice in minority populations and low-income populations).
***(b) REQUIREMENT.**—The analysis under subsection (a) shall include an analysis, to the extent practicable, of communities in the United States that do not have access to drinking water or wastewater services.*
***(c) REPORT.**—On completion of the analysis under subsection (a), the Administrator shall submit to the Committee on Environment and Public Works of the Senate and the Committees on Energy and Commerce and Transportation and Infrastructure of the House of Representatives a report describing—*

(1) the results of the analysis; and
(2) the criteria the Administrator used in carrying out the analysis.

***Explanation*:** This section directs EPA to conduct an analysis of fund distributions to small and disadvantaged communities by November 15, 2023.

EPA General Provisions Section 614: DWSRF Additional Authorization

This section is part of the EPA General Provisions in BIL:
***SEC. 614. (a) DRINKING WATER.**—There is authorized to be appropriated to carry out the purposes of section 1452 of the Safe Drinking Water Act (42 U.S.C.300j–12), in addition to amounts otherwise authorized to be appropriated for those purposes, an additional $1,126,000,000 for each of fiscal years 2022 through 2026.*

***Explanation*:** This section authorizes additional appropriations from federal fiscal years 2022 through 2026. The funding levels will be set through the annual appropriations process.

BIL §70901: Build America, Buy America Act

Title IX of BIL creates the Build America, Buy America (BABA) Act domestic sourcing requirements for Federal financial assistance programs for infrastructure, including the SRF programs. See Title IX language beginning on page 866 of the BIL. For more specific information on BABA implementation, please refer to the upcoming Office of Management and Budget's Build America, Buy America Act Implementation Guidance. EPA will issue a separate memorandum for BABA after OMB publishes its guidance.

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EPA FACT SHEET

Bipartisan Infrastructure Law: State Revolving Funds Implementation Memorandum

March 2022

President Biden signed the Bipartisan Infrastructure Law (BIL) on November 15, 2021. The law's investment in the water sector is nothing short of transformational. It includes $50 billion to the Environmental Protection Agency (EPA) to strengthen the nation's drinking water and wastewater systems—the single largest investment in clean water that the federal government has ever made. A significant portion of water infrastructure dollars will flow through the Clean Water and Drinking Water State Revolving Funds (SRFs), which represent a partnership between the Agency, states, tribes, territories, and local communities. EPA is committed to maximizing the impact of these funds in addressing urgent water challenges facing communities.

EPA's implementation memorandum provides information and guidelines on how EPA will administer the SRF capitalization grants appropriated to states under the law. The implementation memorandum is expected to be applicable to all five years of BIL appropriations.

Provide Flexibility to Meet Local Water Needs

A fundamental principle of the SRFs is the flexibility provided to states and borrowers to address a wide variety of local water quality and public health challenges. EPA continues to support and actively encourages flexibility in the implementation of SRF funding included in the BIL. With supplemental funding to the CWSRF and DWSRF—and creation of dedicated funding within the SRFs to tackle lead and emerging contaminants—states will have a great deal of flexibility in program administration.

Increase Investment in Disadvantaged Communities

A key priority of the Bipartisan Infrastructure Law is to ensure that disadvantaged communities benefit equitably from this historic investment in water infrastructure. Disadvantaged communities can include those with environmental justice concerns that often are low-income and communities of color. Disadvantaged communities experience, or are at risk of experiencing, disproportionately high exposure to pollution—whether in air, land, or water.

The Bipartisan Infrastructure Law mandates that 49 percent of funds provided through the DWSRF General Supplemental Funding and the DWSRF Lead Service Line Replacement Funding must be provided as grants and forgivable loans to disadvantaged communities. The BIL also requires that at least 25 percent of funds provided through the DWSRF Emerging Contaminants Funding be provided as grants and forgivable loans to disadvantaged communities or public water systems serving fewer than 25,000 people. For the CWSRF, the law mandates that 49 percent of funds provided through the CWSRF General Supplemental Funding must be provided as grants and forgivable loans to communities that meet the state's affordability criteria or certain project types, consistent with the Clean Water Act. To accomplish this, states may need to:

- Evaluate and revise, as needed, the DWSRF disadvantaged community definition and CWSRF affordability criteria.
- Evaluate the SRF priority point system for project ranking commensurate with need.
- Use technical assistance funding to help disadvantaged communities identify needs and access funding.
- Engage residents and community stakeholders in disadvantaged communities.

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EPA will collaborate with state SRF programs to share models, examples, and build state capacity to target resources to disadvantaged communities.

Make Rapid Progress on Lead Service Line Replacement

The BIL contains a historic $15 billion in dedicated funding through the DWSRF for lead service line (LSL) identification and replacement. This funding is being provided to states with no match requirement. EPA will collaborate with state SRF programs to share models, guidance, and build state capacity to assist local communities and ensure lead service line funding is effectively and equitably deployed. DWSRF supplemental funding and base funding can be used for LSL identification and replacement. The implementation memorandum provides examples of eligible projects. Any project funded under this appropriation must replace the entire LSL, not just a portion, unless a portion has already been replaced.

Address PFAS and Emerging Contaminants

The BIL provides $5 billion through the SRFs to reduce people's exposure to perfluoroalkyl and polyfluoroalkyl substances (PFAS) and other emerging contaminants through their drinking water and to help address discharges through wastewater and, potentially, nonpoint sources. By law, these funds must be distributed to communities entirely as forgivable loans or grants. States are not required to provide matching funds. This demonstrates an unprecedented commitment from Congress to addressing PFAS water contamination across the nation. The implementation memorandum provides a description of emerging contaminants for the SRF programs to use in evaluating project eligibility.

Support Resilience and One Water Innovation

One of the defining features of the State Revolving Funds is the broad range of eligible projects that states can fund to flexibly support priority needs. EPA encourages states to utilize the significant increase in SRF funding for infrastructure projects that make water systems more resilient to all threats—whether it is natural disasters, climate change, or threats such as bioterrorism and cyber-attacks.

Support American Workers and Renew the Water Workforce

The Bipartisan Infrastructure Law is not only an opportunity to reinvest in America's water infrastructure, it is an opportunity to invest in the American worker. SRF projects are protected by Davis-Bacon prevailing wage requirements, consistent with federal law. BIL investments will create jobs in construction, operations and maintenance, and other family-supporting careers—at a pivotal moment when more than one-third of the water workforce will retire in the next five years. As it implements BIL, EPA is committed to working with states, tribes, and territories—as well as labor organizations, employers, and educators—to renew America's water workforce and create good-paying jobs in communities across America.

Cultivate Domestic Manufacturing

Acting in a bipartisan fashion, Congress passed the Build America Buy America (BABA) Act in 2021, concurrently with the Bipartisan Infrastructure Law. Congress established this domestic preference program to create long-term opportunities for domestic manufacturers and manufacturing jobs and build resilient domestic supply chains for a wide range of products. BABA expands existing American Iron and Steel (AIS) requirements for SRF recipients to include additional materials and manufactured goods. In the coming weeks, EPA plans to issue implementation procedures for BABA compliance for federal water infrastructure funding programs. EPA will work closely with states, tribes, and territories on technical assistance and training.

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Fully Enforce Civil Rights

Under Title VI of the Civil Rights Act, EPA has a responsibility to ensure that federal funds are not being used to subsidize discrimination based on race, color, or national origin. EPA's nondiscrimination regulations prohibit recipients of EPA financial assistance from taking actions in their programs or activities that are intentionally discriminatory and/or have a discriminatory effect based on race, color, national origin, age, disability, or sex. EPA intends to carefully evaluate the implementation of SRF funding under the BIL to ensure compliance with civil rights laws.

Refine State SRFs to Build the Pipeline of Projects

EPA encourages states to strategically use funds from the Bipartisan Infrastructure Law as a catalyst to continue building and maintaining a robust project pipeline of SRF projects. EPA recommends states use practices already exemplified in some SRF programs, such as simplifying and streamlining their application process, using set-asides and technical assistance to build capacity in small and disadvantaged systems, encouraging integrated and regional approaches, and increasing internal and external outreach about the new funding opportunities through the SRF programs.

BIL SRF Funding Details

SRF Funding Program	Total Funding	State Match	Additional Subsidy	Eligible for Additional Subsidy
Clean Water SRF Supplemental	$11,713,000,000	10% in 2022 & 2023 20% in 2024 - 2026	49%	Assistance recipients that meet the state's affordability criteria or project types as described in section 603(i) of the CWA.
Drinking Water SRF Supplemental	$11,713,000,000	10% in 2022 & 2023 20% in 2024 - 2026	49%	Disadvantaged Communities
Clean Water Emerging Contaminants	$1,000,000,000	0%	100%	No restriction
Drinking Water Emerging Contaminants	$4,000,000,000	0%	100%	25% for Disadvantaged Communities or Public Water Systems Serving Fewer Than 25,000 Persons
Drinking Water Lead	$15,000,000,000	0%	49%	Disadvantaged Communities

ED_013319_00000091-00003

Message

From: Gettle, Jeaneanne [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=D8E72AA7E1894FAEA44006FD9F22B637-GETTLE, JEANEANNE]
Sent: 3/21/2022 5:33:32 PM
To: Jim.craig@msdh.ms.gov; Herrington, Lester [Lester.Herrington@msdh.ms.gov]; William Moody [william.moody@msdh.ms.gov]
CC: Kemker, Carol [Kemker.Carol@epa.gov]; Diaz, Denisse [Diaz.Denisse@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Newman, Keriema [Newman.Keriema@epa.gov]; Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Follow up to Friday's conversation
Attachments: Reeves.pdf

Jim, Les and Bill,

I hope this finds you all well. Attached is the letter that I discussed with Les on Friday. Please let me know if you have any questions.

Thanks
Jeaneanne

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

MAR 18 2022

THE ADMINISTRATOR

The Honorable Tate Reeves
Governor of Mississippi
P.O. Box 139
Jackson, Mississippi 39205

Dear Governor Reeves:

In November of last year, I had the opportunity to travel through Mississippi, Louisiana and Texas to speak with communities across those states. This trip spotlighted longstanding environmental justice concerns in historically marginalized communities, and I heard firsthand from residents dealing with the impacts of pollution. I write to follow up on this visit and to ask for your partnership in advancing environmental justice for the people of Mississippi.

My first stop was in Jackson, Mississippi, where I spent the day speaking with city leaders about how the capital city could benefit from financial support, including federal funding. I also met with members of the community who expressed frustration with the many water challenges they have been experiencing for far too long. Every day, they face anxiety and uncertainty about whether their water is safe to use and reliable enough to meet basic necessities, such as bathing and washing clothes. Many have had no choice but to turn to bottled water to sustain their daily water needs.

While in Jackson, I also toured the O.B. Curtis Water Treatment Plant and saw firsthand the challenges remaining to get the facility operating at full capacity – an action critical to the city's ability to deliver safe and healthy water to the people of Jackson. As President Joe Biden was signing the Bipartisan Infrastructure Law, I was meeting with school administrators and student leaders at Wilkins Elementary School on a day the school was closed due to citywide water issues. Water pressure at this school is regularly so low that it must provide portable toilets for more than 350 students, faculty and staff. The water issues also mean Wilkins Elementary School is unable to provide hot meals to students. I am sure we can agree that educators and students should be focused on learning, not whether there is sufficient running water to service toilets or provide sanitary conditions for cooking.

The U.S. Environmental Protection Agency wants to ensure federal infrastructure resources are immediately targeted to those who need them most. We are committed to working diligently with our state partners to be sure that in the first year of BIL implementation, communities like Jackson will be able to access needed funds and move forward with investing those resources. These communities cannot wait for subsequent years' allotments. I need your help to make this

happen. I am writing to ask for your partnership in ensuring that the State Revolving Funds allocated by the EPA to the state of Mississippi in 2022 reach the communities most in need of drinking water and wastewater infrastructure improvements, such as Jackson. I offer the assistance of our agency in the SRF process, and I would welcome further dialogue with you to meet these critical needs.

Almost half of the Bipartisan Infrastructure Law's nearly $44 billion in SRF funds are eligible for distribution as grants or fully forgivable loans. States have the power to open the door to disadvantaged communities who for too long have struggled to compete for financing from traditional SRFs and other loan programs. Importantly, Mississippi and other states will have the ability to direct funding to assist communities as states develop the plans needed to address water challenges. States and the federal government will need to work together to remove barriers and ensure these funds reach underserved communities that have previously been shut out of accessing water infrastructure funding because they lack the financial, technical and managerial capacity to access traditional SRF loans.

Mississippi's allotment of BIL funds for 2022 is estimated to be $74,899,000 through the SRF program. As the governor of Mississippi, you have the authority to direct these resources to the communities most in need. It is a moral imperative that we ensure no child and no family is left to drink dirty water because of their zip code. I hope that you will personally engage in the distribution of your state's funding to ensure it is used to solve some of most dire needs in Jackson and other areas of need across the great state of Mississippi.

We are also communicating with Mayor Chokwe Lumumba about the need for the city to work with the state to expedite action to begin resolving these issues. The EPA issued a Notice of Noncompliance that underscores the need for critical repairs to the water system on January 25, 2022. The city worked quickly with the state and the EPA to chart an approved path forward to address the compliance concerns raised in this letter.

Please do not hesitate to contact me, and your staff can always contact Casey Katims, deputy associate administrator for Intergovernmental Relations, at (202) 494-4609 or katims.casey@epa.gov.

Sincerely yours,

Michael S. Regan

Michael S. Regan

Message

From: Eric Branch [eric.branch@makersresource.com]
Sent: 2/18/2022 3:48:40 PM
To: Smith, Brian [Smith.Brian@epa.gov]
CC: Mary D. Carter [mdcarter@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Burns, Robert [Burns.Robert@epa.gov]; Frost, Tara [Frost.Tara@epa.gov]; Minton, Gabrielle [minton.gabrielle@epa.gov]; Dyson, Nushat [Dyson.Nushat@epa.gov]; Pickard, Brian [Pickard.Brian@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]
Subject: RE: requesting call to discuss expediting part delivery
Attachments: FW: SAP. # 152351497 JOB NAME: OB Curtis LimitAmp

Brian,

FYI – Please see the attached email sent to the distributor a few minutes ago regarding shipping the equipment on the agreed upon date of 3/7, short one component. This is not uncommon in these situations, and will allow the work to continue.

Thanks,

Eric Branch
(601) 954-8976

From: Smith, Brian <Smith.Brian@epa.gov>
Sent: Friday, February 4, 2022 2:02 PM
To: Eric Branch <eric.branch@makersresource.com>
Cc: Mary D. Carter <mdcarter@city.jackson.ms.us>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Minton, Gabrielle <minton.gabrielle@epa.gov>; Dyson, Nushat <Dyson.Nushat@epa.gov>; Pickard, Brian <Pickard.Brian@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Gettle, Jeaneanne <Gettle.Jeaneanne@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Great news, Eric. Thanks for the update and thank you for assistance!

-Brian

From: Eric Branch <eric.branch@makersresource.com>
Sent: Friday, February 4, 2022 2:59 PM
To: Smith, Brian <Smith.Brian@epa.gov>
Cc: Mary D. Carter <mdcarter@city.jackson.ms.us>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Minton, Gabrielle <minton.gabrielle@epa.gov>; Dyson, Nushat <Dyson.Nushat@epa.gov>; Pickard, Brian <Pickard.Brian@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Gettle, Jeaneanne <Gettle.Jeaneanne@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: requesting call to discuss expediting part delivery

Brian,

I just got this from the plant confirming your report:

" We had a meeting yesterday to get all of the players on the same team, and get commitments form all parties. We have been working on juggling the schedule today to make this request happen. We have a plan in place, and I have updated the system to reflect the 3/7/2022 shipment."

Thanks,

Eric Branch
(601) 954-8976

On Feb 4, 2022, at 7:57 AM, Smith, Brian <Smith.Brian@epa.gov> wrote:

Good morning all,

I think we have some good news. Thanks to the communication through Eric and the support from some critical infrastructure partners, and most of all from ABB's understanding and willingness to support the City of Jackson's needs, I understand the new target for shipping date is March 7th. I will look for Eric to confirm on his end, but wanted to reach out and thank everyone for the good communication this week!

-Brian

From: Eric Branch <eric.branch@makersresource.com>
Sent: Thursday, February 3, 2022 12:23 PM
To: Dyson, Nushat <Dyson.Nushat@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Cc: Mary D. Carter <mdcarter@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Minton, Gabrielle <minton.gabrielle@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Good morning, all.

I just got word from the production manager that he has a meeting this afternoon with the plant manager this afternoon to discuss options for what can be done to improve the schedule. Although I will not be in that meeting, and I do not know what time it will be, I will let you know of any developments as I get them.

Thanks,

Eric Branch
(601) 954-8976

From: Dyson, Nushat <Dyson.Nushat@epa.gov>
Sent: Wednesday, February 2, 2022 3:21 PM
To: Smith, Brian <Smith.Brian@epa.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Cc: Eric Branch <eric.branch@makersresource.com>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Minton, Gabrielle <minton.gabrielle@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Thank you, Brian, for this additional information. It will certainly help to get to the right individuals within GE. I will request the name of the contact that GE would like to provide.

V/R
Nushat

From: Smith, Brian <Smith.Brian@epa.gov>
Sent: Wednesday, February 2, 2022 4:18 PM
To: Pickard, Brian <Pickard.Brian@epa.gov>; Dyson, Nushat <Dyson.Nushat@epa.gov>
Cc: eric.branch@makersresource.com; Mary D. Carter <mdcarter@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>
Subject: FW: requesting call to discuss expediting part delivery

Hi Brian and Nushat,

The order number is included in the drawings. Order # 152351497
This is a custom engineered piece of equipment. We have been told that it has been ordered through GE, but it appears that GE may have sold the Mebane, NC facility to ABB.

ABB Inc., ELDS
6801 Industrial Drive
Mebane, NC 27302
abb.com

Eric Branch, with Makers Resources and cc'd on this email, is the rep. the City is working with. I think it will help if we can provide Eric any contact at GE that is part of the CISA Critical Manufacturing Sector.

Could you reply with that contact and we'll hopefully be able to close the loop on introductions of the right folks that may be able to expedite anything needed to complete this order?

We can then schedule a conference call to understand if there is any opportunity to advance the timeline (currently 4/27).

Thank you all for your communication on this!

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

From: Mary D. Carter <mdcarter@city.jackson.ms.us>
Sent: Wednesday, February 2, 2022 2:49 PM
To: Smith, Brian <Smith.Brian@epa.gov>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Brian,

Please see the attached for your information. I would request that if there are any meetings scheduled for discussion regarding the part, the City would be included.

Thanks for your assistance.

Mary

From: Mary D. Carter
Sent: Wednesday, February 2, 2022 1:17 PM
To: 'Smith, Brian' <Smith.Brian@epa.gov>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Brian,

I was expecting an email from Allied this morning, but unfortunately I have not received one. I just called Dwayne's cell phone and left a message. As soon as I hear from him, I will let you know.

Mary

From: Smith, Brian [mailto:Smith.Brian@epa.gov]
Sent: Wednesday, February 2, 2022 11:53 AM
To: Mary D. Carter <mdcarter@city.jackson.ms.us>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Good afternoon Mary,

Any word from Allied?

Here is a quick update on communication EPA had with partner agencies yesterday, FYI:

- EPA Water Security Division (WSD) reached out to the Section Chief for the Critical Manufacturing Sector at the U.S. Cybersecurity Infrastructure Security Agency (CISA) to find out if GE is a member and if we could contact them about the issue. CISA agreed and has conveyed the issue to GE who is now reaching out to the section who would have knowledge of equipment orders. However, we still need to speak with Allied to get the details on the Jackson, MS order specifically.
- WSD also reached out to the Dept. of Homeland Security state Protective Security Advisor, Max Fenn, to alert him of the issue and raise the profile in order to convey the sense of urgency that may assist GE in prioritizing Jackson, MS for the equipment delivery. He replied that he will elevate the issue to his regional leads and will participate in the call once scheduled. He was unaware of the need, however he is aware that there are issues.

Many folks are ready to assist as soon as we get the info on the equipment order from Allied or a call schedule with them to discuss. We are also happy to convene a call of federal and state partners to facilitate any mutual aid assistance for temporary high service pump options.

-Brian

From: Mary D. Carter <mdcarter@city.jackson.ms.us>
Sent: Tuesday, February 1, 2022 6:02 PM
To: Smith, Brian <Smith.Brian@epa.gov>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>
Subject: Re: requesting call to discuss expediting part delivery

Brian,

The Allied rep is not in his office, but will forward the information to me tomorrow morning and I will forward to you.

Thanks,

Mary

From: Smith, Brian <Smith.Brian@epa.gov>
Sent: Tuesday, February 1, 2022 4:10 PM
To: Charles Williams; Mary D. Carter; Marlin King
Cc: Campbell-Dunbar, Shawneille; Burns, Robert; Frost, Tara; Bragan, Mary Jo; Myers, Bryan
Subject: RE: requesting call to discuss expediting part delivery

Good evening all,

I am writing with a quick update. We have been able to elevate this need within GE through a Critical Manufacturing network contact. However, we need to close the loop on the specifics of the order. **Please email the part #, order # and/or the GE contact Allied has been in touch with, and we will connect the dots within GE and get some feedback on anything that might be done to speed the delivery.** Also a question came up that I hope you can answer: During the fire, were pumper trucks used put out the fire?

Thanks,
Brian

From: Smith, Brian
Sent: Tuesday, February 1, 2022 9:54 AM
To: Charles Williams <cwilliams@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; mking@city.jackson.ms.us
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <burns.robert@epa.gov>;

Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>
Subject: requesting call to discuss expediting part delivery

Good morning Marlon, Charles and Mary,

The highlighted txt is what we are sending out to help expedite the delivery of the pump control. We discussed scheduling a call with Allied to discuss what might be done to help speed things along. **Please provide your Allied contact(s) if you would like me to schedule the call, otherwise I will look for an invite from you and ask that you include those cc'd on this email.**

We would like to get as many specifics as we can on the part and the order number. As we discussed we will be highlighting the critical infrastructure needs when looking for the right contacts that can engage with GE at the appropriate level. This may be response partners on the power side of the federal government or through public/private partnership networks. Our intent is to support COJ and your existing contract to get this part as fast as possible.

In April 2021, an electrical fire broke out at Jackson's OB Curtis Water Treatment Plant. The fire damaged electrical controls in the High Service Pump #2 building. The fire damage necessitated replacing an electrical controller for their pumps. This controller is currently on order with General Electric through their vendor, Allied Electronics and Automation (https://www.alliedelec.com/about-us/) with an expected delivery date of April 27, 2022.

While the Curtis plant remains limited in operations due to waiting for this critical component, Jackson continues to experience repeated instances of decreased pressure from the Curtis plant, which translates into distribution system pressure loss to a significant number of customers.

During EPA Administrator Regan's Journey to Justice stop in Jackson in December 2021 the water system experienced another pressure loss and the school he was visiting had to close for the day due to the loss of service. The water crisis in Mississippi's capital has Administrator Regan's attention.

The City of Jackson has requested the EPA's assistance to expedite delivery of this part for their critical infrastructure and it is a high priority for the Agency to assist Jackson with returning to a normal operational status. EPA headquarters has engaged with chemical manufacturers to help with communicating the urgency of needs to the water sector's critical infrastructure over the past year of supply chain disruptions. Region 4 is requesting EPA headquarters assistance with communicating this equipment need at a high level to GE. The Region is working to set up a call with the City of Jackson and Allied to gather additional information on the delivery timeline the component. We would like to know whom from the Water Security Division we should include on this call in preparation for requesting high level engagement with GE.

Thank you for your time and continued partnership!

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

Message

From: Eric Branch [eric.branch@makersresource.com]
Sent: 2/18/2022 3:44:11 PM
To: sslay@sequelelectricalsupply.com; Steve Palato [spalato@sequelelectricalsupply.com]
Subject: FW: SAP. # 152351497 JOB NAME: OB Curtis LimitAmp

Scott / Steve,

Please see the request below from the factory to ship short one component (transducer). This will keep the factory commitment to ship on the agreed upon date of 3/7, and allow for the equipment to be installed. The component will be shipped as soon as it arrives and forwarded to the site for installation by the contractor in the field.

Please acknowledge your acceptance of this proposal.

Thanks,

Eric Branch
(601) 954-8976

Sent: Friday, February 18, 2022 6:58 AM
To: Eric Branch <eric.branch@makersresource.com>
Subject: SAP. # 152351497 JOB NAME: OB Curtis LimitAmp

Eric,

The factory is asking to ship short the WOD#DW20004 current transducer for this project. The reason is that the project is scheduled to ship on Mach 7, and the transducer is scheduled to arrive to the factory on March 18.

The factory is proposing to install a temporary terminal block on the base to connect the CT secondary wires to complete the CT secondary circuit until the transducer can be supplied. We will leave the wires long enough so that they can be moved and re-terminated to the transducer once it arrives. The ends of the PT circuit wires will be taped, and secure per our standard.

Please confirm the ship short is acceptable as soon as possible in order to not delay shipment of the equipment.

Thank You,

Billy

Factory Project Specialist
Product Operations

Electrification Products Industrial Solutions (EPIS)
6801 Industrial Drive
Mebane, NC 27302
abb.com

Message

From: Smith, Brian [Smith.Brian@epa.gov]
Sent: 6/21/2022 2:56:58 PM
To: William Moody [william.moody@msdh.ms.gov]; Mary D. Carter [mdcarter@city.jackson.ms.us]; McLeod, Amy [amy.mcleod@msdh.ms.gov]
CC: Myers, Bryan [Myers.Bryan@epa.gov]; Marlin King [mking@city.jackson.ms.us]; Vincent Thomas [vthomas@city.jackson.ms.us]; Richard Harper [rharper@city.jackson.ms.us]; Terrence Byrd [tbyrd@city.jackson.ms.us]; LaTanya Thomas-Bennett [lthomas@city.jackson.ms.us]; James Perry [jperry@city.jackson.ms.us]; Keith Allen (kallen@cornerstoneengllc.com) [kallen@cornerstoneengllc.com]; Mauricka McKenzie [mmckenzie@cornerstoneengllc.com]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; Herrington, Lester [Lester.Herrington@msdh.ms.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Diaz, Denisse [Diaz.Denisse@epa.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Frost, Tara [Frost.Tara@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Nguyen, Leann [Nguyen.Leann@epa.gov]; Contreras, Peter [Contreras.Peter@epa.gov]
Subject: RE: O.B. Curtis WTP Ammonia Leak

Marlin and Mary,

I am writing to concur that water conservation and calling for mutual aid is appropriate to address emergency repairs needed to ensure adequate water supply for residents and fire flow.

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

From: Moody, William "Bill" <William.Moody@msdh.ms.gov>
Sent: Monday, June 20, 2022 5:05 PM
To: Mary D. Carter <mdcarter@city.jackson.ms.us>; McLeod, Amy <amy.mcleod@msdh.ms.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; Keith Allen (kallen@cornerstoneengllc.com) <kallen@cornerstoneengllc.com>; Mauricka McKenzie <mmckenzie@cornerstoneengllc.com>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; Herrington, Lester <Lester.Herrington@msdh.ms.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Smith, Brian <Smith.Brian@epa.gov>
Subject: RE: O.B. Curtis WTP Ammonia Leak

Mary,

As a follow up to the conservation discussion and based on Amy's observations today at the plant:

I believe conservation order is appropriate and timely. During her time at the plant, the potential of a boil water notice was discussed as a measure to allow the plants to recover. While it may help, I don't believe this will give the recovery buffer that the City is hoping for. A BWN would only be observed as the water is unsafe to drink. This does nothing to discourage the general public from unnecessary use such as watering grass, washing cars, etc.

Our thoughts that If pressures fall below the required 20 psi then you may follow-up the conservation notice with the BWN.

From this morning, some of the observations are seemingly reflective of maintenance not occurring as necessary or not in a timely manner. As EPA's Brian Smith mentioned on the previous call, mutual aid is available if you want to make the request.

Sincerely,

William F. Moody, P.E., BCEE
Director, Bureau of Public Water Supply
570 East Woodrow Wilson Blvd
P.O. Box 1700
Jackson, MS 39215-1700
O 601-576-7518
C 601-573-4799
F 601-576-7822

Please note that during this period of COVID-19 Response by the Department, there may be delays in response to communication received.

From: Mary D. Carter <mdcarter@city.jackson.ms.us>
Sent: Monday, June 20, 2022 7:45 AM
To: McLeod, Amy <Amy.McLeod@msdh.ms.gov>
Cc: Moody, William "Bill" <William.Moody@msdh.ms.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; Keith Allen (kallen@cornerstoneengllc.com) <kallen@cornerstoneengllc.com>; Mauricka McKenzie <mmckenzie@cornerstoneengllc.com>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; Herrington, Lester <Lester.Herrington@msdh.ms.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Smith, Brian <Smith.Brian@epa.gov>
Subject: Re: O.B. Curtis WTP Ammonia Leak

Will do.

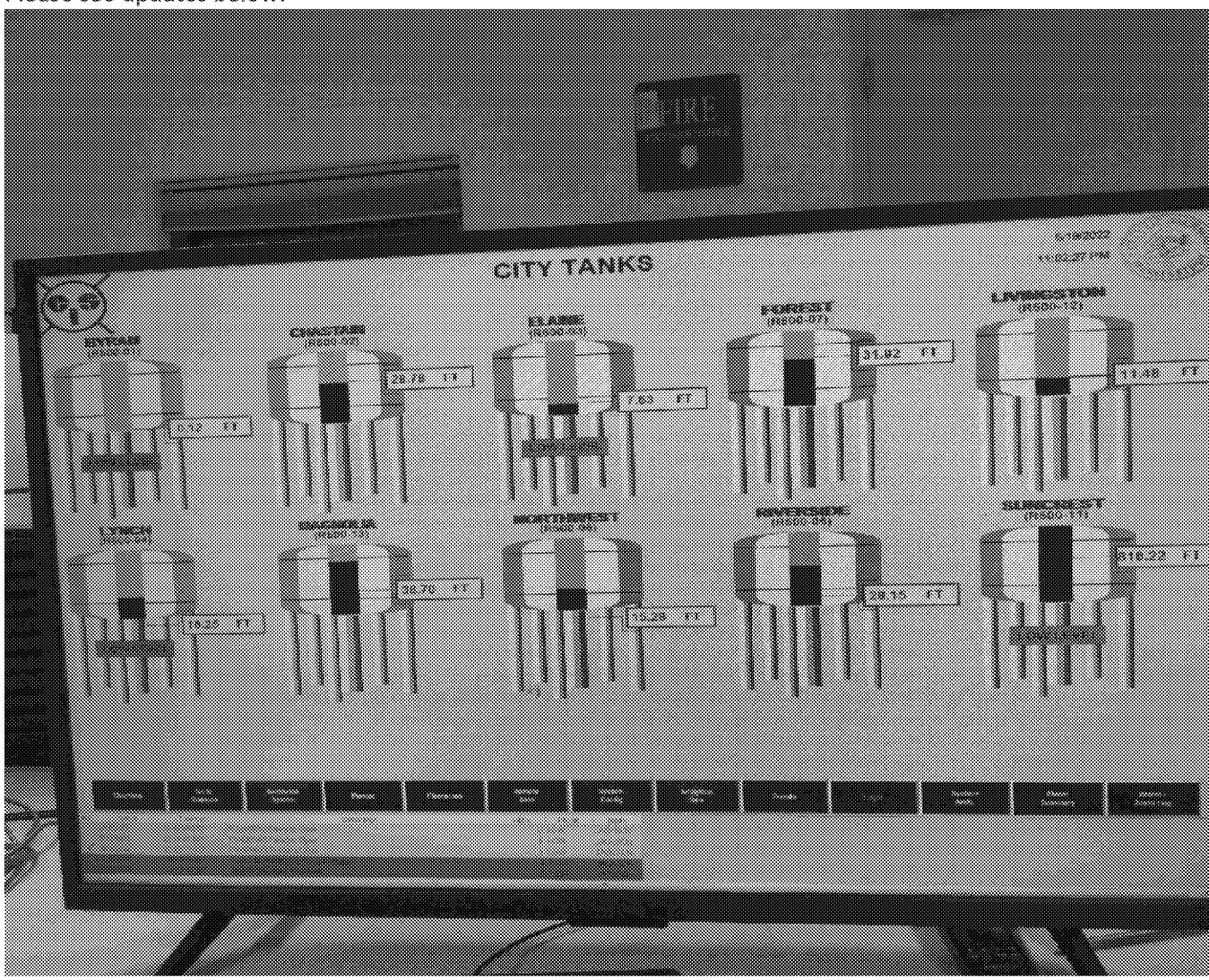
Mary D. Carter
Deputy Director
DPW Water Operations

> On Jun 20, 2022, at 7:37 AM, McLeod, Amy <Amy.McLeod@msdh.ms.gov> wrote:
>
> Good morning -
> I'm going to come out this morning, 8:30-8:45 or so. If you could let gate security to know to expect me, that would be great. Thanks!
> ~Amy
>
> Amy L. McLeod, EI
> MSDH - Bureau of Public Water Supply
> amy.mcleod@msdh.ms.gov
> (601) 573-8887

On Jun 19, 2022, at 11:16 PM, Mary D. Carter <mdcarter@city.jackson.ms.us> wrote:

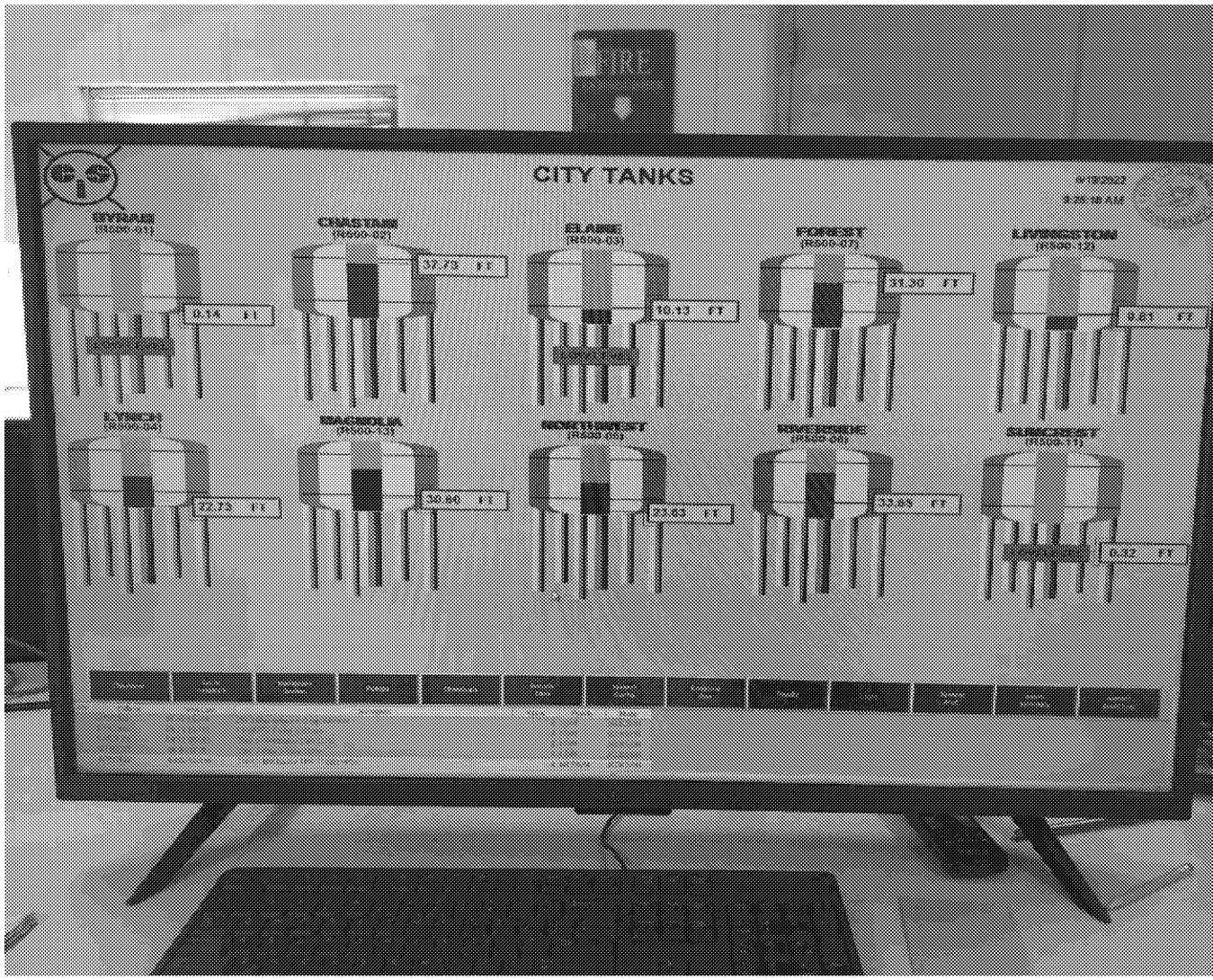
We will speak with upper management regarding conservation notice.

Please see updates below.



From: Mary D. Carter
Sent: Sunday, June 19, 2022 11:22 AM
To: 'Moody, William "Bill"' <William.Moody@msdh.ms.gov>; 'McLeod, Amy' <Amy.McLeod@msdh.ms.gov>
Cc: 'Myers, Bryan' <Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; 'Keith Allen (kallen@cornerstoneengllc.com)' <kallen@cornerstoneengllc.com>; 'Mauricka McKenzie' <mmckenzie@cornerstoneengllc.com>; 'Holmes, Lenore' <Lenore.Holmes@msdh.ms.gov>; 'Herrington, Lester' <Lester.Herrington@msdh.ms.gov>; 'Walters, Karen' <Karen.Walters@msdh.ms.gov>;

'Smith, Brian' <Smith.Brian@epa.gov>
Subject: RE: O.B. Curtis WTP Ammonia Leak

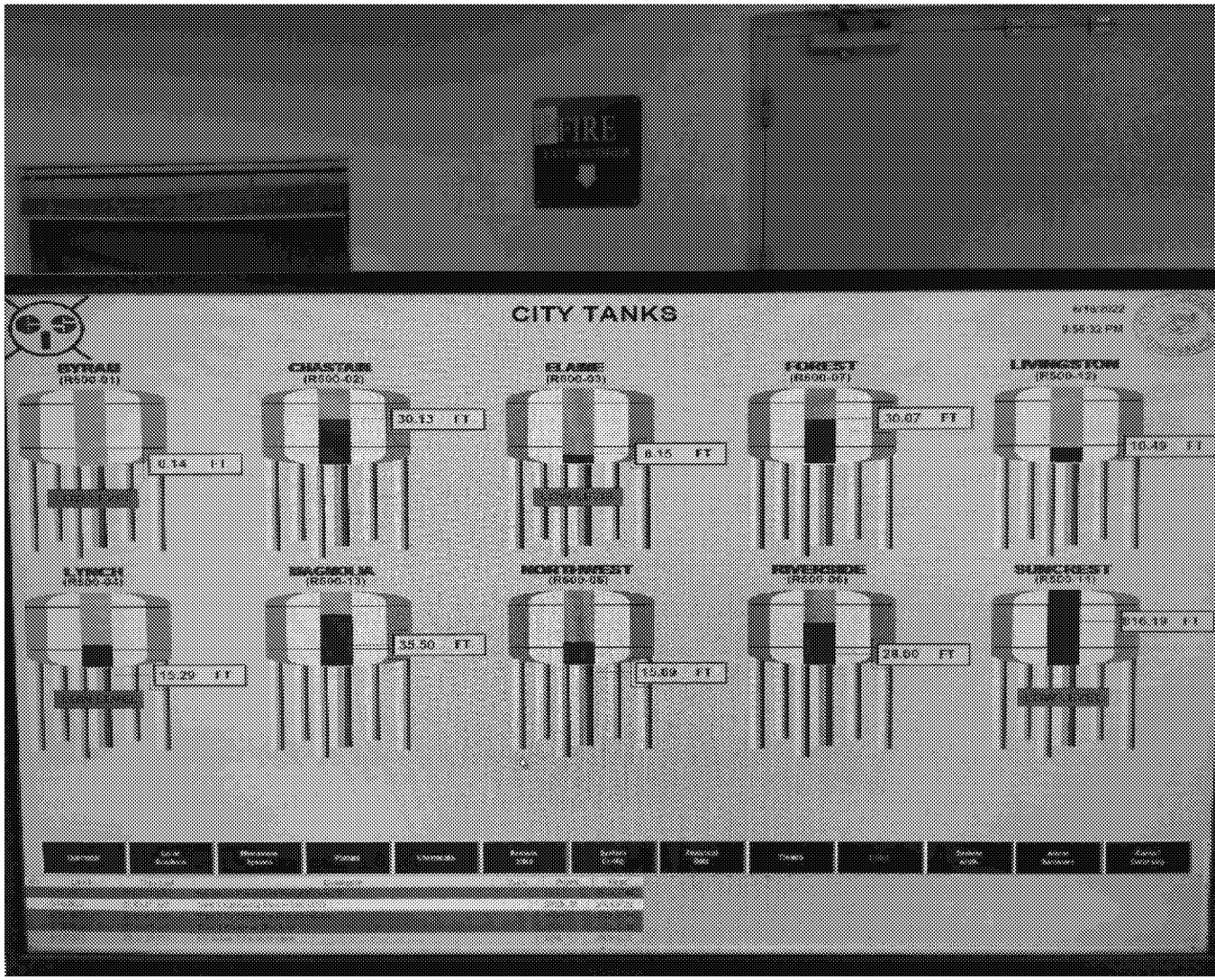


From: Mary D. Carter
Sent: Saturday, June 18, 2022 11:09 PM
To: 'Moody, William "Bill"' <William.Moody@msdh.ms.gov>; McLeod, Amy <Amy.McLeod@msdh.ms.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; Keith Allen (kallen@cornerstoneengllc.com) <kallen@cornerstoneengllc.com>; Mauricka McKenzie <mmckenzie@cornerstoneengllc.com>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; Herrington, Lester <Lester.Herrington@msdh.ms.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Smith, Brian <Smith.Brian@epa.gov>
Subject: RE: O.B. Curtis WTP Ammonia Leak

Bill,

We understand MSDH's sentiments and will issue a conservation notice tomorrow.

Please comments below.



From: Moody, William "Bill" [mailto:William.Moody@msdh.ms.gov]
Sent: Saturday, June 18, 2022 1:57 PM
To: Mary D. Carter <mdcarter@city.jackson.ms.us>; McLeod, Amy <Amy.McLeod@msdh.ms.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; Keith Allen (kallen@cornerstoneengllc.com) <kallen@cornerstoneengllc.com>; Mauricka McKenzie <mmckenzie@cornerstoneengllc.com>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; Herrington, Lester <Lester.Herrington@msdh.ms.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Smith, Brian <Smith.Brian@epa.gov>
Subject: Re: O.B. Curtis WTP Ammonia Leak

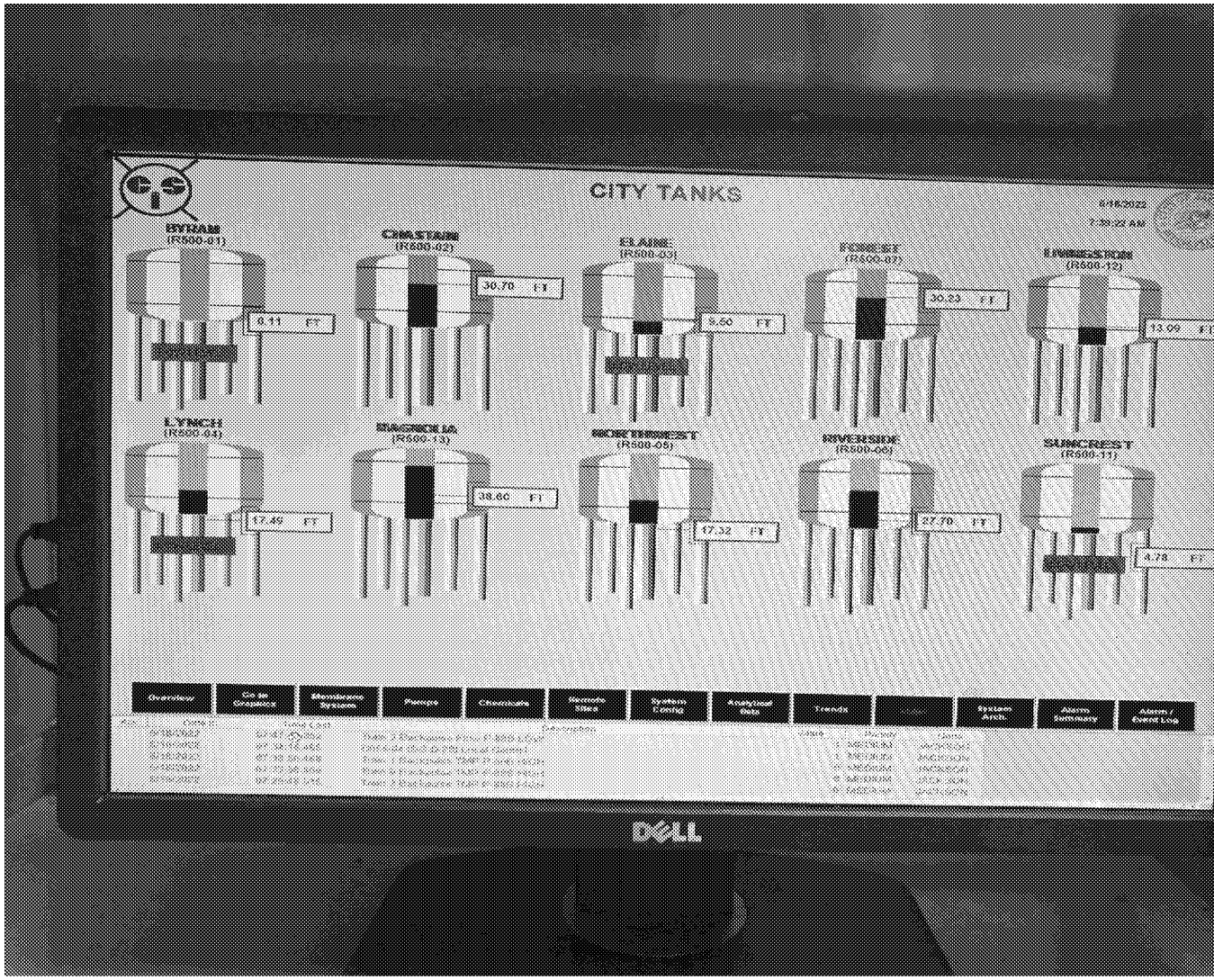
Mary,

Due to the ongoing struggle to produce enough water to satisfy demand and fill elevated tanks, we strongly recommend that you issue a water conservation notice. The current conditions (83 psi) have led to portions of the distribution with incredibly low tank levels and pressures hovering at 20 psi. If the city waits until plant pressure goes down to 65 psi as was mentioned on Thursday, they risk water being lost to a large number of its residents.

Bill Moody
Director, BPWS
MSDH

Get Outlook for iOS

From: Mary D. Carter <mdcarter@city.jackson.ms.us>
Sent: Saturday, June 18, 2022 9:20:52 AM
To: Moody, William "Bill" <William.Moody@msdh.ms.gov>; McLeod, Amy <Amy.McLeod@msdh.ms.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; Keith Allen (kallen@cornerstoneengllc.com) <kallen@cornerstoneengllc.com>; Mauricka McKenzie <mmckenzie@cornerstoneengllc.com>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>
Subject: RE: O.B. Curtis WTP Ammonia Leak



From: Moody, William "Bill" [mailto:William.Moody@msdh.ms.gov]
Sent: Friday, June 17, 2022 8:30 PM
To: Mary D. Carter <mdcarter@city.jackson.ms.us>; McLeod, Amy <Amy.McLeod@msdh.ms.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; Keith Allen (kallen@cornerstoneengllc.com) <kallen@cornerstoneengllc.com>; Mauricka McKenzie <mmckenzie@cornerstoneengllc.com>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>
Subject: Re: O.B. Curtis WTP Ammonia Leak

Mary,

Due to the recent emergency event, provide the following information every 12 hours throughout the weekend:

- Tracking of where the valves in their process of delivery to you so they can be installed.
  No response today. 6/18 Evening

No response today. 6/19 Morning and Evening

- Is the plan of action still of repair still on track?
  Ammonia from tank 1 with the defective valve was pumped to tank 2. Ammonia tank 2 online. 6/19 Morning and Evening

- Verification that the chloramine disinfection system is back up in operation. If not, when is the earliest that it will return to service.
  Ammonia in tank 2 feeding as of 9:10 am this morning. Evening 6/18
  Ammonia in tank 2 feeding . 6/19 Morning and Evening

- Tank levels in the system.
  See picture above.

- Filters and trains online at OB Curtis.
  Four (4) filters and Six (6) trains online 6/18 Evening
  Four (4) filters and Five (5) trains online, One(1) train in recover clean Morning and Evening 6/19

- Flow and pressure outputs of each plant.
  OBC – 22 MGD and Pressure – 82.5 psi 6/18 Evening
  JHF – 19.90 MGD and Pressure – 78.88 psi

  OBC – 32.9 MGD and Pressure – 88.8 psi Morning
  JHF – 19.0 MGD and Pressure – 83.2 psi

  OBC – 21.3 MGD and Pressure – 82.3 psi Evening
  JHF – 19.8 MGD and Pressure – 78.6 psi

Has upper management considered a possible conservation notification to the customers in light plant operational conditions?
A conservation notice will be issued tomorrow. 6/18 Evening

The system pressure is in the normal range and the water storage tanks have for the most part recovered. Suncrest is always the last to see improvement. I will get with upper management regarding a conservation notice. 6/19 Morning and Evening

If you have any questions please let me know?

Bill Moody
Director, BPWS
MSDH

Get Outlook for iOS

From: Mary D. Carter <mdcarter@city.jackson.ms.us>
Sent: Friday, June 17, 2022 1:23:51 PM
To: McLeod, Amy <Amy.McLeod@msdh.ms.gov>
Cc: Moody, William "Bill" <William.Moody@msdh.ms.gov>; Myers, Bryan

<Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; Keith Allen (kallen@cornerstoneengllc.com) <kallen@cornerstoneengllc.com>; Mauricka McKenzie <mmckenzie@cornerstoneengllc.com>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>
Subject: RE: O.B. Curtis WTP Ammonia Leak

Amy,

Richard Harper is in the process of tracking the valve. We will let you know of its arrival.

The ammonia contractor had to finish removal of the ammonia earlier today because he ran out of hours yesterday.

Thanks,
Mary

From: McLeod, Amy [mailto:Amy.McLeod@msdh.ms.gov]
Sent: Friday, June 17, 2022 9:44 AM
To: Mary D. Carter <mdcarter@city.jackson.ms.us>
Cc: Moody, William "Bill" <William.Moody@msdh.ms.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Richard Harper <rharper@city.jackson.ms.us>; Terrence Byrd <tbyrd@city.jackson.ms.us>; LaTanya Thomas-Bennett <lthomas@city.jackson.ms.us>; James Perry <jperry@city.jackson.ms.us>; Keith Allen (kallen@cornerstoneengllc.com) <kallen@cornerstoneengllc.com>; Mauricka McKenzie <mmckenzie@cornerstoneengllc.com>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>
Subject: Re: O.B. Curtis WTP Ammonia Leak

Good morning -
Would you please keep us posted on when the valves arrive and when they are installed?
Thanks -
Amy

Amy L. McLeod, EI
MSDH - Bureau of Public Water Supply
amy.mcleod@msdh.ms.gov
(601) 573-8887

On Jun 15, 2022, at 10:23 PM, Mary D. Carter <mdcarter@city.jackson.ms.us> wrote:

Amy,

Just wanted to update you on our progress today regarding the ammonia leak at O.B. Curtis WTP since the last time you spoke to Vincent Thomas earlier. The ammonia contractor will travel from Baton Rouge, LA on tomorrow morning to begin the process of removing the ammonia from the two (2) 10,000 gallon tanks. This process will take eight (8) to ten (10) hours. They are expected to overnight the valves that need replacing which should arrive to the plant on Friday. Upon the valves' arrival, they will be installed. We will make an ammonia order to fill the tanks which should take approximately ten (10) days. In the interim, O.B. Curtis WTP will begin a chlorine burn in the system with J.H. Fewell WTP joining in on the burn on weekends until the ammonia system at O. B. Curtis WTP is back online.

Perhaps Brian Meyers will allow us to discuss this issue more tomorrow during the Bi-Weekly Update meeting.

Mary D. Carter, Deputy Director of Water Operations
City of Jackson
Department of Public Works
200 South President Street
Jackson, Mississippi 39205
(O)601-960-2090 (F)601-968-3502 (M)601-624-5911

THE CITY OF
JACKSON
MISSISSIPPI

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This message and all attachments are confidential and/or proprietary to the Mississippi State Department of Health, and may contain sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the intended recipient. The use, disclosure, copying or distribution by any means, to anyone other than the intended recipient without the prior written permission of the Mississippi State Department of Health, is strictly prohibited. Any such unauthorized disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance in the protection of confidential information.

Message

From: Craig, Jim [Jim.Craig@msdh.ms.gov]
Sent: 8/30/2022 1:50:05 PM
To: Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]
Subject: FW: SHO Emergency Declaration Public Water Supply Emergency - 30 Aug 2022
Attachments: SHO Emergency Declaration Public Water Supply Emergency - 30 Aug 2022.pdf

As requested.

Jim

This message and any attachments may contain information that is confidential and/or proprietary to the Mississippi State Department of Health, and may consist of sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the recipient(s) designated above. The use, disclosure, copying or distribution by any means to anyone other than the intended recipient(s) without the prior written permission of the Mississippi State Department of Health is strictly prohibited. Any such unauthorized use, disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to, HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance.

MISSISSIPPI STATE DEPARTMENT OF HEALTH

Pursuant to the *Mississippi Safe Drinking Water Act of 1997* (§41-26-1 et sec.), the Mississippi State Department of Health, upon receipt of information that emergency circumstances exist for customers of the City of Jackson, Mississippi drinking water system to receive safe drinking water and that a public water system emergency exists, is imminent or can reasonably be expected to occur without the immediate implementation of additional staffing and remediation measures hereby declares a public drinking water supply emergency in the City of Jackson, Mississippi.

Such Declaration is based upon information received by the Mississippi State Department of Health ("MSDH") as follows:

- Insufficient number of certified operators at J.H. Fewell and O.B. Curtis Water Treatment Plants
- Insufficient number of maintenance staff at all water treatment plants and to support the distribution system
- Failure of multiple raw water pumps at O.B. Curtis Water Treatment Plant
- Low levels of water in storage tanks
- Low water pressure impacting proper sanitation and education opportunities
- Disinfection levels not consistently optimal developing the potential to have the presence of enteric organisms, including but not limited to, E.Coli, Cryptosporidium, or Giardia in the drinking water being served to customers.

ORDER

Pursuant to §41-26-7 of Mississippi Safe Drinking Water Act of 1997 and based on the Declaration, the State Health Officer hereby orders that the City of Jackson including, but not limited to, employees of the Public Works Department and Emergency Management immediately cooperate with state response teams and contractors deployed to augment current staffing and to take remediation actions deemed necessary by the State Incident Commander.

Notwithstanding the requirements of this Order, the City of Jackson shall continue to be responsible for compliance with the Safe Drinking Water Act, any U.S. EPA Emergency Administrative Orders, and implement all applicable monitoring and reporting requirements of the Safe Drinking Water Act.

Compliance with this Order shall not in any way be construed to relieve the City of Jackson from its obligations to comply with all provisions of federal, state, or local law.

This Order shall remain in full force and effect for not more than one hundred twenty (120) days. The State Health Officer may extend such Order for additional periods of thirty (30) days, to the extent deemed appropriate.

SO ORDERED this the 30th day of August, 2022.

Daniel Edney, MD, FACP, FASAM
STATE HEALTH OFFICER
Mississippi State Department of Health

Message

From: Newman, Keriema [Newman.Keriema@epa.gov]
Sent: 8/30/2022 6:41:57 PM
To: Jim.craig@msdh.ms.gov [Jim.Craig@msdh.ms.gov]; Herrington, Lester [lester.herrington@msdh.ms.gov]; William Moody [william.moody@msdh.ms.gov]
CC: Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Jenkins, Brandi [Jenkins.Brandi@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]
Subject: Follow-up Communication

Good afternoon Jim

As a follow-up to our meeting this morning and on behalf of both Carol Kemker and Jeaneanne Gettle, I am sending this follow-up message. EPA is aware that MSDH and MEMA are working to distribute both potable and non-potable water to the citizens of Jackson, Mississippi. When we spoke with you this morning, we clarified that EPA has not and will not require the use of fire stations in the City of Jackson for water distribution. Our primary interest is ensuring that citizens have readily available access to potable water. The State of Mississippi should rely on internal expertise regarding identification of the most appropriate water distribution points to support the City of Jackson during this water emergency.

Based on our conversation, we understand the state is working today to conduct an assessment of the OB Curtis water plant. EPA is available to provide technical assistance and will work with critical manufacturing sector partners to expedite delivery of equipment where supply chain disruptions impact emergency repairs. Our point of contact for these requests is Tara Frost. Tara can be reached at 404-562-9762 or via email, Frost.Tara@epa.gov. We discussed the MSDH providing EPA unified command situation reports for status updates. Can you please let us know the schedule for these reports and the frequency at which we may receive them? We would also appreciate receiving a copy of any preliminary findings from your assessment today.

We are available anytime to discuss how EPA resources can help meet the water infrastructure needs in Jackson. We stand ready to support the MSDH and City of Jackson, and we are preparing to respond to support the request from the state.

KERIEMA SMITH NEWMAN, DEPUTY DIRECTOR
United States Environmental Protection Agency – Region 4
Enforcement and Compliance Assurance Division
61 Forsyth Street S.W.
Atlanta, Georgia 30303
newman.keriema@epa.gov | (404) 562.8859 | mobile phone: (404) 304.2490

EPA at 50
Progress for a Stronger Future

Message

From: Thomas, Chris [Thomas.Chris@epa.gov]
Sent: 7/29/2022 3:20:38 PM
To: bespy@adem.alabama.gov; jwk@adem.alabama.gov; Knecht, Angela [Angela.Knecht@FloridaDEP.gov]; Michael Lynch (FLDEP) [Michael.Lynch@dep.state.fl.us]; Hunter Hill [Hhill@gefa.ga.gov]; anna.truszczynski@dnr.ga.gov; sandy.williams@ky.gov; Carey Johnson [carey.johnson@ky.gov]; Mike Freiman [mfreiman@mdeq.ms.gov]; Craig, Jim [Jim.craig@msdh.ms.gov]; Herrington, Lester [lester.herrington@msdh.ms.gov]; Eskaf, Shadi [Shadi.eskaf@ncdenr.gov]; Richard.Rogers@NCDENR.gov [richard.rogers@ncdenr.gov]; hughesjr@dhec.sc.gov; Jennifer.Dodd@tn.gov [jennifer.dodd@tn.gov]
CC: Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Diaz, Denisse [Diaz.Denisse@epa.gov]; Nuhfer, Mark [Nuhfer.Mark@epa.gov]; Purify, Johnnie [Purify.Johnnie@epa.gov]; Jones, Erica [Jones.Erica@epa.gov]
Subject: Congressionally Directed Spending (CDS)/Community Project Funding (CPF) Grants Program
Attachments: Planning Instructions for Regions and Recipients.pdf

Importance: High

Dear State SRF and Water Division Directors:

President Biden signed the FY 2022 Consolidated Appropriations Act (P.L. 117-103) into law on March 15, 2022. In this law, Congress renewed the practice of funding specifically named community infrastructure projects, referred to by the Senate as Congressionally Directed Spending (CDS) and in the House of Representatives as Community Project Funding (CPF). EPA is responsible for directly administering these funds and for the oversight of these projects. I'm sending you this email to give you awareness of our work.

In Appendix A of the attachment you can find a list of the communities in your state identified to receive FY22 federal funds. The attachment also describes how EPA will award and administer these new "community grants."

Also, for your information, the communication below was recently emailed to each of the communities selected to receive FY22 funding.

Note that additional CDS/CDF projects are currently under consideration by Congress for FY23.

These new community grants will be managed out of the EPA Region 4 Water Division's Permitting and Grants Branch by Mark Nuhfer, Chief of the Watersheds Restoration and Technical Assistance Section. If you have any questions you can contact me at 404-562-9459 (thomas.chris@epa.gov) or Mark at 404-562-9390 (nuhfer.Mark@epa.gov).

Chris
Chris Thomas
Chief, Permitting and Grants Branch
Water Division
EPA Region 4, Atlanta
404-562-9459

Subject: EPA Community Grants: Planning Instructions for Regions and Recipients

Congress identified a project in your community, and an associated funding level, in the Consolidated Appropriations Act of 2022 (P.L. 117-103). The United States Environmental Protection Agency (EPA) is

providing the attached "Planning Instructions for Regions and Recipients" so that you can become familiar with the grant awards process and some of the requirements that will apply to your project. With this document, recipients can plan and prepare now so that the forthcoming application and award process can be carried out effectively and efficiently. The EPA intends to provide final implementation guidance and application instructions for community grantees in the coming months.

Before your community grant application can be submitted and an award made, the EPA must complete a number of administrative steps to support the development and submittal of complete grant packages to the agency.

The Planning Instructions for Regions and Recipients (1) describes how the EPA plans to award and administer the community grants and (2) provides an overview of associated requirements for recipients to receive grant awards. Potential grant recipients may begin several preparatory steps:

1. **Review EPA Grants Management Training for Applicants and Recipients**. EPA's online training courses are free and are designed to introduce potential EPA grant recipients to key aspects of the entire grant lifecycle, from preparation of an application through grant closeout.

2. **Obtain a Unique Entity Identifier (UEI).** Recipients must have an active SAM.gov registration and a Unique Entity Identifier before registering with Grants.gov. Registering at SAM.gov is free and new registrations can take an average of 7 – 10 business days to process.

3. **Register at Grants.Gov.** Potential grant recipients can register on the federal grant portal (grants.gov) as the grants process will be conducted online.

4. **Identify Cost Share Funding.** Recipients should begin to think about how they will provide the 20 percent non-federal cost share requirement based on the total project cost. Eligible sources of funding to meet the cost share requirement are identified in the preliminary Implementation Memorandum. The EPA supports waiving the non-federal cost share for projects located in, or that primarily serve, disadvantaged communities. General information about cost share waivers is provided in the Planning Instructions for Regions and Recipients.

5. **Environmental Information.** Each community grant project will need to comply with the National Environmental Policy Act (NEPA), which requires the EPA to review and assess environmental information relating to the project prior to awarding any grants. Recipients may begin to identify project information that will support the environmental review process including:

   - Preparing a project summary, including a description of the needs the project addresses, the scope, and project implementation plans.
   - Describing any potential environmental impacts of the proposed project (such as addressing water quality and quantity problems, public health concerns, inadequate systems, more stringent effluent limits, etc.).
   - Describing the project details (such as planning area description; planning period; description of construction phases; owner and operator of the facilities; location of facilities, including a map)
   - Describing project costs, including funding from the EPA and all other sources.

To assist recipients in fulfilling the NEPA requirement prior to grant award, the EPA will provide comprehensive resources and guidance on the environmental review process in the coming months.

The EPA is working diligently to develop final guidance on these and all other requirements that the EPA community grants will need to comply with. Our goal is to issue the final guidance in the coming months, and

we look forward to providing detailed instruction and information on how to apply for the community grants, and processes to comply with the many grant requirements that will apply to the funds prior to and during award issuance.

Please consider attending one of two upcoming webinars the EPA will host to address any questions community grant recipients might have regarding the Planning Instructions and/or the process overall. Registration is free and available online:

- July 19th, 2022, 10am (PST)/1pm (EST)
- July 27th, 2022, 11:30am (PST)/2:30pm (EST)

Please keep an eye out for additional correspondence on final implementation guidance and requirements for the community grants projects. You can also visit EPA Community Grants for program updates and to access training information and resource materials as they become available.

Sincerely,

Mark Nuhfer, Chief
Watershed Restoration and Technical Assistance Section
EPA Southeastern Region
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404-562-9390

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF WATER

June 30, 2022

MEMORANDUM

SUBJECT: Planning Instructions for Regions and Recipients for FY 2022 Congressionally Directed Spending (CDS)/Community Project Funding (CPF) Grants Program for Water Projects

FROM: Radhika Fox
Assistant Administrator

TO: EPA Regional Water Division Directors
Community Grantees

Overview

President Biden signed the FY 2022 Consolidated Appropriations Act (P.L. 117-103) into law on March 15, 2022. In this law, Congress renewed the practice of funding specifically named community infrastructure projects, referred to by the Senate as Congressionally Directed Spending (CDS) and in the House of Representatives as Community Project Funding (CPF). For this document, the U.S. Environmental Protection Agency (EPA) will use the terms "community grants," "community grantees," and "community projects."

EPA's section of the Consolidated Appropriations Act, 2022 in **Appendix A**, also referred to as the Agency's FY 2022 Appropriations Act, includes $841,405,095 in the State and Tribal Assistance Grants (STAG) account for 483 drinking water, wastewater, and stormwater infrastructure and water quality protection projects.[1] EPA is committed to a productive partnership with recipients (community grantees) to achieve the impact of these funds in addressing urgent water challenges.

This document – Planning Instructions for Regions and Recipients (Planning Instructions) – provides information and guidelines on how EPA will award and administer community grants. This document also reviews requirements associated with congressionally appropriated funds to aid EPA Regions' work with community grantees in applying for, receiving, and using these funds. In addition, this document will assist community grantees and other stakeholders in understanding project eligibilities and related program requirements. Once the community grantee completes all applicable federal requirements and submits a complete application to EPA, the EPA Regional project officer will begin to process the grant package.

Regional Water Division Directors shall ensure this document is distributed to community grantees with projects in their respective regions. EPA intends to provide a Final Implementation Guidance and

[1] EPA received a total of 491 earmarks for $860.3 million in the FY2022 law. Of this total, 483 earmarks are for water community projects.

application instructions for community grantees in Fall 2022. The purpose of this document is to provide an overview of how EPA will implement this new program. The Final Implementation Guidance may include some changes.

I. Project Funding and Grants Administration

EPA's community grant appropriations are STAG infrastructure grants to improve water infrastructure and water quality through funding for drinking water, wastewater, and stormwater projects. **Appendix B** lists the 483 congressionally directed community grants appropriated in the FY 2022 Consolidated Appropriations Act. These 483 projects are collectively funded "off the top" at a level of $443,639,051 from the Clean Water State Revolving Fund (CWSRF) and $397,766,044 from the Drinking Water State Revolving Fund (DWSRF).

EPA's Regional Offices will administer these community grants. Per EPA's Delegation of Authority 1-14A, EPA Regional Administrators are authorized to award grants and cooperative agreements, including community grants that were appropriated in FY 2022. Community grantees can contact their EPA Regional Contact with questions about the grant application process.

II. Eligibility

Community grants are designated for the planning, design, and construction of drinking water, wastewater, and stormwater infrastructure and for water quality protection. Eligible community projects are the 483 projects included in the detailed table in **Appendix B** and as referenced in the explanatory statement found in **Appendix A**. The table in **Appendix B** identifies for each project whether it is a clean water or drinking water project or combination, the state, recipient name and purpose, and funding amount. EPA will use the CWSRF and DWSRF framework to guide implementation of these community grants. The CWSRF and DWSRF eligibilities should be referred to for development of workplans, project scopes, costs, and sub-awards.

III. Technical Corrections

Should a designated community grantee (recipient) identified in **Appendix B** need to modify the type, purpose, or recipient of the community grant, a technical correction will be needed. The Agency's FY 2006 Appropriations Act included a permanent authority that allows EPA to make technical corrections to community grants only after consultation with Congress, without the need for additional legislation. For example, if a recipient (*e.g.*, City of Salem) is named in the authorizing language but a different entity (*e.g.*, Salem Wastewater Utility) owns the infrastructure, the recipient can request a technical correction. As another example, if the appropriation provides for a specific type of project (*e.g.*, drinking water) when a different type of project (*e.g.*, wastewater) is needed, the recipient can request a technical correction. Certain changes to a congressionally authorized project, as listed in **Appendix B,** require a technical correction.

Community grantees requesting a technical correction should first consult their EPA Regional Contact to discuss the need for, and evaluate the appropriateness of, a technical correction. When appropriate and necessary, the EPA Regional Office will submit technical corrections to EPA Headquarters for consultation with and resolution by Congress.

IV. Cost Sharing Requirements

The FY 2022 Consolidated Appropriations Act requires that each community grantee contribute 20 percent of the cost of the project from non-federal sources unless the community grantee is approved for a waiver by EPA. The cost share amount can be provided at any time during the grant's project period.

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The source of the cost share must be included in the workplan. Eligible and non-eligible sources of "non-federal" funds to meet the cost share requirement are described below.

State Revolving Funds

The Agency has issued a class deviation document, pertaining to CWSRF, and a policy memo, pertaining to DWSRF, that allow community grantees to use certain sources of funds from the two SRF programs as the non-federal cost share. The class deviation and policy documents allow SRF programs to use the non-federal and non-state match share of SRF funds to provide loans that community grantees can use as the cost share for community projects. The CWSRF and DWSRF programs are eligible sources for the 20 percent non-federal cost share if those funds are:

- non-federal funds such as loan repayments, interest earnings, bond proceeds, and fees, or
- a state contribution to the SRF above the statutorily required 20 percent match.

Federal Funds

Community grantees can use federal funds from other programs as all, or part, of the cost share only if the statute authorizing those programs specifically allows the funds to be used as match for other federal grants. Additionally, other federal program funding must be allowed to support the planning, design and/or construction of drinking water, wastewater, or stormwater infrastructure projects. The following federal funding sources will be treated as non-federal funds and can be used to meet the cost share requirement:

- U.S. Department of Housing and Urban Development, Community Development Block funds;
- U.S. Department of Agriculture, Rural Development funds; and
- Appalachian Regional Commission funds.

Funding made available to jurisdictions through the American Rescue Plan Act of 2021 cannot be used to meet the non-federal cost share requirement.

Other Sources of Cost Share

For each grant award, consistent with the language of the FY22 Appropriations Act and 2 CFR 200.306 and other applicable provisions of the Uniform Grant Guidance, community grantees can secure cost-share funds through any, or a mix, of the following:

- **Public sources**. These include state appropriations or local government match to the grant project;
- **Private sources**. These include funding from a local business or nonprofit contributing to the project; and
- **In-kind services**. Applicants should work with their EPA Regional project officers to identify appropriate in-kind services in their workplans and applications. For example, the applicant's administrative expenses for managing and overseeing the grant and projects can be in-kind services provided that the expenses are not being reimbursed by the federal share of the grant award. In-kind services contributed by other entities may also be allowable as cost share.

V. Waivers to the Cost Sharing Requirements

EPA is using the discretion provided by the FY 2022 Consolidated Appropriations Act (see **Appendix A**) to consider waiving or reducing statutorily required non-federal cost share on these funds when requested and appropriate. Waivers to the 20 percent cost share requirement must be approved by EPA's

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Assistant Administrator for Water. Community grantees can submit waiver requests to their EPA Regional project officer for consideration.

EPA supports waiving the non-federal cost share for projects located in, or that primarily serve, disadvantaged communities. EPA will consider the following factors in defining disadvantaged communities for the purposes of these community grants. Projects in communities that meet at least one of these criteria may apply for a waiver of non-federal cost share under the community grant program. Systems that serve large service areas with a specific project that will primarily serve a sub-set of its service area that meets one of these criteria may also apply for a waiver.

- Community median household income (MHI) is less than 80% of state MHI
- Communities with $25,766 or less upper limit of Lowest Quintile Income
- Communities with ≥ 30.9% population living under 200% of poverty level
- Communities within census tracts that have a poverty rate greater than or equal to 20%
- Communities with ≥ 3.4% unemployed population ≥ 16 years in civilian labor force
- Communities with ≥ 12.1% vacant households
- Communities in a county with a Social Vulnerability Index score higher than 0.80
- Combined sewer and drinking water costs are greater than 2% of the 20th percentile household income (*i.e.*, the Lowest Quintile of Income for the Service Area)
- Communities with ≥ 11.7% population receiving food stamps/SNAP benefits

Insular Territories Projects
The non-federal cost share requirement is waived for any community projects located in the U.S. territories. This is consistent with the Omnibus Territories Act of 1977, which authorizes Departments and Agencies to award grants to Insular Territories, such as the U.S. Virgin Islands, without a match requirement.

Tribal Projects
Consistent with the implementation of the Clean Water Indian Set-Aside Grant Program under Clean Water Act (CWA) Section 518 and the Drinking Water Infrastructure Grants Tribal Set-Aside Program under Safe Drinking Water Act (SDWA) Section 1452(i), which do not require tribal cost share, EPA will waive the non-federal cost share for tribal community projects.

VI. Federal Cross-Cutting Requirements

Federal cross-cutting requirements of certain federal laws and Executive Orders apply to projects and activities funded with federal financial assistance. Congress specified that the federal requirements applying to an SRF project funding recipient shall also apply to community grants. In addition, some cross-cutting public policy requirements are applicable to all federal grants. The term "public policy" indicates that the requirement is based on social, economic, or other objectives or considerations that may be attached to the expenditure of federal funds by grantees, consortium participants, and contractors, in general, or may relate to the expenditure of federal funds for other specified activities.

All programs, projects, and activities are subject to the following federal anti-discrimination laws: Civil Rights Act of 1964, as amended,[2] section 504 of the Rehabilitation Act of 1973, as amended,[3] and the Age

[2] 42 U.S.C. §2000d, et seq.
[3] 29 U.S.C. §794

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Discrimination Act of 1975, as amended.[4] A grantee is responsible for ensuring compliance with the requirements of federal cross-cutters.

Additional information is available at EPA Public Policy Requirements, including Common EPA Public Policy Requirements and Construction-Related Requirements. Information on requirements for pass through entities is available at EPA Subaward Cross-Cutter Requirements.

Thus far, EPA has determined the following requirements apply to these community grants. However, this list may not be exhaustive of all requirements. All federal cross-cutting requirements will be listed in the Final Implementation Guidance.

American Iron and Steel
The American Iron and Steel (AIS) provision requires community grants to use iron and steel products that are produced in the United States. This requirement applies to projects for the construction, alteration, maintenance, or repair of a public water system or treatment works. A treatment works project funded by community grants must agree to comply with CWA Section 608.[5] A public water system project funded by community grants must agree to comply with Section 1452(a)(4)(A) of the SDWA. The terms and conditions for each grant award will include specific requirements.

Build America, Buy America Act
Community projects must comply with domestic sourcing requirements, including Build America, Buy America (BABA) Act requirements for federal financial assistance programs for infrastructure. BABA requires that any iron and steel products, manufactured goods, and construction materials used in infrastructure projects receiving federal financial assistance be sourced from domestic manufacturers. For more specific information on BABA requirements, please refer to the Office of Management and Budget BABA Guidance (OMB-22-11). Community projects will not be eligible to receive funds until they demonstrate that procurement plans comply with BABA requirements. The terms and conditions for each grant award will include specific requirements. If EPA issues waivers that impact requirements for community projects, EPA will inform award recipients. Recipients may also request project-specific waivers per the eligibilities in OMB M-22-11.

Davis-Bacon and Related Acts
The community grantee is responsible for applying the prevailing wage provision in Davis-Bacon and Related Acts (DBRA).[6] The Davis-Bacon Act requires that all contractors and subcontractors performing construction, alteration, and repair (including painting and decorating) work under federal contracts in excess of $2,000, pay their laborers and mechanics not less than the prevailing wage and fringe benefits for the geographic location. The Final Implementation Guidance will provide additional information about DBRA requirements. The terms and conditions for each grant award will include specific requirements.

Disadvantaged Business Enterprises
EPA's Disadvantaged Business Enterprise (DBE) program and its requirements are contained within 40 CFR Part 33 as modified by various memorandums and exceptions issued over time. DBE requirements

[4] 42 U.S.C. §6102
[5] 33 U.S.C. §1388
[6] Community grants are subject to CWA Section 602(b)(6), which incorporates CWA 513 for treatment work projects and/or SDWA Section 1452(a)(5), which incorporates SDWA 1450(e); 42 U.S.C. §300j-9(e); Recodified 40 U.S.C. §3141-3148; 33 U.S.C. 1382(6).

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are mandated by Congress and Executive Orders and require grant recipients to seek Minority and Women Business Enterprises (MBE/WBE) for all funded procurement actions. When required, the community grantee agrees to complete and submit a MBE/WBE Utilization Under Federal Grants and Cooperative Agreements report (EPA Form 5700-52A) on an annual basis. Reporting is required for assistance agreements where funds are budgeted for procuring construction, equipment, services, and supplies with a cumulative total that exceeds the Simplified Acquisition Threshold (SAT), including amendments and/or modifications. When reporting is required, all procurement actions are reportable, not just the portion that exceeds the SAT.

Environmental Reviews

Community projects may be required to undergo environmental reviews consistent with procedural requirements of the National Environmental Policy Act of 1969 (NEPA),[7] as implemented by the Council on Environmental Quality (CEQ) Regulations,[8] and EPA's NEPA Regulations.[9] NEPA requires EPA to review and assess environmental information related to the community project prior to awarding the grant. The level of environmental review will be determined on a project-by-project basis. Community grantees can facilitate the process by providing to EPA any environmental studies and reports performed by the community or its consultants. More detailed information will be included in the Final Implementation Guidance.

VII. Preparation for Application

EPA will provide Final Implementation Guidance and instructions for applicants in Fall 2022. To receive a grant, an applicant must submit an initial application package through Grants.gov, which must include the required application forms, workplan, and estimated project costs.[10] **Appendix C** provides a brief description of required application forms and attachments. Applicants are encouraged to coordinate with their EPA Regional Contact to ensure forms and attachments are complete when submitted.

Register with Grants.gov

To submit an application using Grants.gov, the eligible applicant must be registered in SAM.gov and Grants.gov. It may take up to four weeks to complete registration in both SAM.gov and Grants.gov.

- Once registered in SAM.gov, applicants can register in Grants.gov and assign Grants.gov Roles. Please note that only Authorized Organization Representatives (AORs) can submit an application on behalf of the applicant. See Registering an Organization for more information.

- The eligible applicant must have an active SAM.gov registration and a Unique Entity Identifier before registering with Grants.gov. The Unique Entity Identifier is the official identifier for doing business with the U.S. Government as of April 4, 2022. Entities registering in SAM.gov are assigned a Unique Entity ID as a part of the registration process.

VIII. Grants Policies and Resources

The main EPA Grants page provides access to an array of training resources, grant policies, and grant guidance. Potential grant recipients can familiarize themselves with some of these general requirements and policies.

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[7] 42 U.S.C. §4321, et seq.
[8] 40 CFR Parts 1500 – 1508
[9] 40 CFR Part 6, et seq.
[10] See, generally, 2 CFR Part 200, et seq., and 2 CFR Part 1500, et seq.

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- **Grants Policy Resources:** EPA grant policies may affect how recipients manage and administer EPA assistance agreements.

- **Grants Policy Issuance (GPI) 16-01:** EPA Subaward Policy for EPA Assistance Agreement Recipients describes how EPA determines subrecipient eligibility and subaward monitoring and management.
- **EPA Office of Grants and Debarment Guidance on Selected Items of Cost for Recipients:** The Guidance on Selected Items of Cost for Recipients provides information on the allowability of specific costs.

- **Best Practice Guide for Procuring Services, Supplies, and Equipment Under Assistance Agreements:** The Best Practice Guide will help grant recipients (other than states) meet federal procurement requirements.

- **Grants Management Training for Applicants and Recipients:** EPA's online training courses are free and are designed to introduce potential EPA grant recipients to key aspects of the entire grant lifecycle, from preparation of an application through grant closeout.

- **Interim General Budget Development Guidance for Applicants and Recipients of EPA Financial Assistance**: Community grantees may refer to this guidance to learn more about cost eligibility and preparation of the budget component of the application package.

IX. Key Provisions of Award Administration

The following award administration provisions are of particular importance to community grants. EPA will provide the comprehensive list of grant requirements, including post-award requirements, in the Final Implementation Guidance.

- **Regulatory Requirements for Grant Assistance Agreements:** This award is subject to the regulations of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards.[11] Recipients can review a listing and description of the EPA's general regulations applicable to the award of assistance agreements.

- **Terms and Conditions:** EPA's General Terms and Conditions are applicable to the EPA's assistance agreements, including community grants. EPA Regional Offices will ensure that all applicable award-specific programmatic terms and conditions are included in the grant agreements.

- **Funding to Subrecipients:** Funding may be used to provide subawards of financial assistance provided the grantee complies with applicable requirements for subawards including those contained in the regulations of the Uniform Administrative Requirements, Cost Principles and Audit Requirements for Federal Awards, the EPA's Subaward Policy, and the National Term and Condition for Subawards.

[11] 2 CFR Part 200, et seq., and 2 CFR Part 1500, et seq.

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- **Procurements:** When procuring property and services under a federal award, a grantee must follow the Procurement Standards at 2 CFR 200.317 through 2 CFR 200.327, 2 CFR 1500.10 and 2 CFR 1500.11, as applicable.

- **Pre-award Costs:** As authorized in 2 CFR 1500.9, grantees may incur allowable project costs 90 calendar days before EPA awards the grant. Expenses more than 90 calendar days pre-award require prior approval of EPA. Pre-award costs must also meet the requirement in 2 CFR 200.458 that the costs be incurred ". . . directly pursuant to the negotiation and in anticipation of the federal award where such costs are necessary for efficient and timely performance of the scope of work." This requirement is met when costs are incurred on or after March 15, 2022, the date of the enactment of Public Law 117-103. Costs incurred prior to March 15, 2022, are not allowable costs. All costs incurred before EPA makes the award are at the recipient's risk. EPA is under no obligation to reimburse such costs if for any reason the recipient does not receive a federal award, if the federal award is less than anticipated and inadequate to cover such costs, or if such costs are deemed ineligible. Community grantees are encouraged to discuss potential reimbursement eligibility of pre-award costs with the EPA Regional Contact prior to incurring costs.

- **Quality Assurance/Quality Control:** Activities that include the collection of environmental data, such as household water quality testing, will need to comply with the Quality Assurance and Quality Control (QA/QC) requirements in 2 CFR 1500.12 and the Quality Assurance term and condition of the award. Environmental data are any measurements or information that describe environmental processes, location, or conditions; ecological or health effects and consequences; or the performance of environmental technology. Grantees should allow sufficient time and resources for this process. EPA can assist grantees in determining whether QA/QC is required for a proposed project and, if required, the appropriate QA/QC practices needed. This requirement is non-applicable for projects that do not collect environmental data.

X. Contact Information

For general questions about the community grants, or for project specific questions that require the assistance of an EPA Regional Office, contact the EPA Regional Contact.

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The Consolidated Appropriations Act, 2022,[12] contains the following provision:

> *Provided, That $443,639,051 of the funds made available for capitalization grants for the Clean Water State Revolving Funds and $397,766,044 of the funds made available for capitalization grants for the Drinking Water State Revolving Funds shall be for the construction of drinking water, wastewater, and storm water infrastructure and for water quality protection in accordance with the terms and conditions specified for such grants in the explanatory statement* [discussed below] . . . *for projects specified for "STAG—Drinking Water SRF", "STAG—Clean Water SRF", and "STAG—Drinking Water SRF; Clean Water SRF" in the table titled "Interior and Environment Incorporation of Community Project Funding Items/Congressionally Directed Spending Items" included for this division in the explanatory statement . . . , and, for purposes of these grants, each grantee shall contribute not less than 20 percent of the cost of the project unless the grantee is approved for a waiver by the Agency*[.]

The aforementioned "explanatory statement[13]" accompanying the Consolidated Appropriations Act, 2022, states:

> *Community Project Funding Items/Congressionally Directed Spending Items.—From within funds provided for capitalization grants for the Clean Water State Revolving Fund and the Drinking Water State Revolving Fund, the Committees recommend $443,639,051 from the Clean Water SRF and $397,766,044 from the Drinking Water SRF be for Community Project Funding/Congressionally Directed Spending grants for the construction of drinking water, waste-water, and storm-water infrastructure and for water quality protection. Each project shall provide not less than 20 percent matching funds from non-Federal sources, unless approved for a waiver. Applicable Federal requirements that would apply to a Clean Water State Revolving Fund or Drinking Water State Revolving Fund project grant recipient shall apply to a grantee receiving a CPF grant under this section. The Committees note that the following funding sources are to be treated as non-Federal funds and can be used to meet the non-Federal matching fund requirement: U.S. Department of Housing and Urban Development, Community Development Block Grant program; U.S. Department of Agriculture, Rural Development Program; and Appalachian Regional Commission grants. Funding made available to jurisdictions through the American Rescue Plan Act of 2021 (P.L. 117–2) are considered Federal funds and may not be applied towards the non-Federal cost share requirement. A detailed list of projects is in the table titled "Interior and Environment Incorporation of Community Project Funding Items/Congressionally Directed Spending Items."*

[12] P.L. 117-103

[13] Explanatory Statement for Division G of P.L. 117-103

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Appendix B: List of EPA Congressionally Directed Spending Community Projects and Funding Levels (FY 2022 Consolidated Appropriations Act)

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
The list below is organized by: (1) Community projects funded by the Clean Water SRF, (2) Community projects funded by the Drinking Water SRF, and (3) Community projects funded by both Clean Water SRF and Drinking Water SRF. Projects are arranged alphabetically by state within each category. Note that EPA made grammatical changes to remove extra spaces, hyphens and periods. The original CDS list should be referred to for technical corrections.			
Community Projects Funded by Clean Water SRF Appropriations (alphabetical by state)			
STAG—Clean Water SRF	AK	The City of Ketchikan for the Tongass Sewer force main rehabilitation project	1,250,000
STAG—Clean Water SRF	AK	City of Ketchikan for Schoebner Culvert Rehabilitation	1,250,000
STAG—Clean Water SRF	AK	City of Kodiak for Wastewater Lift Station and Force Main Replacement	3,250,000
STAG—Clean Water SRF	AK	Kenai Peninsula Borough for Central Peninsula Landfill Leachate Volume Reduction Project	3,360,000
STAG—Clean Water SRF	AK	Municipality of Skagway for Waste Water Treatment Plant Upgrade	10,200,000
STAG—Clean Water SRF	AK	The City and Borough of Juneau for Mendenhall Wastewater Treatment Plant improvements	800,000
STAG—Clean Water SRF	AL	Lowndes County for Septic Tank Installations	700,000
STAG—Clean Water SRF	AZ	Mohave County for Bank Street Channel Stormwater Project	1,000,000
STAG—Clean Water SRF	AZ	Town of Hayden for Sewer Line Replacement	2,000,000
STAG—Clean Water SRF	CA	City of East Palo Alto for O'Connor Stormwater Station improvement	800,000
STAG—Clean Water SRF	CA	City of Madera for Sewer Trunk Main Re habilitation Project	3,500,000
STAG—Clean Water SRF	CA	City of Maywood for Sewer Improvement Project	1,000,000
STAG—Clean Water SRF	CA	City of Millbrae for Water Recycling Project	800,000
STAG—Clean Water SRF	CA	City of Sacramento for 24th Street In-Line Combined Sewer System (CSS) Storage Pipe project	1,500,000
STAG—Clean Water SRF	CA	City of Sacramento for Combined Sewer System Improvement Project	2,000,000
STAG—Clean Water SRF	CA	City of San Juan Bautista for Regional Waste Water Solution Project	1,000,000
STAG—Clean Water SRF	CA	City of San Leandro for Trash Capture Project	1,000,000
STAG—Clean Water SRF	CA	City of Torrance for Torrance Airport Storm Water Basin Project	938,000
STAG—Clean Water SRF	CA	County of Lake/Special Districts for Pipe line Design Project	320,000
STAG—Clean Water SRF	CA	Earlimart Public Utility District for a sewer relief project	1,284,696
STAG—Clean Water SRF	CA	Eastern Municipal Water District for the Quail Valley septic to sewer conversion project	2,500,000
STAG—Clean Water SRF	CA	Monterey One Water for Coral Street Pump Station Electrical Relocation Project	400,000
STAG—Clean Water SRF	CA	Santa Ynez Band of Chumash Indians for Waste Water Treatment Plant improvements	112,340
STAG—Clean Water SRF	CA	The Big Bear Area Regional Wastewater Agency for the Replenish Big Bear Lake recycled water project	960,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	CA	The City of Adelanto for a wastewater treatment plant tertiary treatment capability project	800,000
STAG—Clean Water SRF	CA	The City of Twentynine Palms for a waste water treatment facility phase II project	663,224
STAG—Clean Water SRF	CA	The San Bernardino County Department of Public Works for the Desert Knolls Wash Phase III construction channel project	1,932,000
STAG—Clean Water SRF	CA	City of Banning for Wastewater Treatment and Groundwater Protection Project	1,250,000
STAG—Clean Water SRF	CA	The City of Yucaipa for the Wilson III basin project	1,000,000
STAG—Clean Water SRF	CA	Western Municipal Water District for West ern Water Recycling Facility PFAS Treatment and Prevention Project	3,000,000
STAG—Clean Water SRF	CO	City of Craig for a Drinking Water and/or Clean Water Project for Water and Wastewater Emergency Generators	1,080,000
STAG—Clean Water SRF	CO	Town of Rico for Central Sewer System Project	2,500,000
STAG—Clean Water SRF	CT	Save the Sound for Dam Removal Project	475,000
STAG—Clean Water SRF	CT	Town of Newtown for Non-Impervious Parking in Newtown	480,000
STAG—Clean Water SRF	CT	City of West Haven for Organic Waste and Sludge Disposal	160,000
STAG—Clean Water SRF	CT	Metropolitan District Commission for City of Hartford Waste Treatment Facility Upgrades	2,500,000
STAG—Clean Water SRF	CT	Save the Sound for Distributed Green Infrastructure across the Watersheds of New Haven Harbor	375,000
STAG—Clean Water SRF	CT	Town of Manchester for a Drinking Water and/or Clean Water Project for Water and Sewer Transmission Pipe	1,800,000
STAG—Clean Water SRF	CT	Town of Stonington WPCA for River Road Pumping Station Upgrades	720,000
STAG—Clean Water SRF	DE	City of Seaford for Sewer Line Relocation	1,200,000
STAG—Clean Water SRF	DE	City of Wilmington for South Wilmington Sewer Infrastructure Expansion	4,800,000
STAG—Clean Water SRF	FL	Bay Park Conservancy for an environ mental restoration project	2,000,000
STAG—Clean Water SRF	FL	Charlotte County for the Ackerman septic to sewer conversion project	3,200,000
STAG—Clean Water SRF	FL	Cities of Wilton Manors, Oakland Park, and Fort Lauderdale for Oakland Park/Wilton Manors/Fort Lauderdale Middle River Water Quality Improvement Project	900,000
STAG—Clean Water SRF	FL	City of Coral Springs for Stormwater Drainage Infrastructure	400,000
STAG—Clean Water SRF	FL	City of North Miami Beach for Drainage Improvement Project	1,141,038
STAG—Clean Water SRF	FL	City of Oviedo for Percolation Pond Decom missioning project	900,000
STAG—Clean Water SRF	FL	City of Sunrise for Storm Water Pump Station Replacement	2,000,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	FL	City of West Park for a Drainage Improvement Project	400,000
STAG—Clean Water SRF	FL	DeSoto County for a wastewater treatment expansion project	2,000,000
STAG—Clean Water SRF	FL	Hillsborough County for Septic-to-Sewer project	800,000
STAG—Clean Water SRF	FL	Lee County for the Bob Janes Preserve restoration project	720,000
STAG—Clean Water SRF	FL	Leon County for Lake Henrietta Stormwater Facility	1,600,000
STAG—Clean Water SRF	FL	Miami-Dade County for a septic to sewer project	750,000
STAG—Clean Water SRF	FL	Miami-Dade Water and Sewer Department for the Biscayne Bay Water Pump project	1,600,000
STAG—Clean Water SRF	FL	Okeechobee Utility Authority for the Treasure Island wastewater expansion project	1,000,000
STAG—Clean Water SRF	FL	Pinellas County Government for Sanitary Sewer Interceptor at Pinellas Park	700,000
STAG—Clean Water SRF	FL	Seminole County Government for Little Wekiva River Restoration Project	688,000
STAG—Clean Water SRF	FL	The City of Dade City for a wastewater treatment plant relocation and upgrade project	1,750,000
STAG—Clean Water SRF	FL	The City of Sarasota for a wetlands restoration project	2,578,000
STAG—Clean Water SRF	FL	The City of Zephyrhills for the Northside Lift Station and Force Main project	1,500,000
STAG—Clean Water SRF	FL	The Pinellas County Board of County Com missioners for a tidal check valves project	240,000
STAG—Clean Water SRF	FL	The Village of Key Biscayne for the Key Biscayne K–8 Center Elementary School stormwater improvements project	500,000
STAG—Clean Water SRF	FL	The Village of Pinecrest for a stormwater management project	606,000
STAG—Clean Water SRF	FL	Town of Davie for Shenandoah Drainage Improvements	1,772,800
STAG—Clean Water SRF	FL	Town of Eatonville for Vereen Lift Station/ Quadrant Rehabilitation	665,000
STAG—Clean Water SRF	GA	Augusta-Richmond County for Rock Creek Basin National Hills Neighborhood Stormwater Project	3,242,000
STAG—Clean Water SRF	GA	Augusta-Richmond County for a Drinking Water and/or Clean Water Project for Sewer and Waterline Replacement	3,888,000
STAG—Clean Water SRF	GA	City of McIntyre and Wilkinson County for Sewer System	6,300,000
STAG—Clean Water SRF	IA	City of Johnston for Sewer Extension Project	1,000,000
STAG—Clean Water SRF	IA	The City of Burlington for a sewer separation project	1,700,000
STAG—Clean Water SRF	IA	The City of Ottumwa for the Blake's Branch sewer project	2,500,000
STAG—Clean Water SRF	IL	City of Elmhurst for Stormwater Improvement Project	2,000,000
STAG—Clean Water SRF	IL	City of Hickory Hills for Sanitary Sewer Improvements	640,000
STAG—Clean Water SRF	IL	Downers Grove Sanitary District for Sanitary Sewer Rehabilitation	1,080,000
STAG—Clean Water SRF	IL	The Galesburg Sanitary District for Anaerobic Digester Upgrades	1,200,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	IL	Village of Burr Ridge for Stormwater Management Improvements	785,000
STAG—Clean Water SRF	IL	City of Harvey for a Drinking Water and/or Clean Water Project for Central Area Water and Sewer Improvement Project	3,500,000
STAG—Clean Water SRF	IL	City of Peoria for Combined Sewer Over flow Project	450,000
STAG—Clean Water SRF	IL	City of Sesser for Sanitary Sewer Collection System Rehabilitation	750,000
STAG—Clean Water SRF	IL	HeartLands Conservancy for Centreville Cahokia Heights Sewer System Project	1,500,000
STAG—Clean Water SRF	IL	Kishwaukee Water Reclamation District for Malta/Kishwaukee Community College Sanitary Sewer Extension Project	250,000
STAG—Clean Water SRF	IL	Lake County Public Works for Des Plaines River Water Reclamation Facility Up grades Project	400,000
STAG—Clean Water SRF	IL	Metropolitan Water Reclamation District of Greater Chicago for Stormwater Project	1,500,000
STAG—Clean Water SRF	IL	Will County for a Drinking Water and/or Clean Water Project for Southeast Joliet Sanitary District Water and Wastewater Upgrading	500,000
STAG—Clean Water SRF	KS	City of Pittsburg for Wastewater Treatment Facility	3,000,000
STAG—Clean Water SRF	KY	Eastern Kentucky PRIDE, Inc. for a septic system project	800,000
STAG—Clean Water SRF	KY	Franklin County Fiscal Court for the Farmdale Sanitation District sewer system project	3,500,000
STAG—Clean Water SRF	KY	Louisville and Jefferson County Metropolitan Sewer District for Park DuValle Community Odor Control Improvements	480,000
STAG—Clean Water SRF	KY	The City of Danville for the Spears Creek Pump Station upgrade	400,000
STAG—Clean Water SRF	KY	The City of Lawrenceburg for a sanitary sewer overflow elimination and sewer extension project	750,000
STAG—Clean Water SRF	LA	The City of Monroe for rehabilitation of a sewer main project	2,000,000
STAG—Clean Water SRF	LA	City of Monroe for Storm Water Drainage Study	500,000
STAG—Clean Water SRF	LA	New Orleans Ernest N. Morial Convention Center for New Gravity Sanitary Sewer and Storm Sewer Project	8,000,000
STAG—Clean Water SRF	MA	Charles River Watershed Association, Inc. for Charles River Flood Model	400,000
STAG—Clean Water SRF	MA	City of Somerville for Poplar Street Pump Station Project	2,500,000
STAG—Clean Water SRF	MA	City of Waltham for Waltham Embassy Parking Lot Project	280,000
STAG—Clean Water SRF	MA	City of Westfield for Water Treatment Plant Building Upgrades	1,000,000
STAG—Clean Water SRF	MA	Merrimack River Watershed Council for Merrimack River Hot Spot Detection and Green Infrastructure Solutions	352,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	MA	Town of Agawam Main Street Sewage Main and Slope Stabilization Project	740,000
STAG—Clean Water SRF	MA	Town of Hull for Pump Station 9 Replacement	2,000,000
STAG—Clean Water SRF	MA	Tyngsborough Sewer Department for Sewer Phase 3 Project	869,000
STAG—Clean Water SRF	MA	Wampanoag Tribe of Gay Head Aquinnah for Administration Building Connection to Waste Water Treatment Plant	800,000
STAG—Clean Water SRF	MD	Montgomery County for Watershed Enhancement Project	500,000
STAG—Clean Water SRF	MD	Montgomery County for Watershed Stormwater Management Enhancements	1,000,000
STAG—Clean Water SRF	MD	Anacostia Watershed Society for Treating and Teaching program	200,000
STAG—Clean Water SRF	MD	Anne Arundel County for Stormwater Management Infrastructure Improvements	2,000,000
STAG—Clean Water SRF	MD	Cecil County for New Wastewater Infra structure	1,000,000
STAG—Clean Water SRF	MD	City of Hyattsville for Ward 1 Stormwater Project	870,000
STAG—Clean Water SRF	MD	The City of Cambridge for Historic West End Sewer Line Replacements	500,000
STAG—Clean Water SRF	ME	City of Belfast for Sewer Line Replacements	1,000,000
STAG—Clean Water SRF	ME	City of Brewer for Oak Grove Sewer Sub system Remediation Project	1,103,000
STAG—Clean Water SRF	ME	City of Eastport Wastewater Treatment Department for Middle Street Pump Station Generator Upgrade	120,000
STAG—Clean Water SRF	ME	City of Presque Isle for Echo Lake Septic Tank Effluent Pump System	550,000
STAG—Clean Water SRF	ME	City of Saco for Water Resource Recovery Facility Upgrade	3,930,000
STAG—Clean Water SRF	ME	Maine Department of Environmental Protection for Anson Madison Sanitary District Regional PFAS Treatment Facility	1,600,000
STAG—Clean Water SRF	ME	Town of Bridgton for Sewer Main Extensions Project	1,400,000
STAG—Clean Water SRF	ME	Town of Frenchville for Force Main and Pump Station Upgrade	247,000
STAG—Clean Water SRF	ME	Town of Livermore Falls for Wastewater Treatment Facility improvements	1,700,000
STAG—Clean Water SRF	ME	Town of Old Orchard Beach for Wastewater Treatment Facility Upgrades	1,000,000
STAG—Clean Water SRF	ME	Town of Vinalhaven for Downtown Sewer and Water Project	1,410,000
STAG—Clean Water SRF	ME	Town of Winslow for Chaffee Brook Pump Station	1,000,000
STAG—Clean Water SRF	MI	City of Mason for Wastewater Treatment Plant Improvement and Expansion	3,500,000
STAG—Clean Water SRF	MI	Harrison Township for a sanitary sewer project	1,000,000
STAG—Clean Water SRF	MI	Leoni Township for a wastewater treatment plant improvement project	3,500,000
STAG—Clean Water SRF	MI	St. Clair County for the Clay-Ira interceptor project	1,000,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	MI	The City of Midland for a storm and sanitary sewer improvement project	750,000
STAG—Clean Water SRF	MI	The Macomb Interceptor Drain Drainage District for a segment sewer rehabilitation project	1,000,000
STAG—Clean Water SRF	MI	The Village of Clinton for a septic waste treatment project	185,000
STAG—Clean Water SRF	MI	Tuscarora Township for a septic to sewer expansion and modernization project	3,500,000
STAG—Clean Water SRF	MI	8 1/2 Mile Relief Drain Drainage District for Chapaton Retention Basin In-Storage Expansion	4,500,000
STAG—Clean Water SRF	MI	Great Lakes Water Authority for Detroit River Interceptor Evaluation and Rehabilitation	2,000,000
STAG—Clean Water SRF	MI	Martin Sanitary Diversion Drainage District for Martin Drain In-System Storage Device	1,000,000
STAG—Clean Water SRF	MN	City of Shakopee for River Stabilization Project	3,500,000
STAG—Clean Water SRF	MN	City of Two Harbors for a wastewater treatment facility improvements project	3,500,000
STAG—Clean Water SRF	MN	City of Bemidji for Wastewater Treatment Facility Rehabilitation	4,400,000
STAG—Clean Water SRF	MN	City of Rochester for Water Reclamation Plant Upgrade	935,000
STAG—Clean Water SRF	NC	The City of Clinton for a sewer line repair project	68,000
STAG—Clean Water SRF	NC	The City of Dunn for the Black River Waste Water Plant improvement project	1,000,000
STAG—Clean Water SRF	NC	The Town of Benson for a sewer treatment capacity project	1,000,000
STAG—Clean Water SRF	NC	Town of Cary for Swift Creek Stormwater Management and Modeling Program	900,000
STAG—Clean Water SRF	NC	Town of Hookerton for Waste Water Treatment Plant Lagoon and Sewer Collection System Improvements	1,897,001
STAG—Clean Water SRF	NE	The Sarpy County Wastewater Agency for the Springfield Creek sewer project	3,500,000
STAG—Clean Water SRF	NH	Town of Exeter for Exeter Squamscott River Sewer Siphons	600,000
STAG—Clean Water SRF	NH	City of Rochester for Septic Receiving Facility Upgrades	900,000
STAG—Clean Water SRF	NH	Conway Village Fire District for Sewer Main Rehabilitation	1,000,000
STAG—Clean Water SRF	NH	Keene, NH for Sewer Force Main Inspection and Rehabilitation	325,000
STAG—Clean Water SRF	NH	Town of Exeter for Webster Avenue Pump Station Rehabilitation Project	1,050,000
STAG—Clean Water SRF	NH	Town of Greenville for Wastewater Treatment Plant Chemical Feed Building	750,000
STAG—Clean Water SRF	NH	Town of Newport for Renovation of Waste water Treatment Plant	1,936,000
STAG—Clean Water SRF	NJ	Borough of Saddle River for Sewer Main Construction Project	1,105,166
STAG—Clean Water SRF	NJ	City of New Brunswick for Sewer Replacement Project	760,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	NJ	Township of Saddle Brook for Sewage Re habilitation and Improvements	1,393,682
STAG—Clean Water SRF	NJ	Borough of Paramus for Prospect Avenue Sewer Pump Station Project	250,000
STAG—Clean Water SRF	NJ	Borough of Prospect Park for Main Sewer Line Repair Project	223,000
STAG—Clean Water SRF	NJ	Borough of Sussex for Sewer Force Main Repair	1,000,000
STAG—Clean Water SRF	NJ	Borough of Wharton for Sanitary Sewer System Rehabilitation	398,000
STAG—Clean Water SRF	NJ	City of Hackensack for Clay Street Combined Sewer Separation Project	1,000,000
STAG—Clean Water SRF	NJ	City of Hammonton for Sanitary Sewer System Study and Rehabilitation	395,000
STAG—Clean Water SRF	NJ	Sparta Township for Wastewater Treatment Project	250,000
STAG—Clean Water SRF	NJ	Township of Berkeley Heights for West Side Drainage Project	500,000
STAG—Clean Water SRF	NJ	Willingboro Municipal Utilities Authority for Water Treatment Plant Microgrid	600,000
STAG—Clean Water SRF	NV	The City of Carson City for a sewer extension project	1,000,000
STAG—Clean Water SRF	NV	Boulder City for Wastewater Treatment Plant Upgrade	1,000,000
STAG—Clean Water SRF	NV	City of Ely for Central Ely Sewer Upgrade	3,300,000
STAG—Clean Water SRF	NV	The City of Reno for the McCloud Area sewer conversion project	1,000,000
STAG—Clean Water SRF	NV	The City of Sparks for Truckee Meadows Water Reclamation Facility upgrades	3,000,000
STAG—Clean Water SRF	NV	Truckee Meadows Water Authority for Reno-Stead OneWater Nevada Purification Facility	3,000,000
STAG—Clean Water SRF	NY	City of Newburgh for North Interceptor Sewer Project	3,120,000
STAG—Clean Water SRF	NY	County of Putnam for Riparian and Water shed Ecological Restoration Project	3,500,000
STAG—Clean Water SRF	NY	Save the Sound for Little Neck Bay Stormwater Management	600,000
STAG—Clean Water SRF	NY	The City of Corning for a wastewater treatment plant improvement project	480,000
STAG—Clean Water SRF	NY	The Incorporated Village of Patchogue for a wastewater treatment facility expansion project	3,500,000
STAG—Clean Water SRF	NY	The Town of Cherry Creek wastewater col lection project	2,000,000
STAG—Clean Water SRF	NY	The Town of Prattsburgh for a wastewater service project	398,700
STAG—Clean Water SRF	NY	The Town of Seneca Falls for a pump station and force main wastewater collection project	1,966,000
STAG—Clean Water SRF	NY	The Village of Portville for a sanitary sewer improvements project	3,500,000
STAG—Clean Water SRF	NY	Town of Clarkstown for Storm Water Management Improvements	1,000,000
STAG—Clean Water SRF	NY	Town of Rotterdam for Wastewater Treatment Plant Improvements Project	960,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	NY	Town of Yorktown for Hallocks Mill Sewer Extension Project	1,200,000
STAG—Clean Water SRF	NY	Village of Kiryas Joel Wastewater Treatment Plant for Wastewater Treatment Plant Components Modernization Project	2,000,000
STAG—Clean Water SRF	NY	Village of Sea Cliff and Hempstead Harbor Protection Committee for North Shore Shellfish Seeding	300,000
STAG—Clean Water SRF	NY	City of Mount Vernon for City of Mount Vernon DPW Sewer Planning Project	1,500,000
STAG—Clean Water SRF	NY	Incorporated Village of Hempstead for Sewer System Improvements	2,000,000
STAG—Clean Water SRF	OH	The City of Chillicothe for a wastewater treatment plant project	3,500,000
STAG—Clean Water SRF	OH	The City of Fairview Park for sewer remediation and environmental improvements	3,500,000
STAG—Clean Water SRF	OH	The City of Parma for Valley Villas, York, and State Roads sewer improvements	1,968,000
STAG—Clean Water SRF	OH	The City of Rocky River for the Bucking ham Road, Argyle Oval, and Arundel Road sewer replacement project	2,520,000
STAG—Clean Water SRF	OH	The City of Strongsville for the Prospect Road storm sewer project	1,600,000
STAG—Clean Water SRF	OH	The City of Willoughby for the Willoughby-Eastlake Water Pollution Control Center Lakeshore East Equalization Basin project	3,500,000
STAG—Clean Water SRF	OH	The Geauga County Board of Commissioners for McFarland Waste Water Treatment Plant renovation and up grades	800,000
STAG—Clean Water SRF	OH	The Village of Chagrin Falls for a waste water treatment plant infrastructure re habilitation project	3,500,000
STAG—Clean Water SRF	OH	The Village of Grover Hill for a wastewater collections system project	400,000
STAG—Clean Water SRF	OH	Village of Lowellville for Wastewater Improvements	549,600
STAG—Clean Water SRF	OH	Northeast Ohio Regional Sewer District for Brookside Culvert Repair Project	2,000,000
STAG—Clean Water SRF	OH	Northeast Ohio Regional Sewer District for Upper Ridgewood Stormwater Detention Basin Improvement Project	1,000,000
STAG—Clean Water SRF	OH	Village of Tuscarawas for Wastewater Treatment Plant Improvements	500,000
STAG—Clean Water SRF	OK	Davis Municipal Authority for Wastewater Treatment Plant Improvements	1,000,000
STAG—Clean Water SRF	OK	Oklahoma City Water Utilities Trust for Wastewater Treatment Plant Upgrades	5,000,000
STAG—Clean Water SRF	OK	Stillwater Utilities Authority for City of Stillwater Wastewater Project	5,000,000
STAG—Clean Water SRF	OR	Port of Brookings Harbor for Wastewater Treatment Plant	3,500,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	OR	City of Albany for Composting System Expansion at the Albany-Millsburg Water Reclamation	1,500,000
STAG—Clean Water SRF	OR	City of Dufur for Wastewater Treatment Expansion Project	1,000,000
STAG—Clean Water SRF	OR	City of Hood River for Phase IV Waterfront Stormwater Line Relocation	575,000
STAG—Clean Water SRF	OR	City of Newberg for Emergency Wastewater Treatment Plant	500,000
STAG—Clean Water SRF	OR	City of North Bend for Storm and Sanitary Infrastructure Replacement and Up grades	1,340,000
STAG—Clean Water SRF	OR	City of Prineville for a Drinking Water and/ or Clean Water Project for Water and Wastewater Services Extension	1,500,000
STAG—Clean Water SRF	OR	City of Sandy for Sewer Pipe Improvements	1,000,000
STAG—Clean Water SRF	OR	Klamath County for Upper Klamath Lake Water Reuse Equipment	2,000,000
STAG—Clean Water SRF	OR	North Unit Irrigation District for Jefferson County Main Canal Lining Project	555,000
STAG—Clean Water SRF	OR	Port of Toledo for Sewer Connection Expansion Project	1,958,000
STAG—Clean Water SRF	OR	Rogue River Valley and Medford Irrigation District for Joint System Piping, Phase 1	5,000,000
STAG—Clean Water SRF	PA	Cranberry Township for a sanitary sewer system project	960,000
STAG—Clean Water SRF	PA	The City of Corry for a wastewater treatment plant project	400,000
STAG—Clean Water SRF	PA	Wyoming Valley Sanitary Authority for Stream Restorations and Stormwater Basin Retrofit	3,500,000
STAG—Clean Water SRF	PA	Cecil Township Municipal Authority for Village of Lawrence Sewage Facilities Project	1,000,000
STAG—Clean Water SRF	PA	Mid-Cameron Authority for Cameron County Interceptor Line Replacement	376,000
STAG—Clean Water SRF	RI	City of Warwick Sewer Authority for Supervisory Control and Data Acquisition System	1,500,000
STAG—Clean Water SRF	RI	Town of North Providence for Stormwater Improvements	375,000
STAG—Clean Water SRF	SC	City of Aiken for Northside Gravity Sewer Expansion	2,500,000
STAG—Clean Water SRF	TX	City of Austin for a Wastewater and Stormwater Infrastructure Project	1,000,000
STAG—Clean Water SRF	TX	City of Buda for South Loop 4 Wastewater Extension Project	1,636,364
STAG—Clean Water SRF	TX	City of Wilmer for Force Main Replacement Project	2,226,000
STAG—Clean Water SRF	TX	Harris County Flood Control District for the Kingwood Diversion Channel improvement project	1,600,000
STAG—Clean Water SRF	TX	Harris County Flood Control District for the Taylor Gully stormwater channel improvement project	1,600,000
STAG—Clean Water SRF	TX	Harris County for the Forest Manor drain age improvement project	1,673,600
STAG—Clean Water SRF	TX	Memorial City Redevelopment Authority for a detention basin improvement project	3,394,000
STAG—Clean Water SRF	TX	The City of Waco for the Flat Creek water reuse project	1,700,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	UT	The Town of Manila for a sewage system project	3,500,000
STAG—Clean Water SRF	VA	City of Falls Church for Lincoln Avenue Stormwater Project	400,000
STAG—Clean Water SRF	VA	City of Petersburg for Sewer Service Area Infrastructure Upgrades	2,432,000
STAG—Clean Water SRF	VA	City of Norfolk for a Drinking Water and/or Clean Water Project for River Oaks Pump Station Replacement	2,500,000
STAG—Clean Water SRF	VA	City of Norfolk for a Drinking Water and/or Clean Water Project for West Ocean View Pump Station	2,300,000
STAG—Clean Water SRF	VA	City of Williamsburg for Walnut Hills Stormwater Abatement and Streambank Stabilization project	422,000
STAG—Clean Water SRF	VI	Virgin Islands Waste Management Authority for Residential Collection Sewers Re placement	960,000
STAG—Clean Water SRF	VI	Virgin Islands Waste Management Authority for Wastewater Treatment Facilities Upgrade	1,120,000
STAG—Clean Water SRF	VI	Virgin Islands Waste Management Authority for Water Security Infrastructure Up grades	1,200,000
STAG—Clean Water SRF	VT	Addison County Community Trust for Wastewater Infrastructure Improvements	500,000
STAG—Clean Water SRF	VT	City of Vergennes for Wastewater Upgrade	3,000,000
STAG—Clean Water SRF	VT	Milton Mobile Home Community, Inc. for a Drinking Water and/or Clean Water Project for Mobile Home Community Water and Sewer Project	841,000
STAG—Clean Water SRF	VT	City of Barre for City of Barre North End Wastewater Pump Station	143,000
STAG—Clean Water SRF	VT	Town of Bethel for a Drinking Water and/or Clean Water Project for Water and Stormwater Infrastructure Upgrade	600,000
STAG—Clean Water SRF	VT	Town of Montgomery for Wastewater Infra structure Construction Project	2,800,000
STAG—Clean Water SRF	WA	City of Ellensburg for Renewable Natural Gas Conversion and Methane Gas Recovery at the Wastewater Treatment Facility	840,000
STAG—Clean Water SRF	WA	City of North Bend for Snoqualmie Valley Trail Channel Widening and Wetland Creation/Enhancement	225,000
STAG—Clean Water SRF	WA	The City of College Place for a wastewater treatment project	3,500,000
STAG—Clean Water SRF	WA	The Stevens Public Utility District #1 for a septage reuse project	1,680,000
STAG—Clean Water SRF	WA	City of Stevenson for Wastewater Treatment Plant Upgrades	2,500,000
STAG—Clean Water SRF	WA	City of Sultan for Wastewater Plant Up grade	2,000,000
STAG—Clean Water SRF	WA	Clark Regional Wastewater District for Curtain Creek Septic Elimination Pro gram	800,000
STAG—Clean Water SRF	WA	Port Hadlock for Wastewater Facilty	2,500,000
STAG—Clean Water SRF	WA	Town of Malden for a sewer system project	3,500,000
STAG—Clean Water SRF	WI	City of River Falls for West Central Wisconsin Biosolids Facility Improvements	1,600,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Clean Water SRF	WI	City of Fitchburg for Stormwater Management Project	848,000
STAG—Clean Water SRF	WV	The City of Moundsville for a main sewer line evaluation project	100,000
STAG—Clean Water SRF	WV	City of Follansbee for Wastewater System Improvements Project	10,269,000
STAG—Clean Water SRF	WV	City of Grafton for Wastewater Systems Improvement Project	3,000,000
STAG—Clean Water SRF	WV	City of Nitro for Stormwater and Sewer Upgrade Project	2,888,000
STAG—Clean Water SRF	WV	City of Parsons for Sanitary Sewer System Compliance	1,600,000
STAG—Clean Water SRF	WV	City of Ravenswood for Pump Station Improvements	2,000,000
STAG—Clean Water SRF	WV	City of Ripley for Wastewater Treatment Plant Improvements	3,000,000
STAG—Clean Water SRF	WV	DigDeep Right to Water Project for a sanitary septic and sewerage service project	495,840
STAG—Clean Water SRF	WV	Parkersburg Utility Board for Marrtown Road Sewer Improvements	2,500,000
STAG—Clean Water SRF	WV	Salt Rock Sewer Public Service District for Phase II Pump Station Upgrade Project	1,416,000
STAG—Clean Water SRF	WV	Southern Jackson County Public Service District for Wastewater Treatment System Upgrade	2,158,000
STAG—Clean Water SRF	WV	Town of Burnsville for Wastewater Collection System Rehabilitation Project	669,000
STAG—Clean Water SRF	WV	Town of Marmet for Sanitary/Storm Separation Project: Maryland Ave. Overflow Abatement	860,000
STAG—Clean Water SRF	WV	Town of Oceana for Wastewater Collection System Upgrades	1,444,000
STAG—Clean Water SRF	WV	Town of Rowlesburg for Sanitary Sewer System Upgrade	7,578,000
Community Projects Funded with Drinking Water SRF Appropriations (alphabetical by state)			
STAG—Drinking Water SRF	AK	City and Borough of Wrangell for Supply Connector to Treatment Plant	2,080,000
STAG—Drinking Water SRF	AK	City of King Cove for Delta Creek Water Well Field Expansion	5,200,000
STAG—Drinking Water SRF	AL	City of Marion for Source Water Rehabilitation Project	480,000
STAG—Drinking Water SRF	AZ	City of Chandler for Advanced Metering Infrastructure	990,000
STAG—Drinking Water SRF	AZ	City of Glendale for Water Supply Inter-Connection Upgrades	2,000,000
STAG—Drinking Water SRF	CA	Adventist Health St. Helena Hospital for Napa County Deer Park/St. Helena Water System improvements	1,840,000
STAG—Drinking Water SRF	CA	Cambria Community Services District for Water Tanks project	375,000
STAG—Drinking Water SRF	CA	Citrus Heights Water District for Ground water Production Well	585,000
STAG—Drinking Water SRF	CA	City of Dos Palos for Water Plant Clarifier Replacement and Repair	279,664
STAG—Drinking Water SRF	CA	City of Downey for Well Remediation Project	1,000,000
STAG—Drinking Water SRF	CA	City of Gustine for Water Loop Line Completion Project	950,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Drinking Water SRF	CA	City of Lomita for Lomita Water System Improvements Project	940,000
STAG—Drinking Water SRF	CA	City of Oxnard for a Water Transmission Line	500,000
STAG—Drinking Water SRF	CA	City of Poway for Clearwell Bypass System Project	1,000,000
STAG—Drinking Water SRF	CA	City of San Buenaventura (Ventura Water) for a State Water Interconnection Project	2,840,000
STAG—Drinking Water SRF	CA	City of Santa Cruz for Water Meter Upgrade Program	1,000,000
STAG—Drinking Water SRF	CA	City of Thousand Oaks for a Water Reuse Project	1,500,000
STAG—Drinking Water SRF	CA	Coachella Valley Water District for Water Transmission Project	2,700,000
STAG—Drinking Water SRF	CA	Earlimart Public Utility District for a well treatment improvement project	1,756,416
STAG—Drinking Water SRF	CA	East Bay Municipal Utility District for Upper San Leandro Drinking Water Treatment Plant upgrades	3,500,000
STAG—Drinking Water SRF	CA	Eastern Municipal Water District for Mead Valley Water Booster Station Replacement Project	1,000,000
STAG—Drinking Water SRF	CA	Elsinore Valley Municipal Water District for the Canyon Lake Water Treatment Plant improvement project	780,000
STAG—Drinking Water SRF	CA	Ironhouse Sanitary District for Recycled Water Project	3,000,000
STAG—Drinking Water SRF	CA	Pico Rivera Water Authority for PFAS Groundwater Treatment Project	2,500,000
STAG—Drinking Water SRF	CA	West Valley Water District for Bloomington Alleyway Pipeline Project	2,000,000
STAG—Drinking Water SRF	CA	City of Gustine for Tank and Booster Pump Station Improvements	3,000,000
STAG—Drinking Water SRF	CA	City of Sacramento for Fairbairn Ground water Well	1,700,000
STAG—Drinking Water SRF	CA	South Coast Water District for Doheny De salination Slant Well Project	2,400,000
STAG—Drinking Water SRF	CO	Town of Dove Creek for Big Canyon Water Line	1,760,000
STAG—Drinking Water SRF	CO	Town of Hotchkiss for Water Treatment Plant Upgrade	91,000
STAG—Drinking Water SRF	CO	Town of La Veta for Water Treatment Plant	600,000
STAG—Drinking Water SRF	CO	Town of Minturn for Water Tank Replacement Project	1,000,000
STAG—Drinking Water SRF	CO	Town of Walden for Water System Old Valve Replacement	90,000
STAG—Drinking Water SRF	CT	Town of Durham for Public Water Supply Expansion	3,412,455
STAG—Drinking Water SRF	CT	South Central Connecticut Regional Water Authority for Lake Saltonstall Water Treatment Plant Electrical Upgrades Projects	2,000,000
STAG—Drinking Water SRF	CT	Town of Bethel Public Utilities Department for Bergstrom Well Treatment Facility	1,600,000
STAG—Drinking Water SRF	CT	Town of Bethel Public Utilities Department for Supervisory Control and Data Acquisition System	640,000
STAG—Drinking Water SRF	FL	City of Apopka for Northwest Water Pro duction Plant New Water Storage Tank	1,500,000
STAG—Drinking Water SRF	FL	City of Dania Beach for Water Utility Upgrade and Improvement Project	1,500,000
STAG—Drinking Water SRF	FL	Miami-Dade County for a drinking water mains extension project	1,000,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Drinking Water SRF	FL	Miami-Dade County for a drinking water project	2,000,000
STAG—Drinking Water SRF	FL	Sarasota County for extension of a port able transmission main project	1,000,000
STAG—Drinking Water SRF	FL	The City of West Miami for a potable water main improvements project	3,000,000
STAG—Drinking Water SRF	GA	City of East Point for Water Treatment Plant Renovations	1,600,000
STAG—Drinking Water SRF	IA	Creston City Water Works for water intake Project	600,000
STAG—Drinking Water SRF	IL	The City of Assumption for water system and treatment plant improvements	1,965,040
STAG—Drinking Water SRF	IL	The City of Carrollton for a water treatment plant project	1,975,000
STAG—Drinking Water SRF	IL	The City of Farmer City for a water plant sand filter rehabilitation project	197,619
STAG—Drinking Water SRF	IL	The City of Nokomis for a drinking water treatment plant system improvement project	480,000
STAG—Drinking Water SRF	IL	The City of Rushville for drinking water system improvements	1,700,000
STAG—Drinking Water SRF	IL	The Village of Blue Mound for water system improvements and a water tower rehabilitation project	320,000
STAG—Drinking Water SRF	IL	Village of Pingree Grove for Water Treatment Expansion	3,500,000
STAG—Drinking Water SRF	IL	Village of Richmond for Water Tower Rehabilitation	560,800
STAG—Drinking Water SRF	IL	City of Joliet for Water Main Replacements and Alternative Water Source Program project	3,500,000
STAG—Drinking Water SRF	IL	City of Metropolis for Metropolis Water Treatment Plant Filter Rehabilitation Project	400,000
STAG—Drinking Water SRF	IL	City of Monmouth for West Harlem Avenue Water Main Replacement Project	500,000
STAG—Drinking Water SRF	IL	City of North Chicago for Lead Service Line and Water Main Replacement	500,000
STAG—Drinking Water SRF	KY	The City of Lancaster for a drinking water treatment plant project	400,000
STAG—Drinking Water SRF	KY	The Hyden-Leslie County Water District for a water system improvement project	1,392,960
STAG—Drinking Water SRF	MA	City of Malden for Lead Line Replacement Program	3,360,000
STAG—Drinking Water SRF	MA	Norton Water & Sewer Department for Source Water Well Replacement Project	1,475,000
STAG—Drinking Water SRF	MA	Town of Hopedale for Water Supply And Storage Enhancement Project	2,000,000
STAG—Drinking Water SRF	MA	Town of Medway for Central Water Treatment Facility Improvements	2,750,000
STAG—Drinking Water SRF	MA	Town of Plainville for Water System Capacity Expansion Project	1,500,000
STAG—Drinking Water SRF	MA	Town of Ipswich for Town Hill Water Storage Tank Replacement	3,280,000
STAG—Drinking Water SRF	MA	Town of Sturbridge for Water Main Improvements	1,085,000
STAG—Drinking Water SRF	MD	City of Bowie for Replacement of Tuberculated Pipes	2,000,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Drinking Water SRF	MD	The Board of Garrett County Commissioners for Gorman Waterline Rehabilitation Project	700,000
STAG—Drinking Water SRF	MD	Town of Boonsboro for Drinking Water Reservoir Replacement	1,000,000
STAG—Drinking Water SRF	ME	Town of Berwick for Water Utilities Up grade	2,800,000
STAG—Drinking Water SRF	MI	Charter Township of Shelby for a water reservoir project	1,000,000
STAG—Drinking Water SRF	MI	City of Pleasant Ridge for Kensington Water Main and Lead Service Line Re placement Project	650,000
STAG—Drinking Water SRF	MI	Oakland County for Royal Oak Township Water System Improvements	800,000
STAG—Drinking Water SRF	MI	The City of Croswell for a drinking water quality improvement project	1,000,000
STAG—Drinking Water SRF	MI	The City of Jackson for the Pearl Loop North Branch water transmission main project	1,760,000
STAG—Drinking Water SRF	MI	The City of Kalamazoo for a lead water service line replacement project	1,000,000
STAG—Drinking Water SRF	MI	Village of Fowlerville for Water Treatment Plant Improvements	3,500,000
STAG—Drinking Water SRF	MI	Village of Milford for Water System Improvements Project	2,000,000
STAG—Drinking Water SRF	MI	City of St. Clair for Water Treatment Plant Improvements	970,000
STAG—Drinking Water SRF	MI	Oakland County for Pontiac Water System Improvements	800,000
STAG—Drinking Water SRF	MN	City of Aurora for East Mesabi Water Treatment Project	2,500,000
STAG—Drinking Water SRF	MN	City of Ely for Water Supply Improvements for School Campus	245,000
STAG—Drinking Water SRF	MN	City of Zumbrota for Water Main Loop	560,000
STAG—Drinking Water SRF	MO	City of Slater for Well Field Protection Project	147,000
STAG—Drinking Water SRF	MO	City Utilities of Springfield for a raw water main construction project	3,500,000
STAG—Drinking Water SRF	MS	The City of Gautier for a water treatment project	2,770,000
STAG—Drinking Water SRF	MS	City of Jackson for Water and Distribution System Improvements	4,000,000
STAG—Drinking Water SRF	MS	The Mississippi Band of Choctaw Indians for the Bogue Homa water system project	2,000,000
STAG—Drinking Water SRF	NC	City of Henderson for Kerr Lake Regional Water System Upgrade and Expansion Project	3,500,000
STAG—Drinking Water SRF	NC	Martin County for Water Regionalization Project	3,437,000
STAG—Drinking Water SRF	NC	Town of Pittsboro for Water Treatment Plant Infrastructure Upgrades	2,208,800
STAG—Drinking Water SRF	NH	City of Portsmouth for Little Bay Waterline Replacement	600,000
STAG—Drinking Water SRF	NH	Town of Peterborough for Water Main Relocation	277,804
STAG—Drinking Water SRF	NH	Town and Village of Canaan for Leaded Water Line Replacement and River Crossing Protection	1,470,000
STAG—Drinking Water SRF	NJ	Hopatcong Borough for PFAS-related Water System Upgrades	800,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Drinking Water SRF	NJ	Milford Borough for Water Main Improvements	360,000
STAG—Drinking Water SRF	NJ	The Village of Ridgewood for Drinking Water Treatment Facilities Construction	2,800,000
STAG—Drinking Water SRF	NJ	Town of Clinton for the West Main Street Water Main Replacement	898,257
STAG—Drinking Water SRF	NJ	Borough of East Newark for Drinking Water System Improvements	338,000
STAG—Drinking Water SRF	NJ	Borough of Red Bank for Lead Pipe Removal and Replacement Project	250,000
STAG—Drinking Water SRF	NJ	Borough of Rocky Hill for PFOS Treatment and Other Water Improvements	1,667,000
STAG—Drinking Water SRF	NJ	Borough of Stanhope for Water Main Re placements	677,000
STAG—Drinking Water SRF	NJ	Borough of Sussex for Water Utility Improvement Project	100,000
STAG—Drinking Water SRF	NJ	City of Newark for Water Loss Monitoring Program	492,000
STAG—Drinking Water SRF	NJ	Township of Bloomfield for Lead Service Line Replacement Program	255,000
STAG—Drinking Water SRF	NM	Town of Silver City for Grant County Regional Water Project Update	200,000
STAG—Drinking Water SRF	NV	Churchill County for a water treatment plant project	300,000
STAG—Drinking Water SRF	NV	City of Fallon for Churchill County Rattle snake Hill Water Tank Upgrade	1,995,000
STAG—Drinking Water SRF	NV	The City of Carson City for the Quill Water Treatment Plant filtration upgrade project	2,000,000
STAG—Drinking Water SRF	NY	City of Glen Cove for Rehabilitation of the Nancy Court Pump Station	1,000,000
STAG—Drinking Water SRF	NY	City of Long Beach for Sand Filter Rehabilitation Project	1,000,000
STAG—Drinking Water SRF	NY	City of Mechanicville for Water Reliability Project	800,000
STAG—Drinking Water SRF	NY	City of Middletown for Water System Improvements Project	3,500,000
STAG—Drinking Water SRF	NY	Herkimer County for the Eastern Mohawk Valley Regional transmission main project	500,000
STAG—Drinking Water SRF	NY	Suffolk County Water Authority for a drinking water project	3,500,000
STAG—Drinking Water SRF	NY	The Town of Babylon for the Oak Beach Water System project	1,000,000
STAG—Drinking Water SRF	NY	The Town of Riverhead for a drinking water project	3,500,000
STAG—Drinking Water SRF	NY	The Town of Vernon for the Vernon Central water project	3,000,000
STAG—Drinking Water SRF	NY	The Village of Aurora for replacement of aging water infrastructure	160,000
STAG—Drinking Water SRF	NY	The Village of Dundee for the water tank replacement and control system enhancements project	640,000
STAG—Drinking Water SRF	NY	The Village of Frankfort for a water system improvements project	3,000,000
STAG—Drinking Water SRF	NY	The Village of Marathon for a water river crossing project	600,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Drinking Water SRF	NY	Town of Lewisboro for Oakridge Water District PFAS Mitigation	1,800,000
STAG—Drinking Water SRF	NY	City of Cohoes for Drinking Water Treatment Plant Rehabilitation Project	2,500,000
STAG—Drinking Water SRF	NY	The Village of Mayville for a water well replacement project	2,000,000
STAG—Drinking Water SRF	NY	Town of Volney for Portable Water System Installation	280,000
STAG—Drinking Water SRF	NY	Village of Hempstead for Water Improvements Project	3,200,000
STAG—Drinking Water SRF	OH	The City of Munroe Falls for a waterline crossing project	1,040,000
STAG—Drinking Water SRF	OH	The City of Painesville for the Shamrock/ Brookstone waterline extension and capacity project	570,000
STAG—Drinking Water SRF	OH	The City of Portsmouth for water treatment plant repairs and updates	3,500,000
STAG—Drinking Water SRF	OH	The City of Rittman for a water transmission line project	2,628,000
STAG—Drinking Water SRF	OH	The Village of Georgetown for a water tower rehabilitation project	450,000
STAG—Drinking Water SRF	OH	Village of Midvale for Water Treatment Plant Filtration Improvement Project	1,000,000
STAG—Drinking Water SRF	OH	Village of Scio for Waterline and House hold Lead Line Replacement	300,000
STAG—Drinking Water SRF	OK	Cherokee County Rural Water District #1 for Drinking Water Project	5,000,000
STAG—Drinking Water SRF	OK	Edmond Public Works Authority for City of Edmond Drinking Water Improvements	5,000,000
STAG—Drinking Water SRF	OK	McAlester Public Works Authority for City of McAlester Drinking Water System Improvements	5,000,000
STAG—Drinking Water SRF	OK	Okarche Public Works Authority for Drinking Water Treatment Plant Project	2,000,000
STAG—Drinking Water SRF	OK	Stillwater Utilities Authority for City of Stillwater Drinking Water Project	5,000,000
STAG—Drinking Water SRF	OK	Welch Public Works Authority for Town of Welch Drinking Water Improvements	300,000
STAG—Drinking Water SRF	OK	Wewoka Public Works Authority for Drinking Water Improvements	5,000,000
STAG—Drinking Water SRF	OR	City of Hillsboro for Water Supply System Construction	1,000,000
STAG—Drinking Water SRF	OR	City of Echo for Potable Water System Service Replacement	450,000
STAG—Drinking Water SRF	OR	City of Haines for Water Supply and Distribution Project	1,015,000
STAG—Drinking Water SRF	OR	City of Warrenton for Hammond Waterline Project	1,000,000
STAG—Drinking Water SRF	OR	City of Willamina for Water Intake Repair	2,000,000
STAG—Drinking Water SRF	OR	City of Yamhill for Treatment Plant Project	192,000
STAG—Drinking Water SRF	OR	Mapleton Water District for Distribution and Meter Project	800,000
STAG—Drinking Water SRF	PA	Center Township Water Authority for Center Grange Road Waterline Replacement	999,999
STAG—Drinking Water SRF	PA	Creswell Heights Joint Authority for Filter Media Material Upgrades	400,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Drinking Water SRF	PA	Municipal Authority Borough of Midland for Water Treatment Plant Improvements	80,000
STAG—Drinking Water SRF	PA	The Avella Area School District for a water line extension project	500,000
STAG—Drinking Water SRF	PA	Southwestern Pennsylvania Water Authority for Brave Water and Sewer Authority System Extension	2,200,000
STAG—Drinking Water SRF	RI	City of Newport for Narragansett Avenue Water Main Rehabilitation	1,520,000
STAG—Drinking Water SRF	RI	City of Warwick for Lincoln Avenue Transmission Line Rehabilitation	3,200,000
STAG—Drinking Water SRF	RI	City of Woonsocket for Lead Line Removal	775,000
STAG—Drinking Water SRF	RI	Greenville Water District for Water Line Extension	325,000
STAG—Drinking Water SRF	RI	Providence Water Supply Board for Water Lead Service Replacements	3,300,000
STAG—Drinking Water SRF	RI	Prudence Island Water District for System Improvement	1,350,000
STAG—Drinking Water SRF	RI	Town of North Smithfield Water Department for St. Paul Street Water Line Project	1,175,000
STAG—Drinking Water SRF	SC	City of Rock Hill for Water Plant Alum Sludge Dewatering Facility	8,000,000
STAG—Drinking Water SRF	TN	Glen Hills Utility District for an updated drinking water infrastructure project in Greeneville	996,160
STAG—Drinking Water SRF	TN	The City of Oak Ridge for a water treatment plant project	3,500,000
STAG—Drinking Water SRF	TX	City of Alamo for Wate Treatment Plant Rehabilitation and Expansion	3,500,000
STAG—Drinking Water SRF	TX	City of Bellaire for Bellaire Waterlines	782,000
STAG—Drinking Water SRF	TX	City of Glenn Heights for Elevated Water Storage Tank Project	2,800,000
STAG—Drinking Water SRF	TX	City of Jacinto City for Northeast Water Mains & Fire Hydrant Improvements	1,950,000
STAG—Drinking Water SRF	TX	City of Jersey Village for Seattle Street Waterlines Replacement	624,835
STAG—Drinking Water SRF	TX	City of Schertz for Corbett Water Ground Storage Tank Project	3,500,000
STAG—Drinking Water SRF	TX	San Antonio Water System for Generators for Critical Infrastructure Protection	500,000
STAG—Drinking Water SRF	TX	The Brownsville Public Utilities Board for Water Treatment Plant Pump Station Improvements	500,000
STAG—Drinking Water SRF	UT	The City of Centerville for the Green Steel Tank replacement project	1,500,000
STAG—Drinking Water SRF	UT	The City of Ephraim for a drinking water resiliency project	3,000,000
STAG—Drinking Water SRF	VA	City of Manassas for Transmission Main Replacement	2,400,000
STAG—Drinking Water SRF	VA	City of Portsmouth for Water Service Line Inventory	500,000
STAG—Drinking Water SRF	VA	Frederick County Sanitation Authority for Diehl Water Treatment Plant Improvement Project	3,000,000
STAG—Drinking Water SRF	VA	Prince George County for Central Water System Extension Project	3,200,000

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STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Drinking Water SRF	VA	Spotsylvania County for Motts Run Water Treatment Plant Expansion Project	1,840,000
STAG—Drinking Water SRF	VA	Surry County for Water System Upgrades	3,200,000
STAG—Drinking Water SRF	VA	Frederick County Sanitation Authority for Lake Frederick Well Development	3,600,000
STAG—Drinking Water SRF	VT	Village of Jeffersonville for Water System Upgrades	560,000
STAG—Drinking Water SRF	WA	MacKaye Harbor Water District for Agate Beach Lane Source Water and Trans mission Improvements	694,480
STAG—Drinking Water SRF	WA	Port of Coupeville for Wharf Rehabilitation Project	136,000
STAG—Drinking Water SRF	WA	Quileute Nation for Quileute Move to High er Ground Water System Improvement	1,479,355
STAG—Drinking Water SRF	WA	Sammamish Plateau Water and Sewer District for Sammamish Plateau Water PFAS Treatment Plant upgrades	1,585,000
STAG—Drinking Water SRF	WA	The City of Airway Heights for a water re placement project	3,500,000
STAG—Drinking Water SRF	WA	The Town of Cusick for a water treatment facility project	3,500,000
STAG—Drinking Water SRF	WA	Lakewood Water District for PFAS Remediation	1,950,000
STAG—Drinking Water SRF	WA	Town of Harrah for Drinking Water Well Project	2,000,000
STAG—Drinking Water SRF	WI	Waukesha Water Utility for an elevated storage tank project	530,000
STAG—Drinking Water SRF	WI	City of La Crosse for Wellhead PFA Water Contamination Treatment	3,730,000
STAG—Drinking Water SRF	WI	City of Monroe for Lead Service Line Replacement	1,022,000
STAG—Drinking Water SRF	WI	City of Rhinelander for Drinking Water Quality Infrastructure Improvements	1,600,000
STAG—Drinking Water SRF	WI	Sheboygan Water Utility for Drinking Water Project	2,000,000
STAG—Drinking Water SRF	WV	The Bel-O–Mar Regional Council for a water system improvements project	1,120,000
STAG—Drinking Water SRF	WV	The Marshall County Commission for a water meter project	230,400
STAG—Drinking Water SRF	WV	The Ohio County Commission for the Town of Triadelphia water storage tank project	600,000
STAG—Drinking Water SRF	WV	Canaan Valley Public Service District for Water Plant	8,000,000
STAG—Drinking Water SRF	WV	City of Weirton for Water Treatment Capacity Project	22,470,000
STAG—Drinking Water SRF	WV	Clarksburg Water Board for Distribution System Improvements	6,880,000
STAG—Drinking Water SRF	WV	Greenbrier County Public Service District No. 2 for Phase II Waterline Extension	1,500,000
STAG—Drinking Water SRF	WV	Hodgesville Public Service District for Water System Improvements	4,037,000
STAG—Drinking Water SRF	WV	Kanawha County Commission for Leatherwood Water Project	5,230,000
STAG—Drinking Water SRF	WV	Midland Public Service District for Faulkner Road Water Line Extension to Bow den	2,000,000
STAG—Drinking Water SRF	WV	Monumental Public Service District for Waterline Expansion	283,000

STAG Account	State	Project (Recipient Name and Purpose)	Amount ($)
STAG—Drinking Water SRF	WV	Nettie Leivasy Public Service District for Water System Improvements Project	4,020,000
STAG—Drinking Water SRF	WV	Preston County PSD 1 for Water Treatment Plant and Water Line Upgrades	646,000
STAG—Drinking Water SRF	WV	Town of Alderson for Water System Rehabilitation and Extension Project	2,000,000
STAG—Drinking Water SRF	WV	Town of Burnsville for Burnsville Lake Water Supply Line Improvements	4,800,000
STAG—Drinking Water SRF	WV	Town of Kermit for Rehabilitation of Water Treatment Facility	2,747,000
STAG—Drinking Water SRF	WV	Town of Meadow Bridge for Distribution System Upgrade and Extension	1,000,000
STAG—Drinking Water SRF	WV	Town of Worthington for Water Service Upgrade Project	1,000,000
Community Projects Funded with Both Clean Water SRF and Drinking Water SRF Appropriations (alphabetical by state)			
STAG—Drinking Water SRF; Clean Water SRF	MI	St. Clair County for a drinking water ($200,000) and wastewater ($800,000) improvement project	1,000,000
STAG—Drinking Water SRF; Clean Water SRF	TX	County of El Paso for First-Time Water ($314,000) and Wastewater ($791,000) Connection Projects	1,105,000

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Please refer to the EPA Community Grants webpage for additional information and a listing of the EPA Regional Contacts.

Application for Federal Assistance Standard Form (SF) 424
The application must be submitted electronically by an Authorized Official Representative who is registered with Grants.gov and is authorized to sign applications for federal assistance. Applicants need to ensure that the AOR who submits the application through Grants.gov and whose Unique Entity Identifier (UEI) is listed on the application is an AOR for the applicant listed on the application. Applicants must ensure that the UEI listed in Block 8.c. is assigned to the applicant organization in Block 8.a.

Budget Information SF-424A
Applicants are to characterize costs for construction contractors as "Construction" and costs for Architectural and Engineering firms for design and project management services as "Contractual."

Pre-Award Compliance Review Report Form 4700-4
Collects information that enables EPA to determine whether applicants are developing projects, programs, and activities on a non-discriminatory basis.

EPA Key Contacts Form 5700-54
A minimum of two contacts should be identified. Please be sure the contacts on this form are consistent with the other forms. The Authorized Official Representative on this form must be the signatory on the other forms. If additional pages are needed, attach these additional pages to the electronic application package by using the "Other Attachments Form" in the "Optional Documents" box.

Project Narrative/Workplan Attachment Form – Project Workplan
The Project Workplan should include Project Approach, Environmental Results, Milestone Schedule, Detailed Budget Narrative, and Quality Assurance. Additional guidance will be provided in the future.

Other Attachments Form – Budget Table
A fillable template for the budget table is available for download on Grants.gov. Applicants are encouraged to use the budget table template to complete their budget. This file should be submitted using the "Other Attachments Form" in Grants. gov with the words "budget table" in the filename.

Message

From: Woods, Alex [Alex.Woods@msdh.ms.gov]
Sent: 9/2/2022 2:16:11 AM
To: Adcox-Green, Ashley [Ashley.Adcox-Green@msdh.ms.gov]; Boxx, Robert [Robert.Boxx@msdh.ms.gov]; Smith, Brian [Smith.Brian@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; Byers, Paul [Paul.Byers@msdh.ms.gov]; Campbell, Thomas [Thomas.Campbell@msdh.ms.gov]; Craft, Christy [Christy.Craft@msdh.ms.gov]; Craig, Jim [Jim.Craig@msdh.ms.gov]; Cunningham, Donald [Donald.Cunningham1@msdh.ms.gov]; Diaz, Denisse [Diaz.Denisse@epa.gov]; Edney, MD, Daniel [Daniel.Edney@msdh.ms.gov]; Grey, Elizabeth [Elizabeth.Grey@msdh.ms.gov]; Hall, Amber [Amber.Hall@msdh.ms.gov]; Hall, David [David.Hall@msdh.ms.gov]; Harrison, Charles "Chase" [Charles.Harrison@msdh.ms.gov]; Head, Matthew [Matthew.Head@msdh.ms.gov]; Herrington, Lester [Lester.Herrington@msdh.ms.gov]; Horn, Marshall [Marshall.Horn@msdh.ms.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Jeanette Dickinson (Jeanette.Dickinson@hhs.gov) [Jeanette.Dickinson@hhs.gov]; Jennings, Twyla [Twyla.Jennings@msdh.ms.gov]; Larmer, Melissa [Melissa.Larmer1@msdh.ms.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; McMinn, Sharon Dawn [Sharon.McMinn@msdh.ms.gov]; William Moody [william.moody@msdh.ms.gov]; Newman, Keriema [Newman.Keriema@epa.gov]; Parker, Melissa [Melissa.Parker@msdh.ms.gov]; Richardson, Toni [Toni.Richardson@msdh.ms.gov]; Rogers, Ronald [Ronald.Rogers@msdh.ms.gov]; Salazar, Byron "Fabrizio" [Byron.Salazar1@msdh.ms.gov]; Sharlot, Liz [Liz.Sharlot@msdh.ms.gov]; Frost, Tara [Frost.Tara@epa.gov]; Williams, Alisa [Alisa.Williams@msdh.ms.gov]; Woods, Alex [Alex.Woods@msdh.ms.gov]
Subject: COJ Water Crisis IAP Initial 8-31-2022 - OFFICIAL USE ONLY
Attachments: COJ Water Crisis IAP Initial 8-31-2022 - OFFICIAL USE ONLY---PDF.pdf

***** OFFICIAL USE ONLY *****

Attached is Initial IAP for the reporting operational period (2 September 2022, 0700 thru 3 September 2022, 0659).

Alex Woods
Office of Emergency Planning and Response (OEPR)
Mississippi State Department of Health (MSDH)
1 MEMA Drive Suite 159, Pearl MS 39208; Email: Alex.Woods@msdh.ms.gov
601.933.7188 (O); 601.933.6874 (FAX); 601.573.6645 (Cell)

This message and any attachments may contain information that is confidential and/or proprietary to the Mississippi State Department of Health, and may consist of sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the recipient(s) designated above. The use, disclosure, copying or distribution by any means to anyone other than the intended recipient(s) without the prior written permission of the Mississippi State Department of Health is strictly prohibited. Any such unauthorized use, disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to, HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance.

Incident Action Plan (IAP) Initial
City of Jackson Water Crisis 2022
31 August 2022

MS State Emergency Operations Center ACTIVATION LEVEL: 2 (Partial)
AFTER HOURS: (800.222.6362)

1. Incident Name:	**2. Operational Period (Date/Time):**	**3. IAP Type:**
City of Jackson Water Crisis 2022	**From:** **02 Sept 2022 at 0700 hours** **To:** **03 Sept 2022 at 0659 hours**	Technological – Infrastructure Failure

4. Command Staff			
MSDH	Jim Craig	Jim.craig@msdh.ms.gov	601.946.6046
MEMA	Andrew McMillin	amcmillin@mema.ms.gov	601.540.1102
City of Jackson	Robert Lee	rlee@jacksonms.gov	601.519.5008
Hinds County EMA	Joey Perkins	jperkins@co.hinds.ms.gov	601.942.7005
EPA	Brian Smith	Smith.brian@epa.gov	404.562.9845

5. Situation/Actions for Current Operational Period

DECLARATIONS:

Federal: *Stafford Act (08/30/2022)*

State: *Public Health Emergency (09/29/2022)*
State of Emergency (08/29/2022)

Local: *City of Jackson – Local Proclamation of an Emergency (08/29/2022)*
Hinds County – Local Proclamation of an Emergency (08/29/2022)

CURRENT SITUATION:

The City of Jackson Surface Water System was impacted by recent flooding. Both the O.B. Curtis and J.H Fewell water treatment plants have reduced water output creating pressure problems in the system. The City lacks sufficient pressures in some areas of the City to sustain adequate access to flush toilets and maintain optimal disinfection for drinking water. Both O.B. Curtis and J.H. Fewell water treatment plants lack sufficient Class A Operators and maintenance staff.

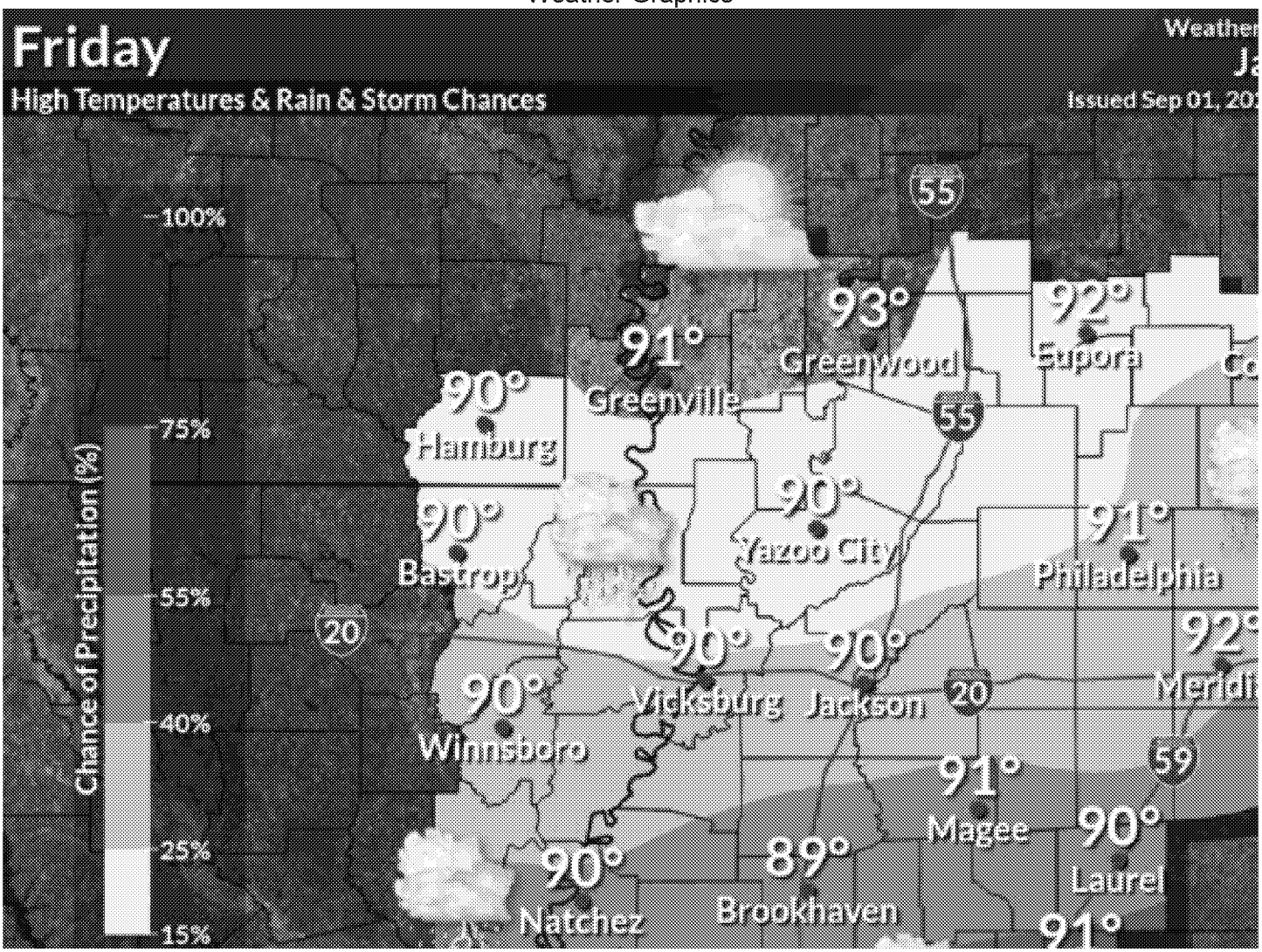
Dr. Daniel Edney, State Health Officer of the Mississippi State Department of Health, issued a Declaration of a Public Drinking Water Supply Emergency in the City of Jackson ordering the City including, but not limited to, employees of the Public Works Department and Emergency Management immediately cooperate with state response teams and contractors deployed to augment current staffing and to take remediation actions deemed necessary by the State Incident Commander. The Governor of Mississippi, Tate Reeves, has declared an emergency for the City of Jackson due to the effect on essential government services, medical facilities, and schools. A Unified Command has been established to combat this emergency.

Weather Forecast:
Friday
Mostly sunny, with a high near 91 degrees. Calm wind becoming south southeast around 5 mph.

Friday Night
A 20 percent chance of showers and thunderstorms. Mostly cloudy, with a low around 73 degrees. Southeast wind around 5 mph becoming calm

RAINFALL (MS)
No rain expected at this time.

Weather Graphics



6. Planning Assumptions

1. A unified command has been established between federal, state, and local authorities
2. A population of approximately 170,000 people has been affected.
3. Essential services have been affected.
4. Flood waters have affected the chemistry of the water system.

7. Incident Priorities for Operational Period

1. Provide services for life safety of the public.
2. Provide life safety for responders for the incident.
3. Re-establish minimum water distribution to 50 million gallons per day from the OB Curtis Treatment Facility.
4. Re-establish minimum water distribution to 20 million gallons per day and flex to 30 million per day at the Fewell Treatment Facility.
5. Increase the number of certified operators at both treatment facilities.

6. Increase and augment facility maintenance capabilities and capacity at both treatment facilities.
7. Monitor the chemistry of water from the reservoir.
8. Engineer and develop liquid soda-ash feed system.
9. Evaluate the winterization needs of all facilities.

8. Objectives for the Operational Period

1. Continue distribution of potable water to the public per operational period
2. Continue distribution non-potable water for use per operational period
3. Provide water for firefighting efforts per operational period
4. Repair ammonia tank number one
5. Continue operations at state staging area to support distribution sites
6. Continue operation of temporary raw water intake pump on the conventional side at OB Curtis facility per operational period.
7. Identify and scope redundant pumping needs to the OB Curtis facility
8. Identify and source fourteen (14) maintenance personnel and twelve (12) additional Class A operators for both treatment facilities through EMAC, RWEAC, and/or emergency contracts.
9. Identify specific equipment needs for the rental dehumidifiers by end of operational period.
10. Evaluate EQ Basin

10. Safety and Security Concerns

Major Hazard and Risks:

- Ammonia leak from ammonia tank number one
- Electrical boxes covered by cardboard boxes instead of proper covering
- Ear plug stations not located
- SCBA (self-contained breathing apparatus) are out of date and laying around on table inside of facility where harmful chemicals are present. Need a designated area for this
- Fire extinguisher used as door props instead of hanging in designated places
- Fire extinguishers are outside of the expiration service dates
- Air compressor needs electrical components to be covered
- Piping system in the ammonia room needs to be capped off even though line of concentration is isolated by surrounding valves.
- Needs an up-to-date chlorine safety kit(s) for 1-ton cylinders
- Leak located on pig tail lines in the chlorine room
- Observe surrounding crane activity and stay a safe distance away from live loads. No barrier for active operations
- Area appeared to have missing handrails
- Identified eye wash stations appeared to not have any servicing in long periods of time
- Lock-Out Tag-Out system needs to be implemented or improved

Hazard Mitigation:

- Hard hats required while inside facilities
- ANSI break-away safety vests required while inside facilities
- Limit size of groups visiting the facility to five (5) to seven (7) persons

Prepared By	Approved By
Planning Section Chief **D. Austin Cunningham/Thomas Harris**	**Unified Command** **Jim Craig**

Incident Action Plan (IAP) Initial
City of Jackson Water Crisis 2022
31 August 2022
MSDH ORGANIZATION ASSIGNMENT LIST (ICS 203)

1. Incident Name: City of Jackson Water Crisis 2022		2. Operational Period: Date From: 02 Sept 2022 Date To: 03 Sept 2022 Time From: 0700 Time To: 0659	
Unified Command Staff:		**Operations Section:**	
Mississippi Emergency Management Agency (MEMA)	Andrew McMillin	**Operations Chief**	Lester Herrington (MSDH)
Mississippi State Department of Health (MSDH)	Jim Craig	**EMAC Coordination**	Nyssa Gatlin (MEMA)
City of Jackson (COJ)	Robert Lee		
Hinds County EMA	Joey Perkins		
Environmental Protection Agency (EPA)	Brian Smith		
Command Staff:		**City of Jackson**	
Safety Officer	Jarrett Watkins (MEMA)	**Section Chief**	Jordan Hillman (COJ)
Public Information Officer	Malary White (MEMA)	**Division A-OB Curtis Facility Conventional**	Robert Lee (COJ)
Public Information Officer (MSDH)	Liz Sharlot (MSDH)	**Division B-OB Curtis Facility Membrane**	Robert Lee (COJ)
		Division C-Fewell Facility	Terrance Byrd (COJ)
Planning Section:		**Fire Services Support**	
Planning Chief MEMA	Thomas Harris (MEMA)	**Unit Leader**	Joey Perkins (Hinds County)
Planning Chief MSDH	D. Austin Cunningham (MSDH)		
Situation Unit	Charlie Lewis (MEMA)		
Resource Unit	Ramous Austin (MEMA)		
Documentation Unit			
Healthcare Intelligence	Melissa Parker (MSDH)		
Healthcare Intelligence	Fabrizio Salazar (MSDH)	**Water Distribution**	
At Risk Populations	Amber Hall (MSDH)	**Unit Leader**	Don Wilson (MEMA)
Finance/Administration Section:		**Staging**	Shaun Rogers (MFC)
Finance/Admin Chief	Crystal Thompson		
Time Unit			
Compensation Claim Unit			
Procurement Unit		**Private Sector:**	
Cost Unit		**MS Rural Water Association**	Kirby Mayfield
Logistics Section:			
Logistics Chief	Don Wilson (MEMA)		
MSDH Logistics	Marshall Horn (MSDH)		
Support	Mike Campbell (MSDH)		
Medical Support	D. Austin Cunningham (MSDH)		
Prepared by:	**D. Austin Cunningham**	**Date/Time:**	**08/31/2022 at 1130**

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page of
			5. Prepared By: Michael Davis — Date: 09/01/2022
3. Branch: Infrastructure	4. Division/Group: ESF-1		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22

9. Operations Personnel			
Operations Section Chief: Justin Watson	Email Address: bwatson@mema.ms.gov	Phone: (601)278-3410	7. Reviewed By OSC): Justin Watson — Date: 09/01/22
Branch Director: Charlee Alford	Email Address: chatter@mema.ms.gov	Phone: (601)540-4623	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor:	Email Address:	Phone:	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Lee Davis	601-946-7108 mldavis@mdot.ms.gov	1	POC for MDOT Resource Request through response O-period	MDOT Administration Building	
	James Sullivan	601-359-1454 jsullivan@mdot.ms.gov	20	Provide cone traffic control resources as needed for response support.	MDOT Shop Complex	
	Jason Ridout Andy McNair James Sulivan		15	Provide Traffic Control signs for the 7 Water Distro Sites	MDOT Shop Complex	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Incident Action Plan (IAP) Initial
City of Jackson Water Crisis 2022
31 August 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page 1 of 3
			5. Prepared By: Tracy Pharr — Date: 09/01/2022
3. Branch: ESF-5 Response	4. Division/Group: Field Services		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/2022

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By (OSC): Justin Watson — Date: 09/01/2022
Andrew McMillin	amcmillin@mema.ms.gov	601-540-3410	
Branch Director:	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor: Tracy Pharr	Email Address: tpharr@mema.ms.gov	Phone: 601-209-6038	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Area Coordinator	John Michael Sledge	601-832-8985 (Cell) Foxtrot 5	1	Hinds County		None
Area Coordinator	Brent Miller	601-953-1306 (Cell) Foxtrot 3	1	District 3, Issaquena, Sharkey, Yazoo, Madison		None
Area Coordinator	Charton Bullock	601-946-6771	1	District 7, Warren, Claiborne, Copiah, Simpson, Rankin		None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Primary communications for each Area Coordinator are MEMA cellphones (numbers listed)
Secondary communication for each Area Coordinator is via MSWIN, MEMA Primary or assigned district channels according to the ICS 205

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page 2 of 3
			5. Prepared By: Tracy Pharr — Date: 09/01/2022
3. Branch: ESF-5 Response	4. Division/Group: Field Services		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/2022

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By (OSC): Justin Watson — Date: 09/01/2022
Andrew McMillin	amcmillin@mema.ms.gov	601-540-3410	
Branch Director:	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor: Tracy Pharr	Email Address: tpharr@mema.ms.gov	Phone: 601-209-6038	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Area Coordinator	Tim Gordy	601-278-4260 (Cell) Foxtrot 8	1	District 8, Smith, Jasper, Clarke, Scott, Newton, Lauderdale		None
Area Coordinator	David Shaw	769-798-81791 (Cell) Foxtrot 1	1	District 1 and District 2		None
Area Coordinator	Myrl Williams	769-257-8799 (Cell) Foxtrot 2	1	Off		None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Primary communications for each Area Coordinator are MEMA cellphones (numbers listed)
Secondary communication for each Area Coordinator is via MSWIN, MEMA Primary or assigned district channels according to the ICS 205

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page 1 of 1
			5. Prepared By: Justin Watson — Date: 09/01/22
3. Branch: ESF-5 Response	4. Division/Group: Operations Section		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22

9. Operations Personnel

Operations Section Chief: Andrew McMillin	Email Address: amcmillin@mema.ms.gov	Phone: 601-540-1102	7. Reviewed By (OSC): Justin Watson — Date: 09/01/22
Branch Director:	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor: Justin Watson	Email Address: bwatson@mema.ms.gov	Phone: 601-278-3410	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Operations Officer	Justin Watson	601-278-3410	13	Monitor radio and email. Coordinate with ESF's and stakeholders. Monitor WebEOC for routing resource requests	SEOC 0700	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Bobby Hobson 769-798-3507, Nyssa Gatlin 601-954-6949, Robin Fortune 601-813-8341, Charlee Alford 61-540-4623, Kaitlyn French 601-813-4459, Watchdesk 601-933-6671

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page 3 of 3
3. Branch: ESF-5 Response	4. Division/Group: Field Services		5. Prepared By: Tracy Pharr — Date: 09/01/2022
			6. Reviewed By (PSC): Thomas Harris — Date: 09/01/2022
9. Operations Personnel			
Operations Section Chief: Andrew McMillin	Email Address: amcmillin@mema.ms.gov	Phone: 601-540-3410	7. Reviewed By (OSC): Justin Watson — Date: 09/01/2022
Branch Director:	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor: Tracy Pharr	Email Address: tpharr@mema.ms.gov	Phone: 601-209-6038	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Area Coordinator/Interim FSB Director	Tracy Pharr	601-209-6038 (Cell) Foxtrot 4	1	District 4, SEOC		None
Area Coordinator	Will Berry	601-383-4731 (Cell) Foxtrot 9	1	District 9		None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Primary communications for each Area Coordinator are MEMA cellphones (numbers listed)
Secondary communication for each Area Coordinator is via MSWIN, MEMA Primary or assigned district channels according to the ICS 205

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ WATER CRISIS 2022	2. Operational Period (Date/Time) 0700 CDT 09/01/2022 - 0659 CDT 09/02/2022	Page of
			5. Prepared By: Date Lauren Houston 8/31/22
3. Branch Human Services	4. Division/Group ESF-6 Department of Education		6. Reviewed By (PSC): Date Thomas Harris 09/01/22

9. Operations Personnel			
Operations Section Chief:	Email Address:	Phone:	7. Reviewed By (OSC): Date Justin Watson 09/01/22
Branch Director: Kaitlyn Sellers	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Leigh Liao	Email Address:	Phone:	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
ESF 6/ Dept of Education	Lauren Houston	228-861-3433	3	monitoring the situation	8/31/22 0852	n/a

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ Water Crisis 2022	2. Operational Period (Date/Time) 0700 CDT 09/01/2022 - 0659 CDT 09/02/2022	Page 1 of 1
3. Branch Human Services	4. Division/Group ESF 6 - American Red Cross		5. Prepared By: Date Linell Nemeth 9-01-2022
			6. Reviewed By (PSC): Date Thomas Harris 09/01/22

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By OSC): Date Justin Watson 09/01/22
Branch Director:: Kathyn Sellers French	Email Address: ksellers@mema.ms.gov	Phone: 601-813-4459	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Leigh Liao	Email Address: leigh.liao@msfiis.ms.gov	Phone: 601-720-6615	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cellt, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
DDSRD/ Water Mission Liaison	Bruce Cuber	504-343-5297	10	Collaborate and coordinate with MEMA, MDHS -ESF-6 and local and national partners to secure water and support planning for City of Jackson water crisis.	Flowood MS/0800 CST	N/A

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/01/2022 - 0659 CDT 09/02/2022	Page 1 of 1
			5. Prepared By: Leigh Liao — Date: 08/31/22
3. Branch: Human Services Branch	4. Division/Group: ESF 6 Mississippi Department of Human Services		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By (OSC): Justin Watson — Date: 09/01/22
Justin Watson	bwatson@mema.ms.gov	601-278-3410	
Branch Director:	**Email Address:**	**Phone:**	8. Reviewed By (OSC-FEMA): Date:
Kaitlyn French	ksellers@mema.ms.gov	601-813-4459	
Division/Group Supervisor:	**Email Address:**	**Phone:**	
Leigh Liao	Leigh.Liao@mdhs.ms.gov	601-720-6615	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
MDHS-State Office	Leigh Liao	601-720-6615	1	Continue to Monitor SitRoom and WebEOC to assess and respond as needed. (Obj 1).	Virtual/0700	None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/01/2022 - 0659 CDT 09/02/2022	Page 01 of 01
			5. Prepared By: Glynn Babb — Date: 8/31/22
3. Branch: Human Services	4. Division/Group: ESF-6 MIHL		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22
9. Operations Personnel			
Operations Section Chief:	Email Address:	Phone:	7. Reviewed By OSC): Justin Watson — Date: 09/01/22
Branch Director:	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor: Leigh Liao	Email Address:	Phone:	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
ESF6 / MIHL	Glynn Babb	601-941-8602	3	Monitoring the Situation	8/31/22	Working with JSU requesting support through Hinds County EOC

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ WATER CRISIS 2022	2. Operational Period (Date/Time): 0700 CDT 09/01/2022 - 0659 CDT 09/02/2022	Page of
			5. Prepared By: Nina Ghaffari — Date: 8/31/22
3. Branch: Human Services	4. Division/Group: ESF-6 The Salvation Army		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22

9. Operations Personnel

	Email Address	Phone
Operations Section Chief: Ken Freeman	ken.freeman@uss.salvationarmy.	601-951-0932
Branch Director: Major Bill Shafer	bill.shafer@uss.salvationarmy.or	601-850-3026
Division/Group Supervisor: William Trueblood	william.trueblood@uss.salvation	601-572-6793

7. Reviewed By (OSC): Justin Watson — Date: 09/01/22

8. Reviewed By (OSC-FEMA): Date:

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
ESF 6/ The Salvation Army	Nina Ghaffari	601-850-3295	1	Liaison	8/31/22	n/a

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/02/22 -0659 CDT 09/03/22	Page 1 of 1
			5. Prepared By: Chelsea Hopson — Date: 09/01/2022
3. Branch: Logistics	4. Division/Group: ESF-7		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22

9. Operations Personnel			
Operations Section Chief: Justin Watson	Email Address: jwatson@mema.ms.gov	Phone: 601-278-3410	7. Reviewed By OSC): Justin Watson — Date: 09/01/22
Branch Director: Don Wilson	Email Address: dwilson@mema.ms.gov	Phone: 601-519-1883	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Dennis Stewart	Email Address: dstewart@mema.ms.gov	Phone: 601-613-6279	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Logistics	Sandra Barnette	769-867-3820	17 (Include 6 Air National Guard)	Receive and distribute water, hand sanitizer and equipment to POD sites, government and medical facilities	SELOC 0700	None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Sandra Barnette email: sbarnette@mema.ms.gov Cell Phone: 769-867-3820

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ Water Emergency Aug 2022	2. Operational Period (Date/Time) 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page of
			5. Prepared By: Date Joshua Skidmore PSC 09/01/22
3. Branch Operations	4. Division/Group Alpha		6. Reviewed By (PSC): Date Skidmore 09/01/22

9. Operations Personnel

Operations Section Chief:	Email Address	Phone
Shaun Rogers	srogers@mdc.ms.gov	662-891-3522
Branch Director:	**Email Address**	**Phone**
Division/Group Supervisor:	**Email Address**	**Phone**
Shaun Rogers	srogers@mdc.ms.gov	662-891-3522

7. Reviewed By (OSC): Date
Justin Watson 09/01/22

8. Reviewed By (OSC-FEMA): Date

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
MFC White	Michael White	601-624-2154	4	Day Shift 0700 - 1900	SSA - Trademart	Receiving and Shipping
MFC Boone	Keith Boone	662-809-9172	3	Night Shift 1900 - 0700	SSA - Trademart	Receiving Only

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Primary Operations contact is Shaun Rogers - SE2 CH1 ST SE CMN on radio will be MFC Rogers

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 02 Sept 2022 at 0700 hours - 03 Sept 2022 at 0659 hours	Page 1 of 2
			5. Prepared By: Date D. Austin Cunningham 08/31/2022
3. Branch Emergency Services	4. Division/Group ESF-8 Public Health		6. Reviewed By (PSC): Date D. Austin Cunningham 08/31/2022

9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington 08/31/2022
Branch Director:	Email Address	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor:	Email Address	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
ESF 8 Unified Command	Jim Craig	jim.craig@msdh.ms.gov	12	Provide MSDH Unified Command Representation	OB Curtis Unified Command Post 0700	Command Trailer, printer capabilities
Logistics	Marshall Horn	marshall.horn@msdh.ms.gov	4	Set up tent systems	B Curtis Unified Command Post 0800	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page of
			5. Prepared By: LT. James Walker — Date: 09/01/2022
3. Branch: Emergency Services	4. Division/Group: ESF-13		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22

9. Operations Personnel			
Operations Section Chief: Brian Watson	Email Address: bwatson@mema.ms.gov	Phone:	7. Reviewed By OSC): Justin Watson — Date: 09/01/22
Branch Director: Robin Fortune	Email Address: rlee@mema.ms.gov	Phone: 601-813-8341	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor:	Email Address:	Phone:	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Law. Enf.	Major Steve Shows	601-382-4037	28	24 hours coverage. 7 POD sites, 6 sites in Jackson, 1 site in Byram	0800 09/01/2022	
Law. Enf.	Major Steve Shows	601-382-4037	4	24 hours coverage. State Staging Area at Mississippi State Fairgrounds	1200 09/01/2022	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page 1 of 1
			5. Prepared By: Justin Watson — Date: 09/01/22
3. Branch: BEOC	4. Division/Group: ESP-14		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22

9. Operations Personnel			
Operations Section Chief: Andrew McMillin	Email Address: amcmillin@mema.ms.gov	Phone: 601-540-1102	7. Reviewed By (OSC): Justin Watson — Date: 09/01/22
Branch Director: Todd DeMuth	Email Address: tdemuth@mema.ms.gov	Phone: 769-798-7321	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor:	Email Address:	Phone:	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
BEOC Director	Todd DeMuth	769-798-7321	3	receive and coordinate donations from private businesses	SEOC 0700	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Nicole Presley 601-850-8578, Heather Freeman 601-213-6489

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ Water Emergency Aug 2022	2. Operational Period (Date/Time) 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page of
			5. Prepared By: Date Allie Jasper 09/01/2022
3. Branch External Affairs	4. Division/Group ESF-15		6. Reviewed By (PSC): Date Thomas Harris 09/01/2022

9. Operations Personnel			
Operations Section Chief: Justin Watson	Email Address: bwatson@mema.ms.gov	Phone (601) 278-3410	7. Reviewed By OSC): Date Justin Watson 09/01/2022
Branch Director: Malary White	Email Address: mwhite@mema.ms.gov	Phone 601-933-6841	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Malary White	Email Address: mwhite@mema.ms.gov	Phone 601-933-6841	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Malary White Allie Jasper	601-933-6841	2	Managing press requests, arranging press conferences, briefing administration, writing press releases and media advisories, creating messaging.	SSA - Trademart Distribution Sites	
	Eric Bullard	601-933-6623	2	Shooting video for messaging, creating graphics, updating website and social pages	SSA - Trademart, Distribution Sites	
	Erica Hibbler		1	Stationed at SELOC to assist in Call Center	SSA-SELOC	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):
Primary Operations contact is Malary White 601-933-6841

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/02/2022 - 0659 CDT 09/03/2022	Page of
			5. Prepared By: MAJ David W. Austin — Date: 09/01/22
3. Branch: Emergency Services	4. Division/Group: ESF -16		6. Reviewed By (PSC): Thomas Harris — Date: 09/01/22

9. Operations Personnel

Operations Section Chief:	Email Address	Phone
Brian Watson	bwatson@mema.ms.gov	
Branch Director:	**Email Address**	**Phone**
Robin Fortune	rlee@mema.ms.gov	601-813-8341
Division/Group Supervisor:	**Email Address**	**Phone**
COL Lee Henry	william.l.henry.mil@army.mil	601-455-5597

7. Reviewed By (OSC): Justin Watson — Date: 09/01/22

8. Reviewed By (OSC-FEMA): Date

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
POD Site Operations	MAJ Curwin Burk	601-946-4248	360	Distribution of drinking water and hand sanitizer	Jackson, Ms 0800	
Water Distribution	MAJ Douglas Griffin	601-639-5245	240	Non potable water distribution	Jackson, Ms 0800	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 02 Sept 2022 at 0700 hours - 03 Sept 2022 at 0659 hours	Page 1 of 3
			5. Prepared By: Date D. Austin Cunningham 09/01/2022
3. Branch City of Jackson	4. Division/Group Division A-OB Curtis Facility Conventional		6. Reviewed By (PSC): Date D. Austin Cunningham 09/01/2022

9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington
Branch Director: Jordan Hillman	Email Address jhillman@jacksonms.gov	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Robert Lee	Email Address rlee@jacksonms.gov	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Robert Lee	rlee@jacksonms.gov	6	1. Develop and scope ACH Backup Pump 2. Develop and scope of raw water pump 1 and 2 3. Develop and scope repair of raw water screens	OB Curtis Conventional Facility	
				4. Develop and scope repair Clarit Rac 5. Develop and scope repair fluccuators 6. HS Pump 2 and 3 Repair 7. replace polymer +K pumps 8. PH and Alkalinity- Rapid Mix Repair		
				9. Sedimentation basins drain		

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 02 Sept 2022 at 0700 hours - 03 Sept 2022 at 0659 hours	Page 1 of 2
			5. Prepared By: Date D. Austin Cunningham 09/01/2022
3. Branch City of Jackson	4. Division/Group Division B-OB Curtis Facility Membrane		6. Reviewed By (PSC): Date D. Austin Cunningham 09/01/2022
9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington
Branch Director: Jordan Hillman	Email Address jhillman@jacksonms.gov	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Robert Lee	Email Address rlee@jacksonms.gov	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Robert Lee	rlee@jacksonms.gov	6	1. Develop and scope back-pulse process valving (Pump 88A) 2. Develop and scope sluce gates (valve) that do not work in automatic	OB Curtis Membrane Facility	
				3. Develop and scope bubble test and fiber repairs - all trains 4. Develop and scope train 5 - Evaluate and repair 5. Develop and scope HS 11 and 12 Pumps - electrical problem		
				6. Develop and scope membrane pumps and ACH Pumps repair 7. Develop and scope flocculation motors repair 8. Develop and scope water softener repair		

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 02 Sept 2022 at 0700 hours - 03 Sept 2022 at 0659 hours	Page 2 of 2
			5. Prepared By: Date D. Austin Cunningham 09/01/2022
3. Branch City of Jackson	4. Division/Group Division B-OB Curtis Facility Membrane		6. Reviewed By (PSC): Date D. Austin Cunningham 09/01/2022
9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington
Branch Director: Jordan Hillman	Email Address jhillman@jacksonms.gov	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Robert Lee	Email Address rlee@jacksonms.gov	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Robert Lee	rlee@jacksonms.gov	6	10. Develop and scope general electric repairs 11. Develop and scope ammonia tank valve repair	OB Curtis Membrane Facility	
				12. Develop and scope ammonia injection cleaned		

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Incident Action Plan (IAP) Initial
City of Jackson Water Crisis 2022
31 August 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 02 Sept 2022 at 0700 hours - 03 Sept 2022 at 0659 hours	Page 1 of 1 5. Prepared By: Date D. Austin Cunningham 09/01/2022
3. Branch City of Jackson	4. Division/Group Division C-JH Fewell Conventional		6. Reviewed By (PSC): Date D. Austin Cunningham 09/01/2022
9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington
Branch Director: Jordan Hillman	Email Address jhillman@jacksonms.gov	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Terrance Byrd	Email Address	Phone 601.213.8575	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Terrance Byrd	601.213.8575	5	Maintain Authorized outflow with flex capabilities.	Fewell Facility	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

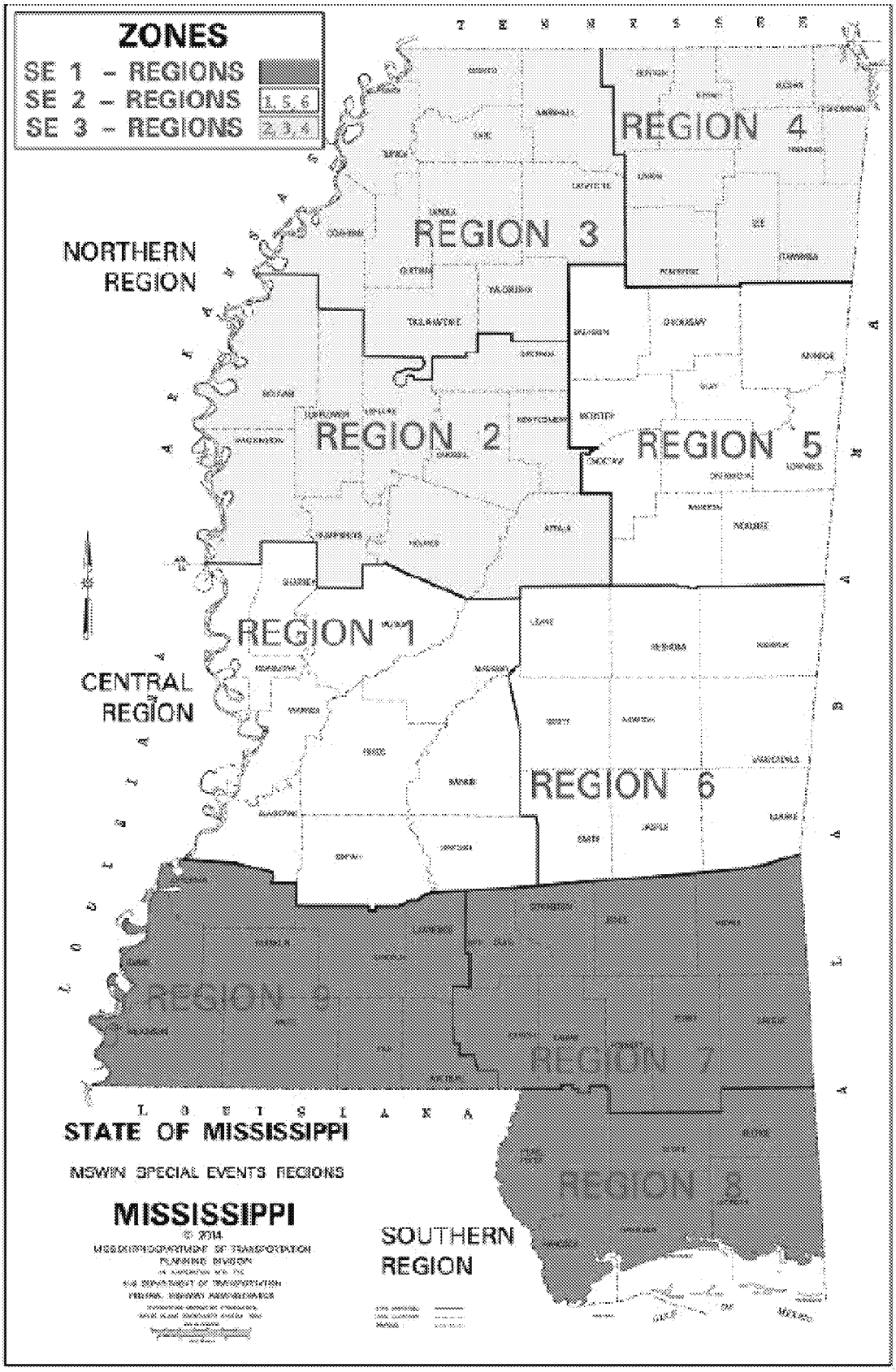
INCIDENT RADIO COMMUNICATIONS PLAN (ICS205)

1. Incident Name:	2. Date/Time Prepared:	3. Op
COJ WATER EMERGENCY AUG 2022	8/29/22 @ 2045	TBA

4. Basic Radio Channel Use:

Zone Grp.	Ch #	Function	Channel Name/Trunked Radio System	Assignment	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC
SE1,SE2,SE3	1	CALLING	ST SE CMN	CALLING CHANNEL TO ASK FOR ASSIGNMENTS	Mississippi Wireless Information Networ			
SE1,SE2,SE3	4	UNIFIED COMMAND	ST SE 3	MEMA/MSDH/HINDS CO/COJ/MMD	Mississippi Wireless Information Networ			
SE2	9	OB CURTIS OPERATIONS	R1 SE 3	MEMA/MSDH/HINDS CO/COJ/MMD	Mississippi Wireless Information Networ			
MMD		WATER DISTRIBUTION	MMD OPS	MMD	Mississippi Wireless Information Networ			

5. Special Instructions: *MACS = Multi-Agency Coordination System (Coordination and Support)


ZONES
SE 1 – REGIONS
SE 2 – REGIONS 1, 5, 6
SE 3 – REGIONS 2, 3, 4
REGION 4
REGION 3
NORTHERN REGION
REGION 2
REGION 5
REGION 1
CENTRAL REGION
REGION 6
REGION 8
REGION 7
REGION 9
STATE OF MISSISSIPPI
MSWIN SPECIAL EVENTS REGIONS
MISSISSIPPI
SOUTHERN REGION

Incident Action Plan (IAP) Initial
City of Jackson Water Crisis 2022
31 August 2022
COMMUNICATIONS LIST (ICS 205A) 5

Incident Name:	**Operational Period:**		
City of Jackson Water Crisis 2022	From: 02 Sept 2022 at 0700 To: 03 Sept 2022 at 0659		
Communications Information: Unified Command & General Staff			
Mississippi Emergency Management Agency (MEMA)	Andrew McMillin	O-601.540.1102	amcmillin@mema.ms.gov
Mississippi State Department of Health (MSDH)	Jim Craig	O-601.576.8066 C-601.946.6046	Jim.craig@msdh.ms.gov
City of Jackson	Robert Lee	C-601.519.5008	rlee@jacksonms.gov
Hinds County	Joey Perkins	C-601.942.7005	jperkins@co.hinds.ms.gov
Environmental Protection Agency (EPA)	Brian Smith	O-404.562.9845 C-404.630.3866	Smith.brian@epa.gov
Safety Officer	Jarrett Watkins	C-601.850.7085	jwatkins@mema.ms.gov
Public Information Officer	Malary White	O-601.933.6848	mwhite@mema.ms.gov
General Staff	**A**		
Planning Section, Resource Unit (MEMA)	Austin, Ramous	C-601.383.4850	raustin@mema.ms.gov
	B		
Planning Section (MEMA)	Boxx, Tommy	C-601.750.7445	Robert.boxx@msdh.ms.gov
Division C-Fewell Facility	Byrd, Terrance	C-601.213.8575	
	C		
Logistics, Support (MSDH)	Campbell, Mike	O-601.576.8144	Thomas.campbell@msdh.ms.gov
Planning Section (MSDH)	Cunningham, D. Austin	C-601.575.1018	Donald.cunningham1@msdh.ms.gov
	G		
EMAC Coordinator (MEMA)	Gatlin, Nyssa	C-601.586.9227	ngatlin@mema.ms.gov
	H		
Operations Section Chief (MSDH)	Herrington, Les	O-601.576.7690	Lester.herrington@msdh.ms.gov
Logistics (MSDH)	Horn, Marshall	O-601.939.2660 C-601.573.8915	Marshall.horn@msdh.ms.gov
At Risk Coordinator (MSDH)	Hall, Amber	O-601-933-7188	Amber.hall@msdh.ms.gov
Logistics/Site Safety Assistant (MSDH)	Head, Matt	C-601.939.2660	matthew.head@msdh.ms.gov
Planning Section (MSDH)	Harris, Thomas	C-601.573.2051	tharris@mema.ms.gov
Operations, Unit Leader (City of Jackson)	Hillman, Jordan	C-601.720.6048	jhillman@jacksonms.gov
Division A-OB Curtis Conventional	Harper, Richard	C-769.798.6890	rharper@city.jackson.ms.us

Incident Action Plan (IAP) Initial
City of Jackson Water Crisis 2022
31 August 2022

Incident Name:	Operational Period:		
City of Jackson Water Crisis 2022	From: 02 Sept 2022 at 0700 To: 03 Sept 2022 at 0659		
L			
Planning Section, Situation Unit Leader (MEMA)	Lewis, Charlie	C-601.832.2903	clewis@mema.ms.gov
M			
Private Sector, MS Rural Water Association	Mayfield, Kirby	C-601.517.0177	kmayfield@msrwa.org
P			
Healthcare Intelligence (MSDH)	Parker, Melissa	C-601.942.2373	melissa.parker@msdh.ms.gov
R			
Operations, Water Distribution Staging (MS Forestry Commission)	Rogers, Shaun	C-662.891.3522	srogers@msf.ms.gov
S			
Healthcare Intelligence (MSDH)	Salazar, Fabrizio	C-769.209.5379	byron.salazar1@msdh.ms.gov
Public Information Officer (MSDH)	Sharlot, Liz	O-601.576.7667	Liz.sharlot@msdh.ms.gov
T			
Finance Section Chief (MEMA)	Thompson, Crystal	O-601.933.6603	cthompson@mema.ms.gov
W			
Logistics Section Chief (MEMA)	Wilson, Don	O-601.933.6705	dwilson@mema.ms.gov

Incident Action Plan (IAP) Initial
City of Jackson Water Crisis 2022
31 August 2022
MEDICAL PLAN ICS 206

MEDICAL PLAN ICS 206	1. Incident Name	2. Date Prepared	3. Time Prepared	4. Operational Period
	City of Jackson Water Crisis 2022	08/31/2022	1300	02 Sept 2022 at 0700 – 03 Sept 2022 at 0659

5. Incident Medical Aid Station

Medical Aid Stations	Locations	Paramedic/EMT Yes	Paramedic/EMT No
MSDH Command Trailer – Basic Life Support	OB Curtis Facility	X	

6. Transportation

A. Ambulance Services

Name	Address	Phone	Paramedics Yes	Paramedics No
Pafford Ambulance Service	Ridgeland, MS	911	X	
AirCare	Jackson, MS	601-984-4367	X	

B. Incident Ambulances

Name	Location	Paramedics Yes	Paramedics No
N/A	N/A		

7. Hospitals

Name	Address	Phone	Helipad Yes	Helipad No
UMMC	2500 North State Street, Jackson, MS 32.329190, -90.174263	601-984-4367 FQ 155.340 CSQ	X	
St. Dominic Hospital	969 Lakeland Dr, Jackson, MS 32.333361, -90.163835	601-200-200 FQ 155.340 CSQ	X	

8. Medical Emergency Procedures

A. Report emergencies by Calling 911 from telephone.
B. Assist the injured person(s) offering reassurance, comfort, and aid.
C. If you trained in first aid, CPR and/or AED, you may offer medical assistance within the scope of your training.
D. When an emergency situation involves blood or other bodily fluids, do not touch the fluids without proper personal equipment

ICS 206	9. Prepared by	Reviewed by
	D. Austin Cunningham	Jarrett Watkins, Safety Officer

Safety Message (ICS 208)

1. Incident Name: COJ Water Crisis 2022	2. Operational Period: Date From: 8/1/2022 Date To: 8/2/2022 Time From: 0700 CDT Time To: 0659 CDT

3. Safety Message/Expanded Safety Message, Safety Plan, Site Safety Plan for O.B. Curtis Water Plant

ENSURES CRITICAL SAFETY INFORMATION IS GIVEN TO ALL PERSONNEL AND SITE SPECIFIC HAZARDS ARE UNDERSTOOD PRIOR TO PERMITTING ACCESS TO THE WORK SITE, THEREBY CREATING A SAFER WORK ENVIRONMENT AND FACILITATING THE PROCESS OF ADJUSTMENT FOR RESPONDERS, CONTRACTORS, AND VISITORS.

- Ensure to be assigned one or more competent person(s) to guide guests/visitors through the water treatment plant or any individual facility.
- Three points of contact when ascending/descending stairs inside facilities.
- Observe surrounding crane activity and stay a safe distance away from live loads.
- Ensure personnel correctly wear proper PPE around the plant.
- Keep a safe distance from hazardous materials and open unsafe live electrical components.
- Upon entering a room where hazardous materials are present, identify safety eye wash stations.
- Do not touch or use equipment you are not certified to operate, this includes the opening and closing of valves.
- Avoid leaks of hazard materials and liquids from piping system.
- Report any unsafe actions, conditions, or accidents to the designated Safety Officer.

4. Site Safety Plan Required? Yes No

Approved Site Safety Plan(s) Located At: O. B. Curtis Water Plant

5. Prepared by: Name: Jarrett Watkins Position/Title: Safety Officer Signature: Jarrett Watkins

ICS 208	IAP Page _____	Date/Time: 8/31/2022

Incident Action Plan (IAP) Initial
City of Jackson Water Crisis 2022
31 August 2022
MEETING SCHEDULE (ICS 230)

1. Incident Name: City of Jackson Water Crisis 2022		2. Operational Period: Date From: 02 Sept 2022 Time From: 0700 Date To: 03 Sept 2022 Time To: 0659		Page: 1 of 1
Day/Time	**Meeting**	**Purpose**	**Attendees**	**Location**
Month Day				
09/02/2022 0800	Unified Command and General Staff	Review objectives and preparedness brief outs	Incident Commanders, Section Chiefs	MSDH Command Trailer Virtual Zoom
09/02/2022 1000	ICS 204 Submissions	Send ICS 204s to Operations Section Chief		
09/02/2022 1100	Tactics Meeting	Meeting with Operations Section		
09/02/2022 1400	Situation Report Submissions	All situational information due to the Situation Unit.		
09/02/2022 1700	Operational Summary (OpSum) and Incident Action Plan (IAP) Meeting	Review of operational period activities. Review and approval of the Incident Action Plan (IAP)	Established distribution lists	
09/02/2022 1800	Operational Summary (OpSum) and Incident Action Plan (IAP) distributed	OpSum and IAP distributed	Established distribution lists	

Message

From: Nuhfer, Mark [Nuhfer.Mark@epa.gov]
Sent: 9/2/2022 4:22:00 PM
To: Jim.craig@msdh.ms.gov; Lester.Herrington@msdh.ms.gov; Patrick.Grace@msdh.ms.gov; Mike Freiman [mfreiman@mdeq.ms.gov]; djones@mdeq.ms.gov
CC: Faller, Heidi [Faller.Heidi@epa.gov]; Lowenstein, Zachary [lowenstein.zachary@epa.gov]; Chandy, Danusha [Chandy.Danusha@epa.gov]; Nelson, Jonathan [Nelson.Jonathan.D@epa.gov]; Allen, Catherine [Allen.Catherine@epa.gov]; Neely, Colleen [Neely.Colleen@epa.gov]; Nuhfer, Mark [Nuhfer.Mark@epa.gov]; Thomas, Chris [Thomas.Chris@epa.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Diaz, Denisse [Diaz.Denisse@epa.gov]; Held, Brendan [Held.Brendan@epa.gov]; Williams, Darryl [Williams.Darryl@epa.gov]; Purify, Johnnie [Purify.Johnnie@epa.gov]; Douglas, Martha [Douglas.Martha@epa.gov]; Wise, Allison [Wise.Allison@epa.gov]; trina.george@usda.gov; nicole.barnes@usda.gov; melanie.balducci@usda.gov; edgar.grayer@usda.gov; renee.cochran1@usda.gov; Caryn.compton@usda.gov; charlesd.stephens@usda.gov; Fritz, James - RD, National Office [james.fritz2@usda.gov]; Davis, Lorrie - RD, Washington, DC [lorrie.davis@usda.gov]; Maratita, Dolores - RD, Nashville, TN [dolores.maratita@usda.gov]
Subject: Mississippi Closing the Wastewater Access Gap Update and Next Steps
Attachments: Closing Wastewater Access Gap - Community Implementation Milestones Final.docx; Community Wastewater Assessment template 9_1.docx; Community Solutions Plan template 9_1.docx

EPA and USDA would like to thank you very much for your partnership so far with our *Closing America's Wastewater Access Gap Community Initiative*. We'd like to provide you with a quick update on this effort. We are working to schedule initial kick-off meetings with each participating community/ tribe to take place within the next couple of months. We will be following up soon to schedule that meeting with each community/ tribe. By COB today, we will send out an email to each community (with a CC to you) to explain that we will work on scheduling the kick-off meeting soon, as well as to look out for a webinar invitation. That webinar will be for communities to attend (as well as states and tribes), to explain this initiative at a high level, and provide an overview of the major milestones and community wastewater assessment/ solutions plan tools (attached, described below).

Next, we have been speaking with the Technical Assistance (TA) providers that will be assisting in this initiative in providing on-the-ground TA. In Bolivar County the TA providers are the Rural Community Assistance Partnership and the Environmental Finance Center.

Our contractor, ERG, and their sub-contractor MDB, will also assist in this effort with regard to scheduling, facilitation, background research, providing TA, etc.

Lastly, we wanted to provide you with the draft documents that we've been working on, for this initiative. As a critical partner in this initiative, we are sharing these documents with you early to give you a first opportunity to review. These documents are meant to facilitate consistent and thoughtful approaches across the 11 participating communities/ tribes. We also recognize the need to tailor approaches to each community/ tribe. These documents will serve as a starting point for additional conversation with you and communities/ tribes to further tailor approaches to each community/ tribe as needed. They are attached:

- Implementation Plan: This document outlines the key milestones and timeframes of the initiative. It also outlines roles and responsibilities of each stakeholder (federal, state/ tribe, and community).
- Community Wastewater Assessment: This template is what will be used to carry out each community assessment. It can be tailored to meet state/ tribe or community specific needs.
- Community Solutions Plan: This document will outline the findings and results of the Assessment, including recommendations for community solutions. The primary purpose of this document is to provide information that can be translated into the next step of the process: a funding application (i.e. CWSRF or USDA).

As stated above, the 3 documents attached will be the focus of the informational webinar we plan to have to include all 11 communities/tribes participating in this pilot, as well as extending that invitation to the states. We intend to schedule that webinar for mid-September. The webinar will be recorded if you are unable to attend live.

Please let us know if you have any questions regarding anything covered above. We are open to have a short call with you to discuss further if you'd like. Otherwise, we will walk through these documents on the webinar and then dig in more at each community's project kick-off meeting, which you will also be invited to.

Thank you again for your partnership, and have a great long weekend!

Sincerely,

Mark Nuhfer, Chief
Watershed Restoration and Technical Assistance Section
EPA Southeastern Region
Nuhfer.mark@epa.gov
404-562-9390 (office)
470-633-6460 (cell)
(he/him/his)

Closing America's Wastewater Access Gap Pilot
Key Community Milestones and Timeline
September 2022

This table provides key implementation milestones for the 'Closing America's Wastewater Access Gap Pilot' for use as a planning document by communities, states, and tribes. The table includes several proposed actions that project team members will participate in. Timeline dates are general. Given the nature of this initiative, additional actions may arise as the project is implemented.

The purpose of the U.S. Department of Agriculture Rural Development (USDA-RD) and U.S. Environmental Protection Agency (USEPA) Closing America's Wastewater Access Gap Pilot is to provide targeted technical assistance resources to the 11 participating areas to support identifying and pursuing federal funding opportunities. The pilot supports USEPA's effective administration of the Bipartisan Infrastructure Law (BIL), in collaboration with states/ tribes, and supports key USDA-RD objectives, while complimenting important state/tribal efforts. States, tribes, and local partners are key collaborators in this effort.

The 11 participating areas will each receive a Community Wastewater Assessment and a Community Solutions Plan. Information collected in the Community Solutions Plan will help facilitate pilot communities' ability to apply for planning and construction funds from the Clean Water State Revolving Fund (CWSRF) program, Clean Water Indian Set-Aside (CWISA) program, and USDA-RD programs (and other funding opportunities as identified). The pilot will seek to leverage any past work such as prior assessments, engineering studies, funding applications, etc. Note that any potential wastewater options identified in this Community Solutions Plan are preliminary, and for exploratory purposes only, to facilitate a participating community's ability to apply for planning (e.g., engineering design) and construction funding from CWSRF, CWISA, and USDA-RD funding sources (and other funding sources as identified). The Community Solutions Plan is not a replacement for a formal CWSRF, CWISA, or USDA-RD funding application, nor does it waive any state, tribe, or federal funding requirements.

USEPA and USDA-RD, in collaboration with participating states, tribes, and local communities, look forward to partnering together to implement the Closing America's Wastewater Access Gap Pilot.

Closing America's Wastewater Access Gap Key Community Milestones and Timeline

Milestone	Anticipated Timeline
Project team kickoff meeting • Review project documents • Identify key contacts • Confirm geographic scope of each project area • Provide background information (including prior funding applications, assessments, or other local planning documents)	Fall 2022
Local community listening session (one in each pilot area) • Provide feedback on agendas and engagement plans • Share invitations with community stakeholders (including nontraditional community voices) • Participate in listening session • Help identify community priorities	Starting late Fall 2022
Initiate community wastewater assessment • Provide information and participate in project interviews as requested • Facilitate onsite access as necessary • Help identify community priorities for solutions • Provide feedback on draft assessment plan • Help troubleshoot project challenges as they arise • Participate in monthly check-in meetings	Starting late Fall 2022
Community wastewater assessment completed • Review and comment on drafts	Spring/Summer 2023
Community solutions plan* completed • Help identify local, state, and tribal strategies to facilitate implementing long-term sustainable solutions • Collaborate on next steps, including identifying key local, state, and tribal personnel to pursue federal, state, and tribal funding opportunities	Summer/Fall 2023

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*Community solutions plan may facilitate, as appropriate, submission of a federal application to USEPA or USDA funding programs for engineering design and/or construction.

General Roles and Responsibilities

Key roles and responsibilities for US Environmental Protection Agency, US Department of Agriculture Rural Development, participating states, tribes, technical assistance providers, and communities are outlined below, in addition to the above milestone-specific actions which all project team members will participate in. All actions will include regular consultations and coordination amongst all parties.

USEPA and USDA-RD will:

- Develop and implement the pilot, in collaboration with participating states, tribes, pilot communities and technical assistance providers.
- Co-chair project implementation teams for each pilot location.
- Develop templates for the Community Solutions Assessments and Community Solutions Plans that facilitate co-leveraging of USEPA CWSRF and USDA-RD funding.
- Develop a national project summary report that identifies best practices and further collaborative opportunities to close America's wastewater access gap.
- Develop a national Community of Practice that brings together participants from all pilot states, tribes, communities and technical assistance providers.
- Provide technical assistance resources via EPA contractors, the USDA Rural Partner Network, and the EPA Rural, Small and Tribal Clean Water Training and Technical Assistance Program.

Technical Assistance Providers will:

- Work with pilot teams and contractors to provide targeted expert technical assistance.
- Provide input into select portions of the Community Solutions Assessments and Community Solutions Plans.

Participating states/tribal governments will:

- Collaborate with USEPA and USDA-RD, or other agencies as needed (i.e., Indian Health Service (IHS)) to implement the pilot in their state/ tribe.
- Help identify pilot communities.
- Provide a staff point person to participate on each community's project team.
- Provide relevant background information (like prior assessments, engineering studies, funding applications, etc) and participate in project interviews as requested.
- Support pilot communities to pursue state/ tribal funding opportunities (e.g., CWSRF or CWISA program) once the Community Solutions Plan is completed.
- Provide information and participate in project meetings.

Participating communities/tribes will:

- Receive a Community Wastewater Assessment and Community Solutions Plan.
- Have one or more local leaders participate on their community's project implementation team who collaborate with USEPA, USDA-RD (or other agencies as needed (i.e., IHS) and their state/ tribe to implement the pilot.
- Provide relevant background information (like prior assessments, engineering studies, funding applications, etc) and participate in project interviews as requested.
- Facilitate onsite access as necessary.
- Help spread the word about the public-facing community listening sessions.

ED_013319_00000130-00002

Closing America's Wastewater Access Gap
Community Pilot Initiative

Community Wastewater Assessment Template

September 2022

ED_013319_00000131-00001

U.S. Environmental Protection Agency/U.S. Department of Agriculture Closing America's Wastewater Access Gap Community Pilot Initiative Community Wastewater Assessment Template

Instructions

The U.S. Environmental Protection Agency (USEPA) and the U.S. Department of Agriculture Rural Development (USDA-RD) developed this Closing America's Wastewater Access Gap Community Wastewater Assessment ("Assessment") template for use with community leaders, and local, state, tribal, and federal agencies to facilitate provisions of technical assistance for decentralized wastewater solutions.

The purpose of this Assessment is to facilitate a technical assistance provider in conducting a rapid community wastewater assessment of the decentralized wastewater infrastructure needs in assigned communities. The outcome of using the Assessment will be the development of a Community Wastewater Assessment report that can inform the creation of a Community Solutions Plan (see companion "Community Solutions Plan template"). The Community Solutions Plan will identify potential wastewater infrastructure options, potential federal and state/ tribal funding sources (e.g., Clean Water State Revolving Fund Program funding or USDA Rural Development funding) and will provide a technical assistance workplan to guide the community towards next steps.

This Assessment should be conducted by a technical assistance provider with a community engagement lead(s) and a small group of local stakeholders with in-depth knowledge about the impacted community, the built and natural environment, and challenges and opportunities that could be addressed to develop solutions for the community. Collaboration with participating state and tribal partners will be another key ingredient for success.

This Assessment includes both desk-based pre-research and onsite research, engagement, and review. The onsite portion should be conducted at a location and time that is convenient and appropriate for both the technical assistance providers and community engagement lead(s) to facilitate completing this Assessment.

The Assessment template includes checkboxes which can be completed once a response has been received for each question. Spacing can be added to response lines for longer responses, as needed. Should the assessor use a separate document or notepad to collect additional information, the additional materials should be compiled with the Assessment tool template. It is important that the technical assistance provider follows a quality process to ensure the accuracy and quality of data received and that the information is stored in a consistent format and location with other data sources for this pilot.

This Community Wastewater Assessment template is meant to be a starting point for each communiy to help facilitate thoughtful and consistent approaches. The template can be further tailored to the unique needs of each community. The pilot will seek to leverage and build upon any past work such as prior assessments, engineering studies, funding applications, etc. Existing questions may be revised and additional topics and questions may be included

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depending on the community size and need. USEPA and USDA-RD staff, technical assistance providers, and contractors conducting this Assessment will determine the most applicable topics and questions, in collaboration with state, tribal and local partners. Following the completion of the Assessment, next steps include presenting Assessment findings to the community, identifying additional information requiring collection, and developing a Community Solutions Plan.

It is estimated that each assessment will take about six months. However, timelines may vary depending on the scope of project.

CONTENTS

[TOC \o "1-3" \h \z \u]

I. Community Engagement and Input **Purpose**: Following the recommended steps for community engagement below will help facilitate effective community engagement, in collaboration with the project team.		
Identify community engagement lead	**For each pilot community, identify, if one is available, a local community engagement lead or leads with strong local relationships who can support effective community engagement throughout the assessment, in partnership with the TA provider and project team**. The community engagement lead(s) could be brought on as a subcontractor to support their participation.	☐
	Contact Name/Email/Phone:	
	Organization Weblinks, Bio, if applicable:	
Identify key local stakeholders	**Identify key local (local government, community groups, etc.) stakeholders that are important to engage as part of this project.**	☐
	Identify any gaps in communication, technology, information and communication accessibility, or other special communication considerations or requirements (such as potentially the case in Tribal Communities).	☐
Community engagement plan	**Develop a short and simple community engagement plan that includes:** 1. List of key local stakeholders. 2. Recommendation for holding a public listening session in Fall/Winter 2022. 3. Outreach and engagement strategies to support access to onsite properties for surveying septic systems. 4. Recommendation on any additional public meetings to keep the community informed. 5. Public-facing point of contact. 6. Recommendations to address any local barriers to participation in public meetings, onsite surveys, or other aspects of this pilot that require community participation (e.g., language, access, cultural, etc.). 7. Public notifications about the pilot are initiated and released on a set frequency, outlining the assessment's purpose, funders, federal, state, tribal, and local agency partners. Provide methods to sign-up for periodic updates and mechanisms for community feedback. 8. Plan for a minimum of 2 community meetings; one listening session, and one final public meeting near the end of the project.	☐
Convene local stakeholders	**Reach out to identified stakeholders with an invitation to participate in the initial listening session.** With support from the project team, respond to questions and inquiries; develop roster of individuals participating. Document all correspondence and responses. Particular efforts should be made to engage underserved or hard-to-reach populations that may otherwise not participate in a listening session.	☐

	Work with project team to hold an initial public listening session. During the kick-off meeting, facilitate member introductions, organizational roles, and individual perspectives. The project team will describe objectives and options for decentralized wastewater management. The meeting facilitator will then facilitate a community conversation. Potential discussion prompts include: 1. Community wisdom and data gathering: what has their experience been up to this point, what should we be mindful of? 2. Defining the "community": who do they think needs to be at the table, what does the "community" look like to them? 3. Follow up: what is the community's expectations for when they want updates, and in what form should those updates be provided? How would community members like be included moving forward? Consider holding a pre-meeting with local community-based organizations (when they exist) that aren't already on the project team to strategize and secure joint buy-in for the initial community meetings. Outline key milestones and points for engagement. Determine (or communicate) expected meeting frequency and next date. Update the pilot approach and key project documents, including templates and the community engagement plan, as appropriate, based on takeaways from the listening session.	☐

II. Community Description **Purpose:** Identify basic information about the municipalities and unsewered portions of each pilot area.		
General description of area	**What is the geographical and demographic makeup of community?** E.g., poverty levels, educational levels, linguistic affinity, home ownership rate, income levels, age distribution, parcel size, population, parcel density, property types and values. Identify using publicly available data and verify with project team.	☐
	What relevant background information exists that can inform the Community Solutions Plan? Prior assessments, engineering studies, funding applications, etc.	☐
Governance	**What is the governance structure for properties?** E.g., county, city, town, and/or unincorporated area.	☐
	Who taxes properties and what is the local capacity to submit a funding application and successfully manage a wastewater infrastructure project? Staff, resources, competency on topic, and ability to coordinate project through completion.	☐
	Are there government-owned properties such as town offices, schools, police, fire, and rescue that may have potential for use for a cluster system? What is the status of existing wastewater infrastructure, and is there potential capacity for a community cluster on any publicly owned properties?	☐
	What are the business and economic development considerations for inclusion in any proposed solutions? Are there any privately-owned wastewater facilities or studies referencing wastewater needs or capacities? What are the engineering, planning, legal, and technological capacities? Is the current wastewater management situation impeding any local community rehabilitation plans? What is the estimated economic impact of improving water infrastructure?	☐
	Identify historical Operations and Maintenance (O&M) responsibilities, effectiveness, and document any issues. There may be an identified management entity that will be operating and managing the system or, if it is the homeowner, communication is needed to build support for the project. Note, State Revolving Fund (SRF) financing is not available for O&M costs, so alternative sources of funding will need to be identified, including owner fees.	☐
	Who is the lead wastewater permitting authority? Are there other local/regional government jurisdictions that may need to be engaged in the development of a wastewater solution?	☐

Identify local Onsite Wastewater Treatment Systems (OWTS) professionals	**What are the local requirements for soils and site analysis, testing, designs and installations, system types, and construction? What are the local licensing requirements for design, installation, and maintenance? Provide a list of current design, installation, and maintenance professionals.** Identify: Are any professionals licensed near the community? Identify state of the industry: Are there trained and tested local professionals that are aware of newer technologies, one-water approaches, and disposal components? Where is there need for improvement? (Specialized training, change to licensing requirements, regulatory understanding of new technologies and soil-based treatment). Identify existing training programs and entities that exist, if any.	☐
Disadvantaged and underserved (distressed) community criteria	**Is the community identified as a disadvantaged community under the state's current SRF "disadvantaged community" definition[1]? If not, what about based on criteria laid out in USEPA's BIL implementation memorandum?[2]**	☐

1. [HYPERLINK "https://www.govinfo.gov/content/pkg/CFR-2011-title40-vol1/pdf/CFR-2011-title40-vol1-part35-subpartK.pdf"]
2. https://www.epa.gov/dwsrf/bipartisan-infrastructure-law-srf-memorandum

III. Built Environment Assessment **Purpose**: Briefly identify and summarize existing infrastructure, public health issues, housing issues, and economic development issues that might impact the development of new future wastewater infrastructure. This includes investigating the extent of available information and in what format it exists.		
Existing utilities	**What is the location of existing sewer and water utilities serving properties in the area?** Distance and capacities of existing sewer facilities to expand collection systems and wastewater treatment facility treatment and discharge; considerations for Responsible Management Entity (RME) role. Show areas covered by wastewater treatment facility collection systems.	☐
	Are there any existing shared or cluster systems? If so, determine condition and ability to expand.	☐
	What is the location and number of existing onsite wastewater treatment systems? If not known, propose means to collect this information.	☐
	What inventory of onsite wastewater treatment system types are typical for area, age, and status for meeting current minimum standards? Contact the local health department to collect permit information and ask general questions about the different types of systems present within the community (i.e., are they all in similar condition and state of compliance).	☐
	Any other utilities serving this area, such as stormwater or waste disposal sites, that may have impact on the project? Percent impervious surfaces and known stormwater problems.	☐
	What are the local drinking water or surface water protection areas that may impact potential cluster system sites? E.g., source water protection areas can impact cluster system site potentials.	☐
	Where is the nearest public water system? Is the pilot area served by one or more community public water systems?	☐
	Are there any existing drinking water wells? Are the properties served by individual onsite water systems? If so, what are the well types: bedrock wells, gravel wells and springs. Does the well have a safety seal? Are there any private well data or studies? Note proximity (estimated distance) of drinking water wells to onsite wastewater systems.	☐
Public health issues	**Are there known failed onsite wastewater treatment systems, public health diseases, or health impacts related to inadequate onsite wastewater treatment systems?** This can include failure to accept wastewater into soil treatment area, structural deficiencies (inadequate construction materials or evidence of system collapse), frequent need for servicing, or surface wastewater breakout.	☐
	Has a formal Septic Survey inspection been conducted in the area?	☐
	Are there any existing environmental and public health data that can be utilized in support of the project?	☐

IV. Natural Environment Assessment **Purpose**: Briefly summarize the general watershed features that may have impact on wastewater infrastructure upgrades.		
Surface waters and water quality	**Identify locations and proximity to surface waters that could impact wastewater infrastructure upgrades.** E.g., rivers, streams, lakes, ponds, wetlands, flood zones and flood ways.	☐
	Collect water quality and watershed information relevant to wastewater infrastructure upgrades. Identify and describe any studies on watersheds or water quality in area. Are any failing or substandard onsite wastewater treatment systems contributing to the problem? Is there any stream monitoring information on water levels or water quality? What is the proximity between onsite wastewater treatment systems and drainage ditches or intermittent streams? Are there any data on bacterial or nutrient impacts from onsite wastewater treatment systems, such as beach closures, algae blooms? Are there any known chemicals or contaminants of emerging concern impacting water quality in area?	☐
	Are there climate change potential impacts in the area, such as higher precipitation, flooding, sea level rise, drought, extreme heat, and water shortage vulnerabilities?	☐
Groundwater and water quality	**Are there groundwater resources, aquifers, main source used for drinking water in close proximity to onsite systems?**	☐
	Identify source water protection areas and all community water system sources in area. Are there any known water quality or quantity issues?	☐
	Are there any existing groundwater wells with groundwater depths or water quality monitoring data in area?	☐
One-water approach	**Identify any opportunities to "fix more than one problem," such as drainage, green infrastructure, lead service lines, water recycling (non-potable or potable).** Are there opportunities for onsite non-potable reuse of wastewater for irrigation of landscaping and shade trees to combat extreme heat?	☐
Soils, topography and hydrogeology	**Has the Natural Resources Conservation Service (NRCS) mapped soil types listed for the affected area?** Is there a suitability ranking for the soils in the areas? Consider alternative one-water options if traditional septic leach fields would not work in the area.	☐
	Are there soils suitable for conventional onsite wastewater treatment systems or cluster systems in the area? Are these areas onsite, or on privately or publicly owned properties?	☐
	What are the ground contours and slopes, exposed bedrock or other features that may limit installation of an onsite wastewater treatment system?	☐

V. Assessment of Need **Purpose**: Develop a brief report that summarizes and assesses the need for replacing septic systems with new onsite or off-site solutions.		
Data collection and analyses	**Compile and organize available digital and paper sources related to wastewater and built conditions.** Include sources such as U.S. Geological Survey (USGS) geographic data; Natural Resources Conservation Service (NRCS) soil types and rankings for onsite and cluster wastewater suitability; local or regional parcel size, locations, and property types; public water and sewer systems; and wastewater permits. Consider property owner survey questionnaires for targeted outreach and specific data on septic system conditions. Create tables and maps (figures) highlighting key information. Obtain any past planning studies relevant to wastewater infrastructure upgrades.	☐
Site reviews	**On a case-by-case basis, conduct neighborhood level site reviews and determine accuracy of collected data.** With assistance from local professionals, and government officials, conduct site screening visits to confirm information collected and mapping data on a case-by-case basis. This may include area drive- or walk-throughs, but not necessarily accessing private properties. This should be discussed further with the project team.	☐
	On a case-by-case basis, conduct limited onsite evaluations as appropriate. Onsite visits to limited properties may be appropriate in cases where information on system(s) is not available. The visit may entail walking around the property and asking the property owner basic questions on the location and condition of their existing septic system, and to determine lot feasibility for replacing the system onsite. Work closely with the project team and community outreach lead(s) on this effort. This should be discussed further with the project team.	☐
Findings and conclusions	Use the information collected in the previous sections to inform the Solutions Plan. Summarize the need for onsite and/or offsite solutions. Document the decision-making process and determine whether additional study (e.g., GIS risk analysis) is needed before finalizing potential solution options in the Solutions Plan.	☐

GIS risk analyses (as needed)	If project requires additional review, the project team should discuss developing site evaluation criteria to support further analysis. The following four criteria below can be used to support the analyses. Criteria can include soils minimum criteria, proximity to surface waters and or groundwater tables or bedrock; proximity to drinking water sources, proximity to resources with known water quality issues. Create tables, figures, and text to visualize data and report on results, which may include the following: 1. Suitability of soils and site conditions for existing septic systems. 2. Suitability of soils and site conditions for onsite replacement with conventional or advanced treatment, reuse, or disposal technologies. 3. Proximity to areas of suitable soils and site conditions for off-site cluster systems. 4. Proximity to existing wastewater treatment facilities and collection systems.	☐

VI. Regulatory and Funding Environment **Purpose**: Briefly summarize the local, tribal, and state regulatory and funding environment to inform potential solution options.		
Regulations and permitting	**What are the current regulations and permitting authorities for onsite wastewater treatment systems and cluster systems?** What are the vertical separation distances between the bottom of the drainfield and groundwater, impervious layers, and bedrock? What are the horizontal setbacks required in the rules? Do the regulations allow for advanced (also called Innovative/Alternative) treatment and disposal technologies? What is the definition for a "failed" onsite wastewater treatment systems? How do the regulations and permit writers address site conditions that do not meet current regulations but where there is a failed or substandard onsite wastewater treatment system needing replacement?	☐
	What are the current regulations and permitting authorities for municipal sewer systems and wastewater treatment facilities? Should any existing collection and wastewater treatment facility be evaluated as a potential solution?	☐
	Are there any management requirements, or information on pump outs and other Operations and Maintenance (O&M) activities? Do any wastewater permits require inspection, sampling or reporting of O&M activities?	☐
Legal considerations	**Will legal services be needed for executing project management or solutions?** Are there any current court filings related to onsite wastewater treatment systems, legal restrictions for Responsible Management Entity (RME) or construction limitations?	☐
	What limitations are present on the ability of potential funding applicants to access funding improvements for private property? Have easements been developed or used to accomplish investments on private property? Are these easements acceptable with respect to form and duration with regulators and lenders?	☐
	Are municipal/county ordinances used to manage onsite wastewater or sewer connections? How would management entities handle operation and maintenance requirements for onsite or cluster system connections?	☐
Funding Mechanisms	**What federal, state, or tribal funding programs should be considered?** Identify the most appropriate use of Clean Water State Revolving Fund (CWSRF), Clean Water Act Indian Set-Aside (CWISA), or Nonpoint Source/319 grants and U.S. Department of Agriculture (USDA) funding for the project. Are there other funding programs such as State, Housing and Urban Development (HUD) Community Development Block Grant (CDBG), Federal Emergency Management Agency (FEMA), Rural Utilities Service (RUS), state conservation or public health agencies, Soil and Water Conservation Districts, or non-profit organization sources that might be available? Identify loan and grant limits and terms. What will be the required local or property owner match amount?	☐
	What are the available sources for financing septic system upgrades? Collect information on property owners vs renters from the American Community Survey (ACS) before the kick-off meeting. Follow up during the kick-off meeting and in subsequent interviews to answer related questions: Who are the landlords and	☐

	property managers? Are property owners tapping into home equity to finance septic improvements? Are local banks prepared to engage if individual loans are made to a property with an existing mortgage? What interest rates are typical for septic system upgrades?	
	Are there any recommended changes to onsite wastewater treatment system regulation for innovative alternatives or management needed to access available CWSRF or USDA funding? Further, are there any changes that should be considered to federal, state, tribal, and/or local statute or regulations? Would state legislation changes be needed to allow the use of CWSRF funds for decentralized systems?	☐
	Are there any "low-hanging fruit" opportunities to strengthen state, tribal, and/or local decentralized management programs?	☐

Closing America's Wastewater Access Gap
Community Pilot Initiative

Community Solutions Plan Template

September 2022

ED_013319_00000132-00001

U.S. Environmental Protection Agency/U.S. Department of Agriculture Closing America's Wastewater Access Gap Community Pilot Initiative Community Solutions Plan

Introduction

The U.S. Environmental Protection Agency (USEPA) and the U.S. Department of Agriculture Rural Development (USDA-RD) developed this "Closing America's Wastewater Access Gap" Community Solutions Plan Outline as a companion document to the Community Wastewater Assessment Tool ("Assessment").

For each of the participating pilot areas (or "communities"), the Community Solutions Plan will provide concise and easily understandable information on the community (which could include one or more municipalities and one or more unsewered unincorporated locations), the built environment, and natural environment; will identify potential wastewater infrastructure options and potential federal, state, and tribal funding sources (e.g., Clean Water State Revolving Fund Program funding or USDA Rural Development funding); and will provide a basic technical assistance workplan to guide each of the 11 areas participating in the pilot towards next steps of developing a proposed infrastructure project and submitting funding applications.

The Community Solutions Plan is informed by USEPA Clean Water State Revolving Fund Program (CWSRF) application requirements and USDA-RD funding application requirements. The information collected in the Community Solutions Plan will facilitate pilot communities' ability to apply for planning and construction funds from USEPA CWSRF, Clean Water Indian Set-Aside (CWISA), and USDA-RD programs. The Community Solutions Plan is not a replacement for a formal CWSRF, CWISA, or USDA-RD funding application, nor does it waive any federal, state, or tribal funding requirements.

The Community Solutions Plan supports USEPA's effective administration of the Bipartisan Infrastructure Law (BIL), in collaboration with states and tribes, and supports key USDA-RD objectives, while complimenting important state and tribal efforts. States, tribes, and local partners are key collaborators in this effort.

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The outline contains categories that will be featured in each community's Solutions Plan. Each category requires information documented upon completion of the Assessment. Topics cover a range of issues involving communtiy enagagement and approval, built and natural environmental conditions, as well as solutions options for further investigation.

This Community Solutions Plan template is meant to be a starting point for each communiy to help facilitate thoughtful and consistent approaches. The Community Solutions Plan template can be further tailored to the unique needs of each community. The pilot will seek to leverage and build upon any past work such as prior assessments, engineering studies, funding applications, etc. Existing questions may be revised, and additional topics and

questions may be included, depending on the community size, community need, and/or state/ tribal requirements, as informed by the Assessment. USEPA and USDA-RD staff, technical assistance providers, and contractors designing the Community Solutions Plan will determine the most applicable topics and questions, in collaboration with state, tribal, and local partners.

The Community Solutions Plan will be informed by the CWSRF, CWISA, or USDA-RD requirements for that community's state/tribe. The Community Solutions Plan for a community will also need to be informed by any state/ tribal laws or regulations that affect the ability to provide assistance directly to homeowners.

Community Solutions Plan Template:

I. Community Engagement Process and Community Input

Overview and findings of community engagement and input section including, but not limited to, information on: summary of community engagement efforts; results of stakeholder analysis/mapping; outreach plan; takeaways and key points of input from community convenings, listening sessions and and other community interactions; summary of past efforts to address community's wastewater challenges and any current complementary efforts to the pilot; summary of community needs identified and community tools/resources needed to facilitate next steps.

II. Community Description

Summation and findings of community description section, including but not limited to: general description of the area (poverty levels, educational levels, linguistic affinity, home ownership rate, income levels, age distribution, parcel size, population, parcel density, property types and property values), summary of governance considerations, identification of local decentralized wastewater professionals, and state disadvantaged community criteria.

III. Built Environment Assessment

Summation and findings of the built environment, including but not limited to: existing drinking water and wastewater utilities in or near the communities, exisiting utility easements, public health issues tied to inadequate wastewater infrastructure, and housing and economic development considerations that might impact development of new future wastewater infrastructure.

IV. Natural Environment Assessment

Summation and findings of the natural environment that are relevant to considering wastewater improvements, including but not limited to: surface waters and groundwater quality, a one-water approach, and the soils, topography, and hydrogeology of each site.

V. Summary of Data Utilized

Summation of the data that inform the assessment of need for onsite and/or offsite solutions, including but not limited to: key data collection and analysis, and GIS risk analysis if needed.

VI. State Regulatory and Local Governance Environment: Summation and findings of governance structures relevant to considering wastewater improvements, as well as current regulatory, legal and statutory requirements and considerations. Identification of potential partners to help communities overcome barriers to accessing CWSRF and USDA-RD funding.

VII. Summary of Any On-Site Visits: Summation of any on-site visits to investigate and evaulate conditions of existing systems, for the purpose of generally estimating the number of homes on septics that may be failing and number of homes on septics that might benefit from an interconnection to a new or existing wastewater system, to a potential cluster systems, or to some other solution such as septic upgrade; and soil and hydrogeolic conditions. Note that on-site visits, where they occur, will be limited in scope and first discussed further with each participating state/ tribe and community.

VIII. Identification of Community Needs and Potential Solution Options for Further Investigation: Description of process used and preliminary conclusions made for identifying communtiy needs and potential solution options for further investigation.

For each of the 11 participating pilot areas, identify:

- Municipality name(s) (or if there is one or more unincorporated areas, list neighborhood/street/parcel/any other identifying information)
- Brief summary of wastewater infrastructure needs
- Brief summary of potential wastewater options that may address identified needs (to be further identified via CWSRF and/or USDA-RD planning and construction funding)

Note that any potential wastewater options identified in this Community Solutions Plan are preliminary and for exploratory purposes only to facilitate applications for additional funding (particularly for planning and design) from CWSRF and USDA-RD funding sources. The Community Solutions Plan is not a replacement for a formal CWSRF or USDA-RD funding application, nor does it waive any state or federal funding requirements.

The table below can be utilized and expanded to summarize the information for this section.

Municipality name(s) (or if unincorporated area, list neighborhood/street/parcel/any other identifying information	Brief summary of wastewater infrastructure need	Brief summary of potential wastewater options that may address identified needs*
E.g., "Town of XX"		
E.g., YY Street (contains clustering of several dozen homes on septics)		
(add rows as needed)		

IX. Responsible Management Entity and Operation & Maintenance Plan: Identification of the organization or entity that will be be responsible for a portion, or all, of the operation, maintenance and management – including funding – of potential solutions. Specify potential homeowner roles with the entity, detail estimated costs for annual operation and maintenance, and identify estimated user fee affordability concerns for homerowners. If necessary, propose a recommendation for a potential responsible mangaement entity, including creation of a new management entity if necessary, for further discussions by state/ tribal and local stakeholders. Also propose recommendations for further state/ tribal and local discussion to address operations and maintenance needs and to keep projects affordable and sustainable.

X. Implementation Schedule of Solution: Estimated schedule will inform the community of the estimated timetable for phases of the project (e.g., planning, design, environmental review, permitting, approval, bidding, testing, and construction) and funding application development.

XI. Estimates of Potential Costs: High level summarization of potential engineering and construction costs, easements, and fees for solutions, recognizing that more robust estimations will require further engineering and design work.

XII. Potential Funding Options: Identification of potential funding mechanisms and sources including grants, loans, and timing and terms and conditions and requirements to attain to the funding sources. This will include an examination of CWSRF, CWISA, USDA-RD, or other funding opportunities and requirements for each community's state or tribe.

XIII. Technical Assistance Workplan: Plan will outline the types of technical assistance services the community may need to make progress on local wastewater challenges. Services may include: planning and assessment management support; project development and management support; funding and financing analyses and application support; development of a preliminary engineering report, in some cases; recommendations to improve on-site wastewater ordinances, permitting, and O&M of onsite systems; and community and partnership engagement and capacity building.

XIV. Next Steps**:** Identify potential next steps for applying for funding opportunities (e.g., USEPA CWSRF and/or USDA-RD planning and construction funding). Also identify next steps for any additional local conversations needed to move forward.

XV. Lessons Learned and Best Practices to Consider for Future Projects: Identify top 2-4 lessons learned and top 2-4 best practices to consider for future projects.

Message

From: Smith, Brian [Smith.Brian@epa.gov]
Sent: 8/4/2022 2:51:40 PM
To: jwk@adem.alabama.gov; michael.lynch@dep.state.fl.us; Kimberly.shugar@floridadep.gov; anna.truszczynski@dnr.ga.gov; Carey Johnson [carey.johnson@ky.gov]; Lester.Herrington@msdh.ms.gov; William Moody [william.moody@msdh.ms.gov]; richard.rogers@ncdenr.gov; hughesjr@dhec.sc.gov; jennifer.dodd@tn.gov; Goff, Kendra [Kendra.Goff@FloridaDEP.gov]; KINARDDB@dhec.sc.gov; Richard Welch Jr. P.E. [welchra@dhec.sc.gov]; rebecca.sadosky@ncdenr.gov; jay.frick [jay.frick@ncdenr.gov]; Jacobs, Alicia (EEC) [alicia.jacobs@ky.gov]; constance.coy@ky.gov; Anna R. Sartors [anna.r.sartors@tn.gov]; Paula.Mitchell [Paula.Mitchell@tn.gov]; Manny Patel [manny.patel@dnr.ga.gov]; Cichon, James [James.Cichon@FloridaDEP.gov]; White, Aubrey [AHW@adem.alabama.gov]; Caton, Ross E [recaton@adem.alabama.gov]
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Subject: Guidance to Help Develop Lead Service Line Inventories
Attachments: Inventory Guidance_Final.pdf

Good morning State Water Directors and Drinking Water Administrators,

Today, EPA is releasing the attached guidance for communities and water utilities to help identify lead pipes that connect drinking water service to homes and other buildings and to develop and maintain inventories of these service lines. This action marks a key milestone in implementing the Lead Pipe and Paint Action Plan and it will help water systems comply with the requirements of the Lead and Copper Rule Revisions (LCRR) that went into effect in December 2021. EPA is harmonizing regulatory requirements with unprecedented funding through the Bipartisan Infrastructure Law to make rapid progress on removing harmful lead from America's drinking water. The LCRR requires water systems to prepare and maintain an inventory of service line materials by October 16, 2024. This new Guidance will assist water systems in developing and maintaining service line inventories and will provide states with needed information for oversight and reporting to EPA.

Specifically, EPA Lead Service Line Inventory guidance:

- Provides best practices for inventory development and communicating information to the public.
- Includes a template for water systems, states, and Tribes to use or adapt to create their own inventory.
- Contains case studies on developing, reviewing, and communicating about inventories.
- Highlights the importance of prioritizing inventory development in disadvantaged communities and where children live and play.

This Guidance will also provide water utilities with information to develop lead pipe replacement projects. The Bipartisan Infrastructure Law (BIL) provides $15 billion for lead service line replacement through the Drinking Water State Revolving Funds (DWSRF). BIL funding can be used for lead service line replacement projects and associated activities directly connected to the identification, planning, design, and replacement of lead service lines, including development of service line inventories themselves.

EPA will hold a webinar on the service line inventory guidance as well as service line replacement eligibilities under DWSRF and BIL. The webinar is currently planned for August 10 and registration information on the webinar is a posted here.

Please feel free to reach out to me if you have any immediate questions.

Thanks,

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

United States
Environmental Protection
Agency

Guidance for Developing and Maintaining a Service Line Inventory

Office of Water (4606M)
EPA 816-B-22-001
August 2022

Disclaimer

This document provides recommendations to public water systems in developing and maintaining a service line inventory. The guidance within this document can be used to comply with the requirements under the Lead and Copper Rule Revisions (LCRR) that are in effect at the time of document publication. As described in the Environmental Protection Agency's (EPA's) *Federal Register* notice of December 17, 2021 ("Notification of conclusion of review"), EPA intends to publish a proposal to revise the LCRR and take final action on the proposal by October 16, 2024, but EPA does not expect to propose changes to the requirements for information to be submitted in the initial service line inventory. However, the rulemaking could include changes to the requirements for inventory updates (USEPA, 2021a). This guidance can also assist public water systems with financing applications for Bipartisan Infrastructure Law (BIL) (P.L. 117-58) funds and for implementation once funding is received. Note that the BIL is also known as the Infrastructure Investment and Jobs Act (IIJA). The BIL contains a historic $15 billion in dedicated funding through the Drinking Water State Revolving Fund (DWSRF) for lead service line (LSL) identification, planning, design, and replacement. LSL projects also may be funded using the General Supplemental DWSRF fund of $11.7 billion as well as annual base appropriations for the DWSRF. The BIL mandates that 49 percent of funds provided through the DWSRF General Supplemental Funding and DWSRF Lead Service Line Replacement Funding must be provided as grants and forgivable loans to disadvantaged communities. EPA encourages water systems to begin service line inventory and replacement efforts as soon as possible. EPA emphasizes that given the many benefits of lead service line replacement (LSLR), water systems should not wait until their inventory is complete to begin replacement efforts. In fact, conducting replacements while developing the inventory can have synergistic effects that enhance inventory development while accelerating and increasing the efficiency of replacement programs. The statutory provisions and EPA regulations described in this document contain legally binding requirements. This document is not a regulation itself, nor does it change or substitute for those provisions and regulations. Thus, it does not impose legally binding requirements on EPA, states, or the regulated community. This document does not confer legal rights or impose legal obligations upon any member of the public.

Although EPA has made every effort to ensure the accuracy of the discussion in this document, the legally binding requirements applicable to public water systems are determined by statutes and regulations. In the event of a conflict between the discussion in this document and any applicable statute or regulation, this document would not be controlling.

The information collections associated with the LCRR have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act. The recordkeeping and reporting requirements described in this draft guidance align with the existing regulations and this guidance also includes recommendations for voluntary expanded data collection and recordkeeping. An agency may not conduct or sponsor, and a person is not

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required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control number for the service line inventory is 2040-0297.

The recommendations provided here may not apply to a particular situation based upon the circumstances. Because they are recommendations, and not legally binding requirements, public water systems retain the discretion to follow the recommendations or adopt approaches that differ from those described in this document. In some cases, recommendations may reflect the existing custom and practices of some states.

Note that this document does not address lending requirements or state or local regulations related to service line inventories that may apply.

Mention of trade names or commercial products does not constitute endorsement or recommendation for their use.

This is a living document that EPA may revise periodically to reflect changes in regulatory requirements and research regarding service line material identification. EPA welcomes comment on this document at any time; please send comments to LCRR@epa.gov.

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Acronyms

µg/L	Micrograms per liter
ACHD	Allegheny County Health Department
ASDWA	Association of State Drinking Water Administrators
AWWA	American Water Works Association
BIL	Bipartisan Infrastructure Law
CBI	Curb Box Inspection
CCR	Consumer Confidence Report
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CMMS	Computerized Maintenance Management System
CWS	Community Water System
DWINSA	Drinking Water Infrastructure Needs Survey and Assessment
DWSRF	Drinking Water State Revolving Fund
EDF	Environmental Defense Fund
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EPA	United States Environmental Protection Agency
FTP	File Transfer Protocol
GCWW	Greater Cincinnati Water Works
GIS	Geographic Information System
GPR	Ground Penetrating Radar
GPS	Global Positioning System
GRR	Galvanized Requiring Replacement
GRWS	Grand Rapids Water System
IIJA	Infrastructure Investment and Jobs Act
LCR	Lead and Copper Rule
LCRI	Lead and Copper Rule Improvements
LCRR	Lead and Copper Rule Revisions
LSL	Lead Service Line

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LSLR	Lead Service Line Replacement
LWC	Louisville Water Company
NPR	National Public Radio
NTNCWS	Non-Transient Non-Community Water System
OMB	Office of Management and Budget
ORP	Oxidation-Reduction Potential
PWS	Public Water System
PWSA	Pittsburgh Water & Sewer Authority
PWSID	Public Water System Identification Number
SDWA	Safe Drinking Water Act
SOP	Standard Operating Procedure
USEPA	United States Environmental Protection Agency
WIIN	Water Infrastructure Improvements for the Nation

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Glossary

Term	Definition[1]
Curb stop	An exterior valve located at or near the property line that is used to turn on and off water service to the building.[2]
Community water system	A public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (40 CFR §141.2).
Full lead service line replacement	Replacement of a lead service line (as well as galvanized service lines requiring replacement) that results in the entire length of the service line, regardless of service line ownership, meeting the Safe Drinking Water Act (SDWA) Section 1417 definition of lead free[3] applicable at the time of the replacement. See 40 CFR §141.2 for the full regulatory definition.
Galvanized requiring replacement	A galvanized service line that is or was at any time downstream of a lead service line or is currently downstream of a lead status unknown service line. If the water system is unable to demonstrate that the galvanized service line was never downstream of a lead service line, it must presume there was an upstream lead service line (40 CFR §141.84(a)(4)(ii)).
Galvanized service line	Iron or steel piping that has been dipped in zinc to prevent corrosion and rusting (40 CFR §141.2).
Gooseneck, pigtail, or connector	A short section of piping, typically not exceeding two feet, which can be bent and used for connections between rigid service piping. For purposes of this subpart, lead goosenecks, pigtails, and connectors are not considered to be part of the lead service line but may be required to be replaced pursuant to §141.84(c)[4] (40 CFR §141.2).
Lead service line	A portion of pipe that is made of lead, which connects the water main to the building inlet. A lead service line may be owned by the water system, owned by the property owner, or both. For the purposes of this subpart, a galvanized service line is considered a lead service line if it ever was or is currently downstream of any lead service line or service line of unknown material. If the only lead piping serving the home is a lead gooseneck, pigtail, or connector, and it is not a galvanized service line that is considered a lead service line, the service line is not a lead service line (40 CFR §141.2).
Lead status unknown service line	A service line where the material is not known to be lead, galvanized requiring replacement, or a non-lead service line, such as where there is no documented evidence supporting material classification. It is not necessary to physically verify the material composition (*e.g.*,, copper or plastic) of a service line for its lead status to be identified (*e.g.*, records demonstrating the service line was installed after a municipal, state, or federal lead ban[3]) (40 CFR §141.2).
Non-lead	A service line that is determined through an evidence-based record, method, or technique not to be lead or galvanized requiring replacement (40 CFR § 141.84(a)(4)(iii)).

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Term	Definition[1]
Non-transient non-community water system	A public water system that is not a community water system and regularly serves at least 25 of the same persons over 6 months per year (40 CFR §141.2).
Service line	The pipe connecting the water main to the interior plumbing in a building.[2] The service line may be owned wholly by the water system or customer, or in some cases, ownership may be split between the water system and the customer.
State	State means the agency of the State or Tribal government that has jurisdiction over public water systems. During any period when a State or Tribal government does not have primary enforcement responsibility pursuant to Section 1413 of the Act, the term "State" means the Regional Administrator, U.S. Environmental Protection Agency (40 CFR §141.2).
Water main	A pipe that conveys water to a connector or customer's service line. In residential areas, it is usually located underground.[2]
Water meter	An instrument, mechanical or electronic, used for recording the quantity of water passing through a particular pipeline or outlet.[2]

Notes:

[1] Definitions without a regulatory citation are recommended definitions for use in this guidance document.

[2] Source: Seventh Drinking Water Infrastructure Needs Survey and Assessment: Lead Service Line Inventory for America's Water Infrastructure Act – State Survey Instruction (USEPA, 2021b).

[3] In 1986, Congress amended the Safe Drinking Water Act (SDWA), prohibiting the use of pipes, solder, or flux that were not "lead free" in public water systems or plumbing in facilities providing water for human consumption. See Appendix D: Summary of Lead Ban Provisions by State. At the time, "lead free" was defined as solder and flux with no more than 0.2 percent lead and pipes with no more than 8 percent. In 2011, Congress passed the Reduction of Lead in Drinking Water Act (RLDWA) that amended Section 1417 of SDWA and updated the definition for "lead free" as a weighted average of not more than 0.25 percent lead calculated across the wetted surfaces of a pipe, pipe fitting, plumbing fitting, and fixture and not containing more than 0.2 percent lead for solder and flux. On September 1, 2020, EPA published the final regulation "Use of Lead Free Pipes, Fittings, Fixtures, Solder, and Flux for Drinking Water" to make conforming changes to existing regulations based on the RLDWA. https://www.federalregister.gov/documents/2020/09/01/2020-16869/use-of-lead-free-pipes-fittings-fixtures-solder-and-flux-for-drinking-water

[4] Section 141.84(c) of the January 15, 2021 Lead and Copper Rule Revisions (LCRR) specifies the operating procedures for replacing lead goosenecks, pigtails, or connectors. The LCRR is under revision and all rule provisions except for the initial inventory requirements may be subject to change.

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Chapter 1: Introduction

This introductory chapter provides:

- The benefits of a comprehensive and accurate service line inventory (Section 1.1);
- The purpose of the guidance and its intended audience (Section 1.2);
- An overview of the inventory and related requirements of the January 15, 2021 Lead and Copper Rule Revisions (LCRR) and related requirements under the Lead and Copper Rule (LCR) (Section 1.3); and
- A brief discussion of how the remainder of the guidance is organized (Section 1.4).

1.1 The Benefits of a Comprehensive and Accurate Inventory

Service line inventories are the foundation from which water systems take action to address a significant source of lead in drinking water – lead service lines (LSLs). Establishing an inventory of service line materials and identifying the location of LSLs is a key step in getting them replaced and protecting public health. Lead service line replacement (LSLR) is not dependent on knowing the location of all LSLs; in fact, simultaneously developing an inventory while conducting LSLR can have many benefits. For example, systems can save costs by replacing LSLs when crews find them onsite during service line investigations. Systems can also leverage the opportunity for LSLR by seeking customer consent and private property access during service line investigation. Replacing LSLs in a safe and prompt manner while crews are in the field for inventory development provides an opportunity for public health benefits for consumers by more quickly eliminating this potential source of lead exposure from drinking water.

> Given the many benefits of LSLR, EPA encourages water systems to begin LSLR as soon as possible, regardless of the stage of their inventory development.

Congress recognized the importance of LSLR when it appropriated supplemental Drinking Water State Revolving Fund (DWSRF) funding as part of the 2021 Bipartisan Infrastructure Law (BIL) (P.L. 117-58). The BIL contains a historic $15 billion in dedicated funding through the DWSRF for LSL identification and replacement. This funding is being provided to states with no match requirement. The BIL also provided $11.7 billion over five years to enhance DWSRF base funding. EPA is collaborating with state DWSRF programs to share models, guidance, and build state capacity to assist local communities and ensure LSL funding is effectively and equitably deployed (USEPA, 2022). DWSRF BIL LSLR funding, DWSRF BIL General Supplemental funding, and base appropriations for the DWSRF can all be used for LSL identification, such as service line material classification and validation, and replacement. The new resources available under BIL, in particular, provide a tremendous opportunity to make rapid progress on permanently removing a significant source of lead in drinking water and achieving major improvements in public health.

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For the DWSRF, 49 percent of the DWSRF funding must be provided to disadvantaged communities. Other federal programs also have available funding available for LSLR and related technical assistance.[1]

A comprehensive and accurate inventory has many additional benefits beyond regulatory compliance. Inventorying service line material permits notification to consumers about potential lead risks affecting them, which can facilitate customer actions to reduce lead in drinking water, including flushing, use of filters certified to reduce lead, and customer-initiated LSLR. Inventories allow water systems to publicly track their progress on LSL identification and replacement, engaging the community and enhancing transparency. Inventories can also help water systems and consumers determine the source of high lead levels in drinking water at a home or building and the possible solutions for reducing exposure. Water systems with inventory information can also proactively mitigate lead exposure caused by disturbances of a lead or galvanized requiring replacement (GRR) service line, for example, during street construction. Inventories can also make LSLR programs more efficient. Even incomplete inventories may create cost-saving opportunities for water systems by better targeting locations served by LSLs, stretching the value of internal or external funding that water systems receive, such as from the BIL. In addition, service line inventories can help inform decisions for other drinking water rules and could inform future needs surveys and potential future costs.

1.2 Purpose and Audience

The purpose of this document is to guide water systems as they develop and maintain service line inventories and to provide states with needed information for oversight and reporting to EPA. The guidance contained in this document can also position water systems to begin replacing LSLs as soon as possible. Locating LSLs is the first and critical step to replacing them; however, water systems do not need to complete the entire inventory process before designing and implementing their LSLR programs.

This guidance covers the lifecycle of the inventory, including inventory creation, material investigations, system reporting, state review, public accessibility of service line information, and service line consumer notification. In addition, the guidance provides best practices, case studies, and templates related to topics such as the classification of unknowns, goosenecks, and galvanized plumbing; best practices for service line material investigations; inventory form and format; inventory accessibility; tools to support inventory development and data tracking; and ways to prioritize service line investigations.

[1] Additional information is available at https://www.epa.gov/ground-water-and-drinking-water/funding-lead-service-line-replacement.

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The practices surrounding service line material inventories are rapidly evolving as water systems create their inventories and improve them over time. Additionally, emerging research on service line identification methods is ongoing. Given the potential for new, relevant information to become available, EPA anticipates that future updates to the guidance are possible. In addition, although EPA anticipates this guidance will be useful for water systems of all sizes, EPA intends to develop an additional tailored guidance for small community water systems (CWSs) and non-transient non-community water systems (NTNCWSs).

1.3 Overview of Regulatory Requirements and LCRR Review

Section 1.3.1 provides an overview of the initial inventory requirements specified in the January 15, 2021 LCRR. Section 1.3.2 provides information on EPA's review of the LCRR and plans to develop the Lead and Copper Rule Improvements (LCRI). Section 1.3.3 discusses inventory-related regulatory requirements under the LCR.

1.3.1 Overview of the LCRR Inventory Requirements

EPA published the LCRR in the *Federal Register* on January 15, 2021 (USEPA, 2021c). It applies to all CWSs and NTNCWSs. The initial inventory requirements of the LCRR specify:

- Information that water systems must include in their service line inventory,
- When water systems must submit their initial inventories to their primacy agency[2],
- Requirements for water systems to make their information publicly accessible and to notify all persons served by the water system at the service connection with a lead, GRR, or lead status unknown service line, and
- Reporting requirements for states.

*Note that this guidance addresses **inventory** requirements of the LCRR only. All LCRR requirements aside from the initial inventory are subject to change under the LCRI. See Section 1.3.2 for discussion.*

Exhibit 1-1 provides a summary of these requirements with the relevant LCRR citations and the section(s) in this guidance with additional information. Note that Exhibit 1-1 includes only the LCRR initial inventory requirements that EPA stated would be retained for the LCRI. The LCRR contains additional requirements that may be subject to change under the LCRI and are therefore not included in the exhibit below.

[2] EPA delegates primacy, which is primary enforcement responsibility to implement SDWA's Public Water System Supervision Program, for public water systems to states, territories, and Indian tribes if they meet special requirements. Throughout this guidance, the terms "state" or "states" are used to refer to all types of primacy agencies including U.S. territories, Indian tribes, and EPA Regions.

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Exhibit 1-1: LCRR Inventory Requirements

Inventory Requirement	40 CFR Citation	Information Provided in:
WATER SYSTEM REQUIREMENTS		
Inventory Specifications		
Material Classification: Classify each service line or portion of the service line where ownership is split as lead, galvanized requiring replacement, non-lead, or lead status unknown.	§141.84(a)(4)	Section 2.1
All service lines and ownership: Prepare an inventory that includes the system- and customer-owned portions of all service lines in the system's distribution system.	§141.84(a), (a)(2)	Section 2.2
Information to Identify Material: Use previous materials evaluation, construction and plumbing codes/records, water system records, distribution system inspections and records, information obtained through normal operations, and state-specified information.	§141.84(a)(3), (a)(5)	Sections 3.4 & Chapter 4
Deadlines for Submission		
Initial Inventory: Submit an initial inventory or demonstrate the absence of LSLs by October 16, 2024.	§141.80(a)(3)[1]	Section 1.3.2 & Section 6.4
Updates to Primacy Agency: Submit updated inventories to the primacy agencies annually or triennially based on lead tap sampling frequency, but not more frequently than annually Water systems that have demonstrated the absence of LSLs by October 16, 2024 are not required to provide an update. However, if these systems subsequently find any LSL or galvanized requiring replacement service line, they have 30 days to notify the state and prepare an updated inventory on a schedule established by the state.	§141.90(e)(3), §141.90(e)(3)(ii)	Sections 6.3 & 6.6
Public Accessibility and Consumer Confidence Report		
Public Accessibility: Make the inventory publicly available and include a locational identifier for LSLs and galvanized requiring replacement. Water systems serving more than 50,000 people must provide inventories online.	§141.84(a)(8)	Section 2.3 & Chapter 7

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Inventory Requirement	40 CFR Citation	Information Provided in:
Consumer Confidence Report (applies to CWSs only): • **CWSs with LSLs**: Indicate how the public can access the service line inventory information. • **CWSs with only non-lead service lines:** Provide a statement there are no LSLs and how to access the service line inventory (or a statement in lieu of the publicly accessible inventory with a description of methods used to make this determination in 40 CFR §141.84(a)(9)).	§141.84(a)(9), §141.153(d)(4)(xi)	Section 7.4
Service Line Consumer Notification		
Provide notification to persons served by the water system at the service connection with an LSL, GRR, or lead status unknown service line. Materials must be in appropriate languages if the water system serves communities with a large proportion of non-English speaking consumers, as determined by the state. **Timing:** Notification within 30 days after completing of initial inventory and repeated annually until only non-lead remains. For new customers, water systems must also provide this notice at the time of service initiation. **Content:** Statement about service line material, lead health effects, and steps to minimize lead exposure in drinking water. If: • Confirmed LSL, must include opportunities to replace the LSL, any available financing programs, and statement that the system must replace its portion if property owners notify the system they are replacing their portion. • GRR, must also include opportunities for service line replacement. • Lead status unknown, must also include opportunities to verify the material of the service line. **Delivery:** By mail or by another method approved by the state. **Reporting to states:** Demonstrate that the water system delivered the notification and provide a copy of the notification and information materials to their states annually by July 1 for the previous calendar year.	§141.85(a)(1)(ii), §141.85(e) & §141.90(f)(4)	Section 6.5

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Inventory Requirement	40 CFR Citation	Information Provided in:
STATE REPORTING		
Reporting to EPA: For each water system, the number of lead, galvanized requiring replacement, and lead status unknown service lines in its distribution system, reported separately.	§142.15(c)(4)(iii)(D)	EPA will include additional details in the data entry instructions guidance for the LCRR.
Special Primacy: The LCRR specifies special primacy requirements for states to adopt in 40 CFR §142.16(d)(5) that include: (1) providing or requiring the review of any resource, information, or identification method for the development of the initial inventory or inventory updates, and (2) requiring water systems whose inventories contain only non-lead service lines and the water system subsequently finds an LSL to prepare an updated inventory on a schedule determined by the state.	§142.16(d)(5)	Chapters 4 – 6 EPA plans to include additional information in a separate state implementation guidance.

Notes:

[1] On June 16, 2021, EPA published a rule to extend the compliance date from January 16, 2024 to October 16, 2024 (40 CFR §141.90(e)(1), USEPA, 2021d).

Note that this guidance uses the terms "system-owned" and "customer-owned" because they are consistent with the LCRR language. EPA recognizes that states and systems may use other terms to describe ownership status such as "public" and "private" or other terms besides "ownership" to describe the division of responsibility between the water system and the customer. EPA recommends water systems using different terminology to provide clear explanations of those terms to the state and the public.

States may have laws or regulations for initial service line inventories that are ***more stringent*** *than federal requirements. For the most accurate and up-to-date requirements, systems should reach out to their state primacy agencies.*

1.3.2 Outcome of EPA Review of the LCRR

On June 16, 2021, EPA published the agency's decision to delay the effective and compliance dates of the LCRR, published on January 15, 2021. The effective date was extended from March 16, 2021 to December 16, 2021, while the compliance date was extended from January 16, 2024 to October 16, 2024 to ensure drinking water systems and primacy states continued to have the full three years provided by the Safe Drinking Water Act to take actions needed for regulatory compliance. They delay allowed time for EPA to review the LCRR in accordance with Presidential

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directives issued on January 20, 2021, to the heads of federal agencies to review certain regulations and conduct important consultations with affected parties (USEPA, 2021d). The agency's review included a series of virtual public engagements to hear directly from a diverse set of stakeholders.

EPA published the outcome of its review on December 17, 2021. The review stated that EPA actions to protect the public from lead in drinking water should consider the following priority areas for improvements: replacing 100 percent of LSLs is an urgently needed action to protect all Americans from the most significant source of lead in drinking water systems; equitably improving public health protection for those who cannot afford to replace the customer-owned portions of their LSLs; improving the methods to identify LSLs and trigger action in communities that are most at risk of elevated drinking water lead levels; and exploring ways to reduce the complexity of the regulations. In the notice, EPA explained it would also consider changes to other areas of the rule to equitably improve health protections and improve implementation of the rule to ensure that it prevents adverse health effects of lead to the extent feasible (USEPA, 2021a). This could include changes to the requirements applicable to the inventory updates.

To achieve these policy objectives, EPA announced its decision to proceed with a proposed rule that would revise the LCRR while allowing the January 2021 rule to take effect. Through the LCRI, EPA stated that it does not expect to propose changes related to the initial service line inventory requirements because continued progress to identify LSLs is integral to lead reduction efforts regardless of potential revisions to the rule. The LCRR effective date is December 16, 2021, and the compliance date is October 16, 2024. In the review notice, EPA also highlighted non-regulatory actions that EPA and other federal agencies can take to reduce exposure to lead in drinking water.

1.3.3 Related Requirements under the LCR

As mentioned in the previous section, EPA reviewed the requirements in the LCRR and published its intent to revise the rule with the exception of the initial inventory requirements (USEPA, 2021a). Thus, this document focuses on guidance related to the LCRR initial inventory requirements, while also including general best practices applicable to the later stages of the inventory lifecycle.

This section describes existing LCR requirements that rely on service line inventory information and provides recommendations on how these requirements can be supported by initial inventory efforts. Water systems must comply with the requirements of the LCR (40 CFR §§141.80-141.91 as codified on July 1, 2020) between December 16, 2021 and October 16, 2024 (40 CFR §141.80(a)(3)).

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Inventory-Related Requirements in the Event of Action Level Exceedance

Under the LCR (40 CFR §141.84(b)), systems subject to LSLR requirements[3] must replace annually at least seven percent of the initial number of LSLs in their distribution system. The initial number of LSLs is the number of lead lines in place at the time the replacement program begins. Water systems must identify the initial number of LSLs in their distribution system under this requirement. EPA recommends that systems use information gathered for the initial inventory under the LCRR to help identify the required initial number of LSLs.

How the Inventory Relates to the Tap Monitoring Requirements

Required lead and copper tap monitoring under the LCR is based on a tiering system for prioritizing sample sites (40 CFR § 141.86(a)). Single family homes with LSLs are in the highest tier (*i.e.*, Tier 1), meaning systems should prioritize these locations for lead and copper tap monitoring. Systems may gather more information on the location of LSLs under their initial inventory efforts.

1.4 Document Organization

The remainder of this document is organized as follows:

- **Chapter 2: Elements of the Inventory** includes information that must be included in the service line inventory to meet LCRR requirements as well as additional information EPA recommends that water systems consider tracking in their inventory.
- **Chapter 3: Inventory Planning** includes approaches for developing an inventory, considerations for choosing an inventory format, procedures for collecting information during normal operation, and guidelines for developing partnerships with third parties.
- **Chapter 4: Historical Records Review** summarizes the rule requirements for reviewing historical records and provides additional recommendations on how the various types of historical records can be used and where to find them.
- **Chapter 5: Service Line Investigation Methods** summarizes and compares service line identification methods, including visual inspection, water quality sampling, excavation, statistical data analyses, and emerging methods.
- **Chapter 6: Developing and Updating the Inventory** provides recommendations for classifying service line materials, planning for proactive investigations, submitting the initial inventory, and inventory updates. It includes requirements and recommendations specific to systems with no LSLs and provides guidance to states related to inventory

[3] Under the LCR, systems that exceeded the lead action level of 15 µg/L based on their 90th percentile sample result after installing corrosion control and/or source water treatment (whichever sampling occurred later) are required to replace 7 percent of their LSLs annually until they no longer exceeded the lead action level for two consecutive monitoring periods (40 CFR §141.84(a)).

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review and reporting. This chapter also contains requirements and recommendations for notifying customers with LSLs, GRR, or unknown service lines.

- **Chapter 7: Public Accessibility** includes LCRR requirements for water systems to make their inventory publicly accessible and provides suggestions for inventory content and effective presentation, promoting public input, considerations for states, and Consumer Confidence Report inventory-related requirements.
- **Chapter 8: References** provides a full list of references that were used in the development of this document.

This guidance also includes key points to remember at the end of Chapters 1 through 7. In addition, these chapters are supported by the following appendices:

- **Appendix A** provides blank forms from EPA's Service Line Inventory Template, which is a companion tool to help water systems and states comply with the LCRR service line inventory requirements. The blank forms can be used for documenting inventory methods and an inventory summary. The appendix also contains a blank form for the state review checklist.
- **Appendix B** includes case studies for three water systems that have begun developing their service line inventories.
- **Appendix C** includes example instructions on how customers can identify their service line materials and example customer materials when the water system conducts the material service line verification of the customer-owned portion.
- **Appendix D** provides a summary of 1986 SDWA lead ban provisions by state.
- **Appendix E** includes Michigan's Minimum Service Line Verification Requirements.
- **Appendix F** includes examples of data quality disclaimers regarding the accuracy of the inventory provided to the public.

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Key Points to Remember

LCRR Requirements

- All CWSs and NTNCWSs must develop an inventory of service lines that meets the LCRR requirements, including service line materials classification, information sources, and public accessibility (40 CFR § 141.84(a)).
- Water systems must submit their initial inventories to their state by October 16, 2024 (40 CFR § 141.84(a)(1)) and 141.90(e)(1)).
- All CWSs and NTNCWSs must notify all persons served by the water system at the service connection with a lead, GRR, or lead status unknown service line within 30 days of completing their service line inventory (40 CFR § 141.85(e)).
- All LCRR requirements other than the initial inventory requirements are subject to change under the LCRI.

Recommendations (Not Required under the LCRR)

- Water systems should not wait until their inventories are complete to begin conducting LSLR. Replacing LSLs while developing the inventory may create synergies or introduce opportunities for cost-savings.
- This guidance covers the lifecycle of the inventory, including inventory creation, inventory updates, material investigations, system reporting, state review, and public accessibility of service line information. The inventory is based on the best available data and should improve over time with updated information.
- States may have passed laws or regulations for a service line inventory that are more stringent than the federal inventory requirements.
- For water systems, a comprehensive and accurate service line inventory will facilitate LCRR compliance, improve LSLR program efficiency, provide greater public health protection, potentially assist in obtaining external funds for inventory development and LSLR, and provide potential cost savings.
- For states, a robust inventory will provide information for oversight and reporting.

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Chapter 2: Elements of the Inventory

This chapter contains the required elements of the service line inventory based on the January 15, 2021 Lead and Copper Rule Revisions (LCRR) (USEPA, 2021c) and is organized as follows:

- Section 2.1 presents requirements and recommendations for materials classification for service lines and other related infrastructure,
- Section 2.2 presents requirements and recommendations for what to include in the inventory,
- Section 2.3 includes a discussion of location identifiers for service lines, and
- Section 2.4 provides other suggested service line information for inclusion in the inventory.

2.1 Inventory Materials Classifications

This section summarizes the required service line material classifications and presents additional classifications and subclassifications for states and water systems to consider.

2.1.1 Required Service Line Inventory Material Classifications

Under the LCRR, the inventory must use one of the following four material classifications to describe the entire service line, including separate material classifications for the water system-owned and customer-owned portions of each service line where ownership is split:

- Lead
- Galvanized requiring replacement (GRR)
- Non-lead (or the actual material, such as copper or plastic)
- Lead status unknown service lines (or unknown)[4]

Exhibit 2-1 provides the required criteria for assigning each of the four material classifications and additional information that may be helpful to states and water systems.

[4] This guidance document uses the term lead status unknown interchangeably with unknown.

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Exhibit 2-1: Required Inventory Materials Classifications

Material Classification	Use This Classification If:
Lead	The service line is made of lead (40 CFR §141.84(a)(4)(i)). ***Keep in Mind***: • The LCRR updates the definition of a lead service line (LSL) as "a portion of pipe that is made of lead, which connects the water main to the building inlet" (40 CFR §141.2). • If the only lead pipe serving the building is a lead gooseneck, pigtail, or connector[1], the service line is **not** considered an LSL under the initial inventory requirements of the LCRR. EPA recommends that the system track the material of all components that potentially contain lead, including connectors.[2]
Galvanized Requiring Replacement (GRR)	The galvanized service line is or ever was at any time downstream of an LSL or is currently downstream of a lead status unknown service line. If the water system is unable to demonstrate that the galvanized service line was never downstream of an LSL, it must presume there was an upstream LSL (40 CFR §141.84(a)(4)(ii)). ***Keep in Mind***: • Galvanized service lines that are or ever were downstream from an LSL can adsorb lead and contribute to lead in drinking water. • An example of a GRR service line is when the customer-owned portion from the meter to the building is galvanized, and the system-owned portion from the water main to the meter was previously lead but has been replaced. The customer-owned portion of the service line would be GRR. • Under the initial inventory requirements of the LCRR, a galvanized service line that was never downstream of an LSL but is downstream or previously downstream of a lead gooseneck, pigtail, or connector is not considered GRR. However, systems should check with their states if they have more stringent requirements.
Non-Lead	The service line is determined through an evidence-based record, method, or technique that it is not lead or GRR (40 CFR §141.84(a)(4)(iii)). ***Keep in Mind***: • If a system can demonstrate that a galvanized service line was never downstream of an LSL, it may be classified as non-lead. • The water system may classify the actual material of the service line (for example, galvanized, plastic, or copper) as an alternative to classifying it as non-lead. • The term "non-lead" refers to the service line material only and does not include other potential lead sources present in solder, connectors, and other plumbing materials.

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Material Classification	Use This Classification If:
Lead Status Unknown	The service line material is not known to be a lead, GRR, or non-LSL, such as where there is no documented evidence supporting material classification (40 CFR §141.84(a)(4)(iv)). ***Keep in Mind***: • Water systems have the option to use the terminology of unknown instead of lead status unknown service line (40 CFR §141.84(a)(4)(iv)). • Water systems may elect to provide more information regarding their unknown lines as long as the inventory clearly distinguishes unknown service lines from those where the material has been determined through records or inspections (40 CFR §141.84(a)(4)(iv)).

Note:

[1] A lead gooseneck, pigtail, or connector is defined as "a short section of piping, typically not exceeding two feet, which can be bent and used for connections between rigid service piping" (40 CFR §141.2).

[2] Some states include lead connectors in their definition of an LSL. In these instances, the state requirements are more stringent than the LCRR and water systems must follow these requirements.

Exhibit 2-2 is a diagram of a possible division in service line ownership (or responsibility) between the customer and water utility in which the system-owned portion of the service line is from the water main to the curb stop and the customer-owned portion is from the curb stop to the water meter. For some systems, the delineation may be different, (*e.g.*, the ownership or responsibility distinction is at the water meter or property line). In other instances, the water system may share ownership with customers, or the water system or customer may have sole ownership of the service line. Note that ownership of the property on which the service line is located does not always equate to ownership or responsibility of the service line.

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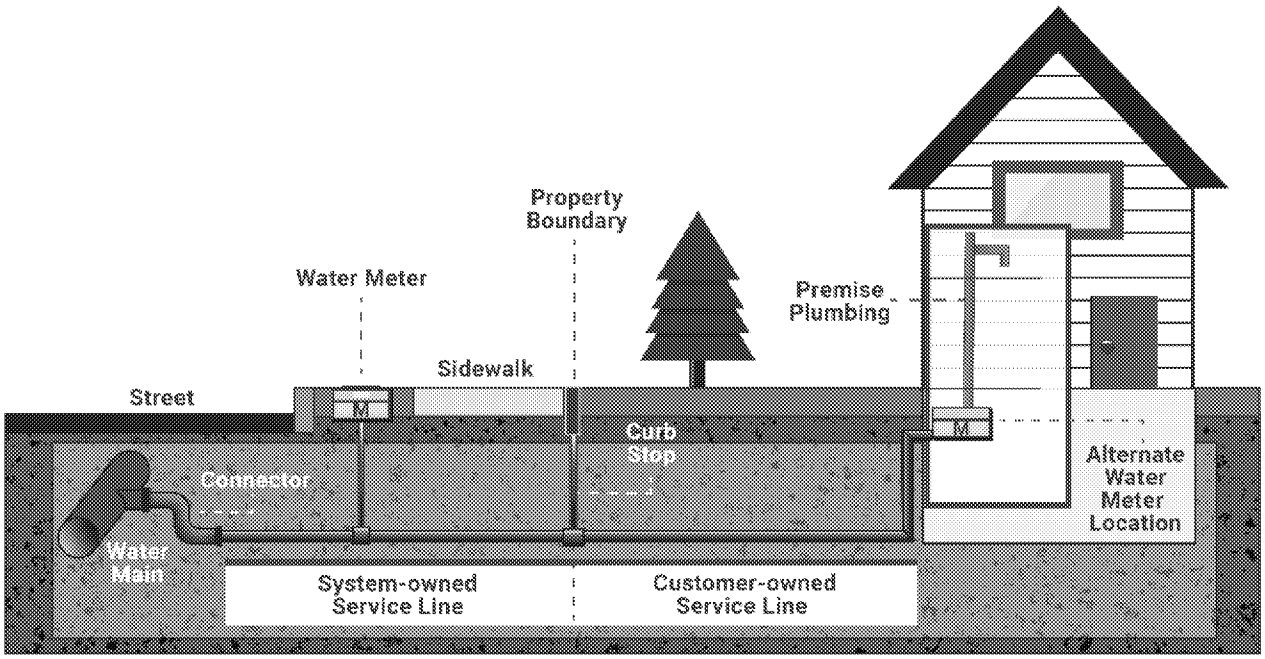
Exhibit 2-2: Example of Service Line Ownership Distinction between the Water System and Customer



While the LCRR requires the inventory to categorize each service line or portions of the service line where ownership is split, a single classification per service line is also needed to support various LCRR requirements, such as lead service line replacement (LSLR), tap sampling, and risk mitigation. Systems should follow these guidelines to comply with the LCRR requirements when classifying the entire service line when ownership is split:

- Service line is lead if either portion is a lead service line (LSL) (40 CFR §141.84(a)(4)(i)).
- Service line is GRR if the downstream portion is galvanized and the upstream portion is unknown or currently non-lead, but the system is unable to demonstrate that it was never previously lead (40 CFR §141.84(a)(4)(ii)).
- Service line is lead status unknown if both portions are unknown, or one portion is non-lead and one portion is unknown (40 CFR §141.84(a)(4)(iv)).
- Service line is non-lead only if both portions meet the definition of non-lead (40 CFR §141.84(a)(4)(ii)).

EPA recognizes that some segments of the system- or customer-owned service lines could be made of more than one material. EPA recommends that systems follow the guidelines above to classify the system-owned or customer-owned portion in these cases. Exhibit 2-3 provides

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examples for classifying the entire service line for various system-owned and customer-owned material combinations.

Exhibit 2-3: Classifying Service Line Materials When Ownership is Split According to the LCRR 40 CFR §141.84(a)(4)

System-Owned Portion	Customer-Owned Portion	Classification for Entire Service Line
Lead	Lead	Lead
Lead	Galvanized Requiring Replacement	Lead
Lead	Non-lead	Lead
Lead	Lead Status Unknown	Lead
Non-lead	Lead	Lead
Non-lead and never previously lead	Non-lead, specifically galvanized pipe material	Non-lead
Non-lead	Non-lead, material other than galvanized	Non-lead
Non-lead	Lead Status Unknown	Lead Status Unknown
Non-lead, but system is unable to demonstrate it was not previously Lead	Galvanized Requiring Replacement	Galvanized Requiring Replacement
Lead Status Unknown	Lead	Lead
Lead Status Unknown	Galvanized Requiring Replacement	Galvanized Requiring Replacement
Lead Status Unknown	Non-lead	Lead Status Unknown
Lead Status Unknown	Lead Status Unknown	Lead Status Unknown

If the only lead pipe serving a building is a lead gooseneck, pigtail, or other connector (*i.e.,* a non-LSL attached to a lead connector), then the line should not be designated as an LSL in the initial service line inventory required under the LCRR. The line may be required to be identified separately by the state. In addition, as will be discussed in more detail in Section 2.1.3, EPA recommends water systems identify the lines with only these components separately in their inventory. Also note that service material classifications can change over time as the system gathers more information and updates the inventory.

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2.1.2 Recommended Subclassifications and Additional Information (Not Required Under LCRR)

Water systems may also consider going beyond the requirements of the LCRR by subclassifying service line materials and tracking additional information. These subclassifications are discussed below and can provide additional information not only to help facilitate material classification, but also to inform the public about service lines in their homes and community.

Recommended Subclassifications

A Lead Status Unknown's "LSL Likelihood." Some water systems have incorporated additional information that indicates the probable material of an unknown service line, such as an "LSL Likelihood." For example, Flint, Michigan, categorized unknowns as low likelihood of lead, medium likelihood of lead, and high likelihood of lead (see their online map showing these subclassifications[5]). Systems using predictive models may also assign numerical probabilities to unknowns representing the probability they are LSLs.

Systems could rely on historical records described in Chapter 4, service line material investigations described in Chapter 5, and the methodology described in Section 6.1 to determine various subclassifications of unknown service lines. For example, if an individual service line material is unknown but was installed when lead was not commonly used in the system based on interviews with experienced system staff and plumbers, the system could consider subclassifying the service line as "Unknown- Unlikely Lead" or a similar designation. If the system has confirmed service line materials in a representative number of locations in a neighborhood to be lead, it could consider subclassifying the remaining unknown service lines in the neighborhood as "Unknown- Likely Lead" or a similar designation until its material can be investigated.

Although systems are not required to track this information or include it in their publicly accessible inventories or submittals to the state, internally tracking this information could help focus proactive inventory investigations and LSLR efforts. If subclassifications are made available to the public, EPA recommends that water systems clearly communicate this information to the public by providing easy-to-understand definitions for each subclassification and explaining how the subclassifications were determined.

GRR Known or Unknown to have been Downstream of an LSL. EPA recommends that systems that identify GRR service lines, as defined in Section 2.1.1, consider tracking and differentiating these lines into subclassifications to indicate if: 1) the galvanized pipe is known to be currently downstream of an LSL, 2) if the galvanized pipe was previously downstream of an LSL, or 3) the system is unable to demonstrate that the galvanized service line was never downstream of an LSL. This information could be used for many purposes, such as informing an LSLR prioritization

[5] https://flintpipemap.org/map. Accessed December 8, 2021.

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approach or serving as an input for a predictive model. The system could also consider subclassifying galvanized service lines that are or were downstream of a lead gooseneck, pigtail, or connector.

Lead-lined Galvanized Pipes. EPA is aware of the existence of lead-lined galvanized service lines but found limited information indicating their prevalence[6]. A lead-lined galvanized service line is consistent with the definition of an LSL under the LCRR ("a portion of pipe that is made of lead, which connects the water main to the building inlet") (40 CFR §141.2) and must therefore be classified in the inventory as an LSL. These lines would be subject to the same LCRR requirements as other LSLs in the inventory, such as LSLR, public education, tap sample tiering, and risk mitigation. Inventorying these types of lines will be more straightforward where water systems have records of their known or likely use. Given that these pipes may appear to be non-lead on the exterior, attempts to identify their material by visual observation or excavation may not reveal an interior lead lining. EPA recommends that water systems consider any available information that indicates where (if ever) lead-lined galvanized pipes were used in the system, along with approaches such as service line sampling, to populate the inventory with these types of connections.

Actual Material for Non-lead. The LCRR states that water systems may classify the actual material of the service line (*e.g.*, galvanized, plastic, or copper) as an alternative to classifying it as non-lead (40 CFR §141.84(a)(4)(iii)). If states and systems wish to classify these lines as non-lead, EPA encourages water systems to track the actual materials as additional information internally and/or as part of the publicly accessible inventory. Including these classifications could improve system asset management and better inform a statistical model, if used.

2.1.3 Recommendations for Other Drinking Water Infrastructure

EPA encourages water systems to include information on lead-containing infrastructure in their inventories, including:

- **Goosenecks, Pigtails, and Connectors**: EPA encourages water systems to identify the location and material of goosenecks and pigtails (connectors) and to include this information in their inventories. This would allow water systems to track and manage this potential source of lead, improve asset management, and increase transparency with customers. This could also help water systems identify where lead connectors are or were previously upstream of galvanized pipe and to manage this additional potential source of lead in their system. As previously discussed, lead from an upstream source can adsorb onto the galvanized pipe over time. The LCRR requires that when lead connectors

[6] http://sedimentaryores.net/Pipe%20Scales/Fe%20scales/Galvanized_lead-lined.html. Accessed December 6, 2021.

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are encountered, they be removed or disconnected.[7] In addition, funding sources, such as the Drinking Water State Revolving Fund (DWSRF), Bipartisan Infrastructure Law (BIL), and Water Infrastructure Improvements for Nations Act (WIIN), can be used to pay for lead connector removal and replacement.

Note that systems must follow any state requirements that are more stringent than the LCRR for these materials. For example, Michigan includes lead connectors in their definition of an LSL (Michigan EGLE, 2018). California requires water systems to include in their inventory lead fittings on a non-lead pipe, lead fittings on a lead pipe, and fittings of unknown material (ASDWA, 2019).

- **Lead Solder:** EPA recommends that water systems track the presence of lead solder in the service line or premise plumbing, such as after encountering information indicating their presence in records or if seen during system inspections or maintenance. Tracking the presence of lead solder in the service line improves system asset management and can inform future actions for reduction of lead sources in drinking water. In addition, knowing locations with lead solder in premise plumbing can help identify tap monitoring locations under the Lead and Copper Rule (LCR) and LCRR.
- **Fittings and Equipment Connected to the Service Line:** Devices such as curb stops and meters may be made of older brass that pre-date the effective date for the Reduction of Lead in Drinking Water Act (January 4, 2014). These devices may not meet the revised lowered lead-free standard[8] and could contribute to lead exposure (Sandvig et al., 2008). EPA recommends water systems consider tracking these devices if information is available.

2.2 Include All Service Lines Regardless of Ownership Status and Intended Use

2.2.1 Required under the LCRR

All community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) must prepare an inventory of **all service lines** connected to the public water distribution system, regardless of ownership status (40 CFR §141.84(a)(2)). This means that any service line connected to the public water system, even where the water system owns no portion of the service line, must be included in the inventory. In those instances where ownership is split, the inventory must include both the system-owned and customer-owned portions of the service line. Water systems must internally track address locations of each service line and their

[7] The LCRR is under revision and all rule provisions except for the initial inventory requirements may be subject to change.

[8] In 2011, Congress passed the Reduction of Lead in Drinking Water Act that amended Section 1417 of the Safe Drinking Water Act (SDWA) and established an updated definition for "lead free" as a weighted average of not more than 0.25 percent lead calculated across the wetted surfaces of a pipe, pipe fitting, plumbing fitting, and fixture and not containing more than 0.2 percent lead for solder and flux.

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respective material classification (40 CFR §141.84(a)). Where a single service line serves multiple units in the same building, the water system may choose to exclude unit numbers from the address. Note that unit numbers may be required to comply with other LCRR requirements, such as the notification requirements of 40 CFR §141.84(d) and 40 CFR §141.85(e). Because LSLs were generally not constructed with an interior diameter over two inches, they will typically be connected to single family homes or buildings with a limited number of units.

Note that some CWSs and NTNCWSs may not have an extensive distribution system, such as those with a direct connection from a well to a single building. Systems must report the material from the well to the building inlet for their inventory. EPA intends to develop a separate guidance that is tailored to small CWSs and NTNCWSs.

Systems must include all service lines (40 CFR 141.84(a)(2)), regardless of the actual or intended use. These include, for example, service lines with non-potable applications such as fire suppression or those designated for emergency. These service lines could be repurposed in the future for a potable or non-emergency use. Water systems must include in their inventory service lines connected to vacant or abandoned buildings, even if they are unoccupied and the water service is turned off.

2.2.2 Recommendations (Not Required under the LCRR)

Documentation that Describes System and Customer Responsibility or Ownership

As a best practice, where service line ownership or responsibility is divided between the customer and the system, water systems may want to include with their inventory relevant information that describes how ownership or responsibility is divided. Examples could include local ordinances or local water utility tariff agreements or state laws or regulations. This information may be helpful to provide to customers who have questions about how the responsibility for the service line is divided as well as the utility's authority to access and maintain the portion of the service line that is located on the customer's property.

> ***Remember:*** *States and systems may use other terms to describe ownership status such as "public" and "private" or other terms besides "ownership" to describe the division of responsibility between the water system and the customer. Systems should include clear definitions in their publicly accessible inventory.*

Recommended Procedures for Service Lines of Vacant or Abandoned Buildings

Water systems could have service lines that connect to vacant or abandoned homes or buildings that must be included in their inventory even if they are unoccupied and the water service is

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turned off. EPA recommends water systems have procedures in place for managing the service lines for these structures. For example, water systems could consider:

- Prioritizing occupied homes for service material investigation or replacement to achieve a greater lead exposure reduction from their overall program, provided that the water is turned off at the vacant or unoccupied structure.
- Investigating these structures' service lines if they are doing maintenance or construction work in the area.
- Identifying service material before service is restored, or not reconnecting LSLs on previously vacant homes or buildings (or new construction built after demolition).
- Using the transfer of property as an opportunity for service line identification or LSLR.

2.3 Location Identifiers

This section describes the LCRR requirements for providing location identifiers for LSLs and GRRs in the publicly available inventory as well as suggested identifier information.

2.3.1 Required under the LCRR

Water systems must make a service line inventory publicly available (40 CFR §141.84(a)(8)) that includes a location identifier for any lead or GRR service lines, such as a street address, intersection, or landmark (40 CFR §141.84(a)(8)(i)). The LCRR does not require water systems to make an inventory with the exact street addresses publicly available. Some local or state privacy laws may prohibit the publication of address-level information. The water system has flexibility to determine which location identifier best meets the needs of its own community. If the street address is not used, systems must use a meaningful location identifier. The location identifier could be, for example, a block, intersection, landmark, GPS coordinates, emergency 911 address for systems in rural areas, or an alternate indicator (such as water meter location). Regardless of which identifier the water system chooses, it must not be so overly broad (*e.g.*, census tract or zip code) that the public could not adequately track general LSL locations or where the system is making progress in replacing LSLs.

2.3.2 Recommendations (Not Required under the LCRR)

Include a Location Identifier for All Service Line Materials. Water systems are not required to make a location identifier for lead status unknown service lines or non-lead service lines publicly available. However, EPA suggests, as a best practice, systems publish locations of all service lines for the greatest transparency and relevant information for its customers.

Consider Publishing Street Addresses. Although EPA determined in the LCRR that a federal requirement for a publicly accessible inventory that uses specific addresses is not necessary, EPA encourages states and water systems to consider including specific addresses in their publicly

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accessible inventory. Relevant factors states and water systems might consider include: underlying data quality, transparency and consumer awareness, simplification of inventory development and public communication, availability, impacts on replacement program participation, environmental justice concerns, state or local privacy laws or constitutional protections, and potential property value impacts (both positive and negative). EPA also suggests that systems that serve multiple municipalities include the city or town with the street address.

Include Additional Location Descriptors When Multiple Service Lines Serve the Same Address. Sometimes multiple service lines serve the same address (*e.g.*, hospital or apartment building). Water systems should consider adding additional descriptors that would allow each service line to be uniquely identified.

2.4 Other Recommended Service Line Characteristics

EPA recommends that water systems consider tracking additional service line characteristics, such as the information source(s) used to identify material for each service line, pipe diameter, and installation date. ***These are not LCRR requirements***, but tracking this information could benefit the water system, as discussed below.

Source(s) of information for each service line. This includes recording the source(s) of information used to identify the material of each service line. Refer to Chapter 4 and Chapter 5 for a description of possible sources. Tracking this information is valuable for systems to assess their confidence in the accuracy of an individual service line's material classification, evaluate the reliability of certain records or identification methods as a whole, and facilitate updates to the inventory in the future. This information can also assist states in reviewing the inventory.

Pipe diameter. As explained in Chapters 4 and 6 of this guidance, pipe diameter can be an important input to determining service material classification, considering that LSLs are often 2 inches or smaller in diameter. Tracking pipe diameter is important for asset management and can be useful for other information collection efforts such as the Drinking Water Infrastructure Needs Survey and Assessment (DWINSA). States may have their own requirements. For example, Wisconsin requires material reporting to their public service commission by diameter.[9]

Installation or replacement date. As detailed in Chapter 4 and Chapter 6, the date of service line construction or replacement can be an important input in screening for potential LSLs. This information should also be tracked for general asset management purposes. Where precise dates are not available, the year (*e.g.*, 1985) or estimated date range (1950-1960) of installation or replacement can be provided.

[9] See https://blogs.edf.org/health/2020/04/16/latest-wisconsin-data-on-water-service-lines-provides-important-insights-reveals-over-150000-lead-pipes/.

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Key Points to Remember

LCRR Requirements

- The inventory must include all service lines connected to the public water distribution system regardless of intended use (40 CFR §141.84(a)(2)). Lead connectors, gooseneck, and pigtails are not required to be included unless required by the state.
- The inventory must include information on both the system- and customer-owned portions where ownership is split (40 CFR §141.84(a)(4)).
- Service lines must be classified as lead, GRR, non-lead (or the actual material), or lead status unknown service lines (or unknown) (40 CFR §141.84(a)(4)).
- A classification of non-lead must be supported by evidence-based records, methods, or techniques to prove it is not lead or GRR (40 CFR §141.84(a)(4)(iii)).
- The water system must create and maintain an inventory that includes the exact address associated with each service line connected to the public water system. (40 CFR §141.84(a)).
- An inventory of lead and GRR service lines must be made publicly available, but the LCRR does not require the publicly available inventory to include the specific address of each lead and GRR service line. Systems may use a location identifier for any lead and GRR service lines (40 CFR §141.84(a)(8)(ii)).

Recommendations (Not Required under the LCRR)

- EPA encourages water systems to consider including street addresses, when available, as their location identifier for all service lines in its public-facing inventory. Identifiers should be significantly detailed to allow the identification of a specific service line.
- EPA encourages water systems to expand their inventories to include service line subclassifications, other plumbing components such as lead connectors, and other details such as source of information, pipe diameter, and installation date.

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Chapter 3: Inventory Planning

This chapter addresses planning steps that systems should consider when developing their inventory. This information is intended to be helpful for all systems, regardless of where they are in their inventory process. The chapter is organized as follows:

- Section 3.1 provides an introduction to the inventory development process,
- Section 3.2 includes considerations when identifying staff and resources needed for inventory development,
- Section 3.3 includes options and considerations for water systems in the selection of an inventory format,
- Section 3.4 provides recommendations for developing procedures for the collection of service line information, and
- Section 3.5 suggests partnering with third parties for assistance in obtaining information on service line materials.

3.1 Inventory Development Approach

As stated in Chapter 1, this guidance covers the lifecycle of the inventory, including inventory creation, material investigations, system reporting, state review, and public accessibility of service line information. As noted previously, water systems should not wait to replace lead service lines (LSLs) until they have identified the materials of all service lines. In fact, verification of service line materials during lead service line replacement (LSLR) could be part of a water system's strategy to continuously improve its inventory over time. Exhibit 3-1 provides a schematic of this inventory lifecycle.

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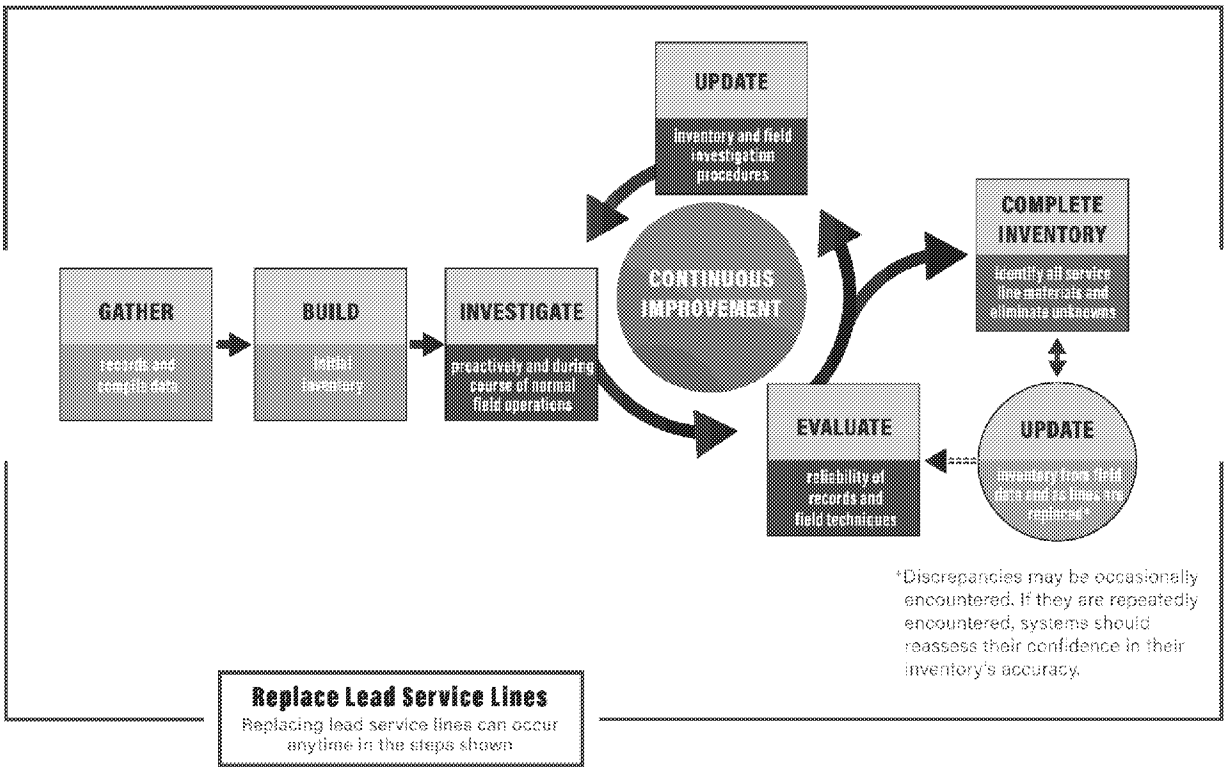
Exhibit 3-1: Inventory Lifecycle



Other best practice approaches for developing an inventory are available in the literature (Liggett et al., 2022; LSLR Collaborative, 2021; Hensley et al., 2021). No matter the specific approach and steps used, water systems should treat the inventory as a ***living dataset*** that is continuously improved over time as the inventory is updated. The number of unknowns in the inventory should decrease as systems gather new information through normal operation and any proactive material identification activities in which the water system is engaged. The water system should also gain confidence over time in the accuracy of the inventory as records or material identification methods are assessed. As a reminder, water systems should review state regulations and follow required steps that are more stringent than the Lead and Copper Rule Revisions (LCRR) when developing the initial inventory.

3.2 Identifying Staff and Resources

The level of effort needed to prepare an initial inventory is highly dependent on the size of the system, the availability of historical records, the format and condition of those records, LSL investigation methods chosen by the water system, and methods required and/or approved by the state (Liggett, 2021; Hensley et al., 2021; Liggett et al., 2022).

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When records are in paper format, large systems have hired temporary staff (*e.g.*, interns) to digitize the data. Liggett et al. (2022) notes that "staff requirements ranged from 2-3 full time employees working 6 days a week for 2 months to several employees working continuously from the start of their lead reduction program" based on a survey of 10 large water systems serving approximately 100,000 to 1.5 million people. All surveyed systems indicated that a significant allotment of staff was needed for at least an initial period. Where customers were engaged in the inventory process, water systems staff were needed to assist customers, gather information from customers, and in some cases verify the information (Liggett et al., 2022).

Interviews with experienced system staff and plumbers can be used to focus the inventory effort and verify utility practices (LSLR Collaborative, 2021; Bukhari et al., 2020). Experienced staff may also know where relevant historical records are located. Classifications of service line materials based on interviews, however, should not be used as a sole source of information for the initial inventory. Systems may also consider interviewing their neighboring water systems to inquire about regional practices (California Water Board, 2020).

3.3 Selecting an Inventory Format

EPA does not require a specific format for the service line inventory. In some states currently requiring submission of inventory information, systems have submitted spreadsheets, geospatial maps, lists, and handwritten notations. ASDWA (2022) notes that states that have required inventory information prefer an electronic submittal over paper or PDF submissions that only provide "a snapshot in time." The subsections below discuss lists, spreadsheets, databases, and maps. Systems should check with their states for any specific requirements.

When water systems consider the inventory format, they should consider that the service line inventory will change over time as new information is added, records evaluations and investigations are conducted, and LSLs are replaced. The format should be flexible enough to accommodate updates, be easily transmittable to the state, include location identifiers, and be in a format that can be made publicly accessible. Water systems should also consider whether a format will be easy-to-use and understand for consumers, community-based organizations, and other organizations that may be interested in using this information, for example to identify whether a consumer is served by an LSL, support community outreach, or develop additional research or data tools for consumers.

Systems may also wish to internally track additional information that is not required but is recommended as best practices in Chapter 2. For central internal data tracking of required and additional inventory elements, EPA recommends that systems consider how they will use their internal data system to generate regulatory state submittals and the publicly accessible inventory.

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3.3.1 List, Spreadsheet, or Database

Systems may be able to create a simple list of all addresses with a service line material designation for each. While a location identifier is sufficient for a publicly accessible inventory, some states may require systems to include the source of information used to classify each line to ensure the requirements in 40 CFR §141.84(a)(3) are met. See Section 2.4 for other recommended inventory elements to include.

Electronic spreadsheets and databases have an added advantage over lists for tracking additional information fields. Spreadsheets and databases can be organized in a way that information can be searched, filtered, sorted, and updated. They can be configured to include photos of service line material. The ability to store and communicate a large amount of information in one central location makes electronic spreadsheets and databases a useful inventory method, particularly for systems with large numbers of LSLs. General recommendations for preparing a spreadsheet inventory from a white paper by the Association of State Drinking Water Administrators (ASDWA) and BlueConduit (2020) include the following:

- Each home/service line is a row in the spreadsheet.
- Each column refers to different data points available for each service line (*e.g.*, address, installation date, service line materials classification, and source of information).
- System-owned and customer-owned portions, if applicable, are tracked separately.
- Information regarding goosenecks, pigtails, and connectors is tracked separately.
- Labeling is consistent across the data, and the spreadsheet has a data dictionary to define the column headers.
- Previous information is not lost when new information is found, which will help the utility evaluate the accuracy of historical records.

EPA developed a spreadsheet template that systems may consider using to organize their inventory. The template contains color-coded worksheets for documenting system information, inventory methods, and how the system is making the inventory publicly accessible. The template also includes a detailed worksheet that systems can use to track the materials and other relevant information for each individual service line. This detailed inventory worksheet is designed for users to enter information on one service line, including the system-owned and customer-owned portions where ownership is split, in a single row. It includes columns for required and recommended elements and dropdown menus for some columns to expedite data entry and analysis. The detailed inventory worksheet is customizable; systems can add or delete columns to fit their needs.

A description of each inventory template worksheet is provided in Exhibit 3-2. Some cells in the spreadsheet are linked, (*i.e.*, the system's name and Public Water System Identification Number (PWSID) entered on the public water system (PWS) information sheet carry over to the heading of

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the other worksheets). The inventory summary includes a formula that will auto-calculate the total numbers of each of the four service line materials classifications based on the detailed inventory. In addition to the electronic version, fillable forms for several worksheets (PWS information, Inventory Methods, Inventory Summary, Public Accessibility Documentation, and State Checklist) are in Appendix A. The detailed inventory template is available electronically at https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule. Water systems can save a copy of the template to their network or computer and submit the entire file to their state.

Exhibit 3-2: Organization of EPA Inventory Template

Worksheet Type	Worksheet Name	Description
Background	**Template Instructions_System**	Contains detailed instructions for systems.
	Template Instructions_States	Contains detailed instructions for states.
	Classifying SLs	Summarizes requirements for classifying the entire service line when ownership is split (*i.e.* , when the system owns a portion and the customer owns a portion).
Templates for Water Systems	**PWS Information**	For systems to document basic system information.
	Inventory Methods	For systems to document the methods and resources they used to develop and update their inventory.
	Inventory Summary	For systems to provide a summary of their service line inventory, including information on ownership, inventory format, and the number of service lines for each of the four required materials classifications. Systems can enter the totals into this worksheet or automatically generate totals based on information in the **Detailed Inventory** worksheet.
	Detailed Inventory	Provides a customizable format water systems can use to track materials for each service line in their distribution system. Each row equals one service line connecting the water main to the customer's plumbing. Separate columns track location information, the system-owned portion, the customer-owned portion, other possible sources of lead, information for assigning a tap sample tiering classification, and information for lead service line replacement (LSLR). Systems can customize the worksheet by adding or deleting columns.
	Public Accessibility Doc.	For systems to provide documentation to states on how they met the public accessibility requirements of the LCRR.
Templates for States	**State Checklist**	Provides a checklist that states can use to determine and document if water systems met all of the January 15, 2021 LCRR requirements for their Initial Inventory including timely submission, required elements, use of information sources, public accessibility, and public notification of service line materials.

Source: EPA Inventory Template (https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule).

Other spreadsheet templates are available for download. For example, ASDWA's website (https://www.asdwa.org/lead-and-copper-rule-lcr/) provides a link to their separate inventory

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template spreadsheets for community water systems (CWSs) and non-transient non-community water systems (NTNCWSs). Another example is the template developed by Kansas Department of Environmental Health.[10] In addition to the information needed to track material classifications including GRR for system- and customer-side portions of the service line, their template includes columns for additional elements. For example, it includes water main material, connector material and replacement, installation dates, sources of information used for service line identification, and other data needed to assign a lead tap sampling tier to the service line. In addition, Kansas' template includes color-coded instructions to highlight cells in which data must be typed and columns containing drop-down menus or auto-calculation. Systems should check with their states to determine if they have developed an electronic template that they should or must use to organize and/or report their detailed inventory.

3.3.2 Maps

Many water systems have developed simple or interactive web-based maps to present their service line inventory, share information with the public, and inform their LSLR program. These maps provide systems with an easily updatable platform for storing inventory data while also having the ability to instantaneously share that data in an intuitive, easy-to-use format with anyone with internet access. Moreover, geospatial databases supporting online maps can store attribute information. For example, systems with high-level mapping capabilities can link image files of historical tap cards with LSL locations (Liggett, 2021). Additional benefits of mapping may include the ability to more easily plan LSLRs along with planned capital improvement projects or to identify LSLR priority locations using existing environmental justice map tools (such as EPA's EJSCREEN[11]) along with a system's map. Also, maps can be augmented over time to include additional information, such as important infrastructure (*e.g.*, water mains and water towers), to improve a system's asset management. See Section 7.2.2 for additional information on web-based map applications, including best practices from recent publications by Hiltner et al. (2019) and Woods and Webb (2021).

Two examples of water system maps are DC Water and Greater Cincinnati Water Works, which are described in Appendix B. Note that these maps were developed prior to the LCRR and do not include GRR. EPA recommends that water systems maps also include a color scheme for GRR.

3.4 Develop Procedures for Collecting Service Line Information

Under the LCRR, systems must identify and track information on service line material as they are encountered in the course of normal operations (40 CFR §141.84(a)(5)). This information could be based on visual inspection – see Section 5.1 for guidance on visually identifying service line material.

[10] The template is available at https://www.kdhe.ks.gov/547/Lead-Copper-Rule.
[11] https://www.epa.gov/ejscreen.

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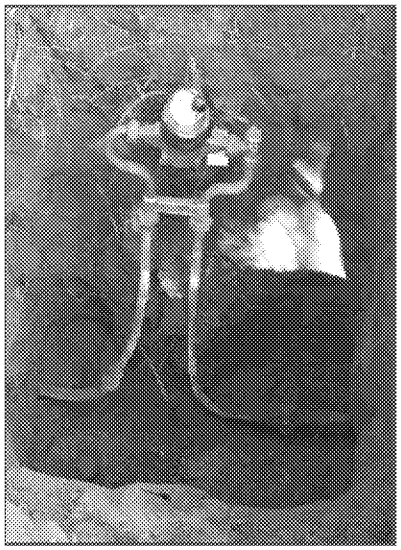
Information collection by water system staff and contractors, who typically have relevant experience and/or training regarding lead in drinking water, enhances quality control of the information they collect (LSLR Collaborative, 2021). Opportunities for data collection under normal operation include but are not limited to:

- Water meter reading
- Water meter repair or replacement (see picture of an excavated meter with service line material exposed)
- Service line repair or replacement
- Water main repair or replacement
- Backflow prevention inspections
- Other street repair or capital projects with open cut excavations



Example of Meter Pit
Source: LSLR Collaborative 2018

Inventory activities should be considered as something that can be worked into the day-to-day activities of the system rather than treated as an independent effort. Systems should consider developing ***standard operating procedures*** (SOPs) or modifying existing SOPs to document how their staff and contractors will collect this information and use it to update their inventory. SOPs can help ensure that a consistent method of tracking, updating, and reporting is used for staff and contractors of all experience levels. Written SOPs can also provide a way for water systems to document how they met the requirement to collect information during normal operations. SOPs can be brief, but the key is to disseminate them to appropriate staff and contractors, use them to conduct training, and ensure that they are incorporated into normal operations. Water systems should consider incorporating quality assurance reviews into their SOPs and procedures that ensure accountability before a project is completed.

Example: Custom app for information collection

The Pittsburgh Water and Sewer Authority (PWSA) developed specific service line and meter replacement work orders in the tablet-based application used by utility workers and plumbers, allowing them to update service line material observations and record information on replacements in the field.

One way to facilitate information collection and inventory updates is the use of electronic field capture records.

Water systems should consider developing procedures for customer service representatives and other staff or contractors that have interactions with customers. Any one-on-one interaction is an opportunity to educate customers about the importance of the service line inventory and to obtain permission for water system personnel to access the home for service line material investigation, or an interaction can be used to provide information to the customer on how to self-identify the material for their portion of the

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service line and submit it to the system. See Section 5.1.1 for additional guidance on customer self-identification and Appendix C for examples of customer service line material instructions from water systems.

3.5 Establish Partnerships with Third Parties

EPA encourages water systems to reach out and partner with plumbers, plumber trade organizations, local plumber union organizations, and other third parties to obtain as much information as possible on service line materials and coordinate LSLR where possible. There are many potential third parties that could be included, such as homeowner associations, community-based organizations, building agencies, building inspectors, social services, landlords or realtors, public health departments, departments of education, universities, Tribal Consortia, religious organizations, and technical assistance providers.

There are different ways that third parties can help systems obtain this information:

- The third party may be able to determine service line material as part of their normal field procedures (*e.g.*, plumbing modifications, building inspections, etc.).
- The third party may be able to facilitate outreach and engagement with specific communities, encouraging residents to conduct self-identification of service line and plumbing materials and to report this information to the water system.

Coordination and training should take place early in the process to ensure third parties are aware of the purpose, schedule, and procedures for the inventory and the importance of notifying the water system with any information on service line materials.

Real world examples of successful partnerships include:

- The Pittsburgh Water and Sewer Authority (PWSA), Pennsylvania, partners with their local health department to obtain information during plumbing inspections. PWSA works with their local health department to add service line inspection and reporting to plumbing inspection forms. PWSA automatically receives information by email whenever a plumbing inspection report contains customer-side service line information (Duffy and Pickering, 2021). See the PWSA case study in Appendix B for more information.
- Denver Water, Colorado, partners with community organizations to remove barriers. Denver Water's Ambassador Program focuses on developing partnerships with trusted community organizations to help eliminate possible barriers that could prevent communities from understanding and participating in their Lead Reduction Program. The Ambassadorship Program works in a neighborhood-by-neighborhood basis to share information about the Lead Reduction Program in multiple languages, so everyone receives the same information and resources, regardless of their background. One goal of

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this program is to encourage homeowners to confirm if they have an LSL and to sign a consent form allowing Denver Water to replace it at no direct charge to customers.[12]

- The City of Newark, New Jersey, partnered with Clean Water Action, local residents, and retired utility workers as volunteers and trusted messengers to talk to residents. The City of Newark used door hangers and lawn signs to reach renters, who make up approximately 74 percent of residents. An interactive website was key to providing information to customers regarding their service line material (LSLR Collaborative, 2020).
- Grand Rapids Water System (GRWS), Michigan, partners with rental property owners. In Grand Rapids, many LSLs serve rental properties. Because only property owners can sign the agreements for LSLR in Grand Rapids, GRWS met with rental property owner associations to encourage participation in their LSLR program. The water system met well in advance of scheduled replacements to present information about the LSLR program and answer questions that property owners might have (USEPA, 2021e).

Real estate transactions may also provide additional opportunities for educating residents, engaging them to identify service line material, and ultimately facilitate LSLR. McCormick et al. (2017) noted that four states (Connecticut, Delaware, New York, and Pennsylvania) required mandatory disclosure of lead pipes or fixtures. Six additional states (Illinois, Michigan, New Mexico, North Carolina, South Carolina, and Wisconsin) and the District of Columbia required mandatory disclosure of pipe material; however, lead was either not specifically addressed or was only included if the seller identified conditions as unsafe (McCormick et al., 2017). Lu et al. (2019) found that when homebuyers have access to a seller's disclosure, indicating the presence of an LSL, the sellers were willing to negotiate to replace it or provide compensation for the replacement cost. Water systems can work with real-estate agents and home inspectors to support disclosures of identified service line materials (ideally through an online inventory) and provide procedures for customer service line self-identification or verification by trained personnel. See Chapter 7 for recommendations related to inventory accessibility and Section 5.1.1 and Appendix C for customer self-identification guidance.

[12] (https://www.denverwater.org/your-water/water-quality/lead/events-outreach). Accessed November 2, 2021.

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Key Points to Remember

LCRR Requirements

- Systems must identify and track information on service line material as they are encountered in the course of normal operations (40 CFR §141.84(a)(5)).

Recommendations (Not Required under the LCRR)

- EPA recommends systems consider a continuous improvement approach for inventory development.
- The inventory is a living dataset that is continually improved over time with new and better information including when LSLs are replaced.
- Interviews with experienced staff and plumbers can help focus the inventory effort and locate system records.
- Water systems should consider interviewing neighboring water systems about regional construction practices.
- Systems can use a variety of formats for the inventory; however, an electronic format is recommended over paper or PDF formats.
- Water systems should consider developing or modifying SOPs to document how they will collect service line information during normal operations and update their inventories.
- Inventory activities should be considered as something that can be worked into the day-to-day activities of the system rather than treated as an independent effort.
- EPA encourages water systems to partner with plumbers and other third parties to obtain information on service line materials.

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Chapter 4: Historical Records Review

The Lead and Copper Rule Revisions (LCRR) specifies the types of historical records that water systems must review to develop their initial service line inventory. Sections 4.1 through 4.4 provide guidance on how the required types of historical records can be used and where to find them.

EPA recognizes that service line configuration and existing records may vary widely. For example, water systems will have different numbers of lead service lines (LSLs) and unknowns, varying ownership delineations, and access to historical records of varying accuracy. In addition, systems will have different avenues of information gathering and priorities that are tailored to their specific community.

Systems should document the records they reviewed as a best practice. Templates are available in an electronic form, "Inventory Methods" from EPA's template available at EPA's website, https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule or the hard copy form in Appendix A to document each type of record reviewed and when it was reviewed. Systems should also consider tracking and including the records used to identify the material of each portion of the service line (*e.g.*, plumbing code or water system record) in their inventory.

Water systems should continue to gather information on service line materials after they have been classified and assess the accuracy of historical records. As the Association of State Drinking Water Administrators (ASDWA) states in their white paper about using data science for inventory development (ASDWA, 2019), "the process of learning just how accurate (or otherwise) a system's records are is a powerfully informative piece of this data-driven approach." ASDWA points out that some types of records will be more accurate than others, given each community's unique historical development patterns. For example, more recent records resulting from confirmation during road construction may be more reliable than decades-old tap cards. EPA recommends evaluation of the accuracy of historical records and that, if a specific record source proves to be inaccurate, systems consider reclassifying service line materials that rely solely on that record source as "unknown" until additional information can be gathered.

Exhibit 4-1 lists required records systems must use to identify service line materials for the initial inventory under the LCRR (40 CFR §141.84(a)(3)). The last column of the exhibit includes how the records can be used to develop the initial inventory.

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Exhibit 4-1: Requirements for Historical Records Review for Initial Inventory Development under the LCRR

Type of Historical Records	Regulatory Requirement (citation)	Primary Uses for Inventory Development (Including but not limited to)
Previous Materials Evaluation	Water systems must use the information on lead and galvanized iron or steel that it identified under 40 CFR § 141.42(d)[1] when conducting the inventory of service lines in its distribution system for the initial inventory (40 CFR §141.84(a)(3)).	• Reporting construction materials present in their distribution systems. • Identifying LSL material for subset of sites that were used for lead and copper tap monitoring.
Construction and Plumbing Codes and Records	Systems must review all construction and plumbing codes, permits, and existing records or other documentation which indicates the service line materials used to connect structures to the distribution system to identify service line materials for the initial inventory (40 CFR §141.84(a)(3)(i)).	• Identify when LSLs were allowed/specified or banned from use. • Identify service areas most likely to have LSLs by home/building construction date and service line size. • Review construction and plumbing permits for identification of service line (customer and/or system-owned) and plumbing materials.
Water System Records	Systems must review all water system records, including distribution system maps and drawings, historical records on each service connection, meter installation records, historical capital improvement or master plans, and standard operating procedures, to identify service line materials for the initial inventory (40 CFR §141.84(a)(3)(ii)).	• Identify service line material for system-owned and customer-owned sides.
Distribution System Inspections and Records	Systems must review all inspections and records of the distribution system that indicate material composition of the service connections that connect a structure to the distribution system to identify service line materials for the initial inventory (40 CFR §141.84(a)(3)(iii)).	• Identify service line material for system- and customer-owned portions. • Verify construction and water system records.

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Type of Historical Records	Regulatory Requirement (citation)	Primary Uses for Inventory Development (Including but not limited to)
State Requirements	Systems must review any resource, information, or identification method provided or required by the state to assess service line materials, to identify service line materials for the initial inventory (40 CFR §141.84(a)(3)(iv)).	• Identify service line material for system- and customer-owned portions.

Note:

[1] Under 40 CFR §141.42, water systems were required to identify and report to their state if certain construction materials were present in their distribution system in the early 1980s (USEPA, 1980). Under the 1991 Lead and Copper Rule (USEPA, 1991a), water systems were required to use this evaluation to identify a pool of targeted sampling sites that meet the tiering criteria for lead and copper tap monitoring and was sufficiently large enough to meet the required number of lead and copper tap samples.

4.1 Previous Materials Evaluation

Under 40 CFR §141.42(d), or special monitoring for corrosivity characteristics, water systems were required to identify if certain construction materials were present in their distribution system that included:

- Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing;
- Copper from piping and alloys, service lines, and home plumbing;
- Galvanized piping, service lines, and home plumbing;
- Ferrous piping materials such as cast iron and steel; and
- Asbestos cement pipe.

In addition, there may be additional state requirements for the identification and reporting of other materials. EPA requires systems to use the information they identified on lead and galvanized iron or steel under 40 CFR §141.42(d) when preparing their initial inventory.

In addition to the previous materials evaluation described above, other previous material evaluations can be useful in developing the inventory. Under the 1991 Lead and Copper Rule (LCR) (USEPA, 1991a), water systems were required to complete a materials evaluation of their distribution systems to identify a pool of targeted sampling sites that met the sample site requirements and was sufficiently large to meet the required number of lead and copper tap samples (40 CFR §141.86(a) of the LCR). The LCR also required in 40 CFR §141.86(b) that water systems review:

- Information collected under the pre-LCR materials evaluation under 40 CFR §141.42(d);

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- All plumbing codes, permits, and records in the files of the building department(s) that document the plumbing materials installed within publicly- and privately-owned structures connected to the distribution system;
- All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and
- All existing water quality information that includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations.

Also under the LCR, systems subject to lead service line replacement (LSLR) requirements[13] were required to identify the initial number of LSLs in their distribution system, including the portion(s) owned by the system, based on the prior materials evaluations (40 CFR §141.84(b)).

In addition to previous materials evaluations described above, EPA recognizes that systems may have previously reviewed historical records proactively for asset management, pre-LCRR inventory efforts, and LSLR activities. It is important to note that records already reviewed for service line material information need not be reviewed again. EPA recommends that water systems document previous reviews as part of their initial inventory effort, including the date and scope of the reviews.

4.2 Construction and Plumbing Codes and Records

Systems must review all construction and plumbing codes, permits, and existing records or other documentation that indicate the service line materials used to connect structures to the distribution system (40 CFR §141.84(a)(3)(i)). Each of these record types is described below.

Construction and Plumbing Codes

Municipal construction codes (also known as "building codes") and plumbing codes may indicate when the use of lead or lead-containing pipes for potable use applications were prohibited by the code. This information, combined with distribution system and building records, can identify structures that were built after lead bans became effective and would not have LSLs.

The 1986 Safe Drinking Water Act (SDWA) amendments prohibited the use of pipe, solder, and flux that were not "lead free" as defined in 1986 in new installations and repairs[14] and directed

[13] Refer to footnote 3.

[14] In 1986, Congress amended the Safe Drinking Water Act (SDWA) to prohibit the use of pipes, solder, or flux that were not "lead free" in the installation or repair of public water systems or plumbing in residential and non-residential facilities providing water for human consumption. At the time, "lead free" was defined as solder and flux with no more than 0.2 percent lead and pipes with no more than 8 percent. This is often referred to as the 1986 SDWA lead ban.

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states, as a condition of receiving grants for the Public Water System Supervision program, to enforce the provision effective 24 months after June 19, 1986, through state or local plumbing codes or other means (42 U.S. Code §300g-6(b)). Some states adopted their own laws before the federal requirement. Thus, water systems should check with their state to determine the appropriate date. See Appendix D for a summary of lead ban provisions by state (USEPA, 1991b).

In addition to information on when LSLs were allowed and banned, municipal construction and plumbing codes can also indicate a maximum diameter of LSLs. Most LSLs are ***2 inches or less*** in diameter and serve primarily single-family homes or small multi-family residences. Larger apartment complexes and commercial and industrial building are typically served by larger diameter service lines. There have been very few cases of installed LSLs as large as 3 inches (LSLR Collaborative, 2021). The service line material verification requirements in Michigan exclude service lines that are 4 inches or more in diameter (Michigan EGLE, 2018).

Most Lead Service Lines are Old!

LSLs were primarily installed from the late 1800s to the 1940s (Hensley et al., 2021). Some communities, however, continued to install them through the 1980s until they were banned at the federal level.

Systems should also review any local ordinances relevant to LSLs. For example, systems may be aware of an ordinance which prohibits reburial of exposed lead pipe in their community. Water systems could compare the ordinance effective date with records of construction projects subject to the ordinance requirements to determine if service line material can be inferred.

Possible locations for construction and plumbing codes include (Liggett, 2021; LSLR Collaborative, 2021):

- Municipal building permit/code enforcement department
- Agency overseeing state plumbing code
- Local governing body (*e.g.*, city or town council)

Other possible locations include city archives, which are often in city public libraries. Additionally, online databases have many historical city codes and reports available online.

States and municipalities often adopt into state or local law national or international building or plumbing codes written by trade organizations. The codes may be adopted into law as written or, they may be modified. In addition to checking with the state on the date they enforced the 1986 lead ban as recommended above, systems may also check with their state or local government for any additional requirements related to adoption of codes. Exhibit 4-2 provides examples of municipal code language and its meaning from Hensley et al., 2021.

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Exhibit 4-2: Illustrative excerpts from municipal codes, specifying that lead was allowed or required as pipe material for service lines

TABLE 1 Illustrative excerpts from municipal codes, specifying that lead was allowed or required as pipe material for service lines (Miguel Del Toral, personal communication, July 2018)

Municipal code language	What the code language meant
Water Service...Sec. 23. All water pipes laid underground whether outside or inside the building and of a diameter less than 2 inch. shall be "extra strong" lead pipe	The entire service line was required to be made of lead
Pipe Material. Sec. 17. All service pipe, from the point of union with the main to the service stop inside of curb line shall be of lead, known and designated as "Extra Strong," weighing as follows per lineal foot:	Lead pipe was only required between the water main and the property line
Sec. 14. Pipe, Kind Used, Water Commissioner to Purchase.--Either lead, galvanized or enameled iron service pipes may be used at the option of the applicant. All lead and iron pipes must have sufficient strength to sustain a pressure of not less than 200 pounds to the square inch, and at the point of connection with the street main between the corporation cock and the coupling in the iron service pipe there must be at least 18 inch. of lead pipe to retain rigidity of the iron pipe	The service line could be lead pipe, galvanized iron pipe, or enameled iron pipe. However, a short lead pipe at least 18 inch. long (commonly called a 'lead gooseneck') was required at the connection with the water main
Section 995. Water Connections for Buildings: All pipes leaving the curb cock and used for connecting buildings with the City water system, shall be laid under ground, and at least 18 inch. below the established grade, and shall be of lead or galvanized wrought iron or steel	Lead was not required but was one of the types of pipes allowed
Section 660 A. Materials of Water Pipe and Fittings. All water service and distribution pipes shall be of lead, galvanized wrought iron, galvanized steel, brass, copper, or cast iron with brass, copper, galvanized iron or galvanized or malleable iron fittings	Lead was not required but was one of the types of pipes allowed

Source: Hensley et al., 2021.

Permits

Water system, local government, or local plumbing codes may require plumbers to obtain permits to install or replace service lines. These permits should include the location and the date of installation or replacement and may include information on service line materials. In addition, there may be an inspection record that accompanies the permit.

If permits do not specify service line material, systems may be able to cross-reference the permit with construction practices at the time of replacement. Systems may be able to find these permits at their municipal building department, code enforcement department, or municipal water system (LSLR Collaborative, 2021).

Other relevant permits may include those for general renovation or other plumbing-related building activities. Many jurisdictions require permits and inspections when plumbing is modified for remodeling for renovations or additions.

Other Existing Records and Documentation

In addition to construction and plumbing codes and permits, other records may exist that indicate the service line materials used to connect structures to the distribution system. For example, municipal tax records typically contain the date of building construction, which when cross-

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referenced with construction practice information from other sources, could help identify service line materials. Also, the date of building construction can be compared to water main installation records. A newer tap installation date for an older home could mean the service line was partially replaced on the system side. The reverse could also be true – a newer building construction date compared to tap installation date could indicate a partial service line replacement on the customer side. These records may be found at the municipal tax assessor's office or the centralized municipal government geographic information system (GIS) office (LSLR Collaborative, 2021).

Community planning documents and maps may also contain information on the date of construction, which can be useful to identify potential locations of LSLs. These documents may be found at municipal planning departments, regional planning agencies, the public library, or the local historical society (LSLR Collaborative, 2021). Property appraisal records might include the year a structure was built and when it was modified. County or city council meeting minutes may also contain additional relevant records.

4.3 Water System Records

Water system records are a key source of information and are one of the many sources that systems must review to identify service line materials and develop the initial inventory. Systems can use any relevant water system records they may have to develop their inventory, but at minimum must review the water system records listed in 40 CFR §141.84(a)(3)(ii).

Exhibit 4-3 lists the type of water system record that must be reviewed, what the record may contain, and the possible formats of the records. Other possible water system records that could be used to develop the initial inventory include historical water system standard operation procedures (SOPs), water main replacement records, water loss studies, and annual reports. Additional discussion of a key type of record, service line installation records or "tap cards", follows the exhibit.

Note when reviewing historical SOPs, systems should review past procedures for connecting a new building and if they allowed connection to an old service line. If allowed, this could indicate that some newer construction could be potentially connected to an LSL.

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Exhibit 4-3: Water System Record Examples and Uses

Type of Water System Record Required under the LCRR[1]	Relative information	Possible Formats
Distribution system map and drawings	Date of construction of different parts of the distribution system may help inform when and where LSLs were used.	Hard copy maps, digital maps, or web-based map applications
Historical records on each service connection	Detailed information on service line material, location, and size.	Ledgers, cards (*e.g.*, tap cards or drill records), or databases
Meter installation records	May contain the service line material. Meter size and/or type can indicate service line size or building usage.	Water system files and records
Historical capital improvement or master plans	Historical installation patterns may help inform when LSLs were used.	Archived report or electronic document
Standard operating procedures	Allowable materials for construction of service lines and for service line repairs.	Specifications and standards used by the water system

Notes:

[1]Each type of water system record must be reviewed to develop the initial inventory (40 CFR §141.84(a)(3)).

Historical records on service connection installation may be in the form of ***tap cards*** (also called ***drill records***), which are recorded when a service line is tapped into the water main and connected to an individual home or building. They are often handwritten index cards that contain the installation date, pipe diameter, and pipe material. Exhibit 4-4 provides examples of tap cards specifying lead pipe material. The LSLR Collaborative (LSLR Collaborative, 2021) recommends digitally categorizing tap cards as one of the first steps in building an inventory.

Example: Scanning tap cards as a starting point

In 2017, the Pittsburgh Water and Sewer Authority (PWSA) scanned almost 130,000 paper service record folders and 3,000 microfiche records and created an initial database with the results. PWSA found that many of these records, however, were inaccurate because of maintenance conducted since they were initially installed (Duffy and Pickering, 2021). See Appendix B for the PWSA case study.

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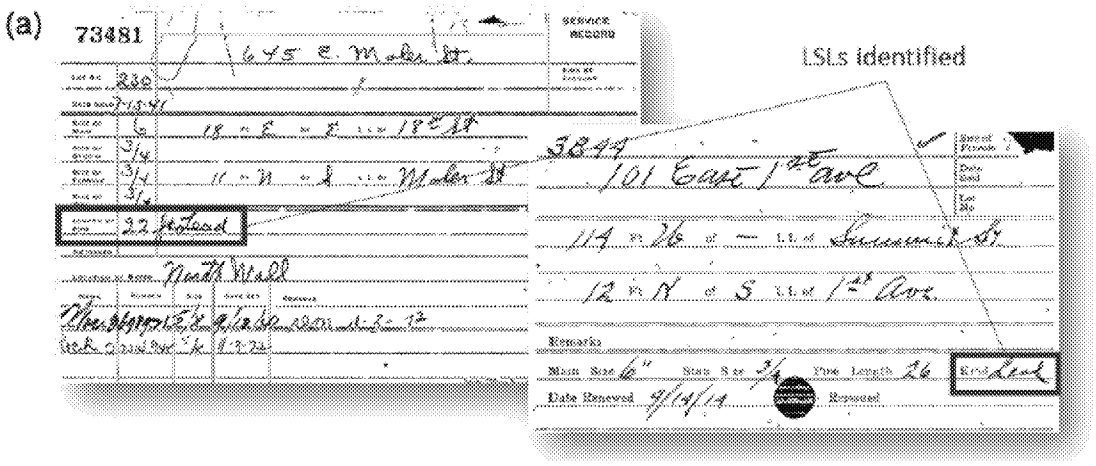
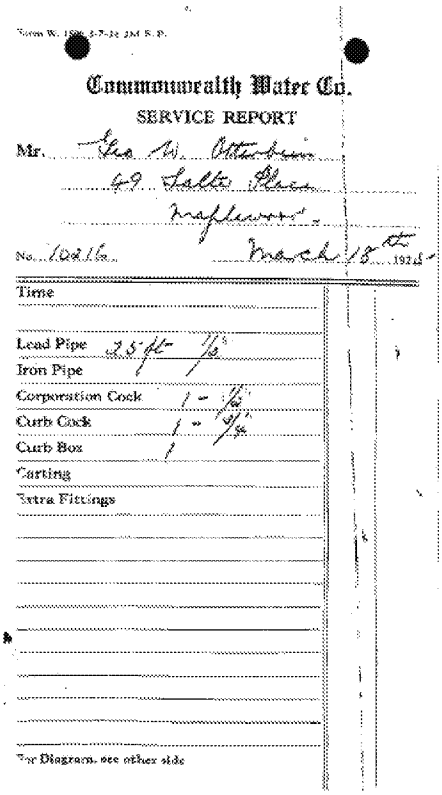
Exhibit 4-4: Examples of Tap Cards with Lead Listed as Service Line Material



Source: Hensley et al., 2021



Source: Bukhari et al., 2020, Figure 3-1 from American Water, 2019.

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Bukhari et al. (2020) notes that "using tap cards alone can be challenging since information can be inconsistent, unreliable, or altogether absent. For example, there may be situations where a line was repaired or replaced, but the location-specific tap card was never updated." Moreover, tap cards may only contain information on the system-owned portion of the service line (Duffy and Pickering, 2021). It is important to supplement tap card information with service line replacement or repair data; water main installation, rehabilitation, or replacement records; meter installation records; and other field data and investigations.

Example: Meter Installation as an Information Source

The City of Evanston, Illinois, replaced approximately one-third of their meters in 2018. They documented the service material type and inputted the information into their computerized maintenance management system (CMMS) (AWWA, 2021).

4.4 Inspections and Records of the Distribution System

Historical records of inspections might indicate service line materials. Sources of information include responses to customer complaints, inspections to locate leaks, or inspections to investigate meter issues. Cross connection inspections may also provide information on service line material. Systems may store this information electronically, for example, using a computerized maintenance management system (CMMS) (Liggett, 2021).

Water systems have opportunities to directly view the service line materials during a variety of maintenance activities. See Section 3.4 for recommendations for collecting service line material information during normal operations.

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Key Points to Remember

LCRR Requirements

- Water systems must use any information on lead and galvanized iron or steel that it has identified pursuant to 40 CFR §141.42(d); review the records explicitly identified in the LCRR; as well as use any additional resource, information, or identification method required by the state to develop the initial inventory (§141.84(a)(3)).

Recommendations (Not Required under the LCRR)

- Water systems should document the records they reviewed as a best practice and include the source of material classification in their inventory.
- Water systems should continue to gather information on service line materials after they have been classified and assess the accuracy of historical records.
- If systems find certain historical records to be unreliable, they should consider reclassifying service line materials that rely solely on those records as "unknown" until additional information can be gathered.
- Water systems should incorporate previous reviews (as required by the LCRR and other reviews done to comply with LCR or other proactive activities) into their initial inventory and document the date and scope of the reviews. Records already reviewed for service line material information do not need to be reviewed again.
- Tap cards are often handwritten index cards that contain the installation date, pipe diameter, and pipe material. The LSLR Collaborative recommends digitizing tap cards as one of the first steps in building an inventory.

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Chapter 5: Service Line Investigation Methods

This chapter provides a description of the service line investigation methods that water systems have used to verify historical records and gather information when service line material is unknown. These methods are not required under the Lead and Copper Rule Revisions (LCRR), but rather provide examples for systems to consider. The methods included here are:

- Visual inspection of service line material (Section 5.1)
- Water quality sampling (Section 5.2)
- Excavation (Section 5.3)
- Predictive modeling (Section 5.5)
- Emerging methods (Section 5.6)

Section 5.4 provides a comparison of methods from the literature.

Some of these methods require state approval before use for service line classification, such as water quality sampling, predictive modeling, and emerging methods. Water systems should consider the method(s) that are best suited to their particular distribution system and community, considering state approval, cost, labor skill requirements, disruption to consumers, overall time, and accuracy. Water systems should be aware of identification methods provided or required by their state under the LCRR (40 CFR §141.84(a)(3)(iv)). If a water system chooses an investigation method not specified by the state under 40 CFR §141.84(a)(3)(iv), state approval is required (40 CFR §141.84(a)(3)). States may want to consider identifying approved methods that can be used by any system in their state to classify service lines. States could approve different methods for classifying lead, galvanized requiring replacement (GRR), and non-lead. This chapter provides states with information they can use to make their approval decisions. Note that service line investigation methods are evolving; states may wish to revisit approval decisions in the future based on new research or other information.

As noted previously in this guidance, EPA recommends that systems consider including the sources of the material classification (*e.g.*, excavation or visual inspection by customer) in their inventory. In some cases, systems may replace lead service lines (LSLs) when they find them in the field during investigations. EPA recommends systems document where there was an LSL, as recording lead service line replacement (LSLR) activities may be useful for systems to track and demonstrate the LSLR rate achieved.

5.1 Visual Inspection of Service Line Material

The material composition of a service line can be identified through visual inspection. Exhibit 5-1 provides a comparison of common service line materials:

- Plastic is a smooth pipe of various colors (*e.g.*, white, blue, black, and green).

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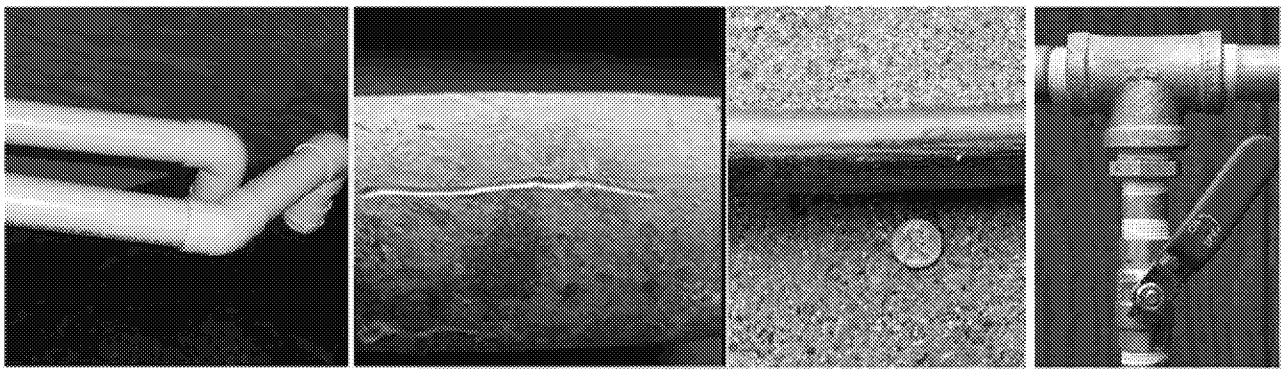
- Lead is a soft metal that is a dull, silver-gray color. It is easily scratched with a coin or key, and the scratched areas will be shiny. It is non-magnetic, meaning a magnet will not stick to it. Lead pipe is commonly attached to other pipe with a "wiped" joint.
- Copper is the color of a penny.
- Galvanized is a dull, silver-gray color that is difficult to scratch. It is magnetic, meaning a magnet will stick to it.

Exhibit 5-1: Examples of Commonly Found Pipe Materials



Plastic | Scratched Lead | Copper | Galvanized Steel & valve

Source: https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead-0.

Lead can also be distinguished from other materials by a "wiped" joint, which is a rounded ball of lead that connects the lead pipe to other materials. See Exhibit 5-2 for a picture of a wipe joint on an LSL.

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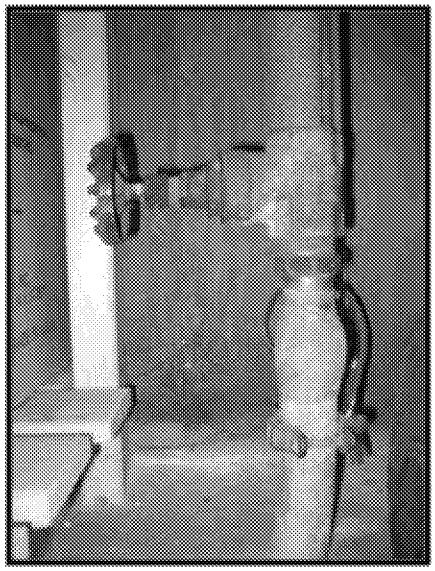
Exhibit 5-2: Example of Wiped Lead Joint



Source: https://www.skokie.org/766/Lead-Water-Line-Information

The remainder of this section describes service line materials identification approaches through visual inspection without excavation. See Section 5.3 for a description of excavation techniques.

5.1.1 Visual Inspection of Service Line by Customers

Many utilities have enlisted the public's help to identify the material of the customer-owned portion of the service line. The service line may be visible where it comes into the building, such as in the basement where it connects to the water meter and/or premise plumbing. Exhibit 5-3 shows the possible location of the visible portion of the line connected to the water meter. Note that incoming service lines may have different configurations, which can make it difficult for customers to locate the service line entering the home. DC Water has created a video to assist customers, advising them to locate the meter pit in the yard to estimate where the service line enters the building.[15] Systems may wish to provide guidance on typical configurations to assist customers in finding their water service lines.

[15] https://www.dcwater.com/do-you-have-lead-pipes-let-us-help-you-find-out.

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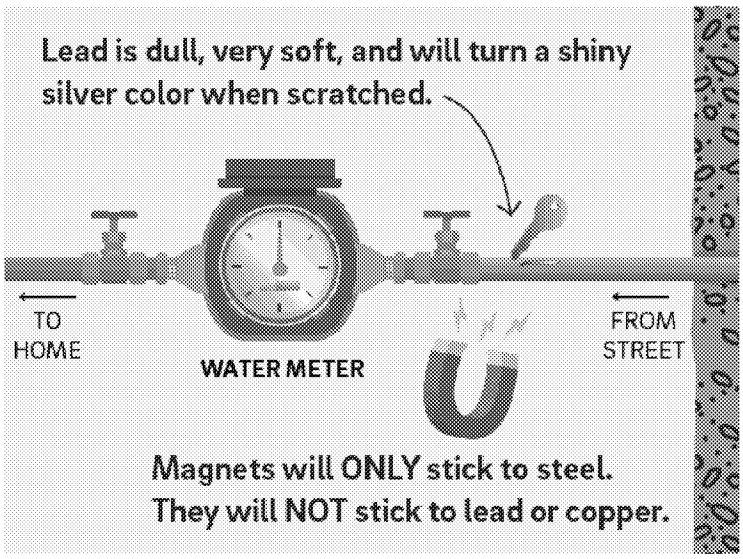
Exhibit 5-3: Example of Location of Exposed Service Line in Basement



Source: Philadelphia Water System. https://water.phila.gov/pool/files/how-to-check-your-service-line-for-lead.pdf. Accessed December 20, 2021. Right edge of image represents basement wall in contact with soil.

After locating the service line, the customer can visually inspect the pipe. A common approach to determine pipe material is a ***scratch and magnet test***. If the pipe is a silver metallic color, the customer can carefully scratch the pipe with a key or coin. It is important to not use a sharp object that could puncture the pipe. If the pipe is soft, scratches easily, and reveals a shiny silver color, the pipe is likely lead. The customer can use a magnet to confirm the material since magnets will only react to steel and will not stick to lead (Hensley et al., 2021). Customers can also look for a wiped joint as shown in Exhibit 5-2 that can be an indicator of an LSL. Systems may want to suggest that customers wear gloves when performing a scratch test and cleaning up debris.

In addition to the scratch and magnet test, lead paint test kits can be used to test the pipe for lead (Hensley et al., 2021; LSLR Collaborative, 2021). Surface swab kits approved by EPA for lead paint will change color after coming in contact with a lead surface. A list of approved test kits are available on EPA's website (https://www.epa.gov/lead/lead-test-kits). Care should be taken in interpreting results because the kits can react to lead paint if the pipe is painted.

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EPA developed the online step-by-step guide "Protect Your Tap: A Quick Check for Lead" [16] to help people identify LSLs in their homes. It also provides tips on actions to reduce lead exposure in drinking water, information on certified laboratories for water testing, and other resources. The guide is for everyone, and EPA has provided Protect Your Tap outreach toolkits for community groups, government and health organizations, and water utilities. The guide is also available in Spanish. To access this information and the online guide, refer to EPA's website at https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead.

Examples of instructions for identifying service line materials prepared by the Philadelphia Water Department; Rockford, Illinois; and Newark, New Jersey, are provided in Appendix C. The independent, non-profit media organization National Public Radio (NPR) has also developed an interactive tool available on their website[17] that instructs customers on how to determine if their service line is lead. Other innovative examples of systems that enlist the customer to self-identify their portion of the service line include:

- **Greater Cincinnati Water Works (GCWW), Ohio,** provides instructions for the scratch test on their website[18], along with a fillable form asking for name, email, return phone number, and property address. Customers can select copper, lead, or other from a dropdown menu to specify their service line material. The website asks users to "please upload a picture of your meter setting that we can use to help identify the pipe material."
- **The City of Grand Rapids, Michigan,** has used free video conferencing software to guide homeowners through the verification process. This approach worked especially well during the COVID pandemic, when customers were reluctant to let others into their homes and could be replicated for harder-to-reach customers who are more comfortable with a video call than letting system personnel enter their homes (USEPA, 2021e).
- **Madison, Wisconsin,** distributed customer surveys to residents in 2000, asking them to perform scratch tests on their exposed portion of service lines in their homes (Bukhari et al., 2020). During that time, the City of Madison held meetings to teach customers how to perform scratch tests. Madison Water Utility still provides instructions on how to

[16] https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead#:~:text=Protect%20Your%20Tap%20Outreach%20Toolkits%20%20%20,Article%20%28Utilities%29%20%28docx%29%20%206%20more%20rows%20. Accessed December 17, 2021.

[17] https://apps.npr.org/find-lead-pipes-in-your-home/. Accessed December 15, 2021.

[18] https://la.mygcww.org/do-i-have-a-lead-service-line/. Accessed December 8, 2021.

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perform scratch tests on their website[19], along with a number and email to contact if an LSL is discovered.

Water systems can also use community surveys to enlist residences to self-identify service line material (see above for Madison, Wisconsin). Outreach and education can improve the quality of the survey results (Hensley et al., 2021). Systems can also offer financial assistance for customer-side LSLR as an incentive to inspect their service line. The Association of State Drinking Water Administrators (ASDWA) (2022) recommends that systems consider providing incentives for service line identification such as credits on water bills or gift cards.

EPA recommends that systems ask customers to ***submit a photograph*** of their service line entering the home to the utility to increase confidence in the customer's response and additional visual verification by the water system. Hensley et al. (2021) notes that even with outreach and education, service line material information from residents may be inaccurate and a water system's confidence could be increased with an additional verification step (such as reviewing a customer-submitted photograph of the service line) by the water system staff, a licensed plumber, or other trained personnel. Note that the system's data management structure may need to be revised in order to accept and organize uploaded photos. Partnerships with plumbers and other third parties, such as building inspectors, can facilitate visual inspection and service material identification (see Section 3.5 for recommendations on establishing partnerships).

Note that some water systems elicit customer assistance by requesting access to the customer's home for verification rather than asking the customer to perform visual inspection themselves. For example, the City of Menasha Utilities Electric & Water in Wisconsin sends postcards to residents where the customer-owned portion of the service line material has not been verified. The postcard includes water system contact information to schedule a free service line material inspection by the water system. Those accepting the system's offer receive follow-up information on what the customer can expect during the inspection process, and reminders (see Appendix C for a copy of the postcard and water service inspection information). Inspection by the system or other trained personnel, or asking the customer to submit a photo along with their identification, can increase the degree of confidence the system has in the service line's material classification. Water systems could also determine if existing ordinances already give them access rights to the inside of the home for inspections and/or maintenance, including inspection of the service line material.

[19] https://www.cityofmadison.com/water/water-quality/lead-service-replacement-program/lead-in-water-what-you-should-know. Accessed December 20, 2021.

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5.1.2 CCTV Inspection by the Water System

This section describes visual inspection using closed-circuit television (CCTV). Note that visual inspection by the water system during normal operations is discussed in Section 3.4.

CCTV has been used widely by the wastewater industry to inspect the interior of gravity sewer lines. Recently, probe or insertion style CCTV cameras have been used by water utilities to visually inspect service line material. CCTV inspections usually fall into one of two categories: 1) inspection of the interior of the service pipe of the service line or 2) inspection of the exterior (Bukhari et al., 2020).

External CCTV Inspection

External inspections involve inserting the CCTV camera into the curb box to view the outside of the pipe on either side of the shutoff valve. As previously shown in Exhibit 2-2, a curb stop could be flanked with the system-owned portion and customer-owned portion on either side. Bukhari et al. (2020) notes the following about curb box configurations:

> "There are a variety of curb box styles on the market, but in cold climates, they usually consist of a telescoping pipe that extends vertically from the ground surface down to the shut-off valve, which is typically situated 3 to 5 feet below grade. In warmer climates, curb stop boxes may be larger plastic or fiberglass enclosures buried at shallower depths. The bottom of the curb box is frequently arched, so the service line passes through the arch without the valve box resting on the line itself."

Exhibit 5-4 shows an example schematic of a curb or stop box with a telescoping pipe from Des Moines Water Works.

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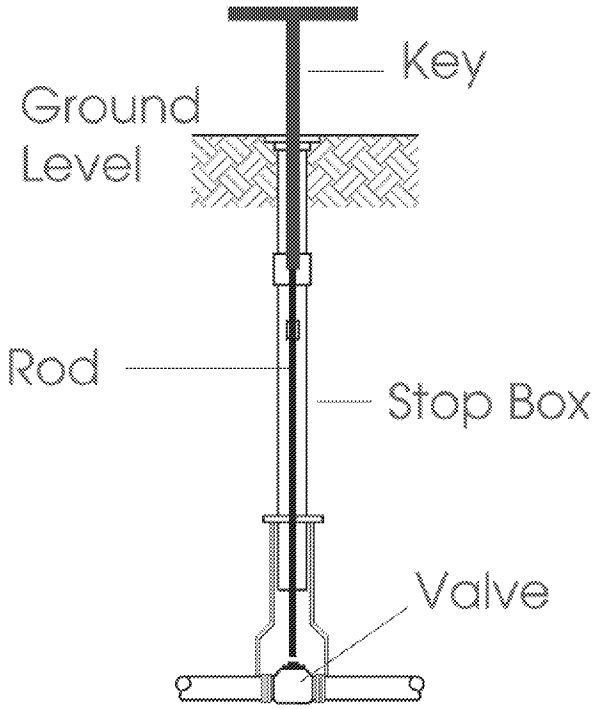
Exhibit 5-4: Example Stop Box Schematic from Des Moines Water Works, Iowa



Source: Des Moines Water Works, IA (https://www.dmww.com/water_service/service_lines/index.php). Accessed December 20, 2021.

A small diameter CCTV camera can be inserted into the curb box to visually inspect the exterior of the service line connected at each side of the valve. A bulb-shaped "wiped joint" connection to the curb stop indicates an LSL. It is often necessary to first vacuum soil and debris out of the curb box before inspection (Bukhari et al., 2020). Exhibit 5-5 shows a picture of a lead pipe that was excavated and previously connected to a curb stop (LSLR Collaborative, 2021). Exhibit 5-6 shows example pictures from CCTV inspection in Pittsburgh, Pennsylvania, showing an LSL, a non-LSL, and a service line that is not identifiable. Water systems using this method should use it first on known LSLs and other service lines of known materials to determine the visual elements that allow them to differentiate among the pipe materials.

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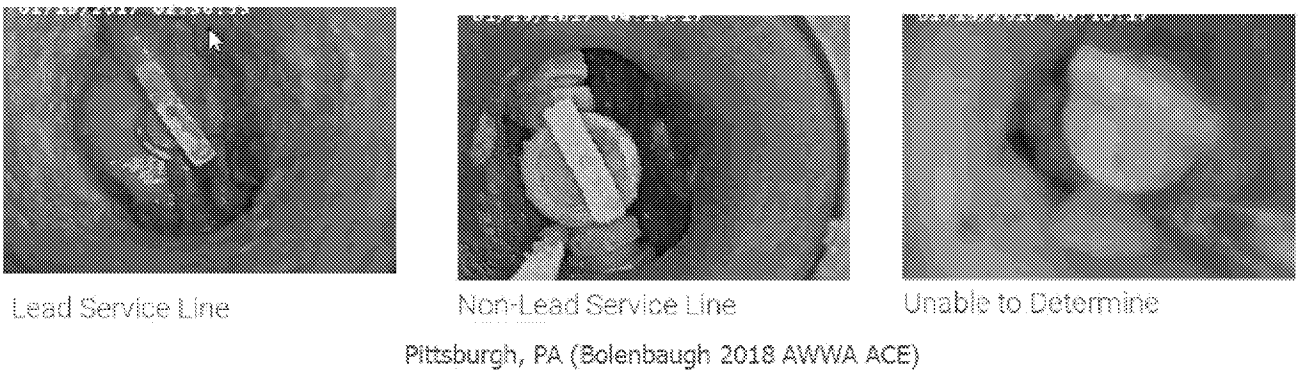
Exhibit 5-5: Lead Pipe at a Curb Stop

Source: LSLR Collaborative, 2021 from Philadelphia Water Department, PA

Exhibit 5-6: Examples CCTV Camera Pictures for LSL, non-LSL, and Unable to Determine



Source: Baribeau, 2021

In 2018, the Pittsburgh Water and Sewer Authority (PWSA), Pennsylvania, implemented a curb box inspection program and inspected approximately 45,000 locations. They found that there were no usable data for approximately 75 percent of the locations for the following reasons (Duffy and Pickering, 2021):

- Problems with locating the curb box,
- An inability to access the curb box because the box was damaged or misaligned,
- Degradation of the line, and/or
- Lack of clarity of the photograph.

Results were very accurate when an LSL was identified (PWSA confirmed 97 percent of LSLs identified through curb box inspections via excavation). However, lead was found at approximately 35 percent of locations where the curb box inspection indicated a non-LSL. Duffy and Pickering (2021) explain that, in some locations, this happened because the curb box and a

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small portion of the service line were replaced but the remainder of the service line was still lead (see PWSA case study in Appendix B for more information). For these reasons, PWSA no longer uses curb box inspections "to verify the presence of non-lead" (Bolenbaugh, 2022, personal communication). EPA recommends that water systems using this method consider conducting a pilot study at a subset of sites to determine its accuracy, possibly supplementing determinations of non-LSLs with additional evidence prior to expanding its use to the entire distribution system.

Internal CCTV Inspection

Some water systems have used high-resolution cameras equipped with a flexible, fiber optic scope and a light source to inspect the service line material from inside the pipe (Bukhari et al., 2020). Tucson Water, Arizona, and Green Bay, Wisconsin, used internal CCTV inspections after shutting off water service and disconnecting the water meter located inside the curb box. A benefit of this technology is that a greater length of the service line can be visually inspected. However, the drawbacks are that the method is ineffective when the line is coated with corrosion scale and the method itself can cause disturbance to the pipe (Bukhari et al., 2020; Hensley et al., 2021). Hensley et al. (2021) recommend measures be taken to reduce scale disturbances and lead release when using this method. For example, the LSLR Collaborative has guidance on alerting customers to potential disturbances of LSLs.[20] The LSLR Collaborative also has guidance on actions customers can take to reduce lead exposure after a replacement or disturbance.[21] Systems could also consider immediately replacing service lines identified as LSLs where possible.

5.2 Water Quality Sampling

Water quality sampling protocols have been used by water systems to detect the presence of LSLs. Three sampling protocols are described in Hensley et al. (2021), each with varying degrees of cost, complexity, accuracy, and customer cooperation required:

- **Targeted service line sampling** involves flushing out the volume of water in the premise plumbing and collecting and analyzing a sample from the service line. The volume of water from the tap to the service line can be estimated based on pipe diameters and lengths. Cartier et al., 2012 (as cited in Hensley et al., 2021) found that based on typical premise plumbing volumes in Montreal, Quebec, a lead concentration threshold of 3 micrograms per liter (µg/L) in the second liter after 15 minutes of stagnation was indicative of an LSL.
- **Flushed sampling** involves collecting a sample from the customer's tap after a set flushing time. For example, flushing for five minutes could result in a sufficient difference in lead levels to distinguish LSL sites from non-LSL sites (Cartier et al., 2012; Deshommes et al., 2016). This method is simple and can be done as an initial screening.

[20] https://www.lslr-collaborative.org/disturbing-lead-service-lines.html.
[21] https://www.lslr-collaborative.org/techniques-to-control-lead-exposure-from-lsl-replacement.html.

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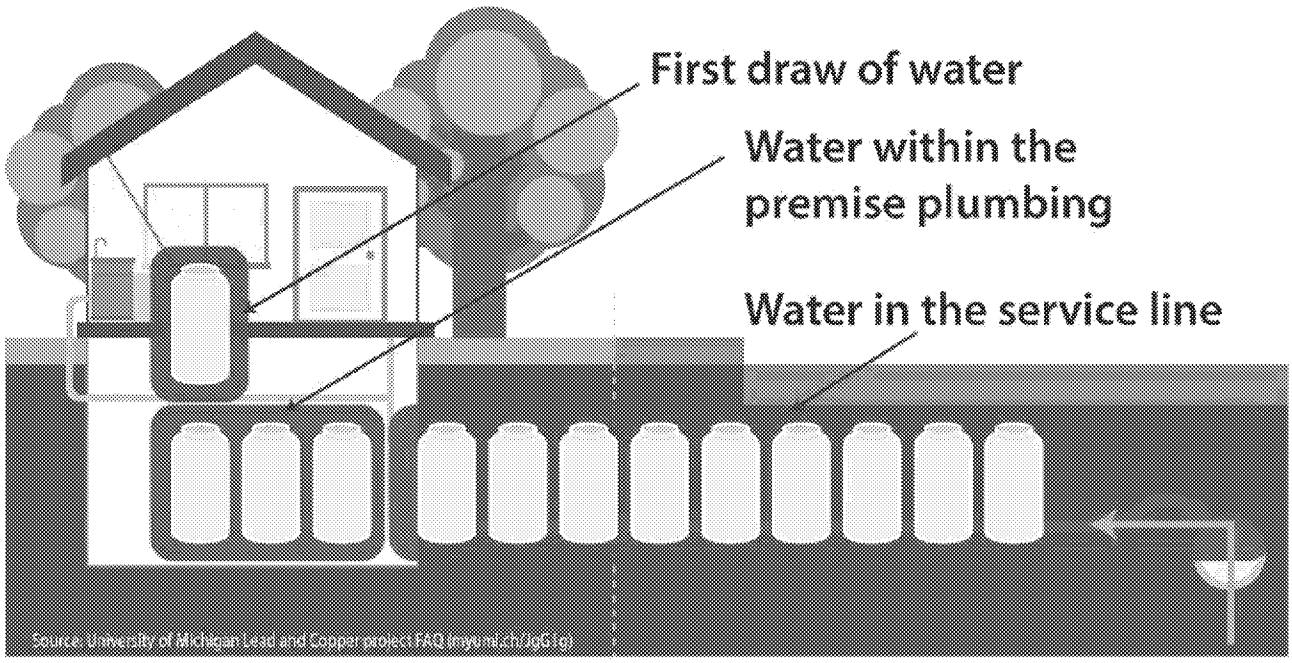
- **Sequential sampling** uses series of consecutive samples (typically 500 mL to 1 L) collected from an interior tap after a stagnation period (typically 6 hours or more). The number of samples needed depends on the length and diameter of the plumbing from the tap through the length of the premise plumbing and service line, but it is commonly between 8 and 15 liters (Hensley et al., 2021). See Exhibit 5-7 for an example of sequential sampling. Although sequential sampling can be a sensitive tool for identifying LSLs, it is relatively invasive to the resident and more complex than other water quality sampling methods (Schock et al., 2021; Hensley et al., 2021).

Exhibit 5-7: Example of Sequential Sampling



Note: The number of bottles for each part of the plumbing system and service line is site-specific.

It is important to note that water quality sampling is a more appropriate screen for the presence of LSLs since low and non-detect lead levels may not reliably detect the absence of LSLs (Hensley et al., 2021). The key to using water quality sampling for identifying LSLs is establishing a ***community-specific threshold*** above an indicator for the possible presence of an LSL. Examples of water systems using water sampling protocols and thresholds to screen for LSLs include:

- **Denver Water** (Denver, CO), which uses pH adjustment for corrosion control, uses a subset of three samples to assess if a location has an LSL: a first draw, a second draw after a 30-second flush, and a third draw after another 30-second flush. If the average lead concentration is 5 µg/L or greater, they consider it an LSL (Denver Water, 2019, cited in Hensley et al., 2021).

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- **DC Water** (Washington, DC), which uses orthophosphate for corrosion control, conducts sequential sampling and uses a screening value of 5 µg total lead mass in ten 1-liter sequential samples (Schmelling, 2019, cited in Hensley et al., 2021; Bukhari et al., 2020).
- **Three Canadian utilities** (Montreal, Quebec; Guelph, Ontario; and Ottawa, Ontario) use either targeted service line sampling or flushed sampling protocols and thresholds of 1 to 5 µg/L to screen for LSLs (Schock et al., 2021).

A study by Schock et al. (2021) investigated the reliability of using the flushed sampling protocol and the sequential sampling protocol at two communities with varying levels of corrosion control. They were able to establish community-specific threshold levels to identify LSL sites based on the maximum flushed sample lead concentration and the weighted average sequential profile lead concentration. The authors recommend a four-step sampling approach for identifying LSLs as follows:

(1) Establish baseline threshold lead concentrations for fully flushed and sequential samples from homes that have never had LSLs.

(2) Collect fully flushed and sequential samples from homes with LSLs.

(3) Collect fully flushed samples from homes with unknown service line materials suspected to be lead (*i.e.*, unknown, likely lead).

(4) Collect sequential samples from the same homes in step 3 if fully flushed samples do not clearly indicate the presence of an LSL.

Researchers found this combination of sampling to be robust in predicting the presence of LSLs under different corrosion control and household plumbing scenarios (Schock et al., 2021).

5.3 Excavation

If a service line is not accessible for visual inspection, the water system may need to excavate soil, and potentially remove portions of the road, sidewalk, or other obstacles to determine service line materials. Excavation methods require different levels of disturbance, time investment, and cost as well as coordination with the property owner. This section discusses two approaches: mechanical excavation and vacuum excavation, which are described in Sections 5.3.1 and 5.3.2, respectively.

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5.3.1 Mechanical Excavation

Example of a Mechanical Excavation
Source: Duffy and Pickering, 2021

Mechanical excavation involves using a backhoe or other mechanical excavator to dig a "pothole" or test pit to expose the service line (Hensley et al. 2021). This is typically done at the curb box or shutoff valve. A full trench can also be dug, exposing the entire length of the service line. Digging a full trench can have a higher accuracy than methods that only expose sections of the service line because it typically exposes a longer length of the service line, up to 10 feet in some situations (Weaver, 2018). However, it is labor- and time-intensive, and it is more likely to result in disturbance or damage to the yard, service lines, and nearby infrastructure (Katerndahl & Bizal, 2003; Lewis et al., 2017 (as cited in Hensley et al., 2021)). Disturbances to LSLs can cause elevated lead levels in drinking water (Del Toral et al., 2013). If an LSL is found during trench excavation which unearths the entire service line, EPA recommends replacing it right away given the efficiency gained by conducting an LSLR under such circumstances. If an LSL or GRR is disturbed during the excavation, EPA recommends alerting the customer that such disturbance can potentially cause temporarily elevated lead levels in drinking water and providing them with information about how to reduce lead levels, such as flushing.

This risk may be mitigated by using a handheld shovel in combination with machinery for delicate work. Further, this method of identification can be costly for utilities and residents as some non-LSLs may be dug up and reburied and the site restored (*e.g.*, paving and landscape restoration). See the PWSA case study in Appendix B.

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5.3.2 Vacuum Excavation

Example of Vacuum Excavation.
Source: Hensley et al., 2021

Vacuum excavation[22] involves using a water jet or compressed air to loosen soil, which is vacuumed up resulting in a small hole to access the service line. This method is faster, less intrusive, less likely to disrupt or damage the service line or other buried utilities, and cheaper than mechanical excavation (Abernethy et al., 2018; Feick, 2018; Kuhl, 2018; Oswald, 2018; Zahra, 2019, as cited in Hensley et al., 2021; Bukhari et al., 2020).

Excavation can be done at the curb box to access sections of the customer-owned and system-owned portions of the service line and might be within the water system's authority to conduct without customer approval, though EPA encourages prior notification to the resident. However, due to the size of the inspection hole, there is a risk of missing an LSL segment in a service line, such as when a service line is partially replaced (Kuhl, 2018, as cited in Hensley et al., 2019; Bukhari et al., 2020). This can be mitigated by conducting vacuum excavation at multiple points along the service line or by combining vacuum excavation with another identification method, such as visual inspection where the service line enters a building. If an LSL or GRR is disturbed during the excavation, EPA recommends alerting the customer that such disturbance can potentially cause temporarily elevated lead levels in drinking water and providing them with information about how to reduce lead levels, such as flushing.

5.4 Pros and Cons of Field Investigation Methods (Hensley et al., 2021)

Hensley et al. (2021) provides a comparison table of service line investigation methods that is shown as Exhibit 5-8 and includes visual observation, water quality sampling, and excavation methods. This table can be used by systems to help select service line identification methods that are best suited to their particular distribution system and community. Note that the first row is community records review, which are required under the LCRR.

[22] This technique is also referred to as "hydro-excavation" when water is used instead of air (Bukhari et al., 2020).

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Rankings for each service line investigation method are based on cost, skill (labor and technical interpretation), disruption to the customer (water service interruption, property damage, and involvement), disturbance (service line and traffic flow), overall time, and accuracy.

Exhibit 5-8 was developed using feedback from three anonymous water utilities and is included as a guide. Experiences of other utilities may differ. Thus, the effectiveness of the approaches should be validated by the water system.

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Exhibit 5-8: Comparison of Service Line Identification Techniques (Hensley et al., 2021)

	Utility cost			Disturbance		Impact on resident			Utility skills required		Overall	
LSL ID method	**Financial**	**Onsite time**	**Pre-/ post-time**	**Service line**	**Traffic flow**	**Water service disruption**	**Property damage**	**Resident involvement (includes pre-/post-time)**	**Technical interpretation**	**Labor**	**Time**	**Accuracy**
Community records review	L or M (if digitized)	NA	M to H (L if digitized)	None	None	None	None	None	L to M	None	M	L to H
Basic/visual observations (on private side)	L	L	L to M	None	None	None	None	L	L	L	L	M to H
Water quality sampling—flushed	L	L	M to H	None	None	None	None	L	M	L	M	L to M
Water quality sampling—sequential	M	L	M to H	None	None	M	None	M to H	M	L to M	M	L to H
Water quality sampling—targeted	L	L	M to H	None	None	M	None	M to H	M	L to M	M	M
Excavation—mechanical	H	H	M to H	H	M to H	H	H	L	L to M	H	H	H
Excavation—vacuum	M to H	L to M	M to H	M	L to M	M to H	M to H	L	M	M to H	M	M to H

Source: Table 2: Relative pros and cons of lead service line identification methods using a ranking system of H: high, M: medium, and L: low (Hensley et al., 2021).

Note: This table does not include CCTV investigations in the evaluation of the basic/visual observation method.

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5.5 Predictive Modeling

Predictive models look for patterns in a dataset to develop rules or algorithms. Geostatistical models use attributes from known locations to make inferences about areas of unknown condition. Examples of model inputs may include water system or community data, such as the distribution of known materials, along with other factors, such as building age and location. These models are typically built using an initial dataset and can be continually "trained" or improved as more data are added (Muylwyk, 2020).

Geostatistical models have been used by water systems to estimate the probability that a service line is lead, prioritizing areas for service line investigations and expediting LSLR (Abernathy et al., 2018; Muylwyk, 2020; Bukhari et al., 2020; Hensley et al., 2021). These models can be enhanced by incorporating machine learning algorithms in which the model improves itself as new data are added. Information on sensitive subpopulations and socioeconomic factors can be added as layers to enhance planning and prioritization of LSLR (Muylwyk, 2020).

The literature provides successful examples of geostatistical and machine learning modeling in Flint, Michigan, and Denver, Colorado (Abernathy et al., 2018; Muylwyk 2020; Walker 2020). Detroit, Michigan, is also using these models to inform their service line investigation and LSLR programs.[23] A key factor in the success of predictive modeling is the use of representative data. Using a representative set of known data on service line material is important in maximizing accuracy and reliability and minimizing bias.

For more information and examples of how predictive modeling has been used in Flint, Michigan, and Denver, Colorado, systems and states can refer to the 2020 ASDWA webinar, "Predictive Tools for Lead Service Line Inventories" (ASDWA, 2020).

5.6 Emerging Methods

Service line material identification technology is the subject of ongoing research. A review of emerging methods is provided in Hensley et al. (2021) and Bukhari et al. (2020). A central theme of these techniques is identifying creative ways to isolate the service line material and location based on physical signatures of the pipe, largely by assessing how service line materials respond to stimuli such as electrical or wave energy and pairing that information with documented characteristics of potential service lines in the evaluation area. Many of these emerging methods apply the basic tenets of subsurface material identification from a different discipline. In many cases, general information about service line materials in the area is required to inform data collected in the field. For example, ground-penetrating radar (GPR) can accurately detect service line location and diameter; however, it lacks the ability to discern service line material. Local knowledge of lead pipe diameter versus diameters of other pipe materials allows GPR to

[23] Detroit will use predictive modeling to find its 80,000 lead service lines (detroitnews.com).

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potentially function as a service line inventory technique by linking the detected diameter of the pipe with the corresponding service line material for that diameter (Deb et al., 1995; Bukhari et al., 2020). Other examples of emerging technologies include electrical resistance testing and stress wave propagation.

Application of these emerging technologies can be limited by signal interferences, caused by the presence of other pipe materials and subsurface environments, and the development of signal processing algorithms. Hensley et al. (2021) notes that emerging methods have "technical basis but limited research or field implementation to demonstrate their effectiveness."

Key Points to Remember

LCRR Requirements

- Water systems should be aware of identification methods provided or required by their state under the LCRR (40 CFR §141.84(a)(3)(iv)).

Recommendations (Not Required under the LCRR)

- Service line investigation methods can be used to verify historical records and gather information when service line material is unknown.
- Investigative methods include visual observation, water quality sampling, and excavation.
- Many systems have enlisted the public's help in visually identifying service line material where the service line enters the building.
- Water quality sampling has been used to identify the presence of LSLs. There are several approaches in the literature – including to establish a system-specific threshold above which may indicate the presence of an LSL.
- Some water systems have found water quality sampling and CCTV to be reliable in positively identifying LSLs but not in confirming the absence of LSLs.
- Mechanical and vacuum excavation can be used to visually inspect service line material. Mechanical inspection can be more accurate than vacuum excavation if it exposes a larger length of service line but is often more expensive and likely to disturb or damage service lines and nearby infrastructure.
- Predictive models have been used to estimate the probability that a service line is lead, prioritize areas for service line investigations, and to expedite LSLR.
- Water systems should select the method(s) that are best suited to their particular distribution system and community, considering cost, labor skill requirements, disruption to homeowners, overall time, and accuracy.

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Chapter 6: Developing and Updating the Inventory

This chapter provides guidance on preparing the initial inventory under the Lead and Copper Rule Revisions (LCRR) and improving it over time. This section is organized as follows:

- Section 6.1 provides requirements and recommendations for developing the initial inventory.
- Section 6.2 provides recommendations for prioritizing service line investigations.
- Section 6.3 includes requirements and recommendations specific to systems with only non-lead service lines.
- Section 6.4 includes guidelines for submitting the initial inventory to the state.
- Section 6.5 presents requirements for notifying customer of known or potential lead sources in their service lines.
- Section 6.6 provides requirements and guidance for updating the inventory.
- Section 6.7 provides recommendations for state review of the initial inventory.

6.1 Developing the Initial Inventory

6.1.1 Required under the LCRR

Systems should review Chapters 1 through 4 for a complete listing of initial inventory requirements under the LCRR. Key requirements systems should keep in mind as they prepare an initial inventory include:

- The initial inventory must include all service lines regardless of ownership (40 CFR §141.84(a)(2)).
- The initial service line inventory must use historical records as described in Chapter 4 (40 CFR §141.84(a)(3)(i)-(iii)), information gathered during normal operations as described in Section 3.4, and any resource, information, or identification method provided by or required by the state (40 CFR §141.84(a)(3)(iv) and (a)(5)).
- Non-lead must be determined not to be lead or galvanized requiring replacement (GRR) through an evidence-based record, method, or technique (40 CFR §141.84(a)(4)(iii)).
- If the water system is unable to demonstrate that the galvanized service line was never downstream of a lead service line (LSL), it must presume there was an upstream LSL and classify it as GRR (40 CFR §141.84(a)(4)(ii)).

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6.1.2 Recommendations (Not Required under the LCRR)

EPA recommends that systems create an initial inventory that is as thorough as possible. Doing so would minimize the number of unknowns and benefit water systems and customers by:

- Potentially reducing the number of field investigations conducted by water systems to identify unknowns.
- Providing service line material information more quickly to customers, thereby allowing them to take steps to minimize their lead exposure, including replacing their LSLs and GRR.
- Facilitating access to the current funding available for lead service line replacement (LSLR) activities, allowing for systems to demonstrate the need and scope of LSLR projects.

> *EPA recommends that systems track the sources of the material classification (e.g., specific historical record, visual inspection, records and inspection) in their inventory.*

EPA recommends that systems check their inventory for completeness by comparing the total number of service lines to the number of service connections in their system. Additional recommendations for reviewing historical records, demonstrating that a galvanized pipe is not GRR, and conducting service line investigations are discussed below.

Approaches to Historical Records Review

When starting their review of historical records, systems may want to refer to an approach from the literature. Remember that no matter the approach, systems must review all historical records as listed in the LCRR and laid out in detail in Chapter 4. Example approaches include:

- **Initial Screening Process (Liggett et al., 2022):** Exhibit 6-1 shows a possible approach from Liggett (2021) to screen service lines using historical records. The starting dataset at the top of the diagram represents all service lines. Non-lead service lines can be screened out based on lead ban and construction records (*i.e.*, service lines constructed after the 1986 Safe Drinking Water Act lead ban became effective are unlikely to have an LSL). That dataset is then further reduced by screening out non-lead lines based on size, such as a maximum diameter of lead pipe that was manufactured or installed. The dataset in black represents the remaining number of service lines that could potentially be lead or GRR. See Chapter 4 for information and guidance on reviewing these types of historical records. EPA recommends that systems track pipe diameter and installation date in their inventories and document the municipal and plumbing codes and construction records used to make determinations under this approach.

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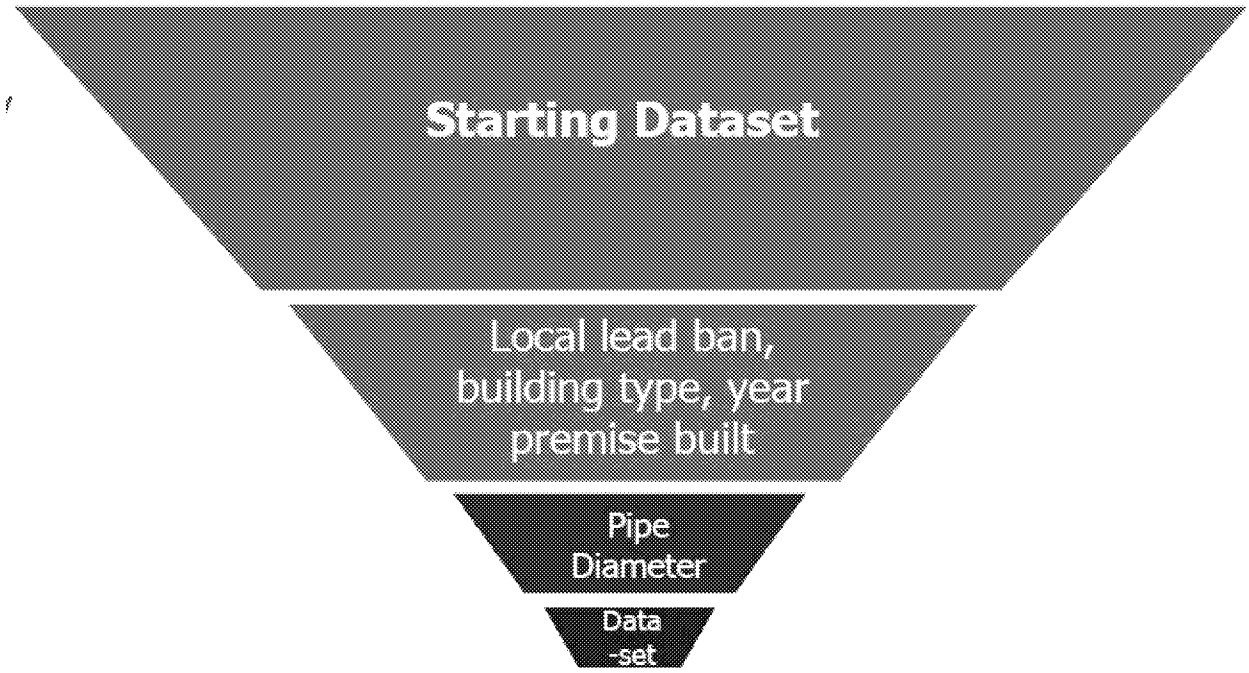
Exhibit 6-1: Service Material Screening Process Based on Records



Source: Liggett, 2021 (April 2021 webinar slides)

- **Asking Key Questions (LSLR Collaborative, 2022):** The Lead Service Line Replacement (LSLR) Collaborative provides a flowchart with key questions on their website titled, "Preparing an Inventory: Where Do We Start?" The flowchart is included here as Exhibit 6-2. It outlines key questions to ask when starting the process of preparing an initial inventory and points the reader to available sources. Liggett et al. (2022) notes that several of the water systems interviewed for case studies found this resource to be a beneficial starting point. Similar to the initial screening approach above, EPA recommends that systems document the municipal and plumbing codes and construction records used to make their determinations under this approach.

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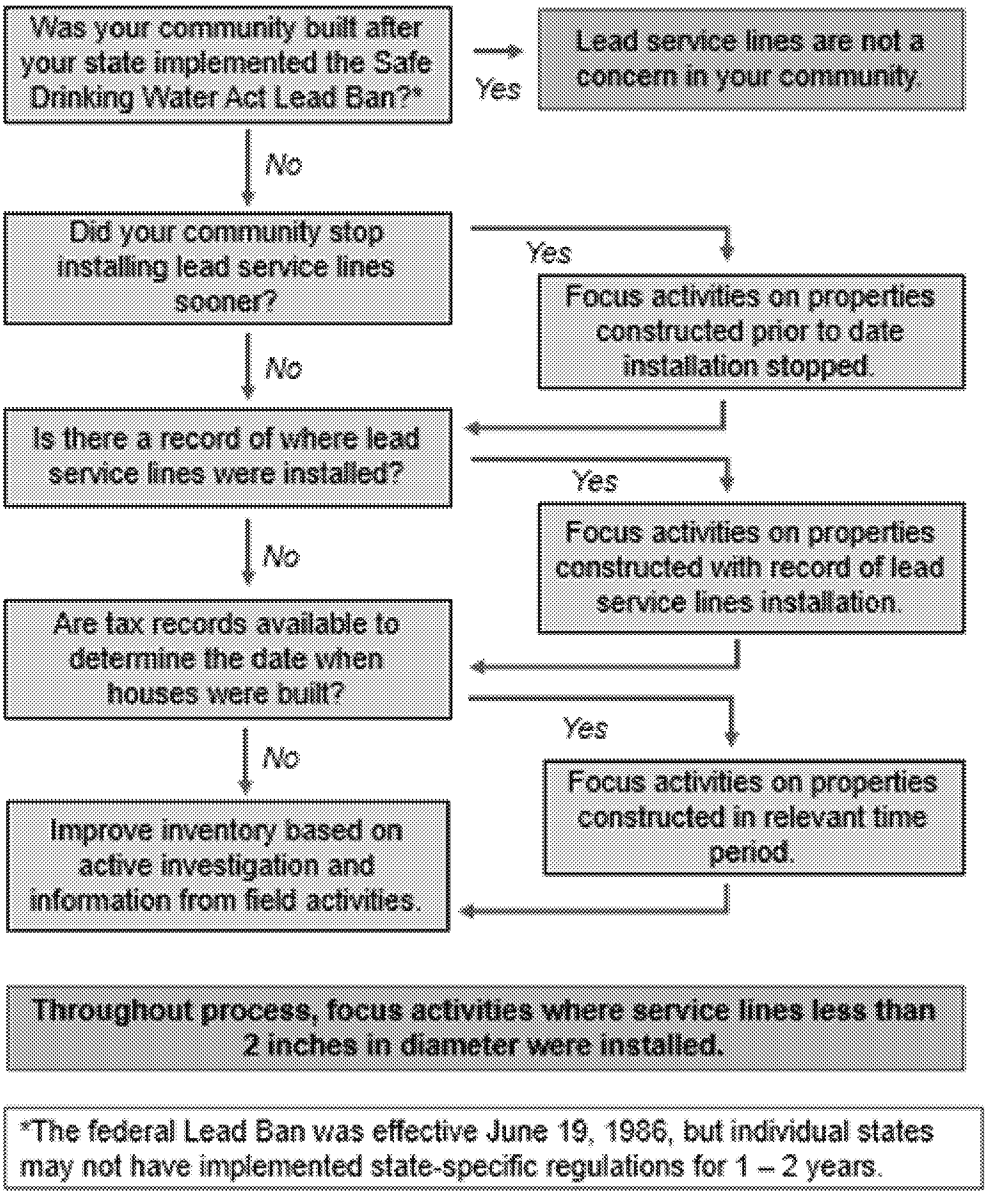
Exhibit 6-2: LSLR Collaborative Flow Chart



Source: LSLR Collaborative website: Preparing an Inventory: Where do we Start? - LSLR Collaborative (lslr-collaborative.org). Accessed April 25, 2022.

- **Weight-of-Evidence Approach:** DC Water uses a weight-of-evidence approach to evaluate multiple historical records and field information to classify service line materials (Schmelling, 2021). A weight-of-evidence approach involves compiling all data indicating an individual service line's material composition and assessing the system's confidence in each record and investigative technique in order to classify a service line's material for the inventory. Corroboration of historical records by another method makes a strong

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case for any service line classification. However, some water systems have reported finding conflicting records. EPA recommends using a conservative approach whereby service lines with unresolved conflicts in records and field information are assigned as unknown (or lead, where one or more data sources indicate that lead is present) until they can be resolved.

Demonstrating a Galvanized Service Line is Non-lead

Under the initial inventory requirements of the LCRR, if a system can demonstrate with an evidence-based record that a galvanized service line was never downstream of an LSL, it may be considered non-lead for inventory classification. Some examples of evidence to support a demonstration that a service line is not a GRR could include:

- An original tap card from installation showing the material is not lead.
- The date lead was banned or not used. Service lines installed after that date would be non-lead.
- Construction practices showing uniform pipe material was installed (*e.g.*, galvanized steel was used for the entire service line).
- Any other record showing lead was not used at a particular site.

See Chapter 4 for information on historical records related to those described here.

Conducting Service Line Investigations

Although water systems are not required to conduct on-site investigation of service lines under the LCRR for the initial inventory, if on-site investigations are performed and documented, they would be a required source of information for the inventory because they would be a water system record and a record of an inspection. In addition, they can be useful for verifying existing records and reducing the number of unknowns. Water systems should review the information in Chapter 5 to assist in identifying appropriate additional investigation methods for their situation. The literature suggests that multiple records and investigation techniques can increase confidence in a service line's material classification (Abernethy et al., 2018; Feick, 2018; Kuhl, 2018; Oswald, 2018; Zahra, 2019, as cited in Hensley et al., 2021). Water systems should be aware of identification methods provided or required by their state under the LCRR (40 CFR §141.84(a)(3)(iv)). For example, see Appendix E for the State of Michigan's requirements. Remember that if a water system chooses an investigation method not specified by the state under 40 CFR §141.84(a)(3)(iv), state approval is required (40 CFR §141.84(a)(3)).

Section 6.2 identifies possible approaches that water systems could consider for prioritizing locations for on-site investigations. Note that the Association of State Drinking Water Administrators (ASDWA) recommends that systems develop their own specific process of

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identifying unknowns and improving the inventory through service line investigations (ASDWA, 2022).

EPA expects initial inventories to have varying percentages of unknowns, depending on the condition of existing records and prior inventory development. EPA discourages systems from submitting inventories to states with all unknowns. EPA notes that as part of the LCRR initial inventory requirements, systems must identify and track service line materials as they are encountered during normal operations, such as when performing maintenance activities (40 CFR §141.84(a)(5)). EPA recommends that water systems also begin engaging customers and conducting proactive, on-site investigations before the compliance date.

Systems should continue to gather information on service line materials after service lines have been designated non-lead and assess the accuracy of records and investigative techniques in accordance with the continuous improvement framework recommended in Chapter 3. If water systems later find a certain information source to be unreliable, they should consider reclassifying service line materials that rely solely on that method as unknown until additional information is gathered. ***Remember, water systems must update their inventory as better information becomes available*** (40 CFR §141.84(a)(6)).

6.2 Prioritizing Field Investigations

EPA recommends that systems conduct on-site investigations to reduce the number of unknowns in the system as quickly as possible. The extent of proactive service line investigations should be based on the following:

- The completeness of historical records (*e.g.*, how many of the total service lines are included, and how much of the distribution service area is covered)
- Confidence in the accuracy of historical records (*e.g.*, based on cross-checking with other records and field investigations)
- The extent the system will already be in the field doing work, such as meter replacement and LSLR
- Previous service line investigations
- Number of unknowns

There are many ways to prioritize locations for service line investigations. Examples are described below and are not necessarily listed in order of importance. EPA recommends that systems consider using multiple prioritization criteria in planning for investigations.

Consider vulnerable or environmental justice populations when targeting areas for investigations. For example, a water system may want to consider prioritizing investigations at locations served by unknown service lines where children are present, such as schools or child care facilities. In some cases, smaller child care facilities operated out of single family residences

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could be more likely to be served by an LSL based on the diameter of the service line. Water systems could consider prioritizing other factors as well, such as populations that have been disproportionately exposed to lead from all sources or face additional disparities that may make it more difficult to cope with the impacts of lead exposure. Systems could also consider income-based prioritization, conducting investigations at sites serving customers who qualify for reduced rates. Systems could also consider referencing requirements of external LSLR funding they have received. For example, if the customer eligibility for LSLR funding is based on income, water systems could consider prioritizing investigations of unknowns based on the same criteria to facilitate use of the LSLR funding.

Target areas with the most unknowns. Systems with many unknowns may want to consider targeting proactive investigations in areas where there are many unknowns to improve efficiency.

Prioritize investigations by the likelihood of finding LSLs. Prioritizing investigations of service lines that are unknown-likely lead and replacing them if found can lower costs and save time related to access agreements, traffic control, and field crew mobilization. This approach may also reduce the costs associated with false negatives (*i.e.*, digging up a suspected lead line and finding that it is non-lead). This prioritization approach can benefit from predictive modeling by indicating the probability that a service line is lead. EPA also recommends replacing lead and GRR service lines when found to expedite LSLR and improve public health.

Prioritize investigation in areas undergoing LSLR. Systems with existing LSLR programs could prioritize proactive investigations in areas undergoing LSLR projects to save time and cut costs related to access, traffic, and crew mobilization.

Use field investigations to verify historical records. Systems can use field investigations to verify the accuracy of historical records. One possible approach is as follows:

(1) Select a random set of addresses where service line material has been assigned based on historical records.

(2) Use one or more of the investigation methods described in Chapter 5 (*e.g.*, visual observation, excavation) to identify the service line material for the system- and customer-owned portions.

(3) Compare field results to historical records.

An example is the approach required by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Michigan requires a minimum number of service line investigations with the goal of reaching a 95 percent confidence level in the accuracy of historical records. See Appendix E for minimum service line materials verification requirements in the state of Michigan.

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6.3 Requirements and Recommendations for Systems with Only Non-Lead Service Lines

6.3.1 LCRR Requirements

Systems may be able to demonstrate through evidence-based records, methods, or techniques that ***all*** service lines in their system (both system- and customer-owned) are non-lead. Water systems with only non-lead service lines are subject to the following requirements under the LCRR:

- Develop an initial inventory that complies with the requirements to use and review certain information as described in 40 CFR §141.84(a)(3). Submit the initial inventory by ***October 16, 2024*** (40 CFR §141.90(e)(1), USEPA, 2021d). Remember that all systems, even those with initial inventories that identify all service connections as non-lead service lines, are required to create and submit their initial inventory to the state (40 CFR §141.80(a)(3)).
- Systems whose initial inventory contain only non-lead service lines may provide a written statement that the system has no LSLs or GRRs and a general description of methods used to make the determination to meet inventory public accessibility requirements of the LCRR (40 CFR §141.84(a)(9)).
- Include language in their annual Consumer Confidence Report (CCR) explaining how customers can access the inventory or provide a statement with the description of methods used to make the determination (40 CFR §141.153(d)(4)(xi)). Note that this requirement applies to community water systems (CWSs) only.
- Notify the state within 30 days and prepare an updated inventory on a schedule established by the state if the system subsequently finds an LSL or GRR service line (40 CFR §141.90(e)(3)(ii)).

6.3.2 Recommendations (Not Required under the LCRR)

Recommended Approaches and Documentation for Demonstrating all Service Lines are Non-Lead. Water systems can use different approaches to demonstrate that all service lines are non-lead. Some may be able to use municipal codes and construction dates to show that all service lines were constructed after lead was banned in the system (*i.e.*, the system never had LSLs). Others may be able to positively identify non-lead materials (*e.g.*, copper or PVC) for all service lines through historical records, field investigations, or both. Other water systems may be able to demonstrate that they have no LSLs or GRRs because they have replaced both the system- and customer-owned portions everywhere in the system. Water systems can use a combination of evidence-based records, methods, or techniques; for example, when a portion of their distribution system was constructed after the lead ban, and the remainder is verified as non-lead based on historical records and verification. Exhibit 6-3 recommended documentation for different types of systems with all non-lead service lines depending on their basis of determination.

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Exhibit 6-3: Recommended Documentation for Systems with all Non-Lead Service Lines

Scenario	Basis of Determination[1]	Recommended Documentation[2]
Never had LSLs	Municipal codes and construction dates (*e.g.*, all service lines were installed after lead was banned)	• Relevant municipal code language and dates and references/web links to materials that are available online. • Dates when service lines were constructed, and a list of service line materials used instead of lead. • Confirmation that no LSLs have ever been found in the system.
	Detailed historical records on service line material, location, and size indicating that all service lines are a material other than lead (*e.g.*, copper or PVC)	• Description of historical records including format of the records and condition. • Specific standard operating procedures (SOPs) or policies regarding LSL installation. • Description of how the system verified the accuracy of historical records including the method(s) and number of verified service lines records compared to the total. • Confirmation that no LSLs have ever been found in the system.
	Field investigations	• Description of methods including how the system inspected the material of the system-owned and customer-owned portion, if applicable. • The number of service lines that were investigated using each method. • Confirmation that no LSLs have ever been found in the system.
Replaced all LSLs and GRR	Detailed historical records of non-lead lines and records showing when each LSL and GRR service line was replaced	• Description of historical records documenting non-lead service line material along with description of how the system verified the accuracy of non-lead records. • Specific SOPs or policies regarding LSL installation. • Detailed list of where and when each LSL and GRR was replaced.

Notes:

[1] Basis of determination for systems that have all non-lead service lines can be a combination of the information shown. Systems should include all relevant documentation for all their bases of determination.

[2] Should include records for both the system-owned and customer-owned portions where ownership is split.

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Submitting the Initial Inventory to the State. Systems with all non-lead service lines must still submit an initial inventory to their state by October 16, 2024. The inventory should have all service lines categorized as non-lead or a non-lead subclassification (*e.g.*, copper or plastic) and zero service lines categorized as lead, GRR, or unknown. EPA developed an inventory template to support systems as they prepare and submit their inventory. The template materials are described in Section 3.3.1 with the electronic version available at EPA's website[24] as well as blank forms in Appendix A. EPA recommends that systems check with their primacy agency if they have specified a mechanism or format for their inventory submission. States may require additional information be submitted as well.

Discovery of LSLs or GRRs after submission of initial inventory with no LSLs, GRRs, or Unknowns. EPA recognizes that even when systems' inventory and LSLR efforts have progressed such that all service lines have been classified as non-lead, it is possible that an LSL or GRR may subsequently be found. Systems should work closely with their state if they discover an LSL, notifying the state as soon as possible (within 30 days as stated above in Section 6.3.1). The system must prepare an updated inventory in accordance with 40 CFR §141.84(a) on a schedule established by the state (40 CFR §141.84(a)(6)(i)). Although not required, EPA recommends systems strive to replace the LSL as soon as practicable as well as investigate the circumstances of LSLs (*e.g.*, when was it installed and who installed it).

EPA recommends that states consider whether the LSL discovery was an isolated event that is unlikely to occur again or a potential indicator of additional LSLs in the distribution system. If the state determines that the discovery of an LSL is an indicator of other potential LSLs in the system, EPA suggests that the state work with the water system to determine which service lines should be reclassified as unknown and develop a plan for field investigations.

6.4 Submitting the Initial Service Line Inventory

Systems must submit their initial inventory of service lines in accordance with 40 CFR §141.84(a) to their state by **October 16, 2024** (40 CFR §141.90(e)(1); USEPA, 2021d). The initial inventory must include the system- and customer-owned portions of all service lines in the system's distribution system (40 CFR §141.84(a)(2)) and each service line or portion of the service line must be classified as lead, GRR, non-lead, or lead status unknown (40 CFR §141.84(a)(4)).

The LCRR does not require a specific format for the inventory; however, states may have additional requirements or recommendations regarding inventory format. See Section 3.3 for a discussion of possible inventory formats. As noted in Section 3.3.1, EPA developed a multi-worksheet template to assist water systems and states in developing their service line inventory. An electronic version of the template is available at https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule, and blank forms for each template worksheet are

[24] https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule.

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also provided in Appendix A. The template includes an "Inventory Methodology" worksheet to document the methods and resources used to develop the inventory. The "Inventory Summary" worksheet supports documenting service line ownership and reporting the total number of service lines by the four material classifications. These templates are presented as a possible tool; there is no requirement that a system or state use these templates.

6.5 Notification of Known or Potential Service Line Containing Lead

Water systems with LSL, GRR, or lead status unknown services lines must provide notification to people served by these lines within 30 days after completing the initial inventory. For new customers, the notice must be provided at the time of service initiation. The notification must be repeated annually until the entire service line is no longer a lead, GRR, or lead status unknown service line (40 CFR §141.85(e)). Delivery must by mail or another state-approved method (40 CFR §141.85(e)(4)).

All notifications must include the following:

(1) A statement that the service line material is lead, GRR, or lead status unknown

(2) Information on the health effects of lead. Details on required health effects language are available in 40 CFR §141.85(a)(1)(ii)[25]

(3) Steps to minimize exposure in drinking water

Additional content is required based on service line material classification as follows for:

- **Confirmed LSLs**, the notification must also include information about opportunities to replace the LSL, any available financing programs, and statement that the system must replace its portion if the property owners notify the system that they are replacing their portion.
- **GRR,** the notification must also include information about opportunities for service line replacement.
- **Lead status unknown**, the notification must also include a statement that the service line is unknown but may be lead and information about opportunities to verify the material of the service line.

Water systems serving communities with a large proportion of non-English speaking consumers, as determined by the state, must provide public education materials, including those in 40 CFR §141.85(e), in the appropriate language(s) regarding the importance of the notice or contain a telephone number or address where persons served may contact the water system to obtain a translated copy of the public education materials or to request assistance in the appropriate language. Water systems must demonstrate that they delivered the notification and provide a

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copy of the notification and information materials to their states annually by July 1 for the previous calendar year (40 CFR §141.90(f)(4)).

Recommendations (Not Required under the LCRR)

While not required by the LCRR, EPA recommends that water systems develop notifications that are easy-to-use and understand for consumers and adhere to best practices that are most likely to prompt consumers to take action to protect their households from lead exposure.

- Water systems should use simple, plain language and short sentences that can be easily understood by the members of the public. Notices should avoid long paragraphs or legalistic language.
- Notices should be designed to convey the urgency of the information, differentiate the notice from other mail that a household receives, and draw consumers' attention to key information. For example, notices can use colored envelopes, large-sized envelopes, or text on the external envelope to make the notice stand out compared to other mail. Notices can also use bold design practices to draw consumers' attention to key information, including large, bold, underlined, or colored font, bullet points or numbered points, or boxes around key information.
- Notices should be action-oriented, emphasizing the key steps consumers can take and providing specific instruction on how to do so. Water systems should consult their local health department on resources that consumers can be directed to, including water filters and blood lead level testing.

6.6 Inventory Updates

EPA anticipates that water systems will improve and update their inventory over time, decreasing the number of unknowns and confirming service line material classifications. The LCRR includes requirements for systems to update their inventory based on all applicable sources described in 40 CFR §141.84(a)(3) and (5) and any LSLRs or service line material inspections that may have been conducted. As with the initial inventory, the water system may use other sources of information if approved by the state and must use other sources of information provided or required by the state. The LCRR also requires submission of the updated version of the inventory on the same schedule as a system's tap sampling monitoring, but no more frequently as annually (40 CFR 141.90(e)(3)); however, EPA may revise the inventory requirements under the Lead and Copper Rule Improvements (LCRI). Until any change in the regulation, systems must comply with the LCRR inventory requirements, including the update requirement.

As will be discussed in Chapter 7, EPA suggests that systems consider updating their publicly accessible inventory in real-time. Systems should also follow any state requirements for updates and submittals.

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6.7 State Review and Reporting

6.7.1 State Review of the Initial Inventory

Required under the LCRR

State review of each water system's initial inventory for compliance with LCRR requirements:

- The inventory must include all service lines connected to the public water distribution system regardless of ownership status (40 CFR §141.84(a)(2)).
- The system must use and review the sources of information listed in 40 CFR §141.84(a)(3) and other sources of information if approved by the state. In addition, water systems must identify and track service line materials as encountered in the course of normal operations (40 CFR §141.84(a)(5)).
- Service lines, or portion of the service line where ownership is split, must be categorized as lead, GRR, non-lead, or lead status unknown (40 CFR §141.84(a)(4)).
- A publicly accessible inventory must include location identifiers for each lead and GRR service line (40 CFR §141.84(a)(8)(i)).
- Water systems with lead, GRR, or lead status unknown services lines in their inventory must inform all persons served by the water system at the service connection within 30 days of completion of the initial inventory and repeat the notification on an annual basis until the service connection is no longer a lead, GRR, or lead status unknown line (40 CFR §141.85(e)(1) and (2)). The notification must comply with the content requirement in 40 CFR §141.85(e)(3) and delivery requirements in 40 CFR §141.85(e)(4). In addition, water systems must demonstrate that they delivered the notification and provide a copy of the notification and information materials to their states annually by July 1 for the previous calendar year (40 CFR §141.90(f)(4)). Refer to Section 6.5 for additional detail.

Recommended (Not Required Under the LCRR)

EPA has developed a checklist for the initial inventory submittal with recommended considerations for states to use in their review. States can refer to a fillable copy of the state checklist in Appendix A or the electronic version in the EPA Inventory Template, available at EPA's website, https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule. The checklist has sections for reviewing timely submission, required elements, information sources, public accessibility, and customer notification of service line material.

The ASDWA State Implementation Framework (2022) provides additional recommendations for states to consider in their review of the initial inventory. They note that states may want water systems to submit the evidence used and attest to the non-lead areas of the distribution system.

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States may also want to perform a cursory review of historical lead sampling data. Lead tap monitoring results could reinforce non-lead service line classifications or indicate that more documentation from the water system is needed (ASDWA, 2022).

For systems with all non-lead service lines, ASDWA's framework includes a suggestion for states to consider requiring verification from the water system that there is no lead and a description of the evidence the system used to make this determination. The state could consider tap monitoring results when evaluating the initial inventory for non-lead systems. ASDWA (2022) notes that "a state should feel more comfortable accepting a non-lead certification if there are no lead detections and the records show distribution installation after the state's effective date of the June 19, 1986, Lead Ban."

6.7.2 State Reporting Requirements

The LCRR requires that states report separately the number of lead, GRR, and lead status unknown service lines for each water system. EPA is potentially revising reporting requirements for inventory updates under the LCRI.

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Key Points to Remember

LCRR Requirements

- All systems, including systems with all non-lead service lines, must create and submit their initial inventory of service lines to their state by **October 16, 2024** (40 CFR §141.90(e)(1), USEPA, 2021d). Water systems must begin tracking materials as they are encountered during normal operations before the rule compliance date (40 CFR §141.84(a)(5)).
- Non-lead service lines must be determined through an evidence-based record, method, or technique not to be lead or GRR (40 CFR §141.84(a)(4)(iii)).

Recommendations (Not Required under the LCRR)

- Water systems should begin engaging customers and conducting proactive, on-site service line material investigations as soon as possible to improve their inventory, verify existing records, and reduce the number of unknowns. Water systems should capture as much information as possible for unknowns and consider assigning a likelihood that they are lead.
- Non-lead classification could be based on when LSLs were banned and service lines were installed, along with pipe diameter (most LSLs are less than 2 inches).
- When systems have conflicting records of service line materials, they should consider classifying the line as unknown (or lead if one or more information sources suggest lead is present) until the conflict is resolved.
- EPA discourages water systems from submitting an initial inventory with all unknowns.
- The inventory is a living document that should be continually improved over time.

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Chapter 7: Public Accessibility

Under the Lead and Copper Rule Revisions (LCRR), community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) must make a portion of their inventory publicly available (40 CFR §141.84(a)(8)). This chapter describes those requirements and provides recommendations for implementation of the public accessibility requirement.

In addition to the public accessibility requirements, the LCRR also requires all systems to inform all persons served by the service connection with a lead service line (LSL), galvanized requiring replacement (GRR), or unknown service line of their service line material within 30 days following completion of the initial inventory[26] (40 CFR §141.85(e)). See Section 6.5 for additional detail.

Informed customers are better equipped to take actions to limit exposure to lead in drinking water, make decisions regarding replacement of their portion of a lead or GRR service line, and understand the prevalence of lead sources in drinking water systemwide.

Chapter 7 includes:

- Inventory information water systems must make publicly accessible and other useful information to consider in Section 7.1.
- Suggestions on how to make the inventory information publicly accessible and real-world examples in Section 7.2.
- Recommendations for states to review and facilitate public accessibility of inventory information in Section 7.3.
- A discussion of the Consumer Confidence Report (CCR) inventory-related requirements for CWSs in Section 7.4.

7.1 What Information to Include

7.1.1 Required under the LCRR

Under the LCRR, systems are **required** to provide the public with a location identifier, such as a street address, block, intersection, or landmark, associated with each service line classified as lead or GRR (40 CFR §141.84(a)(8)(i)). As described in Section 6.3, water systems that have demonstrated they have no lead, GRR, or lead status unknown service lines in their inventory (*i.e.*, have only non-lead service lines regardless of ownership) may, in lieu of publishing their inventory, provide a ***written statement*** that there are no LSLs along with a ***general description*** of the sources specified in the regulations used to make that determination (40 CFR §141.84(a)(9)).

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7.1.2 Recommendations (Not Required under the LCRR)

EPA encourages water systems to consider including other information in their publicly available inventory, including but not limited to:

- **Location identifier for all service lines, regardless of material.** The LCRR requires a system's publicly accessible inventory to include location identifiers for LSLs and GRRs. As discussed in Section 2.3.2, EPA recommends that systems include a location identifier for all service lines in their publicly accessible inventory. Doing so provides consumers with up-to-date information on their service line material and allows them to track progress on lead service line replacement (LSLR) in their entire community over time. This information could incentivize consumers to assist in the identification of their service line material and those with LSLs to participate in the LSLR program.
- **A street address as the location identifier.** As mentioned above, water systems are required to provide a location identifier in their publicly available inventory associated with each LSL and GRR. EPA recommends that water systems consider including street addresses (or emergency 911 addresses for rural areas) as their location identifiers. EPA also suggests that systems include the town with the street address if they serve several counties that have the same street address (*e.g.*, 100 Main Street). In addition, EPA also recommends when multiple service lines serve the same address, *e.g.*, hospital or apartment building, the water system should include additional descriptors that would allow each service line to be uniquely identified.

  A few examples of maps and databases that are searchable by street address or customer account number include the following:

  - DC Water, Washington D.C.[27], Greater Cincinnati Water Works, Ohio[28], and Tucson Water, Arizona[29] have an interactive map on their website that allows users to enter an address to learn if they might have an LSL.
  - Milwaukee, Wisconsin, provides lists of addresses with LSLs on their website extracted from their database as PDF files. The list includes house number range, street name, city, state, and zip code. Milwaukee Water Works advises residents to search their address to determine if they have an LSL. For more information, visit their website.[30]

[27] https://geo.dcwater.com/Lead/. Accessed December 16, 2021.
[28] https://gcww.maps.arcgis.com/apps/webappviewer/index.html?id=0a170c268c694e46a8a4e394630df0bd. Accessed December 8, 2021.
[29] https://cotgis.maps.arcgis.com/apps/webappviewer/index.html?id=8dd30cd29ad64d58bbf1d7ebe86d6abc. Accessed December 8, 2021.
[30] https://city.milwaukee.gov/water/WaterQuality/LeadandWater/Lead-Service-Line-Records. Accessed December 8, 2021.

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- Louisville Water Company (LWC), Kentucky, has a tool on their website[31] where customers can use their LWC account number to determine if the Louisville Water-owned lines are lead, but not the customer-owned lines. Note, to comply with the LCRR, customer-owned service lines will need to be included.

- **Actual material for non-lead**. The LCRR gives water systems the option to classify the actual material of the service line that is non-lead (*e.g.*, galvanized, plastic, or copper) as an alternative to classifying it as non-lead (40 CFR §141.84(a)(4)(iii)). EPA encourages water systems to consider providing the actual materials as part of the publicly accessible inventory for greater transparency.
- **A summary of the total number of LSLs, GRRs, unknowns, and non-lead.** Summary information allows the public to more easily track a system's overall progress in identifying service line materials and replacing LSLs. For example, Denver Water, Colorado,[32] and the City of Newark, New Jersey, publish the number of LSLs replaced on their websites[33] to communicate their progress.
- **Clear disclaimer language.** A disclaimer will help water systems communicate any uncertainty inherent in their inventory, such as the varying reliabilities of some data sources. The inventory represents the best data the water system has at a certain point in time. Some water systems include disclaimer language about the quality of the information and require users to accept the disclaimer before they have access to the inventory information. Appendix F includes a few examples of disclaimer language.
- **Instructions on how to read and interpret the inventory.** These instructions will depend on the inventory format selected by the water systems. For example, a spreadsheet could provide a definition of material classifications and any sub-classifications, include a data element dictionary, and provide clear labeling of column headings. Additional recommendations for communicating information using maps is provided in Section 7.2.2.
- **Information on steps that consumers served by LSLs can take to protect themselves.** Because some consumers may learn for the first time through the inventory that their home is served by an LSL, water utilities should provide links or references to information on steps that consumers can take to reduce lead or protect themselves from lead exposure. For example, water utilities may consider sharing information from EPA[34] or their local health department.
- **Statements that other lead sources may exist in drinking water plumbing or the building.** Systems should raise customer awareness that even when LSLs or GRRs are not

[31] https://www.louisvillewater.com/servicelinelookup. Accessed December 8, 2021.
[32] https://www.denverwater.org/your-water/water-quality/lead/dashboard. Accessed April 21, 2022.
[33] https://www.newarkleadserviceline.com/replacement. Accessed December 8, 2021.
[34] See, *e.g.*, https://www.epa.gov/sites/default/files/2017-08/documents/epa_lead_in_drinking_water_final_8.21.17.pdf

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present, other lead sources may remain. Examples include materials inside the home or building, such as copper pipes with solder installed prior to the state's lead ban,[35] some faucets purchased prior to January 4, 2014,[36] and lead paint in homes that pre-date 1978[37]. In addition, lead can be present in dust and soil. EPA's website[38] includes information prepared by EPA and other agencies about different sources of lead and how consumers can protect themselves. Water systems could include a statement about the possible presence of these lead sources, *e.g.*, on their website, in materials distributed to their customers in hard copy or electronically, or in their CCR.

- **A schedule for investigating unknowns.** This could include the date that specific neighborhoods or other areas of the town or city have been scheduled for investigation.
- **Information on the water systems' actions to reduce lead.** This could include actions on how the water system is reducing lead and opportunities for customers to participate in the inventory and LSLR efforts (USEPA, 2017).
- **Information about tap sampling.** The system may inform customers about ways they can test their water for lead, such as if the system has a lead testing program, or directing customers to certified laboratories that can provide testing services.
- **System contact information.** Systems could direct customers to different departments depending on the request, such as general inquiries about lead in drinking water or how to submit inventory information (such as customer-owned service line material identification). This could also include links to the information in other languages, other information about the LSLR program, and instructions on how customers can identify their service line materials. See Appendix B, the City of Newark, for an example.

EPA recommends that systems weigh the benefits of making additional and/or detailed inventory information publicly accessible with the drawback of compromising a user's ability to find the most relevant information. Water systems could consider indicating what other inventory

[35] In 1986, Congress amended the Safe Drinking Water Act (SDWA), prohibiting the use of pipes, solder, or flux that were not "lead free" in public water systems or plumbing in facilities providing water for human consumption. At the time, "lead free" was defined as solder and flux with no more than 0.2 percent lead and pipes with no more than 8 percent lead. See Appendix D for a summary of lead ban provisions by state.

[36] The Reduction of Lead in Drinking Water Act, which became effective on January 4, 2014, revised the definition of lead-free as a weighted average of not more than 0.25 percent lead calculated across the wetted surfaces of pipe, pipe fitting, plumbing fitting, and fixtures and not containing more than 0.2 percent lead for solder and flux. It also prohibited the use or sale of such items that did not meet the revised lead-free definition.

[37] In 1978, the Consumer Products Safety Commission banned consumer uses of lead-based paint, but some states banned it even earlier.

[38] https://www.epa.gov/lead/protect-your-family-sources-lead#older. Accessed April 26, 2022.

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information is available on request, and systems providing the data electronically could include links to the information.

7.2 How to Make the Data Publicly Available

Required under the LCRR

Water systems must make the inventory publicly accessible, including a location identifier for each LSL and GRR. The LCRR requires water systems that serve more than 50,000 people to provide their inventory online (40 CFR §141.84(a)(8)).

Recommendations (Not Required under the LCRR)

There are many factors to consider in determining how to best reach the target audience. When first considering the best method for sharing inventory data with the public, a water utility may consider the following questions:

- Do our customers have internet access?
- Does our water system currently have a website? If not, do we have the resources to create one?
- Does our water system have someone that understands how to create maps using geographic information system (GIS) tools?
- What format of information would be easiest to use for the public?

As mentioned above, only water systems serving more than 50,000 people must post their inventory online. Water systems serving 50,000 or fewer people are not required to post their inventories online, as long as they are publicly accessible in some fashion. This may include availability by mail or in-person at the water system's office. EPA encourages all water systems to consider providing online inventory access. This approach could decrease water system burden by eliminating costs to print and mail inventories on request as well as eliminating staff time to process additional customer transactions. For smaller water systems that do not currently have a website, providing their inventory online could be as simple as uploading a list, spreadsheet, or a simple map to a free filesharing service or publicly viewable social media account for the system. NTNCWSs that do not have a website could consider using email, posting the information in frequented locations (*e.g.,* breakroom or notice board), or include the information in a newsletter. In addition, systems that do not have a website can check if their state has an option to host the inventory.

7.2.1 Description of Available Web-Based Map Applications

An effective means for distributing service line inventory information is via an online map. Online inventory maps allow interested parties to view a water system's service line materials anywhere there is access to the internet. The primary advantages of making inventory data available via web

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maps are user accessibility, data transparency, and the system's ability to regularly update the data.

Systems that collect inventory data with GPS coordinates (latitude and longitude) can save those points with corresponding attribute information (*e.g.*, service line material, address, data inventoried, etc.) to one of various file types. Systems could also collect inventory data via GPS devices, such as smart phones that have a mapping app, and can upload GPS files directly from those devices (.gpx). Once uploaded, the collected point locations can be overlaid with base maps and the point symbology (*e.g.*, point locations represented by dots versus "X" symbols) and the legend information and symbology can be customized to the inventory dataset. Alternatively, street addresses can be converted to point locations using a process called geocoding. Geocoding assigns a latitude and longitude to a location using text information to make the determination, such as address or place name. For example, a dataset of street addresses with service line information can be converted to point locations that could then be easily displayed in a map application.

7.2.2 Web-Based Map Application Best Practices

Web-based map applications are one of the most effective methods for conveying service line inventory information to the public. As Hiltner et al. (2019) explained, interactive online maps can be a more powerful tool for disseminating location-based LSL information than static maps and tabular databases. Key components of effective interactive maps include the deliberate use of data, thoughtful selection of colors and symbology, and awareness of inclusivity. Exhibit 7-1 shows how the Greater Cincinnati Water Works, Ohio uses colors to denote materials information for service lines by property.

Fundamental to an inventory map is a layer of locational data that displays the service line material, such as points or polygon boundaries. The locational data should be the primary data displayed on the map. A best practice for map development is to only display informative data to the users. For example, while utilities may have access to geospatial railway data, adding this layer to the map is not critical to the user and distracts from the intention of the map. Layer attributes in online maps can be displayed using pop-up tables, color-coding, or map symbology to display attributes. Of particular note is the use of service line symbology to denote the service line material on the customer-owned side versus the system-owned side of the service line, as demonstrated in Exhibit 7-1.

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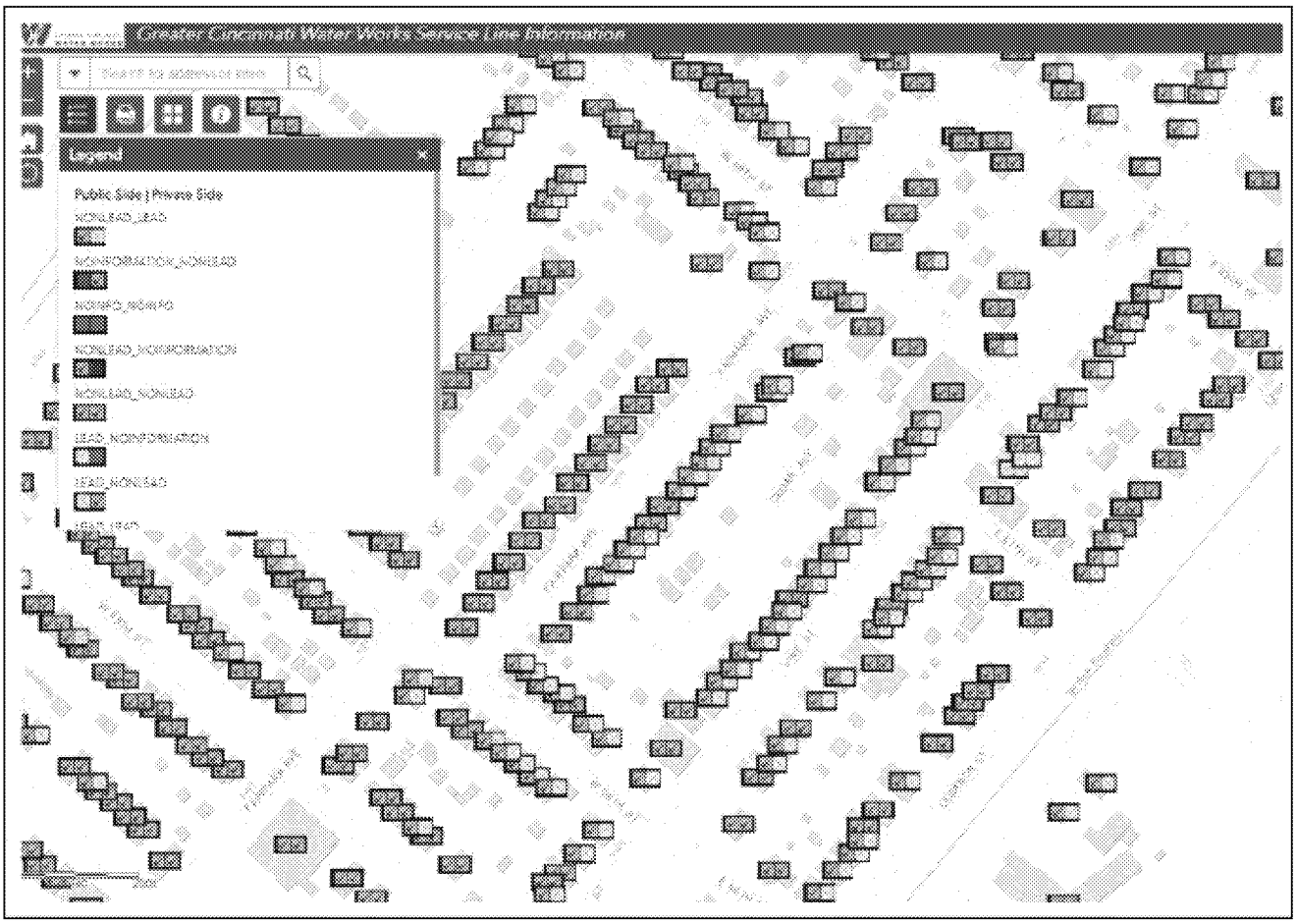
Exhibit 7-1: Greater Cincinnati Water Works Service Line Information Map



Source: Greater Cincinnati Water Works Service Line Information map. https://gcww.maps.arcgis.com/apps/webappviewer/index.html?id=0a170c268c694e46a8a4e394630df0bd. Accessed December 16, 2021.

Accessibility and inclusivity considerations should be made throughout the map development process (Woods and Webb, 2021). These include:

- Using a color-blind safe color scheme,
- Using simple terminology and defining acronyms, and
- Offering text in multiple languages, where appropriate.

Color-blind sensitive map color schemes are simple to create using free online tools. Alternatively, map interfaces could include a check box to allow users to select their preferred color scheme from a list of options. Another important component of map accessibility is terminology. The inventory process involves acronyms and terms generally unfamiliar to the intended public audience. Map text should be carefully reviewed for these types of language and edited accordingly. Lastly, the map interface should be made available in multiple languages, as appropriate, depending on the population served by the system. For example, to serve the

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Spanish-speaking population of the Tucson, Arizona, the service line map[39] displays all map text both in English and Spanish. Water systems may also want to consider providing alternate text for maps that can be read aloud using software for the visually impaired.

7.2.3 Public Data Sharing Alternatives

Some systems may not have the capacity for online GIS map applications. In these cases, there may be other online data sharing methods that better fit the needs of systems and their users. Important first steps are to determine what established online data sharing capabilities and protocols are already in place and what types of inventory information are going to be shared (*e.g.*, tabular data versus narrative information).

Many systems may have a website where a new webpage or subsection could be added for hosting inventory document downloads and updates. Depending on the website structure and server limitations, this option may only be available for small-sized documents. Some systems may have a File Transfer Protocol (FTP) site where the data could be hosted and linked to for download. Utilizing an FTP server may be optimal for some systems because FTP sites are better suited for transferring large data files. If systems do not have the capacity to provide downloads via their own servers, there are many options for cloud-based server storage that can easily be shared and downloaded. See Exhibit 7-2 for a summary of online data sharing alternatives.

Exhibit 7-2: Examples of Online Data Sharing Alternatives

File Sharing Method	Description
Online Cloud-based Data Sharing	Cloud-based storage and data sharing allows access to files from any computer, hosted by a third-party vendor; base storage plans may be free.
Online Spreadsheet	Cloud-based spreadsheets, some of which can be accessed online without any product licensure or installation requirements; this may be a good option for systems with little data infrastructure.
FTP/SFTP Server	Standard file sharing protocol for transferring files from a server to another computer (client); water systems may already have FTP functionality they can use.
System Website	Data may be hosted on a system's website as text or image or can be made available in a downloadable format.

The best platform for online data sharing will vary by system. Another key part of that decision-making process is the data format and complexity. For example, a system without their own online data sharing platform (server) and a simple spreadsheet-based inventory may elect to use

[39] https://cotgis.maps.arcgis.com/apps/Cascade/index.html?appid=13b3899bb7374156a031414de36007fe. Accessed December 8, 2021.

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an online spreadsheet. Users could then access the inventory spreadsheet via a weblink on the system's website. Systems wanting to share high-resolution PDF maps, however, may consider a data sharing option optimized for large file sizes. This may be a good option if the system already has an FTP server for public file sharing. If not, a cloud-based file sharing option could be a good solution.

The circumstances of some systems and users may not allow for web-based data sharing of any kind. In these cases, systems will need to develop a plan for effectively distributing inventory information without the use of electronic data sharing. Potential data sharing options include:

- Printed service line maps
- Printed tabular data
- Information in water utility mailings or newsletters
- Information available at the water system's office

7.2.4 Public Input and Updates

Active community participation in the inventory process helps cultivate a more robust inventory dataset and engage the community on public health issues potentially affecting them. LSL data can be strengthened by asking for public feedback on existing inventory data or possible updates to information on LSLs or GRRs not already reflected in the inventory. Given this participatory process, there is also a higher likelihood of continued and widespread engagement with the inventory and LSLR efforts throughout a system's distribution network.

Public feedback can take many forms. For example, the system can provide contact information on the system's website for individuals to submit corrections and updates via email or phone. Another example can be a user submission form where customers identify the service line material and include photographic evidence, providing an additional level of confidence to their classification. Inventories that are updated regularly based on public input should consider indicating the dataset version or the date of the last update in an obvious location.

Providing a platform for public input provides an opportunity for users to learn about their own service line and the presence of LSLs more broadly. An additional consideration for encouraging community awareness is offering an email subscription for regular updates on the service line inventory, such as Denver Water who offers a subscription opportunity within their service line inventory map (Exhibit 7-3).

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Exhibit 7-3: Denver Water's Lead Service Line Replacement Map

Source: https://dw.maps.arcgis.com/apps/View/index.html?appid=cb5d6630085b4e4b96ff7fd1adf39025. Accessed December 15, 2021.

EPA suggests updating the inventory in real-time (or as close as possible) to provide the public with the most up-to-date information. Externally facing updates to the inventory may require quality assurance and quality control or may be most efficiently processed in batches rather than updated continuously.

7.3 Considerations for States

States seeking to determine a system's compliance with the LCRR inventory requirements may use the checklist in Appendix A. One component of that review is determining a system's compliance with its public accessibility requirements. Appendix A includes a checklist that states can use to help document if systems meet these requirements. This form is also available electronically at EPA's website (https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule).

In their 2022 framework, the Association of State Drinking Water Administrators (ASDWA) recommends that states consider additional ways to make the relevant information available to the public, including hosting information on the state's website (ASDWA, 2022). For example, states could consider creating a portal or using another method to allow systems to upload their

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information directly. For a full list of additional considerations, refer to ASDWA's framework (ASDWA, 2022).

7.4 Consumer Confidence Report Inventory Requirements

The LCRR requires CWSs to include in their annual CCR a statement that they have prepared a service line inventory and instructions on how to access the inventory (40 CFR §141.84(a)(10) and §141.153(d)(4)(xi)). Systems with no lead, GRR, or lead status unknown service lines can instead provide a statement that they have no LSLs or GRRs with the description of methods used to make that determination (40 CFR §141.84(a)(9)). EPA may potentially revise these requirements under the Lead and Copper Rule Improvements (LCRI). Regardless of the final LCRI requirements, EPA recommends that systems provide inventory-related information in their CCRs.

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Key Points to Remember

LCRR Requirements

- Water systems must make an inventory of the lead and GRR service lines publicly accessible. The publicly accessible inventory must include a location identifier associated with each lead or GRR service line (40 CFR §141.84(a)(8)(i)). The identifier could be a specific address; however, this is not required under the LCRR.
- Water systems serving more than 50,000 people must provide their inventory online (40 CFR §141.84(a)(8)(ii)).
- Non-lead systems can fulfill the requirement to make the inventory publicly accessible by providing a statement they have no LSLs and including a general description of how they made that determination (40 CFR §141.84(a)(9)).
- CWSs must indicate in their CCR how to access service line inventory information. Non-lead CWSs must also include a statement they have no LSLs in their CCR (40 CFR §141.84(a)(10)).
- Within 30 days of completion of the initial inventory, systems must notify persons served by lead, GRR, and lead status unknown lines (40 CFR §141.85(e)).

Recommendations (Not Required under the LCRR)

- Water systems should consider their data sharing infrastructure, customer demographics, and staff limitations when selecting the best method for sharing data with the public.
- An interactive online mapping application can be an effective means for distributing service line inventory information and allows users to comprehensively evaluate a water system's service line materials anywhere there is access to a basic computer and internet.
- Accessibility and inclusivity considerations should be made throughout the map development process, *e.g.*, using a color-blind safe color scheme, providing alternate text that can be read aloud using software for the visually impaired, using simple or defined terminology, and offering text in multiple languages.
- Other online data sharing options are available for water systems, such as online cloud-based sharing, online spreadsheet, FTP/SFTP server, and website hosted download.
- Non-web-based data sharing options include printed service line or tabular data as well as information on water utility mailings or newsletters.
- Active community participation in the inventory process helps cultivate a more robust inventory dataset.
- EPA suggests water systems update their inventories in real-time or as close as possible.

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Chapter 8: References

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APPENDICES

- **Appendix A:** Blank Forms from the EPA Service Line Inventory Template
- **Appendix B:** Case Studies
- **Appendix C:** Instructions for Self-Identifying LSLs and Information When Water System Conducts Verification
- **Appendix D:** Summary of State Lead Ban Provisions by State
- **Appendix E:** Michigan Minimum Service Line Verification Requirements
- **Appendix F:** Examples of Data Quality Disclaimer Language

Appendix A: Blank Forms from the EPA Service Line Inventory Template

PWS Information

Inventory Methodology

Inventory Summary

Public Accessibility Documentation

State Checklist

See EPA's website at: https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule for a downloadable, spreadsheet version of the template which contains the forms below as well as additional sheets for inventory tracking.

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PWS Information

Purpose of this worksheet: *For water systems to document basic system information.*

Facility Information			
Water System Name:			
PWSID:	Population Served (number of people):	Number of Service Connections:	PWS Type: ☐CWS ☐ NTNCWS
If you are a CWS, do multi-family residences comprise at least 20% of the structures you serve?			*Indicate "Yes" or "No"*
Mailing Address			
Street or P.O. Box:			
City or Town:		State:	Zip Code:
System Contact Person			
Name:		Title:	
Telephone:		Email:	
Person Who Prepared Inventory (if different from above)			
Name:		Title/Affiliation:	
Telephone:		Email:	

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Inventory Methodology

PWS Name: PWSID:
Enter Date Last Updated:

Purpose of this worksheet: *For water systems to document the methods and resources they used to develop and update their inventory.*

Part 1: Historical Records Review	
Type of Record	**Describe the Records Reviewed for Your Inventory and Indicate Your Level of Confidence (*e.g.*, Low, Medium, or High)**
1. Previous Materials Evaluation *Example: Locations of Tier 1 lead tap sampling locations that are served by a lead service line.*	
2. Construction Records and Plumbing Codes *Examples: Local ordinance adopting an international plumbing code. Permits for replacing lead service lines.*	
3. Water System Records *Examples: Capital improvement plans. Standard operating procedures. Engineering standards.*	
4. Distribution System Inspections and Records Examples: *Distribution system maps. Tap cards. Service line repair/replacement records. Inspection records. Meter installation records.*	
5. Additional Records Required by Your State	
6. Other Records	

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Inventory Methodology (Continued)

Part 2: Identifying Service Line Material During Normal Operations

1. During which normal operating activities are you collecting information on service line material? Check all

- ☐ Water meter reading
- ☐ Water meter repair or replacement
- ☐ Service line repair or replacement
- ☐ Water main repair or replacement
- ☐ Backflow prevention device
- ☐ Other

If "Other", please explain:

2. Did you develop or revise standard operating procedures to collect service line material information *Indicate "Yes" or "No"*

If "Yes", please describe:

Part 3: Service Line Investigations

1. Identify the service line investigation methods your system used to prepare the inventory (check all that apply). If a water system chooses an investigation method not specified by the state under 40 CFR §141.84(a)(3)(iv), state approval is required. ***Note that investigations are not required by the LCRR but can be used by systems to assess accuracy of historical records and gather information when service line material is unknown.***

- ☐ Visual Inspection at the Meter Pit
- ☐ Customer Self-Identification
- ☐ CCTV Inspection at Curb Box - External
- ☐ CCTV Inspection at Curb Box - Internal
- ☐ Water Quality Sampling - Targeted
- ☐ Water Quality Sampling - Flushed
- ☐ Water Quality sampling - Sequential
- ☐ Water Quality Sampling - Other
- ☐ Mechanical Excavation
- ☐ Vacuum Excavation
- ☐ Predictive Modeling
- ☐ Other

If "Other", please explain:

2. If "Predictive Modeling", please briefly describe the model and inputs used:

3. How did you prioritize locations for service line materials investigations? For example, did you consider environmental justice and/or sensitive populations, did you use predictive modeling, and/or did you target areas with high number of unknowns?

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Inventory Summary

PWS Name:	
PWSID:	
Enter Date Last Updated:	

Purpose of this worksheet: *For water systems to provide a summary of their service line inventory, including information on ownership, inventory format, and the number of service lines for each of the four required materials classifications.*

Part 1. General Information	
1. Is this the **Initial Inventory** or an **Inventory Update**?	
2a. Who **owns the service lines** in your system?	
2b. Is there documentation that defines service line ownership in your system, such as a local ordinance? *If yes, please describe below and explain where ownership is split (e.g., property line, curb stop).*	
3a. Describe when lead service lines were generally installed in your system.	
3b. When were lead service lines banned in your system? Reference the state or local ordinance that banned the use of lead in your system.	
4. Do you have lead goosenecks, pigtails or connectors in your system?	*Indicate "Yes", "No", or "Don't Know"*
5. What is your overall level of confidence in the inventory (*i.e.* , "Low", "Medium", or "High.") Please explain your rationale below.	

Part 2. Inventory Format
Describe your inventory format in the space provided below (*e.g.* , the **Detailed Inventory** worksheet, custom spreadsheet, GIS map). Provide the filename and/or web address if applicable. ***Note that the state may require you to submit your detailed inventory of each service line in your distribution system.***

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Inventory Summary (Continued)

Part 3. Inventory Summary Table [1]

Enter the number of service lines in the aqua-colored cells. ***Remember this is the classification for the entire service line.***

Service Line Material Classification	Definition	Total Number of Service Lines (REQUIRED to be reported under the LCRR)
Lead	Any portion of the service line is known to be made of lead.[2]	
Galvanized Requiring Replacement (GRR)	The service line is not made of lead, but a portion is galvanized and the system is unable to demonstrate that the galvanized line was never downstream of a lead service line.	
Non-Lead	All portions of the service line are known NOT to be lead or GRR through an evidence-based record, method, or technique.	
Lead Status Unknown	The service line material is not known to be lead or GRR. For the entire service line or a portion of it (in cases of split ownership), there is not enough evidence to support material classification.	
	TOTAL	

Notes

[1] This summary table is for reporting material for the entire service line connecting the water main to the customer's plumbing. See Section 2.1 for additional guidance on assigning a materials classification to the entire service line when ownership is split. Remember that systems must track the system-owned and customer-owned portions separately in their inventory.

[2] A lead-lined galvanized service line is consistent with the definition of an LSL under the LCRR ("a portion of pipe that is made of lead, which connects the water main to the building inlet") (40 CFR §141.2) and must therefore be classified in the inventory as an LSL. Do NOT, however, count non-lead service lines with a lead gooseneck or pigtail as lead service lines unless required by your state.

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Public Accessibility Documentation

PWS Name: PWSID:	
Enter Date Last Updated:	

Purpose of this worksheet: For systems to provide documentation to states on how they met the public accessibility requirements of the LCRR.

1. Select the location identifiers that you use for your service line inventory. Check all that apply.
   - ☐ Address
   - ☐ Street
   - ☐ Block
   - ☐ Intersection
   - ☐ Landmark
   - ☐ GPS Coordinates
   - ☐ Other

If "Other", please describe:

2. Does ***every service line*** have a location identifier? Indicate "Yes" or "No"
   If "No", explain. Remember that location identifiers are required for service lines that are lead and galvanized requiring replacement.

3. How are you making your inventory publicly accessible? Check all that apply. *Remember that if your system serves > 50,000 people, you* ***must*** *provide the inventory online.*
   - ☐ Interactive online map
   - ☐ Static online map
   - ☐ Online spreadsheet
   - ☐ Printed service line map
   - ☐ Printed tabular data
   - ☐ Information on water utility mailings or newsletter
   - ☐ Hard copy information available in water system office
   - ☐ Other

If "Other", please describe:

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State Checklist for Initial Inventory Submittal	
PWS Name: PWSID:	
Enter Date Last Updated:	

Purpose of this worksheet: *For states to determine and document if water systems met all of the January 15, 2021 Lead and Copper Rule (LCRR) requirements for their* **Initial Inventory** *including timely submission, required elements, use of information sources, public accessibility, and public notification of service line materials.*

Part 1: Person Completing This Checklist	
Name:	Title:
Telephone:	Email:

Part 2: Review for Timely Submission	
1. Was the initial inventory submitted by the deadline of October 16, 2024?	*Indicate "Yes" or "No"*
Consider post-mark or date sent via email or reported into a state data system.	

Part 3: Review for Required Elements	
1. Does the inventory include ***all*** service lines connected to the distribution system?	*Indicate "Yes" or "No"*
Consider if the total number of service lines in the ***Inventory Summary*** *worksheet, Part 3, matches sanitary survey and monitoring data in the state's database (e.g., SDWIS/State) based on population served, number of service connections (including those for non-potable use), number of accounts, census data, or other information.*	
2. Does the inventory include portions owned by the water system and the customer?	*Indicate "Yes" or "No"*
Check the service line ownership type selected in the ***Inventory Summary*** *worksheet, Part 1, Question 2a. If the system selected "Ownership is Split" check that their inventory includes information for both the system-owned and customer-owned portions.*	
3. Did the system classify all service lines as either Lead, Galvanized Requiring Replacement (GRR), Non-Lead, or Lead Status Unknown?	*Indicate "Yes" or "No"*
Consider if the system completed each row of the inventory summary table in the ***Inventory Summary*** *worksheet, Part 3. Some rows may be zero.*	
4. In the space below, provide additional comments/documentation related to required elements of the system's initial inventory.	

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State Checklist for Initial Inventory Submittal (Continued)

Part 4: Review for Information Sources	
1. Did the system use the following historical records to prepare their initial inventory: previous materials evaluation, construction and plumbing codes/records, water system records, distribution system inspections and records.	*Indicate "Yes" or "No"*
Consider if the system identified historical records in each row of the ***Inventory Methods*** *worksheet, Part 1, Rows 1 through 4. Consider if the system completed Row 5 if additional records are required in your state.*	
2. Is the system collecting service line material information during normal operations?	*Indicate "Yes" or "No"*
Consider if the system checked one or more normal operations activities in the ***Inventory Methods*** *worksheet, Part 2. Consider asking the systems to submit updated or new standard operating procedures documenting service line material information collection.*	
3. Has the system conducted investigations to verify service line material?	*Indicate "Yes" or "No"*
This is not required by the LCRR but recommended by EPA to verify historical records and gather information where records do not exist to reduce the number of unknowns in the system as quickly as possible. Consider: • *If the system checked one or more of the investigative methods on the* ***Inventory Methods*** *worksheet, Part 3.* • *If in their inventory, the system indicated that the materials classification was based on investigations.* • *The number of unknowns - EPA strongly discourages systems from submitting inventories with all unknowns. If all service line materials are lead status unknown, consider asking the water system to conduct investigations.*	
4. In the space below, provide additional comments related to information sources used to develop the system's initial inventory.	

Part 5: Review for Public Accessibility	
1. Does the inventory include location identifiers for each service line that is lead or galvanized requiring replacement?	*Indicate "Yes" or "No"*
Consider checking the inventory for location identifiers and reviewing the system's answers in the ***Public Accessibility Doc.*** *worksheet, Questions 1 and 2.*	
2. Did the system make its inventory publicly accessible?	*Indicate "Yes" or "No"*
Consider reviewing the method by which the water system is making its inventory publicly accessible as identified in the ***Public Accessibility Doc.*** *worksheet, Question 3. Check that systems serving more than 50,000 people have posted their service line inventories online.*	
3. In the space below, provide additional comments/documentation related to public accessibility of the system's initial inventory.	

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State Checklist for Initial Inventory Submittal (Continued)

Part 6: Review of Customer Notification of Service Line Material	
1. Does the water system's inventory consist of all Non-Lead Service lines? *If No, complete questions 2 through 5. If Yes, stop here.*	*Indicate "Yes" or "No"*
2. Did the water system deliver the notification to people served by a lead service line (LSL), GRR, or lead status unknown service line within 30 days of completing the initial inventory?	*Indicate "Yes" or "No"*
3. Did the water system demonstrate that they delivered the notification and provide a copy of the notification to the state by **July 1** for the previous calendar year?	*Indicate "Yes" or "No"*
4. Did the notification include the required content?	
a. For **confirmed LSLs,** does the notification include: • A statement that the service line material is lead, • Information on lead health effects including mandatory health effects language of 40 CFR §141.85(a)(ii), • Steps to minimize exposure to lead in drinking water, • Opportunities for service line replacement, • Available financing programs, and • A statement that the system must replace its portion if the they are replacing their portion?	*Indicate "Yes" or "No" or "N/A"*
b. For **GRRs,** does the notification include: • A statement that the service line material is GRR, • Information on lead health effects including mandatory health effects language of 40 CFR §141.85(a)(ii), • Steps to minimize exposure to lead in drinking water, and • Opportunities for service line replacement?	*Indicate "Yes" or "No" or "N/A"*
c. For **Unknowns,** does the notification include: • A statement that the service line material is lead status unknown, • Information on lead health effects including mandatory health I effects language of 40 CFR §141.85(a)(ii), • Steps to minimize exposure to lead in drinking water, and • Opportunities to verify the service line material?	*Indicate "Yes" or "No" or "N/A"*
5. If the water system serves communities with a large proportion of non-English speaking consumers, as determined by the state, did they provide public education materials, including those in 40 CFR §141.85(e), in the appropriate language(s)?	*Indicate "Yes" or "No"*
6. In the space below, provide additional comments/documentation related to customer notification for people served by an LSL, GRR, or lead status unknown service line.	

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Appendix B: Case Studies

DC Water

Greater Cincinnati Water Works

Pittsburgh Water and Sewer Authority

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DC Water

Key Topics

- Consider the Inventory as a Living Data System
- Water Quality Sampling to Identify LSLs
- Making Inventory Information Publicly Accessible

Background/Water Utility Description

DC Water provides approximately 92 million gallons of treated drinking water per day to about 700,000 residents of the District of Columbia. DC Water is a consecutive system, purchasing treated water from the Army Corp of Engineers. The Army Corp treats water from the Potomac River using conventional treatment with chlorine for primary disinfection and chloramines for secondary disinfection. Orthophosphate is added for corrosion control, along with pH adjustment. The DC Water distribution system is comprised of approximately 1,350 miles of water main. DC Water estimates that they have 28,000 lead or galvanized iron service lines with plans to replace them all by 2030 (DC Water, 2021a).

Consider the Inventory as a Living Data System

DC Water has a long history of identifying and replacing lead service lines (LSLs) in response to exceeding the lead action level in 2002 through 2004 (Deignan, 2021). Schmelling (2021) stressed that the inventory is not a one-time data extraction, but a living dataset that can be updated as new information is collected and records are improved over time. DC Water also records information on the integrity of the data, such as the data source.

DC Water uses many sources and methods to gather service line information, including (Schmelling, 2019, 2021):

- Research done to identify service line materials for the original Lead and Copper Rule (LCR) in 1991, *i.e.*, interviews with plumbers to determine when LSLs stopped being installed in Washington, DC (DC Water found this to be an excellent starting point for their inventory);
- Historical records, including tap cards, permits, and engineering documents;
- Construction records on when service lines were replaced in coordination with water main replacement or in response to service line leaks;
- Customers reporting that they replaced their service lines;
- Customer self-identification;

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- Water meter replacement; and
- Water quality sampling.

DC Water is also working with the Water Research Foundation to investigate non-invasive service line identification techniques, such as x-ray diffraction, stress wavers, and acoustic technology (Schmelling, 2021).

Water Quality Sampling to Identify LSLs

DC Water assessed the ability of 6-hour stagnation sequential samples to predict the presence of LSLs (Bukhari et al., 2020; Schmelling, 2019). Customers collected 10 sequential 1-liter samples, indicated the suspected service line material at the point of entry (*i.e.*, lead, copper, brass, galvanized iron, or not visible), and provided a supporting picture when possible. DC Water predicted that half of the 172 homes in the study had lead pipes based on the trend of lead concentrations in the 10-bottle set. They also determined that a total lead mass of at least 5 micrograms (µg) from all 10 samples was another factor supporting the presence of LSLs in their system. Subsequent service line work indicated that DC Water correctly predicted 26 of 30 homes to be lead and 2 of 4 to be non-lead. DC Water concluded that sequential sampling is a useful tool for predicting the presence of LSLs, but it cannot predict the absence of lead pipe due to factors that may impact the stagnation period prior to sampling (*e.g.*, leaks, water use, and dripping faucets). DC Water also notes the water sampling effort is time consuming considering sample distribution and customer communication; therefore, there is still a significant need for another non-invasive pipe material identification technology (DC Water, 2022).

Making Inventory Information Publicly Accessible

DC Water provides an interactive map with service line pipe material data for the public and private sides in their entire service area, which is available on their website (DC Water, 2021b). Each service address is indicated by a circle that contains two color-coded semi-circles for the service line type: one for the public space and another for the private side. Gray denotes lead, green indicates non-lead, and no shading indicates no information. A screenshot of the map is provided as Figure 1.

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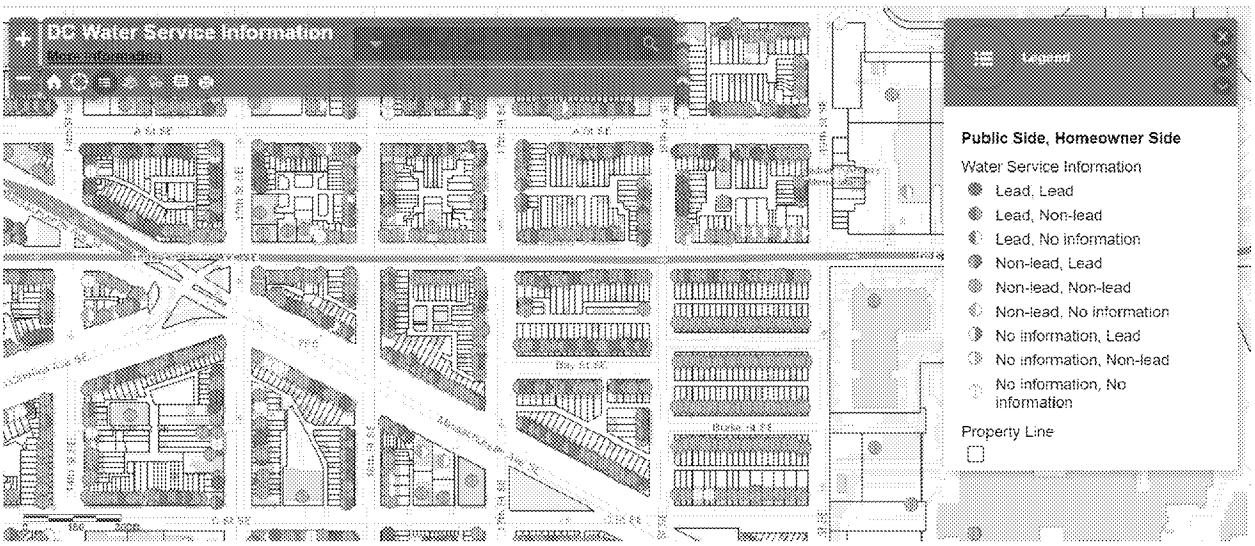

Figure 1: Screenshot of DC Water Interactive Service Line Map (DC Water, 2021b).

When a service address is selected, a pop-up box appears that includes the type and description for the public and private portions separately as well as a link to frequently asked questions and a fact sheet on how customers can identify their water service pipe material. The description field includes the source for the determination, *e.g.*, when the service line was replaced and if it was verified by test pit or visual observation (shown as "excavation"). An example of the pop-up box is shown as Figure 2.

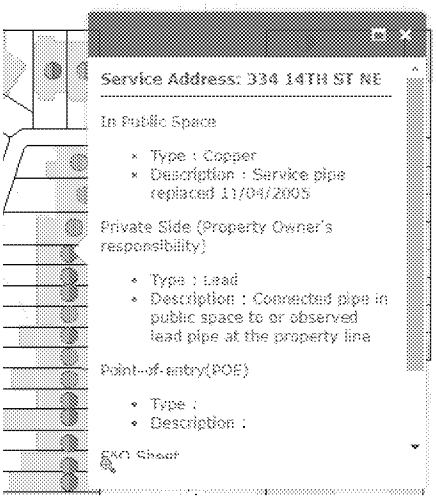

Figure 2: Screenshot of Description Field (DC Water, 2021b).

DC Water took several steps to clearly communicate service line information to the public. For example, they developed a standard process for translating internal documentation for their service line data system into plain language for the online publicly accessible map. An

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example is shown below in Figure 3 (Schmelling, 2021). DC Water also provides their inventory in list format as a downloadable CSV file (DC Water, 2021c).

dc water is life

Translating Data to Public Information

Data Source	Data Criteria	Pipe Material	Website description
Historical Data		Copper	Assess further for confirmation
Meter data	Meter size > 2"	Non-lead	Service line has 2" or greater diameter, therefore not lead
Inspection	Eyes on service line pipe	Brass	[insert date field] excavation revealed brass pipe
Research for 1991 LCR		Lead	Lead likely based on historic documentation
New Tap		Copper	New service installed
Water Quality Tests		Lead	Lead likely based on water test results
As-builts		Copper	Based on Engineering drawings
Permit Documents	> 1982	Non-Lead	Based on water service connection year

Figure 3: DC Water Translation of Data to Public Information (Schmelling, 2021).

DC Water worked with their legal department to develop disclaimer language, as shown below. Schmelling (2021) noted that disclaimer language is important because it recognizes that, although the inventory is based on the best available information at the time, the inventory is dynamic and there may be inaccuracies.

DC Water - Water Service Information

To see service line information, enter an address in the search box or zoom in on the map. Click the circle located within the property boundaries to view the property's service line information. The information provided through this map is limited to the best available data in DC Water's possession at this time. It may not be accurate.

Visit Service Lines - Fact Sheet, for more information.

DISCLAIMER: The maps provided by the District of Columbia Water and Sewer Authority ("D.C. Water") are based on historical data, information directly provided by customers, and in some cases, information acquired during physical inspections. DC Water does not guarantee the accuracy of these records and maps, which shall be used for the sole purpose of providing property owners and residents with DC Water's best available data regarding their private water services, and not for any commercial, legal or other use. These records will be updated constantly as D.C. Water gathers additional information. D.C. Water requests that customers provide to it records of any service line replacements performed by property owners. D.C. Water reserves the right to alter, amend or terminate at any time the display of these maps and records.

I understand

Figure 4. DC Water Disclaimer Language for Their Interactive Service Line Map (DC Water, 2021b).

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Summary of Main Points

- DC Water's service line inventory is a living dataset designed to add and revise data from multiple sources over time.
- DC Water has found sequential water sampling to be a useful tool for predicting the presence of LSLs, but it is not a good predictor of the absence of lead pipe due to factors that may impact the pre-sampling stagnation period.
- An interactive online map is a useful tool for communicating information on service line material to the public. It is important to translate technical data into public information and include clear disclaimer language to communicate the limitations of the service line inventory.

Resources

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Schmelling, M. 2021. DC Water's Service Line Inventory and Display Maps [Webinar]. ASDWA Annual Conference: 2021. Lead Service Line Inventories. October 18 & 19, 2021. Available at: https://www.youtube.com/watch?v=IaZEbnXnQpQ. Accessed 1/19/22.

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Greater Cincinnati Water Works

Key Topics

- Building and Updating Service Line Inventory
- Interactive Public Inventory Map

Background/Water Utility Description

Greater Cincinnati Water Works (GCWW) provides water services to Cincinnati, Ohio and several surrounding counties. GCWW treats around 132 million gallons of water daily. They use high consistent oxidation-reduction potential (ORP) (free chlorine at approximately 1.3 mg/L) and pH promoting lead (IV) scales to control corrosion (Liggett et al., 2022). GCWW serves over 1.1 million customers through 3,180 miles of water mains (GCWW, 2021a).

In 1927, the City of Cincinnati stopped installing lead service lines (LSLs), yet some of those LSLs still remain. GCWW estimates they have a total of 39,165 service lines that are part or all lead, including 25,980 private, 13,085 full, and 100 public LSLs in their service area (GCWW, 2022).

Following EPA's 1991 Lead and Copper Rule, GCWW launched a lead reduction program (Arnette, 2020). For years, GCWW has replaced LSLs and used corrosion control treatment. In 2016, GCWW launched their Enhanced Lead Program, a two-tiered strategy that focused on consumer education and outreach (Tier 1) and removal of all LSLs (Tier 2) (GCWW, 2021b, Burlingame et al., 2018).

Building and Updating the Service Line Inventory

In 2000, GCWW began their effort to populate an inventory of public-side materials in GIS using billing system information, the branch or service line number, and water main project inspection reports (Arnette, 2020). Later, to develop an inventory of customer-side materials, GCWW created a new attribute in GIS for the customer-side material type (Arnette, 2020). To populate customer-side data, GCWW used the following sources of information (Arnette, 2020; Liggett et al., 2022; GCWW, 2016):

- Historical records and asset management records.
- Maintenance, repair, and replacement work.
- Work orders.
- Water main replacement inspections.
- Water main and service line records.

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- Customer-initiated replacement inspection reports.
- Visual inspections.

Following the effort in 2000, GCWW found that at branch number 101808, the public service line materials transitioned from lead to copper. For the private side, GCWW also designated the service line as lead or copper based on their branch numbers as follows:

- Branch numbers 102000 or higher and diameter of 2 inches or less as copper.
- Branch numbers below 102000 as lead except if GCWW had evidence that the customer renewed the line, then designated as copper.

In 2016, GCWW created an electronic tool to collect information from their water main project inspections, update their inventory, and allow the information to be available to the public the next day (Arnette, 2020). This is accomplished using an electronic form on inspectors' phones created using Microsoft Power Apps. The information is sent directly to GIS Editors. A snapshot of this app is provided as Figure 1.

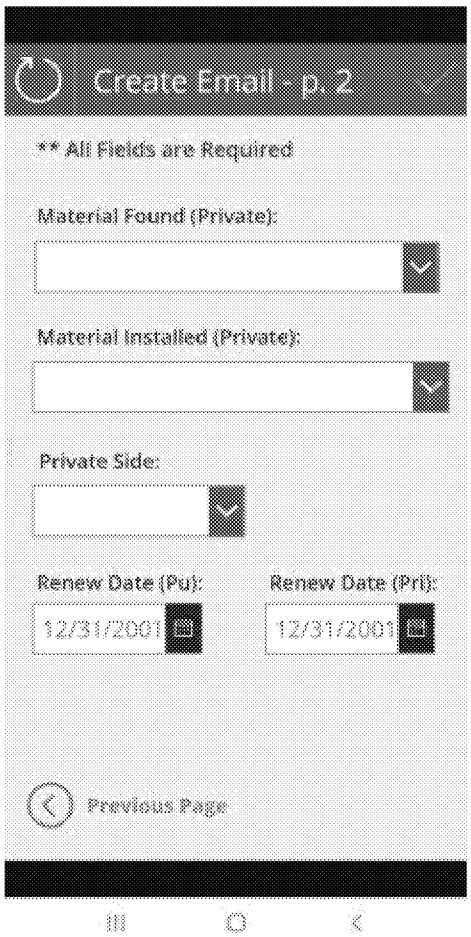

Figure 1: Screenshot of Water Main Project Inspection App (Arnette, 2020).

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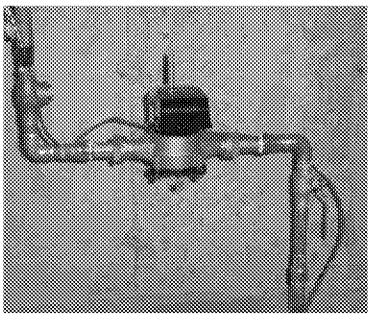
The inventory is continuously updated as GCWW retrieves more data, including information provided by customers who verify the service line material on their property using a scratch test and an online form on the GCWW website. Step-by-step instructions, along with contact information, are provided on GCWW's website (GCWW, 2021c). Figure 2 below shows a screenshot of the online form with instructions for customers to upload a picture of their meter setting to help identify the pipe material.

Please complete the form and select the material that the private portion of you service line is made from. Please upload a picture of your meter setting that we could use to help identify the pipe material. An example of a meter setting is shown below



Acceptable file formats for the optional file are: .jpeg, .jpg, .png, .gif, .bmp, .tiff

NAME

EMAIL

RETURN PHONE NUMBER

PROPERTY ADDRESS

Choose File No file chosen

SEND

Figure 2: Screenshot of Instructions and Online Form from GCWW's website (GCWW, 2021c).

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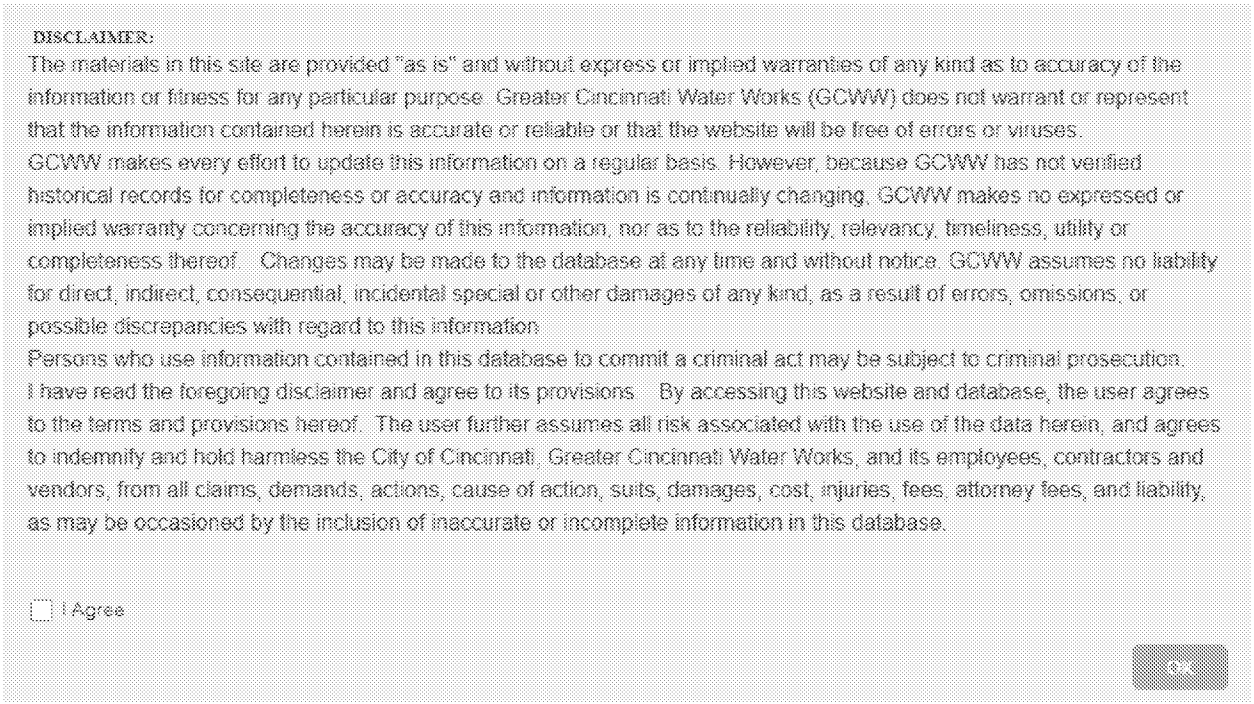
Interactive Public Inventory Map

GCWW developed the interactive Lead Look-up Map to provide the public with easy access to information from their service line inventory (GCWW, 2021d). After reading and accepting a disclaimer regarding the accuracy and use of the data (see Figure 3), users can search their address to view a map of their service lines and materials. The map includes a legend that identifies materials on the public and private side, shown as a divided rectangle (left side is public side and right side is private side). The map uses a combination of colors and symbology. A green checked box denotes non-lead, yellow and an X is lead, and gray and no symbol indicates no information. GCWW updates their map regularly as they retrieve more data. A snapshot of the map is provided in Figure 4.



DISCLAIMER:

The materials in this site are provided "as is" and without express or implied warranties of any kind as to accuracy of the information or fitness for any particular purpose. Greater Cincinnati Water Works (GCWW) does not warrant or represent that the information contained herein is accurate or reliable or that the website will be free of errors or viruses.

GCWW makes every effort to update this information on a regular basis. However, because GCWW has not verified historical records for completeness or accuracy and information is continually changing, GCWW makes no expressed or implied warranty concerning the accuracy of this information, nor as to the reliability, relevancy, timeliness, utility or completeness thereof. Changes may be made to the database at any time and without notice. GCWW assumes no liability for direct, indirect, consequential, incidental special or other damages of any kind, as a result of errors, omissions, or possible discrepancies with regard to this information.

Persons who use information contained in this database to commit a criminal act may be subject to criminal prosecution.

I have read the foregoing disclaimer and agree to its provisions. By accessing this website and database, the user agrees to the terms and provisions hereof. The user further assumes all risk associated with the use of the data herein, and agrees to indemnify and hold harmless the City of Cincinnati, Greater Cincinnati Water Works, and its employees, contractors and vendors, from all claims, demands, actions, cause of action, suits, damages, cost, injuries, fees, attorney fees, and liability, as may be occasioned by the inclusion of inaccurate or incomplete information in this database.

☐ I Agree

OK

Figure 3: Screenshot of GCWW Disclaimer Language (GCWW, 2021d).

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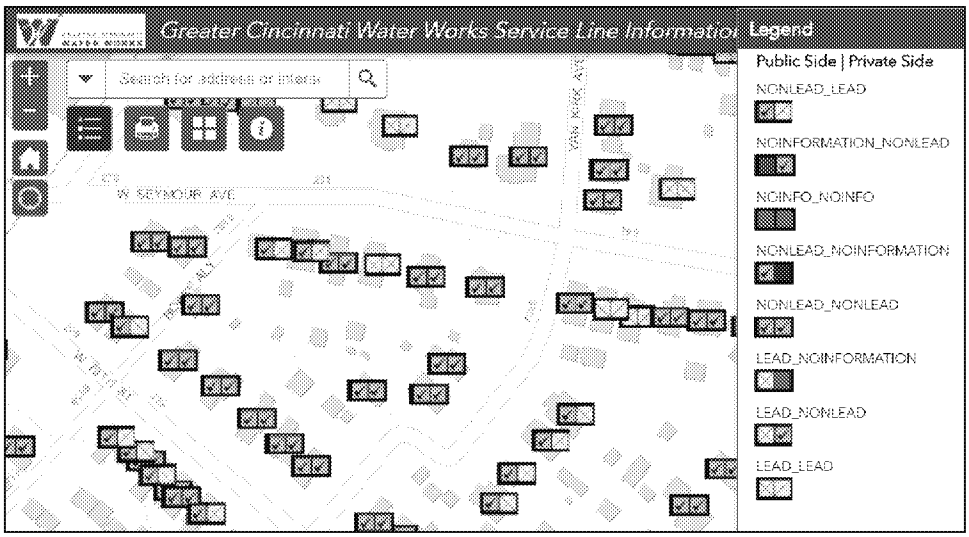

Figure 4: Snapshot of the GCWW Lead Look-up Map (GCWW, 2021d).

Summary of Main Points

- **Use Multiple Information Sources to Develop the Inventory.** GCWW used a variety of records to initially build the inventory and then verified and improved accuracy using a custom-built app as well as information provided by customers.
- **Develop User-friendly Tools.** It is important to ensure that public-facing tools are understandable by a range of users. Hiltner et al. (2019) found the GCWW map very comprehensible, especially in comparison to other similar tools. A visual, with clear legends can aid users' understanding. Providing property-specific LSL information, distinguishing private- and public-side information, being clear about what is not known, and choosing legend colors and icons carefully, are all factors that can improve the usability and understandability of a tool.

Resources

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GCWW. 2021b. Enhanced Lead Program. https://la.mygcww.org/enhanced-lead-program/. Accessed December 14, 2021.

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Pittsburgh Water and Sewer Authority

Key Topics

- Dealing with Uncertain Historical Records
- Experience with Field Techniques
- Statistical (Predictive) Data Analysis
- Innovative Field Data Forms
- Example of the Continuous Improvement Approach

Background/Water Utility Description

The Pittsburgh Water and Sewer Authority (PWSA) provides water to 520,000 people in the Pittsburgh area (USEPA, 2021). Publicly owned and operated, the system produces a daily average of 69.6 million gallons of finished water (PWSA, 2021a). Approximately 965 miles of water lines and 11 tanks comprise the distribution system (PWSA, 2021b). Water is treated using a clarifier pretreatment system and rapid sand filtration system (PWSA, 2021c). In the spring of 2019, PWSA also optimized their corrosion control treatment by switching to orthophosphate, resulting in consistently lower lead levels (PWSA, 2021d). The initial water distribution system was put into service in 1828 and expanded over time through the early half of the 1900s (PWSA, 2021c). In November of 2020, PWSA estimated that in their system, there are 10,995 public and 28,171 private lead service lines (LSLs), and 14,440 public and 4,997 private service lines of unknown material (Liggett et al., 2022).

Inventory Approach

Unless otherwise noted, the source of information for the inventory approach is the 2021 Journal AWWA Article Developing and Verifying a Water Service Line Inventory. Duffy, D. and Pickering, W. (2021).

Overview

PWSA began updating their inventory of service line materials in 2016. To organize and publicize their service line inventory, PWSA launched an online Lead Map on their website (Figure 1). They update the map monthly as they gather more data. Users can search their unique address on the map to display the results for their service line materials on the public- and private-side, as well as to display the source of that data (Figure 2). Data sources include historical records, verification by excavation, replacement information, and curb box inspection (CBI) results.

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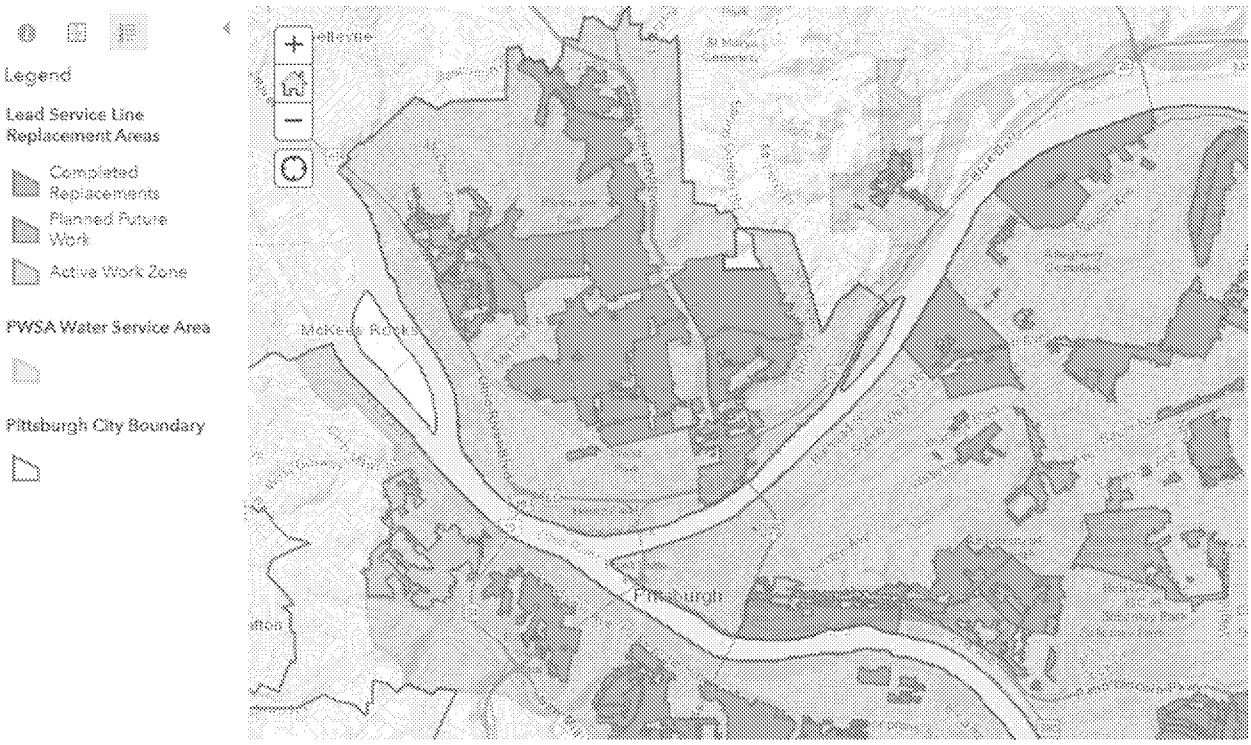

Figure 1: Snapshot of PWSA Lead Map (PWSA, 2021e).

Figure 2: Snapshot of a neighborhood in Pittsburgh, PA, as viewed on the PWSA Lead Map (PWSA, 2021e).

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Dealing with Uncertain Historical Records

To begin their service line inventory update, PWSA reviewed historical drill records of water main tapping and material identification endeavors, and historical private-side service line inspections. PWSA digitized over 130,000 hard copies of these records and published them to their Lead Map.

Because many service lines had been maintained and repaired since being installed, PWSA found that only 63 percent of their historical records were accurate. Further, prior to 1984, water main tapping and material identification were only done on the public-side. Private-side service line inspection records had not been consistently updated or prepared at every drill record site. As such, PWSA has a disclaimer on their online Lead Map (PWSA, 2021e), cautioning that some of the historical records are inaccurate and that PWSA will update as more information becomes available. PWSA began gathering data through alternative approaches, including through the field techniques described below.

Experience with Field Techniques

PWSA began excavating curb stops where the location either had no historical record or had a record of lead. PWSA requires a minimum of 24 inches be excavated on each side of the curb stop because in many instances they found that the curb stop and small part of the service line had been replaced with non-lead materials but tied back into lead. PWSA used an ArcGIS Collector app to add a photo of each curb stop and log the type of service line materials. Although effective, this excavation process was slow, less efficient due to the larger required excavation size, and very costly to PWSA. In 2018 and 2019, PWSA spent $5 million excavating sites that they found to not contain LSLs.

To evaluate a more efficient service line identification approach, PWSA began doing CBIs using small cameras sent down into the curb stop where the public and private service lines were visible to identify the material. After inspecting approximately 15,000 locations in 2018, PWSA found that about 25 percent of the data was usable. Often, they were either unable to locate a curb box, reach the curb stop, or identify the service line material because of its degradation or the photo quality. When CBI identified lead, results were very accurate (97 percent of locations were verified as LSLs. However, lead was later discovered at 35 percent of locations identified by CBI as non-lead. Duffy and Pickering (2021) explain that this is because in some locations, the curb box and a small length of the service line was replaced but not the entire service line. PWSA began considering other ways to gather information on service line material, as described below.

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Statistical (Predictive) Data Analysis

The University of Pittsburgh helped PWSA develop a model to predict service line materials at locations across their system. The model used data from various sources, including property assessments, tap sampling water results, and service line records, to predict what houses might also have lead levels in their water above 15 micrograms per liter (Hajiseyedjavadi et al., 2020). With an accuracy of 73 percent, the model was ultimately only slightly more accurate than the historical records. Thus, PWSA decided not to use the model to estimate service line materials but is using the model to prioritize LSL replacement areas.

Innovative Field Data Forms

PWSA developed specific service line and meter replacement work orders in the tablet-based application used by its utility workers and plumbers. Utility workers and plumbers update service line material observations and record data for any replacements they conduct. In addition, the Allegheny County Health Department (ACHD) uses an app for their plumbing inspectors to record data about the private-side service line inspections they complete. ACHD's app sends PWSA an email with the information logged during each inspection that helps PWSA update the private-side of their service line material inventory.

Example of the Continuous Improvement Approach

PWSA's approach to developing an inventory fits into the EPA-recommended **Continuous Improvement** framework to build and update the inventory using new and better data as follows:

- Upon identifying the action level exceedance in 2016, PWSA began updating their inventory of residential service line materials by reviewing historical records.
- PWSA began reviewing historical drill records and private-side service line inspections.
- Upon review, PWSA realized there were too many gaps, inaccuracies, and inconsistencies to solely rely on the historical records. The data were only 63 percent accurate.
- PWSA began exploring alternative approaches that would be more cost effective and increase accuracy.

They modified their approach for conducting excavations at the curb box to use cameras to try to reduce costs and improve the likelihood of finding LSLs. Although less invasive and reliable for identifying LSLs, CBIs were less reliable for confirming that no LSLs were present. Then PWSA experimented with predictive modeling but found that the model was only slightly more accurate than historical records. Thus, PWSA decided not to use predictive modeling to estimate service line materials but instead uses it to prioritize LSL replacements.

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PWSA has found that no one method is superior to all others and that a combination of methods works best (see Lessons Learned).

Lessons Learned

Duffy and Pickering (2021) provided a summary of lessons learned from their efforts to build a service line inventory:

- **Use Multiple Data Collection Methods.** Although PWSA could not solely depend on historical records and CBI to update the service line inventory, these methods added value to the inventory and ultimately helped refine PWSA's approach. Further, although the predictive data analysis could not be used to estimate service line materials, PWSA is using that analysis to prioritize lead service line replacement areas.
- **Understand Your Historical Data and Limitations.** Upon further evaluation, PWSA discovered that water main replacements before the 1970s only replaced a few feet of service line. Thus, they could not classify all water main replacements as non-lead.
- **Use Electronic Forms and Apps.** PWSA developed multiple apps and tools along the way, including their Lead Map and ArcGIS Collector app. The map is user-friendly and consistently updated. The app eases the service line material reporting process for workers. In short, the tools meet the needs of both the back-end and front-end users.

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Appendix C: Instructions for Self-Identifying LSLs and Information When Water System Conducts Verification

Examples of Customer Service Line Material Identification Instructions

- Philadelphia Water System
- Rockford, Illinois
- Newark, New Jersey
- Washington, DC

Water Service Verification Materials from Menasha, WI

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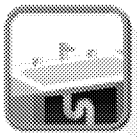
Philadelphia Water System Customer Instructions for Self-Identifying LSLs

PHILADELPHIA WATER DEPARTMENT

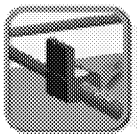
How to check your water service line material

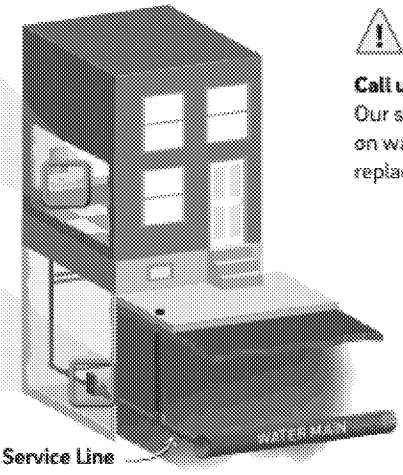
The City's water mains are not made of lead. However, the water service line running from the water main to your home may be made of lead or steel.

Lead can also be found in older brass fixtures and valves and in old solder or epoxy, where pipes are joined.



You can test the water service line where it connects to the water meter in the basement.

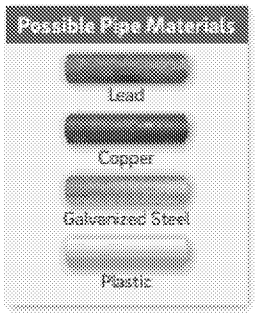




Water Service Line
May be made of lead, copper, galvanized steel or plastic.

For any questions about lead in your water:

Call us at (215) 685.6300.
Our staff will provide information on water testing, safety tips and replacement options.



Follow these steps:

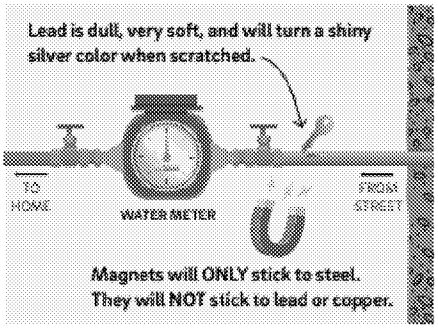
You will need:

- Key or a coin
- Strong refrigerator magnet

1. Find the water meter in your basement. Look at the pipe that comes through the outside wall of your home and connects to your meter.

2. Carefully scratch the pipe (like you would a lottery ticket) with a key or a coin. Do not use a knife or other sharp tool. Take care not to make a hole in the pipe. If the scratch turns a shiny silver color, it could be lead or steel. NOTE: If pipe is painted, use sandpaper to expose the metal first.

3. Place the magnet on the pipe. If a magnet sticks, it is a steel pipe.



Other ways you can check for lead:

- **Purchase a lead test kit at a hardware or home improvement store.** These kits test what the pipe is made from—not the water inside. Look for an EPA recognized kit.
- **A licensed and insured plumber can inspect your pipes and other plumbing for lead or steel. Replacing an older brass faucet or valve might reduce the lead in water.**

Source: https://www.phila.gov/media/20211208161245/HowToCheckYourServiceLineForLead-21.12.07.pdf.

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Rockford, IL System Customer Instructions for Self-Identifying LSLs

Pipe Identification Procedures

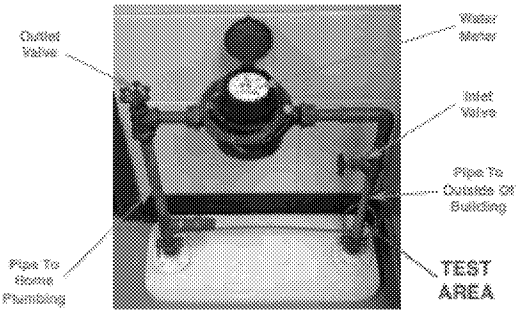
How To Identify A Lead Water Service Pipe

Tools Needed:

Flathead Screwdriver, Refrigerator Magnet & A Penny (or other coin)

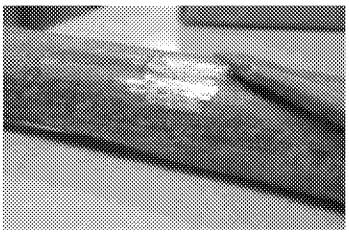
Step 1:
Locate the water service line coming into the building.
This is typically found in the basement. An "inlet valve" and the water meter are installed on the pipe after the point of entry.

Identify a test area on the pipe between the point where it comes into the building and the inlet valve. If the pipe is covered or wrapped, expose a small area of metal.



Step 2:
Scratch the surface of the pipe.
Use the flat edge of a screwdriver or other tool to scratch through any corrosion that may have built up on the outside of the pipe.

Step 3:
Compare your pipe to the chart below.
Each type of pipe will produce a different type of scratch, react to the magnet differently and produce a unique sound when tapped with a metal coin.

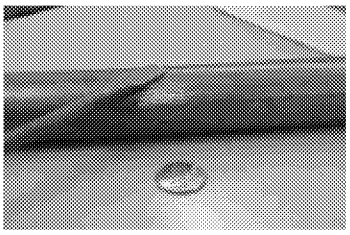


Lead Pipes

The Scratch Test
If the scraped area is shiny and silver, your service line is lead.

The Magnet Test
A magnet will not stick to a lead pipe.

The Tapping Test
Tapping a lead pipe with a coin will produce a dull noise.

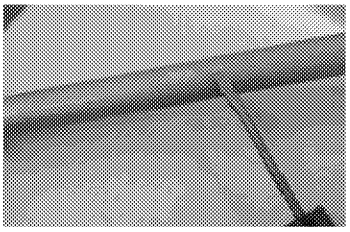


Copper Pipes

The Scratch Test
If the scraped area is copper in color, like a penny, your service line is copper.

The Magnet Test
A magnet will not stick to a copper pipe.

The Tapping Test
Tapping a copper pipe with a coin will produce a metallic ringing noise.



Galvanized Pipes

The Scratch Test
If the scraped area remains a dull gray, your service line is galvanized steel.

The Magnet Test
A magnet sticks to a galvanized pipe.

The Tapping Test
Tapping a galvanized pipe with a coin will produce a metallic ringing noise.

THE CITY OF ROCKFORD ILLINOIS USA

Source: https://rockfordil.gov/city-departments/public-works/water-division/lead-and-drinking-water/. Accessed November 2, 2021.

Newark, NJ Customer Instructions for Self-Identifying LSLs

HOW DO I CHECK MY SERVICE LINE'S MATERIAL?

To find out if you have a copper, lead or galvanized steel service on your property, you (or your landlord) can perform a Materials Verification Test on the water service line where it connects to the water meter to determine the material of the water service line on your property.

Please follow the steps below, and then send the results of the test along with your address to info@newarkleadserviceline.com. The City of Newark will include your results in their water service line inventory records.

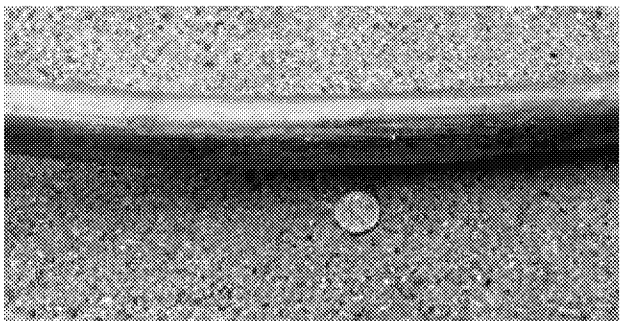
What You Need

- A house key or coin
- A strong refrigerator magnet

Steps to Check Your Service Line

1. Find the water meter on your property.
2. Look for the pipe that comes through the outside wall of your home and connects to your meter.
3. Use a key or coin to gently scratch the pipe (like you would scratch a lottery ticket). If the pipe is painted, use sandpaper to expose the metal first.
4. Place the magnet on the pipe to see if it sticks to the pipe.
5. Determine your pipe material and send your results and address to info@newarkleadserviceline.com

Your Test Results



If your pipe is **copper**:
The pipe may appear dull brown on the outside but will be the color of a bright penny if gently scratched. A magnet won't stick to a copper pipe.

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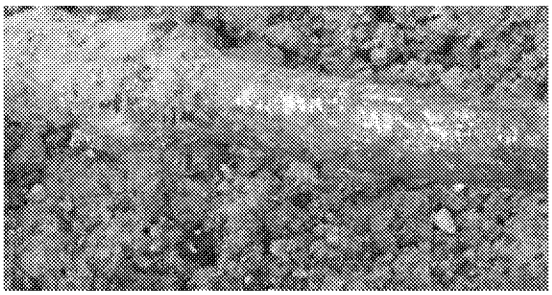
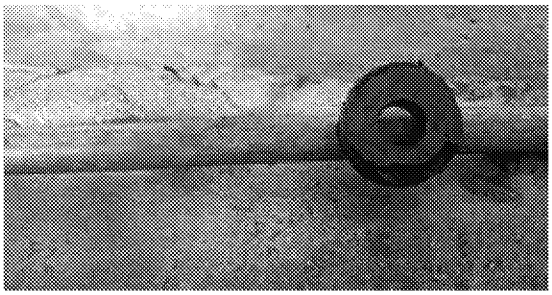
Newark, NJ Customer Instructions for Self-Identifying LSLs (continued)



If your pipe is **lead**:
The pipe will appear dull and soft but will turn a shiny silver color when scratched. A magnet won't stick to a lead pipe.



If your pipe is **galvanized steel**:
The scratched area will remain a dull gray, and a magnet will stick to the surface. If you have a galvanized steel pipe, you may still have a lead gooseneck on your service line.

Please send your results and address to info@newarkleadserviceline.com

I PERFORMED A VISUAL INSPECTION OF MY LEAD SERVICE LINE. WHAT IF I AM STILL NOT SURE ABOUT MY LEAD SERVICE LINE MATERIAL?

If you tested your water service line, and are still unsure of your lead service line material, the City will visit your home to inspect your service line at no cost to you. To schedule an inspection, contact the Lead Service Line Replacement Team at (973) 733-6303 or email waterandsewer@ci.newark.nj.us

ARE THERE OTHER WAYS I CAN CHECK TO SEE IF I HAVE A LEAD SERVICE LINE?

For more information on identifying a lead service line, including NPR's interactive tool for lead pipe identification, visit https://www.lslr-collaborative.org/identifying-service-line-material.html

Lead test kits to test the pipe can be purchased at your local hardware store. Look for an EPA recognized kit. You can purchase an EPA-approved lead test kit at https://www.epa.gov/lead/lead-test-kits or https://www.amazon.com/dp/b008bk15pu

For questions about lead in water or testing your water service line, contact the Lead Service Line Replacement Team at (973) 733-6303 or email waterandsewer@ci.newark.nj.us

Source: https://www.newarkleadserviceline.com/check-your-line. Accessed December 21, 2021.

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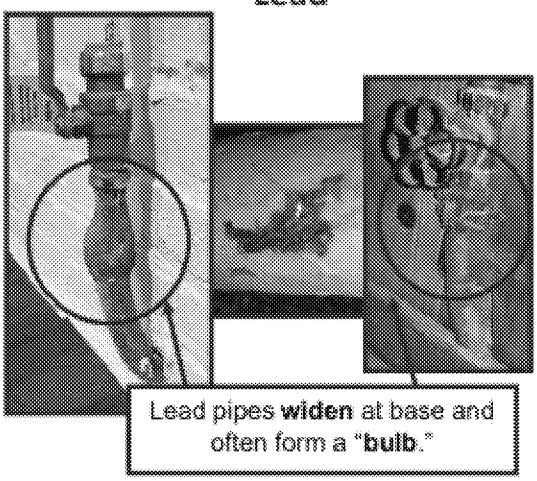
DC Water Customer Instructions for Self-Identifying LSLs

dc water is life

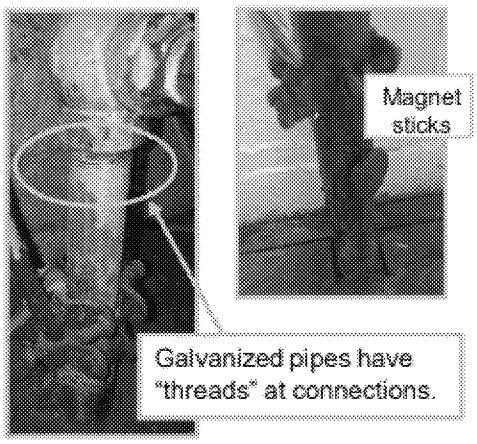
Water Service Pipe Material Identification

	Lead	Galvanized Iron	Copper	Brass
Outer Appearance	Dull gray, bendable; Often curves between wall/floor and valve	Dark gray or black; Straight rigid pipe	Brown; Can have green corrosion spots	Brown; Can have green corrosion spots
Threads at connections	None	Yes	None	Yes
Scratch Test (coin or key)	Shiny silver	Hard to scratch, remains gray	Copper, like a penny	Gold color
Magnet Test	Does not stick	Magnet WILL stick	Does not stick	Does not stick

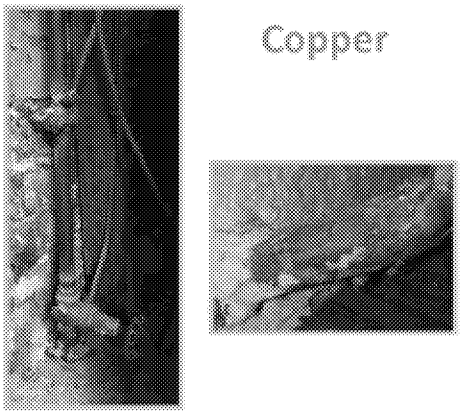
Lead



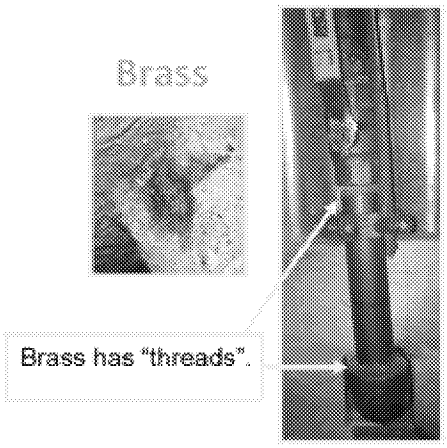
Galvanized Iron



Copper



Brass



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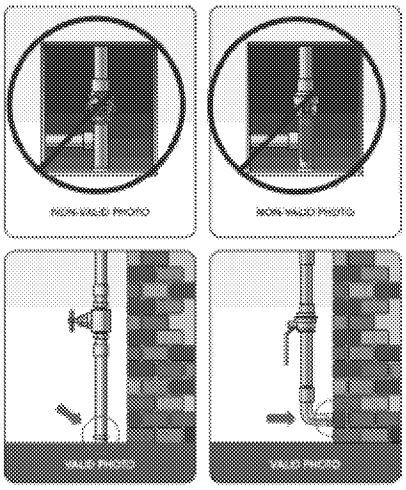
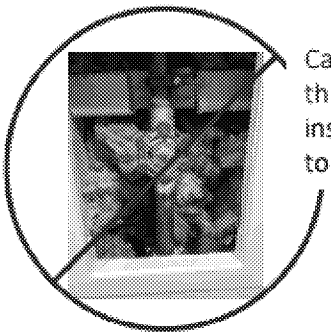
DC Water Customer Instructions for Self-Identifying LSLs (continued)

Step 1
Locate the water service line entering the building. You need to see the pipe where it comes through the floor or wall. In the basement or lowest floor, or whole-house water shut-off valve nearby.



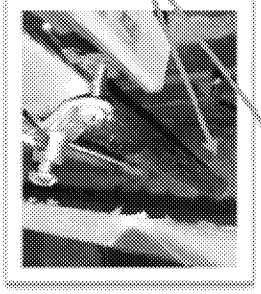


Cannot see where pipe comes through - try to pull back insulation and use phone camera to view pipe at breakthrough.

Step 2
Use Pipe Material Identification Sheet

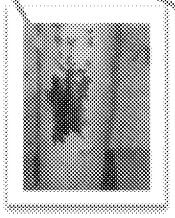
- Look for threads at connections.
- Scratch pipe with a coin or key to reveal the metal. You may need to scratch through corrosion or paint. Lead is soft and scratches easily.
- See if a kitchen magnet sticks to the pipe. A magnet will not stick to a lead pipe.

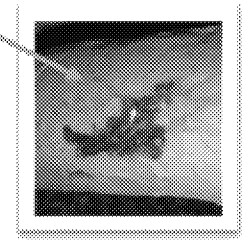
Pipe coming through floor



Step 3
Take three (3) photos.

1. Pipe coming through wall or floor.
2. Closer view of pipe with scratch.
3. Further view of pipe that includes shut off valve.





Step 4
Send photos to leadtest@dcwater.com.

Source: https://www.dcwater.com/sites/default/files/Lead-Testing/DCWPipeMaterialIdentificationGuide_2021.pdf.

ED_013319_00000134-00140

Customer Information When System Verifies Customer Service Line Material – Menasha Utilities Postcard

Menasha Utilities
THE POWER OF COMMUNITY

Place your stamp here

Menasha Utilities
P.O. Box 340
Menasha WI 54952

Action Required

Dear Menasha Utilities Customer:

Menasha Utilities Water Department does not have record of your water service pipe material

We are updating our records and working toward a lead free water supply for our customers. We would like to verify and confirm the type of water service coming from the water main in the street to your home. The appointment will take approximately five minutes and we will need to access your water meter usually located in your basement.

Please call the Water Distribution Department at **920-967-3431** to schedule an appointment between the hours of 7:00 a.m. and 3:00 p.m. Monday thru Friday.

For more information visit our website: www.menashautilities.com/water-department.

Thank you in advance for your cooperation.

[Insert Contact information]

ED_013319_00000134-00141

Customer Information When System Verifies Customer Service Line Material – Menasha Utilities Information When Appointment is Scheduled

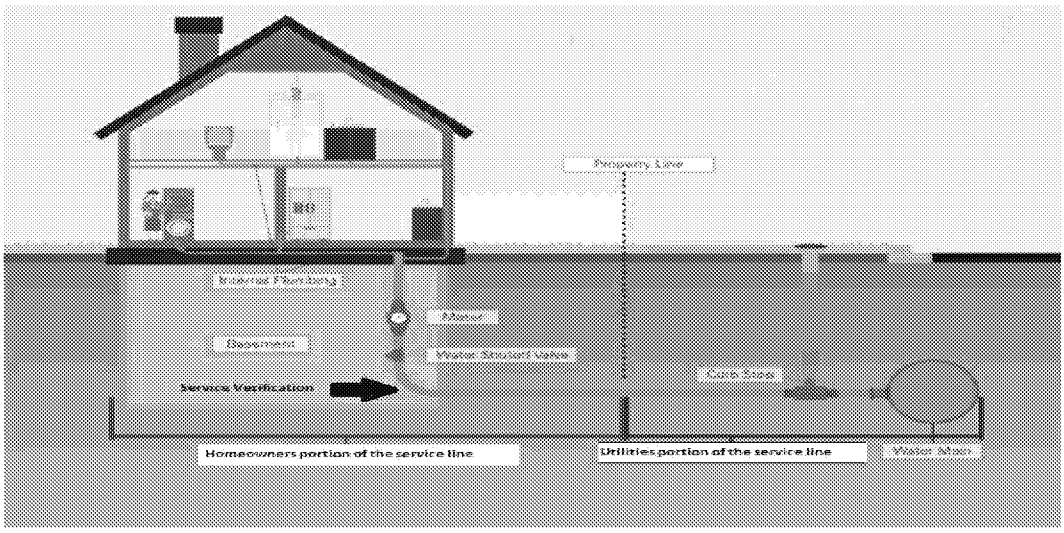
Water Service Verification

Appointment Expectations

Water service lines can be made of lead, copper, galvanized steel, or plastic. Without excavating the service line to expose the pipe, Menasha Utilities employees can determine the pipe material by locating the pipe that connects the water meter to the water main (usually in the basement). Once the pipe is located, employees will conduct a scratch test and find out if the pipe is magnetic to determine the service line material. Images of the different service line materials are shown below.

Reminders

- All Menasha Utility employees have photo identification. Please request to see credentials if they are not visible.
- Someone 18 years or older must be present for the entire appointment.
- Please secure and maintain control of pets.
- Menasha Utility employees will need a safe and clear path to access the water meter.



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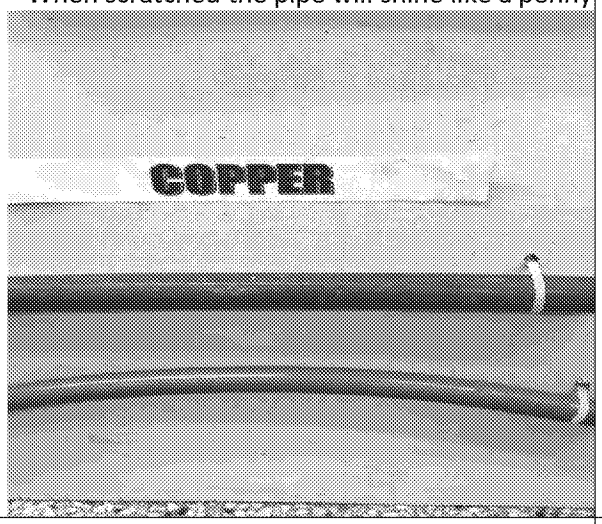
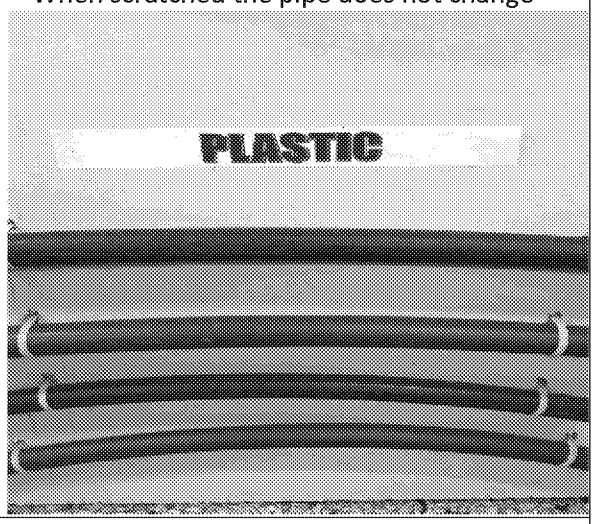
Menasha Utilities Information When Appointment is Scheduled (continued)

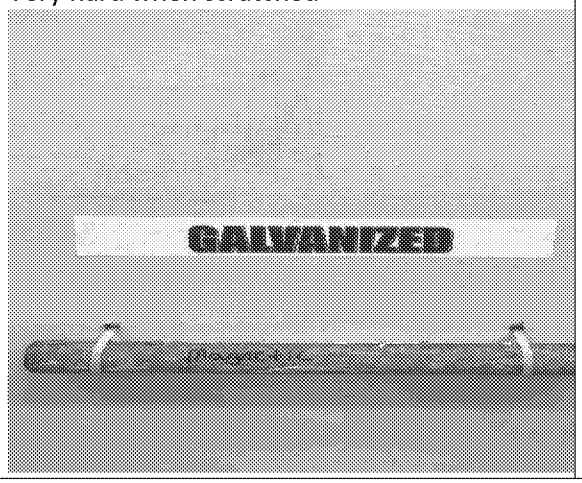
- Bronze to brown in color
- Not magnetic
- When scratched the pipe will shine like a penny



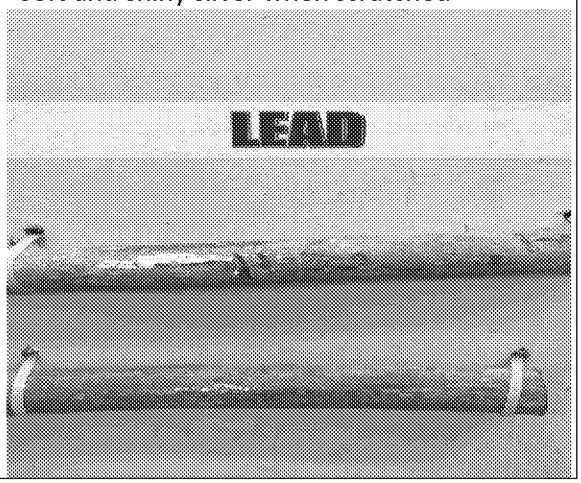
- Blue or black
- Not magnetic
- When scratched the pipe does not change



- Dull gray color
- Magnetic
- Very hard when scratched



- Dull gray color
- Not magnetic
- Soft and shiny silver when scratched



Source:
https://www.menashautilities.com/sites/menashautilities.com/files/Water%20Service%20Verifications%20webpage%20content%202019.pdf. Accessed November 29, 2021.

ED_013319_00000134-00143

Appendix D: Summary of Lead Ban Provisions by State

Below is a summary of the 1986 lead ban provisions by EPA Region and then by state. The tables have been recreated with some modification to the format from Table 3-1 of EPA's Lead and Copper Rule Guidance Manual. Volume I: Monitoring (USEPA, 1991b), but the content has not been updated. Thus, water systems should verify the lead ban effective dates with their states.

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region I	Connecticut	Yes	Public Act No. 66-192; Sec. 29-261 General Statutes; State Plumbing Code	12/31/88	Governor 03/29/89	X	X	X	Requires solder warning label
	Maine	Yes	Internal Plumbing Rules 10-144A CMR238; Chapter 9,8,10; Chapter 3, Table 3,5; and Chapter II.D.1	08/01/87	Commissioner, Dept. of Human Services 02/23/89	X	X	X	State purchased Pb solder test kits for inspectors, etc. to use in field testing.
	Massachusetts	Yes	State Plumbing Code, 2-18 CMR; Pg. 55, 201, 208, 207	01/01/86	Commissioner, Dept. of Env. Protection 03/08/89	X	X	X	
	New Hampshire	Yes	State Plumbing Code, Chapter ??? 700, Part ??? 701	08/01/87	Governor 03/28/89	X	X	X	Adopted BOCA
	Rhode Island	Yes	Regulation S.B.C.-3; Article 4, P402.3 and P402.4; and Article 5, P508.4 and P509.5	01/01/87	Governor 03/28/89	X	X	X	Adopted BOCA
	Vermont	Yes	VT Residential plumbing code, ABC Envir. Protection Rules for public buildings	12/28/88 09/10/82	Commissioner of Health, 03/27/89	X	X	X	New legislation eff. June 1989 consolidating plumbing codes and clarifying lead ban.

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region II	New Jersey	Yes	Uniform Construction Code, Plumbing Subcode 5:23-3,15	02/02/87	Governor 02/02/89	X	X	X	Pipe is covered under Bureau of SDWA Regulations
	New York	Yes	Executive Law, Section 905,5 of Titles 9 NYCRR	01/01/86	Commissioner of Health 01/11/89	X	X	X	Lead ban law; Load labeling law
	Puerto Rico	Yes	Planning Board Regulation #7 (Building Regulation) Article V- 8-10	06/19/88	Governor	X	X	X	
	Virgin Island	Yes	VI Interim Primary DW Standards Title 12, VI Rules & Regs. Chapter 51, Section 1303	02/06/89	Governor 02/06/89	X	X	X	

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region III	Delaware	Yes	State Plumbing Code, Section 119 Chapt. 79, Sec. 7906; Chapt. 1, Sec. 122e	06/17/88	Secy. Dept. Health & Social Services	X	X	X	Adopted BOCA
	D.C.	Yes	D.C. Plumbing Code Supplement of 1986, Article 5	08/19/88		X	X		Requires PN; bans>8% pipe, but not fittings
	Maryland	Yes	COMAR 09.20.05.02., 09.20.11.10E,0901.01.09/ 01.03	08/16/88	Secy. Environment 09/15/88	X	X	X	Effective 03/30/89 for pipes and fittings
	Pennsylvania	No	Plumbing System Lead Ban and Notification Act of 7/69	01/06/91		X	X	X	Act also bans the sale of materials that are not lead free
	Virginia	Yes	Uniform Statewide Plumbing code P-501.7.3, P-501.8.4 and P-210-1,4	04/01/86	Governor	X	X	X	Adopted BOCA 04/15/87

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
	West Virginia	Yes	Legislative Rules, Dept. of Health, Plumbing Requirements 64 CSR 57	06/19/88	Governor	X	X	X	Requires PN

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region IV	Alabama	Yes	State Lead Ban Act, ADEM Admin. Code R.335-7-11-05	05/10/88 01/89	Governor/ADEM Director	X	X	X	
	Florida	Yes	Florida Statues, Subsection 553.11 and 553.06	06/10/88 12/88	Governor/DER Secretary	X	X	X	Dept. of Community Affairs to adopt amended State Plumbing Codes
	Georgia	Yes	State Plumbing code, Section 402.1, Section 114.5, and Section 1109.1; State Regs.	07/87 01/89		X	X	X	
	Kentucky	Yes	State Plumbing Code, Section 17, PC-60-3	01/04/88	Commissioner of Bd. Of Housing Mgr. D.w. Branch	X	X	X	Formalization of enforcement procedures with the Div. of Plumbing with the next few months. (11/90)
	Mississippi	Yes	Board of Health, Envir. Regs. Division 300-Water Supply, Part 301 Section 301.5(c)	04/13/88 05/88	Exec. Secy. Bd. Of Health/Asst. Dir. Div. Water Supply	X	X	X	Requires PN
	North Carolina	Yes	State Plumbing Code Volume II, Section 602.4 (solder & flux) Section 1008 (solder, pipe, flux)	03/87	Comm. of Insurance/head Public Water Supply Branch	X	X	X	Requires PN

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
	South Carolina	Yes	State SDWA, 61-58.4 (1)	11/88	Chief Bureau DW Program	X	X	X	Requires PN; State Plumbing Codes expected to be amended during next legislative session.
	Tennessee	Yes	Tennessee Code Annotated, Title 88, Chapter 13, Part 7	03/18/88	Governor/Dir. Div. Water Supply	X	X	X	

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region V	Illinois	Yes	Illinois Administrative Code, Chapter 1, Section 890.620d	04/86	Dir. Of H. EPA & Dir. Of Dept. of Health, 09/13/88	X	X	X	
	Indiana	Yes	IN Plumbing Code, title 675, Sec 7 Subsec. 113g and Sec. 602, Subsec. d	03/01/87	NA	X	X	X	
	Michigan	Yes	Mi Construction Code Act	06/07/88	Governor 11/21/88	X	X	X	
	Minnesota	Yes	Minnesota Statues, Chapter 326, Section 326 371, MN Plumbing Code	06/01/85	Comm. Of Health 09/27/88	X	X	X	Sellers of lead solder must display warning sign.
	Ohio	Yes	OH Basic Building Code	09/12/88	OH EPA & Governor 9/26/88	X	X	X	
	Wisconsin	Yes	Wisconsin Administrative Code	1986	Governor 09/28/88	X	X	X	

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region VI	Arkansas	Yes	State Plumbing Code, 10.1.6 and 10.1.7	06/01/88	Governor Bill Clinton 06/16/88	X	X	X	
	Louisiana	Yes	State Sanitary Code, chapter XII (Water Supplies)	09/20/88	Dept. Asst. Secy. of Dept. of Health & Hospitals 09/12/88	X	X	X	Requires PN
	New Mexico	Yes	State Plumbing Regulations	04/01/87	Governor Garrey Carruthers 12/06/88	X	X	X	Requires PN
	Oklahoma	Yes	Rules and Regulations Governing Plumbers	05/06/87	Governor Henry Bellman	X	X	X	Adopted BOCA
	Texas	Yes	Rules and Regulations for Public Water Systems, 337.206(b)	07/01/88	Governor Clemenis 09/29/88	X	X	X	

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region VII	Iowa	Yes	IA Administrative Code, Chapters 40 and 41	09/14/88	Larry Wilson Exec. Fir. Of IDNR	X	X	X	Requires PN
	Kansas	Yes	KS Statutory Authority 65-1710 and 65-171R	04/19/88	Dr. Stanley C. Grant Secy. KDHE	X	X	X	Requires PN
	Missouri	Yes	10CSR 60-10.040 and 60-8.020; and MS Released Statues, Chapters 311.060	08/31/88	Dr. F. Brunner Dir. MDNR	X	X	X	Requires PN
	Nebraska	Yes	NB Safe Drinking Water Act, Title 179, Chapter 2, Sections 003, 004, 005	05/88	Greg Wright, Dir. Dept of Health	X	X	X	Requires PN

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region VIII	Colorado	Yes	CO Plumbing Code, Chapters 8 and 10	01/31/88	Governor 11/21/91	X	X	X	Adopted Uniform Plumbing Code
	Montana	Yes	Administrative Rules, 8.70.304, Plumbing Permits (4)	12/31/87	Chief, Water Quality Bureau, 10/11/88	X	X	X	
	North Dakota	Yes	State Plumbing Code, Sections 62-03--033,1-08(5), 63-03-04-02(4)	01/01/88	Governor 09/19/88	X	X	X	
	South Dakota	Yes	State Plumbing Code	09/03/87	Secy. Dept. of Water Resources	X	X	X	
	Utah	Yes	State Plumbing Code	04/24/89	Dir. Division of Env. Health 03/08/89	X	X	X	
	Wyoming	No	The Region is trying to implement a lead ban at the local level while pursuing the adoption of a state lead ban.						

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region IX	Arizona	Yes	AZ Revised Statues, 49-353.A2(k) and 49-353.B	08/18/87	Governor 08/28/88	X	X	X	Requires PN, Adopted uniform plumbing code.
	California	Yes	Health and Safety Code, SB164 Sections 300.6 and 300.7	07/01/86	Gov. George Daukmejian, 03/28/89	X	X	X	Effective 01/01/88 for pipes solder warning label
	Hawaii	Yes	HI Revised Statues, Chapter 340B	06/05/87	Dir. Dept. of Health 03/22/89	X	X	X	Requires PN; fines
	Nevada	Yes	NAC, Chapter 445,412, Revised Statues	01/89	State Health Officer 02/18/89	X	X	X	Requires PN
	American Samoa	Yes	AS D.W. Regs. Sec. 25.0431.1	01/89	Yes	X	X	X	
	N. Mariana Is.	Yes	CNMI Drinking Water Regs. Section 5.51	03/13/89	Gov. Pedro Tenorio 03/13/89	X	X	X	
	Guam	Yes	Revised Uniform Plumbing Code, 1988	03/01/88	Gov. Joseph p. Ada, 04/07/89	X	X	X	
	Rep. of Palau	NO							Trust Territory

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region X	Alaska	Yes	Section 1, AS 18.60.705	06/05/88	Governor, 04/11/88	X	X	X	Covers all water systems as of 4/89
	Idaho	Yes	Idaho Code Chapter 26, Title 54	08/11/88	Governor, 03/30/89	X	X	X	Adopted Uniform Plumbing Code
	Oregon	Yes	Health Division Rules 333-61-020, 333-61-040 and 333.61.087	09/04/84	Governor, 03/10/89	X	X	X	Warning Labels; removal of lead service lines; public notification lead flux was banned in 1988
	Washington	Yes	State Building code, Chapter 551-16 WAC, Section 15-16 060	04/27/87 03/17/88	Governor, 03/30/89	X	X	X	

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
Total	All	Yes: 54 No: 3				56	56	55	

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Appendix E: Michigan Minimum Service Line Verification Requirements

In 2018, Michigan EGLE revised their regulations to require systems to prepare a complete distribution system materials inventory by January 1, 2025. One goal of the materials inventory is to " . . . Demonstrate through physical verification that the inventory is accurate." Michigan designed their verification process using the principles outlined in their "Minimum Service Line Verification Requirements (Michigan EGLE, 2021). These requirements in their entirety are provided as Appendix E.

ED_013319_00000134-00152

MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
DRINKING WATER AND ENVIRONMENTAL HEALTH DIVISION

EGLE

MINIMUM SERVICE LINE MATERIAL VERIFICATION REQUIREMENTS

A reliable inventory of potable water service line materials is important for service line replacement planning, effective asset management, and notification of citizens served by lead service lines. Reliability and completeness of service line records can vary both across and within water supplies; therefore, it is important that supplies take steps to verify service line materials and records. Water supplies are not expected to physically verify every service line, but rather a statistically sound subset. To effectively evaluate the accuracy of service line records and/or predict service line materials, a representative, uniformly random number of service lines must be physically verified.

Information gathered through random material verification processes provides:

- A verified estimate of the proportion of each service line material and material configuration across the distribution system, providing a sound basis for planning service line replacement and notification efforts.
- A basis for evaluating the reliability of existing service line material records and identifying areas where additional physical verification or information may be needed. For water supplies with high confidence in existing records, this may serve to demonstrate that records are, in fact, reliable.
- A baseline data set for predicting materials at other locations (in combination with other information).

This random material verification process does **NOT** provide:

- The service line material configuration of every building served; or
- The extent to which specific areas of the distribution system may differ from the system-wide average occurrence rate of each service line material.

Verification Exceptions:

- A water supply may avoid the material verification process if all potable water service lines within the water supply meet the strict definition of "known" described below.
- Water supplies may exclude from this verification service lines four inches or more in diameter. Guidance for addressing these service lines as part of the Complete Distribution System Materials Inventory (CDSMI) will be provided separately.

Timing of Verification:

It is recommended that water supplies conduct this verification early enough in the CDSMI process to allow sufficient time for additional work, as needed, before the CDSMI is due to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) by January 1, 2025. Consider completing this verification by the end of 2022, thereby allowing an additional two years to undertake any additional activities that may be necessary to complete the inventory.

Random Material Verification Process

To evaluate the accuracy of potable water service line records and/or predict service line materials, a statistically sound, uniformly random number of service lines should be physically verified. Some supplies have already conducted recent physical verifications and/or have controls in place that dictate service line materials, resulting in a very high level of confidence in the materials of some

service lines. In recognition of this, the following protocol requires random verification of only those service lines of "unknown" material.

For the purpose of this verification, a **conservative** approach is used to determine when a service line's material can be characterized as "known" and be excluded from the verification process.

To be considered "known," and therefore excluded from the pool of sites from which a random sample will be drawn, a service line must meet criteria 1 or 2 below:

1. The service line was recently[1] physically verified and all of the following apply:
   - **ALL** points, as defined in Step 5 below, were recently physically verified;
   - The physical verification was **well documented** as to the material at each point; **AND**
   - The water supply has **not observed deviations** from these records during operations and maintenance.

OR

2. Ordinances or controls were in place and all of the following apply:
   - Ordinances[2] or other controls[3] were in place at the time the service line was installed specifying materials used in service line construction **AND**
   - The water supply has **not observed deviations** from these ordinance(s) or control(s) during operations and maintenance.

Any service line that does not meet one of the two criteria above is considered "unknown" for the purpose of this verification process and should be included in the list of locations from which a set of sites will be uniformly randomly selected for verification.

>>NOTE: Service lines four inches or more in diameter may be excluded from the verification process.

>> NOTE: This definition of "known" and the three- or four-point verification process described below in Step 5 **are specific to this baseline verification process** and may not apply to other aspects of the CDSMI. Further guidance on completing the rest of the CDSMI will be provided at a later date.

---

[1] "Recently" in this context is water supply-specific. Supplies must define recent to include a time after which its records have been demonstrated to be reliable. No records prior to 1989 may be considered recent for the purpose of this portion of the verification process. The use of lead service lines was officially prohibited in Michigan in 1988; therefore, the health risk due to unreliable records is higher before this date. This does not mean service line records prior to 1989 have no value. They may have great value in finalizing a system's CDSMI, but they cannot be used to exclude a location from the pool of sites from which random sites are selected for this verification.

[2] An ordinance is defined as: A law, statute, or regulation enacted by a municipal corporation. An ordinance is a law passed by a municipal government. A municipality, such as a city, town, village, or borough, is a political subdivision of a state within which a municipal corporation has been established to provide local government to a population in a defined area.

[3] A control, for the purposes of this guidance, is defined as: A general set of approved specifications or binding construction documentation that explicitly demonstrates that there were controls in place dictating the material usage in all public and private portions of a service line. Any controls must first have been explicitly adopted by the water system or directly defined for each blueprint used in construction.

Material Verification Process Steps

Step 1: Identify all potable water service lines of "unknown" material.

Identify all potable water service lines of "unknown" material (i.e., those not meeting the criteria of "known" provided above). Determine the total number of these "unknown" service lines. Service lines four or more inches in diameter may be excluded from this verification process.

Note: For the purpose of this verification process, assumed service line materials cannot be used to classify a service line as "known."

Step 2: Identify how many service lines should be physically verified.

- Water supplies with fewer than 1,500 "unknown" service lines must physically verify at least 20 percent of the total number of "unknown" lines.
- Water supplies with 1,500 or more "unknown" service lines must physically verify enough lines to reach a 95 percent confidence level. See **Appendix A** to determine the number of service lines requiring verification.

Step 3: Randomly select service lines for physical verification.

From the list of "unknown" service lines identified in Step 1, randomly select enough service lines to at least meet the number requiring physical verification as determined in Step 2. Selection must be uniformly random and not selected based on any specific criteria which can introduce bias. In other words, each "unknown" service line must have an equal chance of being chosen for verification.

See **Appendix B** for an easy way to generate a uniformly random set of locations for verification.

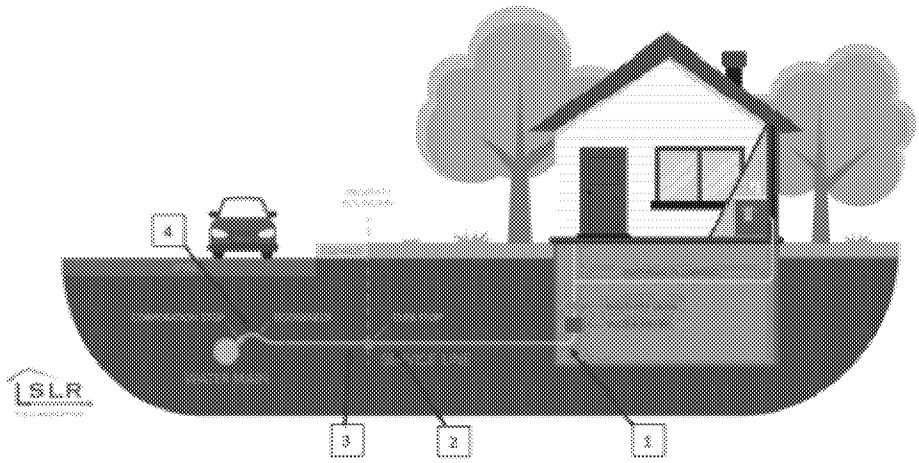
Note: It may be tempting to introduce a "logic" to the site selection process, such as selecting within periods of construction or targeting portions of town. However, doing so can unintentionally bias the data set. Be certain to use a truly random selection method such as the one described in Appendix B.

Step 4: Create a tool for tracking records and materials during verification.

Create a spreadsheet (or other tracking mechanism) containing the randomly selected locations identified in Step 3. Include columns or fields for tracking both existing records and results of the physical verification. In this step, enter currently available information about service line materials based on pre-verification records. See **Appendix C** for an example spreadsheet.

Step 5: Conduct three- or four- point physical verification.

Three or four points of physical verification are required for each service line. Physical verification methods may include potholing (by a variety of methods including hydro-vac, air-knifing, hand digging, etc.), trenching, televising, and in-home inspections. Always record the actual material observed for each point described below, even if the material was as expected. Do not use "non-lead" to describe the material.



Each service line requiring verification **must have the following three or four points physically verified** (numeric bullets refer to the numbered location in the illustration above):

1. **Interior portion** of the service line up to the first shutoff valve or 18 inches inside the building, whichever is shorter;
2. **Curb stop to building**, a minimum of 18 inches from the curb stop; and
3. **Main to curb stop**, a minimum of 18 inches from the curb stop.
4. **Lead connector (gooseneck/pigtail)**, if present. In this context, a gooseneck or pigtail is a short section of material, typically not exceeding two feet, which can be bent and used for connection between a rigid fitting (corporation stop) and the service line piping.
   If a lead connector is present, a water supply must **EITHER**:
   - Conduct a physical verification;

     OR

   - Have a control that was in place demonstrating they were never used;

     OR

   - Assume locations with galvanized service lines between the main and curb stop contain (or previously contained) a lead connector. If a water supply makes this assumption, they may skip physical verification of the gooseneck material.

   Note: Unless assuming the current or previous presence of a lead gooseneck, most water supplies with galvanized service lines between the main and curb stop must physically verify the connector material.

Step 6: Record results of physical verification in the spreadsheet created in Step 4.

In the spreadsheet or tracking tool created in Step 4, enter the service line material observed at each point of the service line during the physical verification conducted in Step 5. Always record the actual material observed, such as lead, copper, plastic, galvanized steel, or other. Do not use "non-lead."

Step 7: Evaluate results of physical verification.

This representative, uniformly random sample of service line materials should be, with a high probability, representative of service line materials from the portion(s) of the system from which the random set was selected. You can use this information to assess the reliability of your existing records and make sound assessments/decisions as you complete a system-wide inventory.

Assess Reliability of Existing Records:

Compare the historical records of your randomly selected sites with the new physically verified materials for those sites to evaluate the reliability of your water supply's historical records. For example, what percent of the time did the physical verification match the historical records? If historical records are found to be unreliable, additional physical verification may be necessary.

Predict Service Line Materials at Other Locations:

The results of this verification, in combination with other available information, can be used to predict service line materials at other sites. Water supplies may need assistance with this process. Additional information will be provided in a separate guidance document.

Retain Verification Records:

Create, compile, and retain documentation of your verification efforts. You may be asked by EGLE to produce or submit these records.

Beyond This Verification:

This is not the end of the CDSMI process. As noted in Step 7, additional verification may be necessary if records are found to be unreliable, additional work may be needed to build-out the inventory, notifications to residents may be necessary, reporting to EGLE will be required, etc. Additional guidance on these steps will be provided later.

Lead Service Line Notification Reminder:

Written notification must be provided to the owner and occupant(s) of any building with a service line known, or assumed, to contain lead in any portion.

This guidance was created in collaboration with the University of Michigan and with consideration of the ASDWA/BlueConduit white paper "Principles of Data Science for Lead Service Line Inventories and Replacement Programs" which can be found at: https://www.asdwa.org/2020/09/29/asdwa-blueconduit-release-white-paper-on-lsl-data-methods.

Appendix A: Minimum Number of Service Lines Requiring Physical Verification

Number of "Unknown" Service Lines*	Number to Physically Verify
Fewer than 1,500	20% of "unknown" lines
1,500	306
1,600	310
1,700	314
1,800	317
1,900	320
2,000	322
2,200	327
2,400	331
2,600	335
2,800	338
3,000	341
3,500	346
4,000	351
4,500	354
5,000	357
6,000	361
7,000	364
8,000	367
9,000	368
10,000	370
15,000	375
20,000	377
30,000	379
40,000	381
60,000	382
90,000	383
225,000 or more	384

* For the purposes of this verification process, this represents the number of service lines that do **NOT** meet the criteria for "known" service lines described at the beginning of this document. If the number of "unknowns" falls between two values on the chart, either interpolate or round up to the higher number.

Appendix B: Generating a Uniformly Random Set of Service Lines for Verification

You can use a spreadsheet (such as Microsoft Excel or Google Sheets) to generate a uniformly random set of "unknown" locations for verification using the following steps:

1. In the first column of a spreadsheet, list every unique service location of "unknown" material. They can be listed by address, service line ID, or other identification method.
2. In the second column, generate uniformly random numbers, so that each service line is associated with a randomly generated number, using the following steps:
    a. Enter the following formula in the second column: =RAND( )
    b. Put the '=RAND( )' formula next to each location.
    c. This generates a number between 0 and 1 for each location.
    d. Then select the column with the random values and use the spreadsheet's "Copy" feature..
    e. Then use the "Paste Special" option to "Paste Values Only" in the same column that you have already selected. This will ensure your random numbers remain static.
    f. Then use the "Sort" feature to list the randomly generated numbers from lowest to highest. If the "Sort Warning" appears, select "Expand the selection," then "Sort."
3. Select only the top N homes, where N is the number requiring verification. For example, if you need to verify 20 locations, select the first 20 locations on the list. These are the 20 uniformly random locations requiring verification.

Here is a short online tutorial for generating random samples in Microsoft Excel. The same formulas and method work for Google Sheets.

Appendix C: Example Field Verification Tracking Spreadsheet

Service Line ID & Location		Service Line Material Based on HISTORICAL RECORDS							Service Line Material Based on FIELD VERIFICATION					
Parcel ID/ Service Line ID	Address	Connector (gooseneck)	Historical Record Main-to-Curbstop	Historical Record Curbstop-to-Home	Interior (18" or 1" shutoff)	Date of Historical Record	Type of Record	Year Built	Connector (gooseneck)	Verified Material Main-to-Curbstop	Verified Material Curbstop-to-Home	Interior (18" or 1" shutoff)	Date Verified	Method
123456789	23 Main St	NA	Copper	Copper	Unknown			1958	NA	Copper	Copper	Copper	1/2/2020	Hydrovac
123456790	60 1st Ave	NA	Copper	Copper	Unknown	12/1/1996	Note card	1951	NA	Copper	Copper	Copper	12/6/2019	Hydrovac
123456794	12 Michigan Ave	Unknown	Unknown	Copper	Copper			1927	Lead	Galvanized	Lead	Lead	6/20/2020	Excavation
123456795	34 2nd Ave	Lead	Galvanized	Copper	Copper				NA	Copper	Copper	Copper	11/22/2020	Hydrovac
123456796	941 W Main St	NA	Copper	Copper	Copper	3/15/1986	Permit	1954	NA	Copper	Copper	Copper	11/13/2019	Hydrovac
123456798	24 North St	Lead	Galvanized	Copper	Copper			1935	Lead	Galvanized	Lead	Lead	10/25/2020	Excavation
123456800	26 Grand Ave	Unknown	Unknown	Copper	Unknown	6/15/1925	Note card	1926	NA	Copper	Lead	Copper	11/28/2019	Excavation
123456803	13 24th St	Lead	Galvanized	Copper	Unknown	1/11/1952	Note card	1871	NA	Lead	Galvanized	Galvanized	5/25/2020	Hydrovac

NOTE: This table is only an example. Water supplies must document the location, existing records (if available), and findings of the physical verification. Water supplies should consider adding any additional columns that will capture data useful to the verification process or completion of the CDSMI.

Appendix F: Examples of Data Quality Disclaimer Language

DC Water

Greater Cincinnati Water Works

Pittsburgh Water and Sewer Authority

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Below are just a few examples of disclaimer language from DC Water, Greater Cincinnati Water Works, and Pittsburgh Water and Sewer Authority's websites regarding the accuracy of the inventory information provided to the public. This information can be adapted for use.

DC Water

DC Water - Water Service Information

To see service line information, enter an address in the search box or zoom in on the map. Click the circle located within the property boundaries to view the property's service line information. The information provided through this map is limited to the best available data in DC Water's possession at this time. It may not be accurate.

Visit Service Lines - Fact Sheet for more information.

DISCLAIMER: The maps provided by the District of Columbia Water and Sewer Authority ("D.C. Water") are based on historical data, information directly provided by customers, and in some cases, information acquired during physical inspections. DC Water does not guarantee the accuracy of these records and maps, which shall be used for the sole purpose of providing property owners and residents with DC Water's best available data regarding their private water services, and not for any commercial, legal or other use. These records will be updated constantly as D.C. Water gathers additional information. D.C. Water requests that customers provide to it records of any service line replacements performed by property owners. D.C. Water reserves the right to alter, amend or terminate at any time the display of these maps and records.

I understand

Source: https://geo.dcwater.com/Lead/. Accessed December 21, 2021.

ED_013319_00000134-00162

Greater Cincinnati Water Works

DISCLAIMER:

The materials in this site are provided "as is" and without express or implied warranties of any kind as to accuracy of the information or fitness for any particular purpose. Greater Cincinnati Water Works (GCWW) does not warrant or represent that the information contained herein is accurate or reliable or that the website will be free of errors or viruses.

GCWW makes every effort to update this information on a regular basis. However, because GCWW has not verified historical records for completeness or accuracy and information is continually changing, GCWW makes no expressed or implied warranty concerning the accuracy of this information, nor as to the reliability, relevancy, timeliness, utility or completeness thereof. Changes may be made to the database at any time and without notice. GCWW assumes no liability for direct, indirect, consequential, incidental special or other damages of any kind, as a result of errors, omissions, or possible discrepancies with regard to this information.

Persons who use information contained in this database to commit a criminal act may be subject to criminal prosecution.

I have read the foregoing disclaimer and agree to its provisions. By accessing this website and database, the user agrees to the terms and provisions hereof. The user further assumes all risk associated with the use of the data herein, and agrees to indemnify and hold harmless the City of Cincinnati, Greater Cincinnati Water Works, and its employees, contractors and vendors, from all claims, demands, actions, cause of action, suits, damages, cost, injuries, fees, attorney fees, and liability, as may be occasioned by the inclusion of inaccurate or incomplete information in this database.

☐ I Agree

Source:
https://gcww.maps.arcgis.com/apps/webappviewer/index.html?id=0a170c268c694e46a8a4e394630df0bd
Accessed December 21, 2021.

ED_013319_00000134-00163

Pittsburgh Water and Sewer Authority

DISCLAIMER

The maps provided by the Pittsburgh Water and Sewer Authority (PWSA) are based on historical data, service line inspections or both. PWSA does not guarantee the accuracy of these records and maps, which shall be used for the sole purpose of providing property owners and residents with the best available data regarding lead service lines, and not for any commercial, legal or other use. These records will be updated as PWSA gathers additional information. PWSA reserves the right to alter, amend or terminate at any time the display of these maps and records.

Source: https://lead.pgh2o.com/your-water-service-line/planned-water-service-line-replacement-map/. Accessed December 21, 2021.

ED_013319_00000134-00164

Message

From: Woods, Alex [Alex.Woods@msdh.ms.gov]
Sent: 9/2/2022 1:01:35 PM
To: Adcox-Green, Ashley [Ashley.Adcox-Green@msdh.ms.gov]; Boxx, Robert [Robert.Boxx@msdh.ms.gov]; Smith, Brian [Smith.Brian@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; Byers, Paul [Paul.Byers@msdh.ms.gov]; Campbell, Thomas [Thomas.Campbell@msdh.ms.gov]; Craft, Christy [Christy.Craft@msdh.ms.gov]; Craig, Jim [Jim.Craig@msdh.ms.gov]; Cunningham, Donald [Donald.Cunningham1@msdh.ms.gov]; Diaz, Denisse [Diaz.Denisse@epa.gov]; Edney, MD, Daniel [Daniel.Edney@msdh.ms.gov]; Grey, Elizabeth [Elizabeth.Grey@msdh.ms.gov]; Hall, Amber [Amber.Hall@msdh.ms.gov]; Hall, David [David.Hall@msdh.ms.gov]; Harrison, Charles "Chase" [Charles.Harrison@msdh.ms.gov]; Head, Matthew [Matthew.Head@msdh.ms.gov]; Herrington, Lester [Lester.Herrington@msdh.ms.gov]; Horn, Marshall [Marshall.Horn@msdh.ms.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Jeanette Dickinson (Jeanette.Dickinson@hhs.gov) [Jeanette.Dickinson@hhs.gov]; Jennings, Twyla [Twyla.Jennings@msdh.ms.gov]; Larmer, Melissa [Melissa.Larmer1@msdh.ms.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; McMinn, Sharon Dawn [Sharon.McMinn@msdh.ms.gov]; William Moody [william.moody@msdh.ms.gov]; Newman, Keriema [Newman.Keriema@epa.gov]; Parker, Melissa [Melissa.Parker@msdh.ms.gov]; Richardson, Toni [Toni.Richardson@msdh.ms.gov]; Rogers, Ronald [Ronald.Rogers@msdh.ms.gov]; Salazar, Byron "Fabrizio" [Byron.Salazar1@msdh.ms.gov]; Sartin, Steven [Steven.Sartin@msdh.ms.gov]; Sharlot, Liz [Liz.Sharlot@msdh.ms.gov]; Frost, Tara [Frost.Tara@epa.gov]; Williams, Alisa [Alisa.Williams@msdh.ms.gov]; Woods, Alex [Alex.Woods@msdh.ms.gov]; Young, Dorthy [Dorthy.Young@msdh.ms.gov]
Subject: COJ Water Crisis 2022 Operational Summary #1 9-1-2022 - OFFICIAL USE ONLY
Attachments: COJ Water Crisis 2022 Operational Summary #1 9-1-2022 - For Official Use Only---PDF.pdf

***** OFFICIAL USE ONLY *****

Please find the attached Operational Summary for September 1, 2022.

Alex Woods
Office of Emergency Planning and Response (OEPR)
Mississippi State Department of Health (MSDH)
1 MEMA Drive Suite 159, Pearl MS 39208; Email: Alex.Woods@msdh.ms.gov
601.933.7188 (O); 601.933.6874 (FAX); 601.573.6645 (Cell)

This message and any attachments may contain information that is confidential and/or proprietary to the Mississippi State Department of Health, and may consist of sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the recipient(s) designated above. The use, disclosure, copying or distribution by any means to anyone other than the intended recipient(s) without the prior written permission of the Mississippi State Department of Health is strictly prohibited. Any such unauthorized use, disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to, HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance.

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 1st, 2022 Report # 1 as of 1900 hrs.

Updates annotated in RED

SEOC Activation Level: Level 2 Partial Activation
WebEOC Event Name: COJ Water Crisis 2022
Crisis Track Event Name: COJ Water Crisis 2022

INCIDENT OVERVIEW: The City of Jackson Surface Water System was impacted by recent flooding. Both the O.B. Curtis and J.H. Fewell water treatment plants have reduced water output creating pressure problems in the system. The City lacks sufficient pressures in some areas of the City to sustain adequate access to flush toilets and maintain optimal disinfection for drinking water. Both O.B. Curtis and J.H. Fewell water treatment plants lack sufficient Class A Operators and maintenance staff.

Dr. Daniel Edney, State Health Officer of the Mississippi State Department of Health, issued a Declaration of a Public Drinking Water Supply Emergency in the City of Jackson ordering the City including, but not limited to, employees of the Public Works Department and Emergency Management immediately cooperate with state response teams and contractors deployed to augment current staffing and to take remediation actions deemed necessary by the State Incident Commander. The Governor of Mississippi, Tate Reeves, has declared an emergency for the City of Jackson due to the effect on essential government services, medical facilities, and schools. A Unified Command has been established to combat this emergency.

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

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Updates annotated in RED

TREATMENT FACILITY STATUS:

- **O.B. Curtis**
  - Conventional Treatment Plant:
    - Authorized for **25** million gallons
    - Capacity of **18** million gallons
    - Producing **12** million gallons
  - Membrane Treatment Plant:
    - Authorized for **25** million gallons
    - Producing **8** million gallons

- **J.H. Fewell**
  - Authorized for **20** million gallons
  - Potential flex to **30** million gallons
  - Producing **20 ½** million gallons

- **Tank/Well Status**
  - As of 1800HRS 9/1/2022, six city tanks are holding water at low levels and the city PSI was operating at 74.3PSI (O.B. Curtis 78.4PSI). According to the city engineer, the bare minimum city PSI should be operating at 65PSI. The Chastain tank will be the first tank to fill. At 0800hrs it was at 15.2ft as of 1800HRS it was at 19.97ft.

- **Surface Water Tank Levels**
  - Byram: 0.14 ft.
  - Chastain: 19.97 ft.

- Elaine: 1.81 ft.
- Forest: 16.33 ft.
- Livingston: 10.25 ft.
- Lynch: 10.45 ft.
- Magnolia: 23.10 ft.
- Northwest: 5.27 ft.
- Riverside: 16.75 ft.
- Suncrest: 0.0 ft.

- **Well System Tank Levels**
  - Cedar Hills: 22.74 ft.
  - Hwy. 18: 46.09 ft.
  - Spring ridge: 42.31 ft.

GENERAL SAFETY AWARENESS MESSAGE:

- Safety is the number one priority. This safety message ensures critical safety information is given to all personnel and site-specific hazards are understood prior to permitting access to the work site, thereby creating a safer work environment, and facilitating the process of adjustment for responders, contractors, and visitors. Ensure to be assigned one or more competent person(s) to guide guests/visitors through the water treatment plant or any individual facility. Three points of contact when ascending/descending stairs inside facilities. Observe surrounding crane activity and stay a safe distance away from live loads. Ensure personnel correctly wear proper PPE around the plant. Keep a safe distance from hazardous materials and open unsafe live

electrical components. Upon entering a room where hazardous materials are present, identify safety eye wash stations. Do not touch or use equipment you are not certified to operate, this includes the opening and closing of valves. Avoid leaks of hazard materials and liquids from piping system. Accidents and illnesses need to be reported to the MEMA Safety Officer Jarrett Watkins.

FATALITIES/INJURIES:

- No injuries reported

CURRENT AND PLANNED OBJECTIVES:

- Assess and determine the status of the ammonia tank. Transition ammonia to holding container and create a structured plan on fixing potential leak.
- Conduct an assessment on the Automatic Intake Structure (located on the southwestern portion of the Ross Barnett Reservoir). Determine functionality and viability of the automated intake system. Formulate a restoration plan. (assessment)
- Coordinate and document staffing needs as it pertains to treatment plants needs and assessments. (EMAC)

SECONDARY OBJECTIVES:

- Create and update site safety plan.
- Determine appropriate area for media and maintain media control.
- Formulate an appropriate plan for restricted access to the area using MEMA and O.B. Curtis security personnel
- Set up an integration system to assist with incoming personnel

O.B. Curtis
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PERSONNEL DEPLOYED TO O.B. CURTIS:

- **MEMA: 8**
- **MISSISSIPPI DEPARTMENT OF HEALTH: 6**
- **CITY OF JACKSON: 12**
- **EPA: 2**
- **USACE: 8**
- **CSIRE: 3**
- **Hinds EOC: 2**
- **FEMA: 6**
- **WCC: 1**
- **CST: 8**

OBJECTIVE UPDATES:

AMMONIA TANK:

- Tank # 2 has been assessed and determined that there was a full repair
- Tank # 1 (40% Ammonia) valve leaking
    - Replacement valve on site – Confirmed
    - 47th CST personnel arrive on site at 2145hrs.
        - Received brief from Incident Commander and Safety Officer
        - Conducted survey of possible leak
        - Leak detected from faulty valve
            - Recommendations:
                - Cordon off access road running east and west in front of tank #1

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- Any personnel who must be in the area must wear Level A suit with SCBA

AUTOMATIC INTAKE STRUCTURE:

- ETEC conducted an assessment on the Automatic Intake Structure
  - Suggested C.C. Lynch to assist with Ph Monitoring System
    - Pending collaboration with C.C. Lynch
- Collected intel from prior diving team regarding intake structure

JRSOI:

- Created Check-in Check-out system
  - Incoming personnel will check in through security gate
  - Will be routed to briefing tent
- Began planning for JRSOI activation
- Received JRSOI signage from MEMA
- MSDH Western Shelter tent set in place for overflow workspace

SITE SAFETY PLAN:

- Creation of evacuation plan – In Progress

MEDIA:

- Media has been moved to gravel area adjacent to security hut for free flow of traffic in and out of the facility

O.B. Curtis
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EMAC:

- Requested Louisiana Department of Health Command Team
  - Pending Mission Ready Package
- Rural Water Emergency Assistance Collaborative
  - Florida Team A-Team 2-man team – Enroute
  - Florida 4-man Team – Pending
  - Georgia (Monroe) 8 man "Class A" Membrane Team
    - Executive Director – Pre-scout, prior to team arrival

EMERGENCY SUPPORT FUNCTIONS:

- ESF-2 Communications
  - Requested installation of Cell on Light Truck (COLT) and Dedicated Fiber cable **(NO COST)** – Installed (09/01/2022; 14:30:00 CST)
- ESF-16: Military
  - CST requested for leak at ammonia tank #1 at O.B. Curtis

MISSISSIPPI STATE DEPARTMENT OF HEALTH

O.B. Curtis
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Updates annotated in RED

STATE OF MISSISSIPPI

Office of the Governor

PROCLAMATION

WHEREAS, the O.B. Curtis Water Treatment Plant ("Plant") provides water to over 43,000 connections representing over 160,000 residents in the City of Jackson, Mississippi and surrounding areas of Hinds County; and

WHEREAS, the City of Jackson and surrounding areas of Hinds County that receive water from the Plant frequently have experienced low water pressure and have been under the most recent boil water notice since July 29, 2022; and

WHEREAS, the Mississippi Department of Health and the State Health Officer have advised me that the two primary raw water pumps at the Plant have been removed and sent offsite for repairs, and that the Plant's two secondary raw water pumps are currently responsible for all water intake from the reservoir at the Plant and produce two to four million less gallons of water per day than the primary pumps resulting in the reduction of water pressure throughout the City of Jackson and surrounding areas of Hinds County; and

WHEREAS, due in part to the diminished operating capacity of the Plant, the City of Jackson and surrounding areas of Hinds County are now experiencing a total or near total loss of water pressure; and

WHEREAS, the Mayor of Jackson has declared a water system emergency due to "excessive rainfall and extreme flooding"; and

WHEREAS, the Mississippi Department of Health has declared a public drinking supply emergency in the City of Jackson based upon the following information: "(1) Insufficient number of certified operators at J.H. Fewell and O.B. Curtis Water Treatment Plants; (2) Insufficient number of maintenance staff at all water treatment plants and to support the distribution system; (3) Failure of multiple raw water pumps at O.B. Curtis Water Treatment Plant; (4) Low levels of water in storage tank; (5) Low water pressure impacting proper sanitation and education opportunities; and (6) Disinfection levels not consistently optimal developing the potential to have the presence of enteric organisms, including but not limited to, E.Coli, Cryptosporidium, or Giardia in the drinking water being served to customers"; and

WHEREAS, the total or near total loss of water pressure throughout the City of Jackson and surrounding areas of Hinds County that receive water from the Plant has created a condition of disaster and extreme peril to the safety of persons and property of such a magnitude that would be beyond the control of the services, personnel, equipment and facilities of the City of Jackson and Hinds County to combat; and

WHEREAS, the total or near total loss of water pressure throughout the City of Jackson and surrounding areas of Hinds County that receive water from the Plant has the potential to result in substantial injury or harm to the population and substantial damage to or loss of property; and

WHEREAS, in consideration of the health and safety of the residents of the City of Jackson and surrounding areas of Hinds County that receive water from the Plant and the protection of their property within the affected areas, and in the public interest, all steps should immediately be taken to protect people and property.

NOW, THEREFORE, I, Tate Reeves, Governor of the State of Mississippi, pursuant to the authority vested in me under the Mississippi Constitution and Miss. Code Ann. § 33-15-11(b)(17), and in the public interest and for the general welfare, and in consultation with the Mississippi Department of Health and the Mississippi Emergency Management Agency do hereby proclaim a State of Emergency to exist in the City of Jackson and surrounding areas of Hinds County that

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

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receive water from the O.B. Curtis Water Treatment Plant. The provisions of this Proclamation shall exist and remain in effect until such time as the pumps at the Plant are brought back into service, necessary maintenance and/or repairs are performed, and adequate staff is hired on a contract basis to operate the Plant, or the threat to public safety shall cease to exist as prescribed in Section 33-15-11(b)(17). I shall consult with the Executive Director of the Mississippi Emergency Management Agency and the State Health Officer at least every thirty days regarding the need for continuing this state of emergency, and the state of emergency shall terminate at the earliest possible date.

FURTHER, I hereby direct the Mississippi Department of Health and the Mississippi Emergency Management Agency to establish the State Incident Command Center and take all necessary actions to abate this emergency including overseeing the repairs and/or replacement of the two primary raw water pumps, the necessary maintenance and/or repairs to the two secondary raw water pumps, to enter into a contract(s) for sufficient staff to operate the Plant, and to take any additional action deemed necessary to improve the operations of the Plant to mitigate against future emergencies.

FURTHER, pursuant to Miss. Code Ann. § 33-15-11(c)(1), the provisions of state statutes, rules, regulations or orders are suspended if compliance would prevent, hinder or delay necessary action in coping with this emergency.

FURTHER, pursuant to Miss. Code Ann § 33-15-31(b), all existing laws, ordinances, rules and regulations inconsistent with the provisions of the Mississippi Emergency Management Law shall be suspended during the pendency of this emergency.

FURTHER, the Mississippi Emergency Management Agency shall take all steps necessary to plan for and abate the public health emergency created by the total or near total loss of water pressure throughout the City of Jackson and surrounding areas of Hinds County that receive water from the Plant.

FURTHER, the Mississippi State Department of Health and the Mississippi Emergency Management Agency shall seek federal assistance as may be available.

FURTHER, all other agencies of the State of Mississippi shall discharge their emergency responsibilities as deemed necessary as set forth in the State of Mississippi's Comprehensive Emergency Management Plan.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Mississippi to be affixed.

DONE in the City of Jackson, on the 30th day of August, in the year of our Lord, two thousand and twenty-two, and of the Independence of the United States of America, the two hundred and forty-seventh

TATE REEVES
GOVERNOR

BY THE GOVERNOR

MICHAEL WATSON
SECRETARY OF STATE

O.B. Curtis
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COJ Water Crisis 2022

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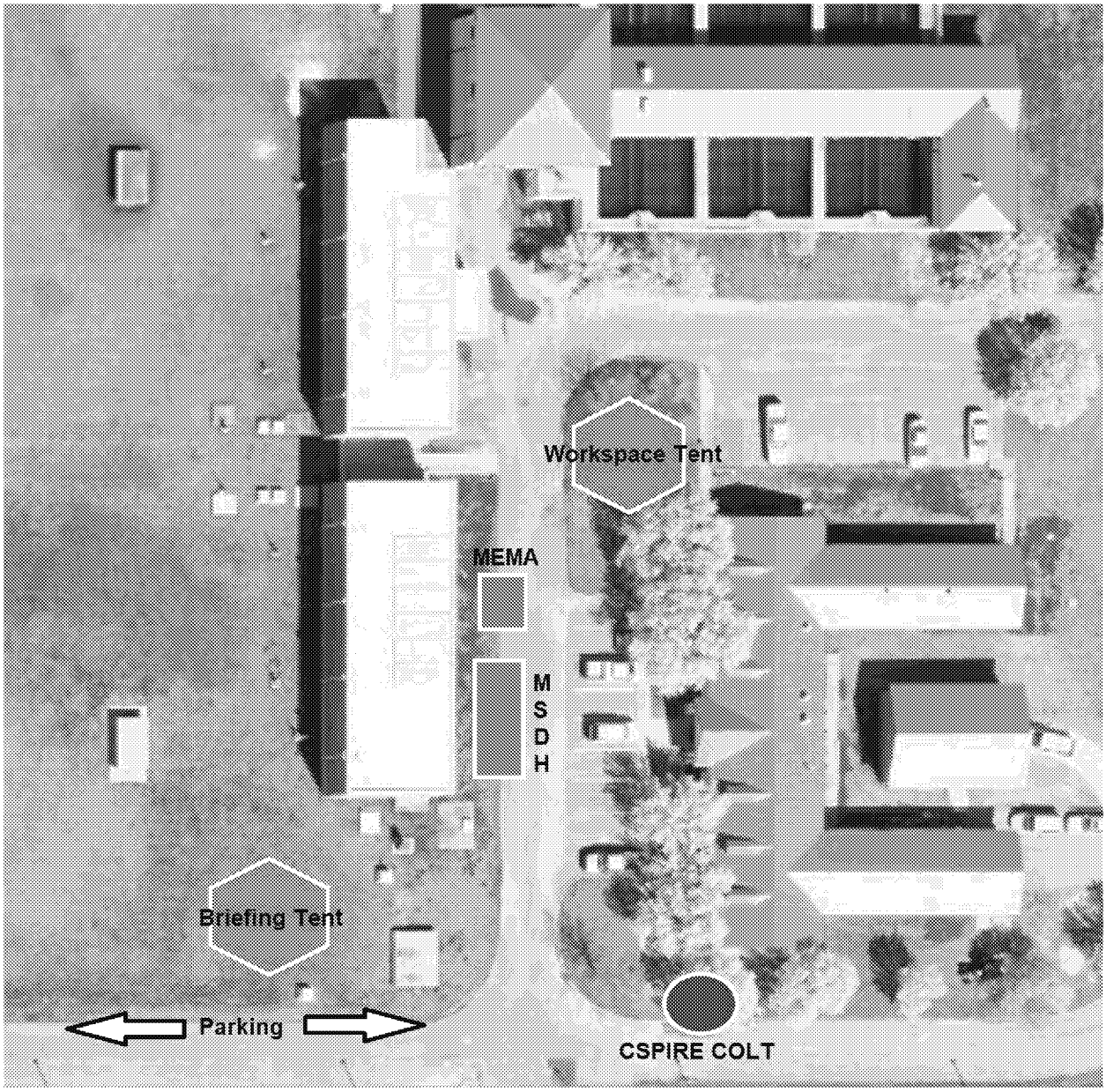
Updates annotated in RED

INCIDENT FOOTPRINT:



Message

From: Woods, Alex [Alex.Woods@msdh.ms.gov]
Sent: 9/3/2022 1:58:56 AM
To: Adcox-Green, Ashley [Ashley.Adcox-Green@msdh.ms.gov]; Boxx, Robert [Robert.Boxx@msdh.ms.gov]; Smith, Brian [Smith.Brian@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; Byers, Paul [Paul.Byers@msdh.ms.gov]; Campbell, Thomas [Thomas.Campbell@msdh.ms.gov]; Craft, Christy [Christy.Craft@msdh.ms.gov]; Craig, Jim [Jim.Craig@msdh.ms.gov]; Cunningham, Donald [Donald.Cunningham1@msdh.ms.gov]; Diaz, Denisse [Diaz.Denisse@epa.gov]; Edney, MD, Daniel [Daniel.Edney@msdh.ms.gov]; Grey, Elizabeth [Elizabeth.Grey@msdh.ms.gov]; Hall, Amber [Amber.Hall@msdh.ms.gov]; Hall, David [David.Hall@msdh.ms.gov]; Harrison, Charles "Chase" [Charles.Harrison@msdh.ms.gov]; Head, Matthew [Matthew.Head@msdh.ms.gov]; Herrington, Lester [Lester.Herrington@msdh.ms.gov]; Horn, Marshall [Marshall.Horn@msdh.ms.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Jeanette Dickinson (Jeanette.Dickinson@hhs.gov) [Jeanette.Dickinson@hhs.gov]; Jennings, Twyla [Twyla.Jennings@msdh.ms.gov]; Larmer, Melissa [Melissa.Larmer1@msdh.ms.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; McMinn, Sharon Dawn [Sharon.McMinn@msdh.ms.gov]; William Moody [william.moody@msdh.ms.gov]; Newman, Keriema [Newman.Keriema@epa.gov]; Parker, Melissa [Melissa.Parker@msdh.ms.gov]; Richardson, Toni [Toni.Richardson@msdh.ms.gov]; Rogers, Ronald [Ronald.Rogers@msdh.ms.gov]; Salazar, Byron "Fabrizio" [Byron.Salazar1@msdh.ms.gov]; Sartin, Steven [Steven.Sartin@msdh.ms.gov]; Sharlot, Liz [Liz.Sharlot@msdh.ms.gov]; Frost, Tara [Frost.Tara@epa.gov]; Williams, Alisa [Alisa.Williams@msdh.ms.gov]; Woods, Alex [Alex.Woods@msdh.ms.gov]; Young, Dorthy [Dorthy.Young@msdh.ms.gov]
Subject: OB Curtis Operational Summary #2 9-2-2022 - For Official Use Only
Attachments: OB Curtis Operational Summary #2 9-2-2022 - For Official Use Only---PDF.pdf

***** OFFICIAL USE ONLY *****

Please see the attached Operational Summary 2 for the O. B. Curtis Water Treatment Plant.

Alex Woods
Office of Emergency Planning and Response (OEPR)
Mississippi State Department of Health (MSDH)
1 MEMA Drive Suite 159, Pearl MS 39208; Email: Alex.Woods@msdh.ms.gov
601.933.7188 (O); 601.933.6874 (FAX); 601.573.6645 (Cell)

This message and any attachments may contain information that is confidential and/or proprietary to the Mississippi State Department of Health, and may consist of sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the recipient(s) designated above. The use, disclosure, copying or distribution by any means to anyone other than the intended recipient(s) without the prior written permission of the Mississippi State Department of Health is strictly prohibited. Any such unauthorized use, disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to, HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance.

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

SEOC Activation Level: Level 2 Partial Activation
WebEOC Event Name: COJ Water Crisis 2022
Crisis Track Event Name: COJ Water Crisis 2022

INCIDENT OVERVIEW: The City of Jackson Surface Water System was impacted by recent flooding. Both the O.B. Curtis and J.H. Fewell water treatment plants have reduced water output creating pressure problems in the system. The City lacks sufficient pressures in some areas of the City to sustain adequate access to flush toilets and maintain optimal disinfection for drinking water. Both O.B. Curtis and J.H. Fewell water treatment plants lack sufficient Class A Operators and maintenance staff.

Dr. Daniel Edney, State Health Officer of the Mississippi State Department of Health, issued a Declaration of a Public Drinking Water Supply Emergency in the City of Jackson ordering the City including, but not limited to, employees of the Public Works Department and Emergency Management immediately cooperate with state response teams and contractors deployed to augment current staffing and to take remediation actions deemed necessary by the State Incident Commander. The Governor of Mississippi, Tate Reeves, has declared an emergency for the City of Jackson due to the effect on essential government services, medical facilities, and schools. A Unified Command has been established to combat this emergency.

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

TREATMENT FACILITY STATUS:

- **O.B. Curtis**
  - Conventional Treatment Plant:
    - Authorized for **25** million gallons
    - Capacity of **18** million gallons
    - Producing **12** million gallons
  - Membrane Treatment Plant:
    - Authorized for **25** million gallons
    - Producing **7.6** million gallons

- **J.H. Fewell**
  - Authorized for **20** million gallons
  - Potential flex to **30** million gallons
  - Producing **21** million gallons

- **Tank/Well Status**
  - As of 1800HRS 9/2/2022, three (3) city tanks are holding water at low levels and the city PSI was operating at 73.38 PSI (O.B. Curtis 77 PSI). According to the city engineer, the bare minimum city PSI should be operating at 65PSI.
- **Surface Water Tank Levels** (these levels are for comparison purposes only. SCADA are located at different elevations)
  - Chastain: 23.58 ft.
  - Elaine: 3.04 ft.
  - Forest: 28.80 ft.

- Livingston: 12.09 ft.
- Lynch: 12.32 ft.
- Magnolia: 30.70 ft.
- Northwest: 10.31 ft.
- Riverside: 18.47 ft.
- Suncrest: 0.0 ft.
- Presidential Hills: 30.90 ft.
- Fortification/Mills Street: 24.21 ft.

- **Well System Tank Levels**
  - Cedar Hills: 25.77 ft.
  - Hwy. 18: 46.12 ft.
  - Spring Ridge: 50.95 ft.

GENERAL SAFETY AWARENESS MESSAGE:

- Safety is the number one priority. This safety message ensures critical safety information is given to all personnel and site-specific hazards are understood prior to permitting access to the work site, thereby creating a safer work environment, and facilitating the process of adjustment for responders, contractors, and visitors. Ensure to be assigned one or more competent person(s) to guide guests/visitors through the water treatment plant or any individual facility. Three points of contact when ascending/descending stairs inside facilities. Observe surrounding crane activity and stay a safe distance away from live loads. Ensure personnel correctly wear proper PPE around the plant. Keep a safe distance from hazardous materials and open unsafe live

electrical components. Upon entering a room where hazardous materials are present, identify safety eye wash stations. Do not touch or use equipment you are not certified to operate, this includes the opening and closing of valves. Avoid leaks of hazard materials and liquids from piping system. Accidents and illnesses need to be reported to the MEMA Safety Officer Jarrett Watkins.

FATALITIES/INJURIES:

- No injuries reported

CURRENT AND PLANNED OBJECTIVES:

- Assess and determine the status of the ammonia tanks. Transfer ammonia from tank 1 with the leaking valve to the empty adjacent tank 2 and begin pulling ammonia from tank 2. Replace corroded valve tank 1.
- Conduct an assessment on the Automatic Intake Structure (located on the southwestern portion of the Ross Barnett Reservoir). Determine functionality and viability of the automated intake system. Formulate a restoration plan. (assessment)
- Coordinate and document staffing needs as it pertains to treatment plants needs and assessments. (EMAC)
- Sedimentation Basin 3 – Priority
    - DEQ contractor E3 is developing a plan for sludge removal from Basin #3
    - Met with three (3) vendors to provide scope and quotes to remove sludge from Equalization (EQ) Basin, Sedimentation Basin #3, and Sludge Handling Facility

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

SECONDARY OBJECTIVES:

- Create and update site safety plan.
- Determine appropriate area for media and maintain media control.
- Formulate an appropriate plan for restricted access to the area using MEMA and O.B. Curtis security personnel
- Set up an integration system to assist with incoming personnel
- Evaluating the process for winterization of O.B. Curtis

PERSONNEL DEPLOYED TO O.B. CURTIS:

- **MEMA: 8**
- **MISSISSIPPI DEPARTMENT OF HEALTH: 9**
- **CITY OF JACKSON: 5**
- **EPA: 2**
- **USACE: 8**
- **CSPIRE: 1**
- **FEMA: 1**
- **MDEQ: 1**

OBJECTIVE UPDATES:

AMMONIA TANK:

- Tank # 2 has been assessed and repaired. DEQ along with E3 have taken over responsibility of the Ammonia Tank leak.
    - Southern Fabricators conducted prior repair to tank
- Tank # 1 (40% Ammonia) valve leaking
    - Replacement valve on site – Confirmed

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

- 47th CST personnel arrive on site at 2145hrs.
  - Received brief from Incident Commander and Safety Officer
  - Conducted survey of possible leak
  - Leak detected from faulty valve
    - Recommendations:
      - Cordon off access road running east and west in front of tank #1
      - Any personnel who must be in the area must wear Level A suit with SCBA
- Requested real time weather update from NWS during the transfer of ammonia from tank #1 – In Progress

AUTOMATIC INTAKE STRUCTURE:

- ETEC conducted an assessment on the Automatic Intake Structure
  - Suggested C.C. Lynch to assist with pH Monitoring System
    - Pending collaboration with C.C. Lynch
- Collected intel from prior diving team regarding intake structure
- Subject Matter Experts (SME) from the Florida Rural Water Association began working on solution to address the pH level issue at the Automatic Intake Structure.

JRSOI:

- Created Check-in Check-out system
  - Incoming personnel will check in through security gate
  - Will be routed to briefing tent

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

- Began planning for JRSOI activation
- Received JRSOI signage from MEMA
- MSDH Western Shelter tent set in place for overflow workspace
- Create task for incoming operators and mechanics:
    - September 3, 2022, task:
        - Polymer injection
        - Soda ash activations
        - Chemical injection site, cleaning injectors
        - Replace valves
        - Installing mixers (once ordered)

SITE SAFETY PLAN:

- Creation of evacuation plan – In Progress
- A temporary fencing has been placed around the grassy area to avoid incoming traffic from parking over the wells.
- Road between the ammonia tanks and chemical building has been cordoned off to limit access to authorized personnel.

MEDIA:

- Media has been moved to gravel area adjacent to security hut for free flow of traffic in and out of the facility

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

EMAC:

- Requested Louisiana Department of Health Command Team
    - Update: First engineer arrived today, two (2) more who are drinking water engineers and Class A operators arrive tomorrow, third engineer will arrive Sunday.

Rural Water Emergency Assistance Collaborative

- Florida Team A-Team 2-man team – Arrived (09/02/2022; 08:00:00 CST)
    - Conducted assessment of plant
    - Meeting conducted to review assessment:
        - Suggested plan of action included:
            - parts needed replacing: flocculator, several valves (+ backups)
            - 5 lead operators to run facility (permanent)
            - quick connect to the liquid Soda Ash Pump
- Florida 4-man Team
    - Pending report from A Team on equipment needs
- Georgia (Monroe) 8 man "Class A" Membrane Team
    - Class A operator, Class A operator/electrician – Arrival Tomorrow

EMERGENCY SUPPORT FUNCTIONS:

- ESF-2 Communications
    - Requested installation of Cell on Light Truck (COLT) and Dedicated Fiber cable **(NO COST)** – Installed (09/01/2022; 14:30:00 CST)
- ESF-4: Firefighting (Jackson Fire Department)

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

- Brought 10 SCBAs and 10 additional air tanks
  - 6 non-compliant SCBAs removed from service at O.B. Curtis
- ESF-10: DEQ
  - Provided State on Scene Coordinator (SOSC) and response contractors to address leaking anhydrous ammonia tank at O.B. Curtis
- ESF-16: Military
  - CST requested for leak at ammonia tank #1 at O.B. Curtis

OTHER ACTIONS TAKEN:

- FEMA administrator, Deanne Criswell; Senior Advisor to the President, Mitch Landrieu; along with the Governor and Mayor of Jackson received an update brief from Incident Commanders and toured the facility at O.B. Curtis
- Liquid Soda ash totes arrived on site
  - Response personnel and contractor staged and awaiting plumbing to transport liquid soda ash to bulk tank
- Secured verbal agreement from The City of Morton to dispose of sludge solids in city lagoon, if needed
- Engaged vendor to restore flow to ammonia line for conventional disinfection
- Restored polymer feed to conventional treatment process

MISSISSIPPI STATE DEPARTMENT OF HEALTH

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

STATE OF MISSISSIPPI

Office of the Governor

PROCLAMATION

WHEREAS, the O.B. Curtis Water Treatment Plant ("Plant") provides water to over 43,000 connections representing over 160,000 residents in the City of Jackson, Mississippi and surrounding areas of Hinds County; and

WHEREAS, the City of Jackson and surrounding areas of Hinds County that receive water from the Plant frequently have experienced low water pressure and have been under the most recent boil water notice since July 29, 2022; and

WHEREAS, the Mississippi Department of Health and the State Health Officer have advised me that the two primary raw water pumps at the Plant have been removed and sent offsite for repairs, and that the Plant's two secondary raw water pumps are currently responsible for all water intake from the reservoir at the Plant and produce two to four million less gallons of water per day than the primary pumps resulting in the reduction of water pressure throughout the City of Jackson and surrounding areas of Hinds County; and

WHEREAS, due in part to the diminished operating capacity of the Plant, the City of Jackson and surrounding areas of Hinds County are now experiencing a total or near total loss of water pressure; and

WHEREAS, the Mayor of Jackson has declared a water system emergency due to "excessive rainfall and extreme flooding"; and

WHEREAS, the Mississippi Department of Health has declared a public drinking supply emergency in the City of Jackson based upon the following information: "(1) Insufficient number of certified operators at J.H. Fewell and O.B. Curtis Water Treatment Plants; (2) Insufficient number of maintenance staff at all water treatment plants and to support the distribution system; (3) Failure of multiple raw water pumps at O.B. Curtis Water Treatment Plant; (4) Low levels of water in storage tank; (5) Low water pressure impacting proper sanitation and education opportunities; and (6) Disinfection levels not consistently optimal developing the potential to have the presence of enteric organisms, including but not limited to, E.Coli, Cryptosporidium, or Giardia in the drinking water being served to customers"; and

WHEREAS, the total or near total loss of water pressure throughout the City of Jackson and surrounding areas of Hinds County that receive water from the Plant has created a condition of disaster and extreme peril to the safety of persons and property of such a magnitude that would be beyond the control of the services, personnel, equipment and facilities of the City of Jackson and Hinds County to combat; and

WHEREAS, the total or near total loss of water pressure throughout the City of Jackson and surrounding areas of Hinds County that receive water from the Plant has the potential to result in substantial injury or harm to the population and substantial damage to or loss of property; and

WHEREAS, in consideration of the health and safety of the residents of the City of Jackson and surrounding areas of Hinds County that receive water from the Plant and the protection of their property within the affected areas, and in the public interest, all steps should immediately be taken to protect people and property.

NOW, THEREFORE, I, Tate Reeves, Governor of the State of Mississippi, pursuant to the authority vested in me under the Mississippi Constitution and Miss. Code Ann. § 33-15-11(b)(17), and in the public interest and for the general welfare, and in consultation with the Mississippi Department of Health and the Mississippi Emergency Management Agency do hereby proclaim a State of Emergency to exist in the City of Jackson and surrounding areas of Hinds County that

Mississippi State Department of Health

O.B. Curtis
Operational Summary (OPSUM)
COJ Water Crisis 2022

September 2nd, 2022 Report # 2 as of 1800 hrs.

Updates annotated in RED

receive water from the O.B. Curtis Water Treatment Plant. The provisions of this Proclamation shall exist and remain in effect until such time as the pumps at the Plant are brought back into service, necessary maintenance and/or repairs are performed, and adequate staff is hired on a contract basis to operate the Plant, or the threat to public safety shall cease to exist as prescribed in Section 33-15-11(b)(17). I shall consult with the Executive Director of the Mississippi Emergency Management Agency and the State Health Officer at least every thirty days regarding the need for continuing this state of emergency, and the state of emergency shall terminate at the earliest possible date.

FURTHER, I hereby direct the Mississippi Department of Health and the Mississippi Emergency Management Agency to establish the State Incident Command Center and take all necessary actions to abate this emergency including overseeing the repairs and/or replacement of the two primary raw water pumps, the necessary maintenance and/or repairs to the two secondary raw water pumps, to enter into a contract(s) for sufficient staff to operate the Plant, and to take any additional action deemed necessary to improve the operations of the Plant to mitigate against future emergencies.

FURTHER, pursuant to Miss. Code Ann. § 33-15-11(c)(1), the provisions of state statutes, rules, regulations or orders are suspended if compliance would prevent, hinder or delay necessary action in coping with this emergency.

FURTHER, pursuant to Miss. Code Ann § 33-15-31(b), all existing laws, ordinances, rules and regulations inconsistent with the provisions of the Mississippi Emergency Management Law shall be suspended during the pendency of this emergency.

FURTHER, the Mississippi Emergency Management Agency shall take all steps necessary to plan for and abate the public health emergency created by the total or near total loss of water pressure throughout the City of Jackson and surrounding areas of Hinds County that receive water from the Plant.

FURTHER, the Mississippi State Department of Health and the Mississippi Emergency Management Agency shall seek federal assistance as may be available.

FURTHER, all other agencies of the State of Mississippi shall discharge their emergency responsibilities as deemed necessary as set forth in the State of Mississippi's Comprehensive Emergency Management Plan.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the Great Seal of the State of Mississippi to be affixed.

DONE in the City of Jackson, on the 30th day of August, in the year of our Lord, two thousand and twenty-two, and of the Independence of the United States of America, the two hundred and forty-seventh

TATE REEVES
GOVERNOR

BY THE GOVERNOR

MICHAEL WATSON
SECRETARY OF STATE

O.B. Curtis
Operational Summary (OPSUM)
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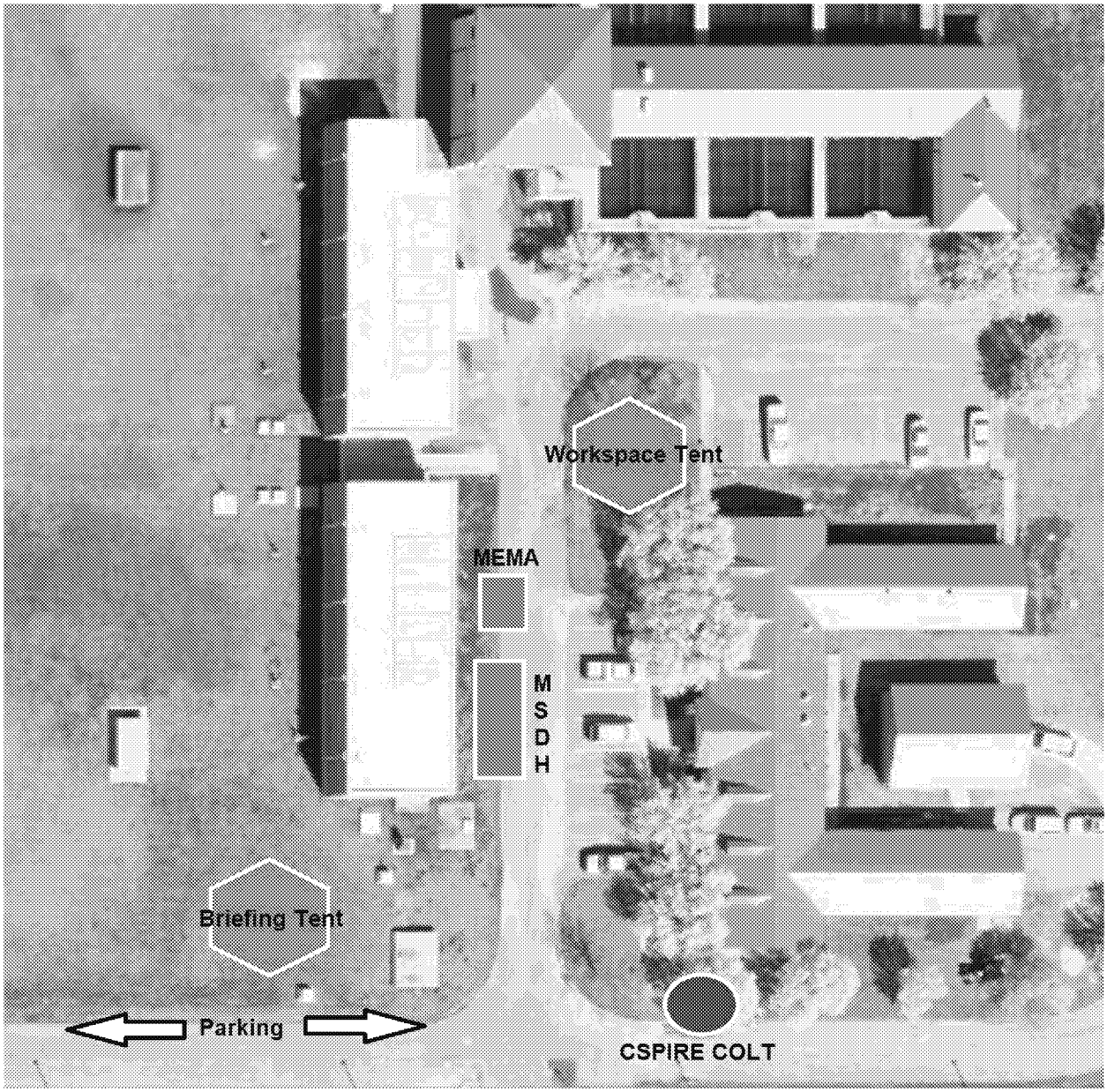
INCIDENT FOOTPRINT:



Message

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Sent: 2/4/2022 1:57:46 PM
To: Eric Branch [eric.branch@makersresource.com]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]
CC: Burns, Robert [Burns.Robert@epa.gov]; Frost, Tara [Frost.Tara@epa.gov]; Minton, Gabrielle [minton.gabrielle@epa.gov]; Dyson, Nushat [Dyson.Nushat@epa.gov]; Pickard, Brian [Pickard.Brian@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]
Subject: RE: requesting call to discuss expediting part delivery

Good morning all,

I think we have some good news. Thanks to the communication through Eric and the support from some critical infrastructure partners, and most of all from ABB's understanding and willingness to support the City of Jackson's needs, I understand the new target for shipping date is March 7th. I will look for Eric to confirm on his end, but wanted to reach out and thank everyone for the good communication this week!

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Hi Brian and Nushat,

The order number is included in the drawings. Order # 152351497
This is a custom engineered piece of equipment. We have been told that it has been ordered through GE, but it appears that GE may have sold the Mebane, NC facility to ABB.

ABB Inc., ELDS
6801 Industrial Drive
Mebane, NC 27302
abb.com

Eric Branch, with Makers Resources and cc'd on this email, is the rep. the City is working with. I think it will help if we can provide Eric any contact at GE that is part of the CISA Critical Manufacturing Sector.

Could you reply with that contact and we'll hopefully be able to close the loop on introductions of the right folks that may be able to expedite anything needed to complete this order?

We can then schedule a conference call to understand if there is any opportunity to advance the timeline (currently 4/27).

Thank you all for your communication on this!

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

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Brian,

I was expecting an email from Allied this morning, but unfortunately I have not received one. I just called Dwayne's cell phone and left a message. As soon as I hear from him, I will let you know.

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Good afternoon Mary,

Any word from Allied?

Here is a quick update on communication EPA had with partner agencies yesterday, FYI:

- EPA Water Security Division (WSD) reached out to the Section Chief for the Critical Manufacturing Sector at the U.S. Cybersecurity Infrastructure Security Agency (CISA) to find out if GE is a member and if we could contact them about the issue. CISA agreed and has conveyed the issue to GE who is now reaching out to the section who would have knowledge of equipment orders. However, we still need to speak with Allied to get the details on the Jackson, MS order specifically.
- WSD also reached out to the Dept. of Homeland Security state Protective Security Advisor, Max Fenn, to alert him of the issue and raise the profile in order to convey the sense of urgency that may assist GE in prioritizing Jackson, MS for the equipment delivery. He replied that he will elevate the issue to his regional leads and will participate in the call once scheduled. He was unaware of the need, however he is aware that there are issues.

Many folks are ready to assist as soon as we get the info on the equipment order from Allied or a call schedule with them to discuss. We are also happy to convene a call of federal and state partners to facilitate any mutual aid assistance for temporary high service pump options.

-Brian

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Brian,

The Allied rep is not in his office, but will forward the information to me tomorrow morning and I will forward to you.

Thanks,

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To: Charles Williams; Mary D. Carter; Marlin King
Cc: Campbell-Dunbar, Shawneille; Burns, Robert; Frost, Tara; Bragan, Mary Jo; Myers, Bryan
Subject: RE: requesting call to discuss expediting part delivery

Good evening all,

I am writing with a quick update. We have been able to elevate this need within GE through a Critical Manufacturing network contact. However, we need to close the loop on the specifics of the order. **Please email the part #, order # and/or the GE contact Allied has been in touch with, and we will connect the dots within GE and get some feedback on anything that might be done to speed the delivery.** Also a question came up that I hope you can answer: During the fire, were pumper trucks used put out the fire?

Thanks,
Brian

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Subject: requesting call to discuss expediting part delivery

Good morning Marlon, Charles and Mary,

The highlighted txt is what we are sending out to help expedite the delivery of the pump control. We discussed scheduling a call with Allied to discuss what might be done to help speed things along. **Please provide your Allied contact(s) if you would like me to schedule the call, otherwise I will look for an invite from you and ask that you include those cc'd on this email.**

We would like to get as many specifics as we can on the part and the order number. As we discussed we will be highlighting the critical infrastructure needs when looking for the right contacts that can engage with GE at the appropriate level. This may be response partners on the power side of the federal government or through public/private partnership networks. Our intent is to support COJ and your existing contract to get this part as fast as possible.

In April 2021, an electrical fire broke out at Jackson's OB Curtis Water Treatment Plant. The fire damaged electrical controls in the High Service Pump #2 building. The fire damage necessitated replacing an electrical controller for their pumps. This controller is currently on order with General Electric through their vendor, Allied Electronics and Automation (https://www.alliedelec.com/about-us/) with an expected delivery date of April 27, 2022.

While the Curtis plant remains limited in operations due to waiting for this critical component, Jackson continues to experience repeated instances of decreased pressure from the Curtis plant, which translates into distribution system pressure loss to a significant number of customers.

During EPA Administrator Regan's Journey to Justice stop in Jackson in December 2021 the water system experienced another pressure loss and the school he was visiting had to close for the day due to the loss of service. The water crisis in Mississippi's capital has Administrator Regan's attention.

The City of Jackson has requested the EPA's assistance to expedite delivery of this part for their critical infrastructure and it is a high priority for the Agency to assist Jackson with returning to a normal operational status. EPA headquarters has engaged with chemical manufacturers to help with communicating the urgency of needs to the water sector's critical infrastructure over the past year of supply chain disruptions. Region 4 is requesting EPA headquarters assistance with communicating this equipment need at a high level to GE. The Region is working to set up a call with the City of Jackson and Allied to gather additional information on the delivery timeline the component. We would like to know whom from the Water Security Division we should include on this call in preparation for requesting high level engagement with GE.

Thank you for your time and continued partnership!

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

Message

From: Eric Branch [eric.branch@makersresource.com]
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CC: Mary D. Carter [mdcarter@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Burns, Robert [Burns.Robert@epa.gov]; Frost, Tara [Frost.Tara@epa.gov]; Minton, Gabrielle [minton.gabrielle@epa.gov]; Dyson, Nushat [Dyson.Nushat@epa.gov]; Pickard, Brian [Pickard.Brian@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]
Subject: Re: requesting call to discuss expediting part delivery

Brian,

I just got this from the plant confirming your report:

" We had a meeting yesterday to get all of the players on the same team, and get commitments form all parties. We have been working on juggling the schedule today to make this request happen. We have a plan in place, and I have updated the system to reflect the 3/7/2022 shipment."

Thanks,

Eric Branch
(601) 954-8976

On Feb 4, 2022, at 7:57 AM, Smith, Brian <Smith.Brian@epa.gov> wrote:

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While the Curtis plant remains limited in operations due to waiting for this critical component, Jackson continues to experience repeated instances of decreased pressure from the Curtis plant, which translates into distribution system pressure loss to a significant number of customers.

During EPA Administrator Regan's Journey to Justice stop in Jackson in December 2021 the water system experienced another pressure loss and the school he was visiting had to close for the day due to the loss of service. The water crisis in Mississippi's capital has Administrator Regan's attention.

The City of Jackson has requested the EPA's assistance to expedite delivery of this part for their critical infrastructure and it is a high priority for the Agency to assist Jackson with returning to a normal operational status. EPA headquarters has engaged with chemical manufacturers to help with communicating the urgency of needs to the water sector's critical infrastructure over the past year of supply chain disruptions. Region 4 is requesting EPA headquarters assistance with communicating this equipment need at a high level to GE. The Region is working to set up a call with the City of Jackson and Allied to gather additional information on the delivery timeline the component. We would like to know whom from the Water Security Division we should include on this call in preparation for requesting high level engagement with GE.

Thank you for your time and continued partnership!

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

Message

From: Woods, Alex [Alex.Woods@msdh.ms.gov]
Sent: 9/3/2022 2:36:26 AM
To: Adcox-Green, Ashley [Ashley.Adcox-Green@msdh.ms.gov]; Boxx, Robert [Robert.Boxx@msdh.ms.gov]; Smith, Brian [Smith.Brian@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; Byers, Paul [Paul.Byers@msdh.ms.gov]; Campbell, Thomas [Thomas.Campbell@msdh.ms.gov]; Craft, Christy [Christy.Craft@msdh.ms.gov]; Craig, Jim [Jim.Craig@msdh.ms.gov]; Cunningham, Donald [Donald.Cunningham1@msdh.ms.gov]; Diaz, Denisse [Diaz.Denisse@epa.gov]; Edney, MD, Daniel [Daniel.Edney@msdh.ms.gov]; Grey, Elizabeth [Elizabeth.Grey@msdh.ms.gov]; Hall, Amber [Amber.Hall@msdh.ms.gov]; Hall, David [David.Hall@msdh.ms.gov]; Harrison, Charles "Chase" [Charles.Harrison@msdh.ms.gov]; Head, Matthew [Matthew.Head@msdh.ms.gov]; Herrington, Lester [Lester.Herrington@msdh.ms.gov]; Horn, Marshall [Marshall.Horn@msdh.ms.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Jeanette Dickinson (Jeanette.Dickinson@hhs.gov) [Jeanette.Dickinson@hhs.gov]; Jennings, Twyla [Twyla.Jennings@msdh.ms.gov]; Larmer, Melissa [Melissa.Larmer1@msdh.ms.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; McMinn, Sharon Dawn [Sharon.McMinn@msdh.ms.gov]; William Moody [william.moody@msdh.ms.gov]; Newman, Keriema [Newman.Keriema@epa.gov]; Parker, Melissa [Melissa.Parker@msdh.ms.gov]; Richardson, Toni [Toni.Richardson@msdh.ms.gov]; Rogers, Ronald [Ronald.Rogers@msdh.ms.gov]; Salazar, Byron "Fabrizio" [Byron.Salazar1@msdh.ms.gov]; Sartin, Steven [Steven.Sartin@msdh.ms.gov]; Sharlot, Liz [Liz.Sharlot@msdh.ms.gov]; Frost, Tara [Frost.Tara@epa.gov]; Williams, Alisa [Alisa.Williams@msdh.ms.gov]; Woods, Alex [Alex.Woods@msdh.ms.gov]; Young, Dorthy [Dorthy.Young@msdh.ms.gov]
Subject: COJ Water Crisis IAP #2 9-2-2022 - OFFICIAL USE ONLY
Attachments: COJ Water Crisis IAP #2 9-2-2022 - OFFICIAL USE ONLY---PDF.pdf

***** OFFICIAL USE ONLY *****

Attached is Initial IAP for the reporting operational period (3 September 2022, 0700 thru 4 September 2022, 0659).

Alex Woods
Office of Emergency Planning and Response (OEPR)
Mississippi State Department of Health (MSDH)
1 MEMA Drive Suite 159, Pearl MS 39208; Email: Alex.Woods@msdh.ms.gov
601.933.7188 (O); 601.933.6874 (FAX); 601.573.6645 (Cell)

This message and any attachments may contain information that is confidential and/or proprietary to the Mississippi State Department of Health, and may consist of sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the recipient(s) designated above. The use, disclosure, copying or distribution by any means to anyone other than the intended recipient(s) without the prior written permission of the Mississippi State Department of Health is strictly prohibited. Any such unauthorized use, disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to, HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance.

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MS State Emergency Operations Center ACTIVATION LEVEL: 2 (Partial)
AFTER HOURS: (800.222.6362)

1. Incident Name: City of Jackson Water Crisis 2022	**2. Operational Period (Date/Time):** **From: 03 Sept 2022 at 0700 hours** **To: 04 Sept 2022 at 0659 hours**		**3. IAP Type:** Technological – Infrastructure Failure
4. Unified Command Staff			
MSDH	Jim Craig	Jim.craig@msdh.ms.gov	601.946.6046
MEMA	Andrew McMillin	amcmillin@mema.ms.gov	601.540.1102
City of Jackson	Robert Lee	rlee@jacksonms.gov	601.519.5008
Hinds County EMA	Joey Perkins	jperkins@co.hinds.ms.gov	601.942.7005
EPA	Brian Smith	Smith.brian@epa.gov	404.562.9845

5. Situation/Actions for Current Operational Period

DECLARATIONS:

Federal: *Stafford Act (08/30/2022)*

State: *Public Health Emergency (08/29/2022)*
State of Emergency (08/29/2022)

Local: *City of Jackson – Local Proclamation of an Emergency (08/29/2022)*
Hinds County – Local Proclamation of an Emergency (08/29/2022)

CURRENT SITUATION:

The City of Jackson Surface Water System was impacted by recent flooding. Both the O.B. Curtis and J.H Fewell water treatment plants have reduced water output creating pressure problems in the system. The City lacks sufficient pressures in some areas of the City to sustain adequate access to flush toilets and maintain optimal disinfection for drinking water. Both O.B. Curtis and J.H. Fewell water treatment plants lack sufficient Class A Operators and maintenance staff.

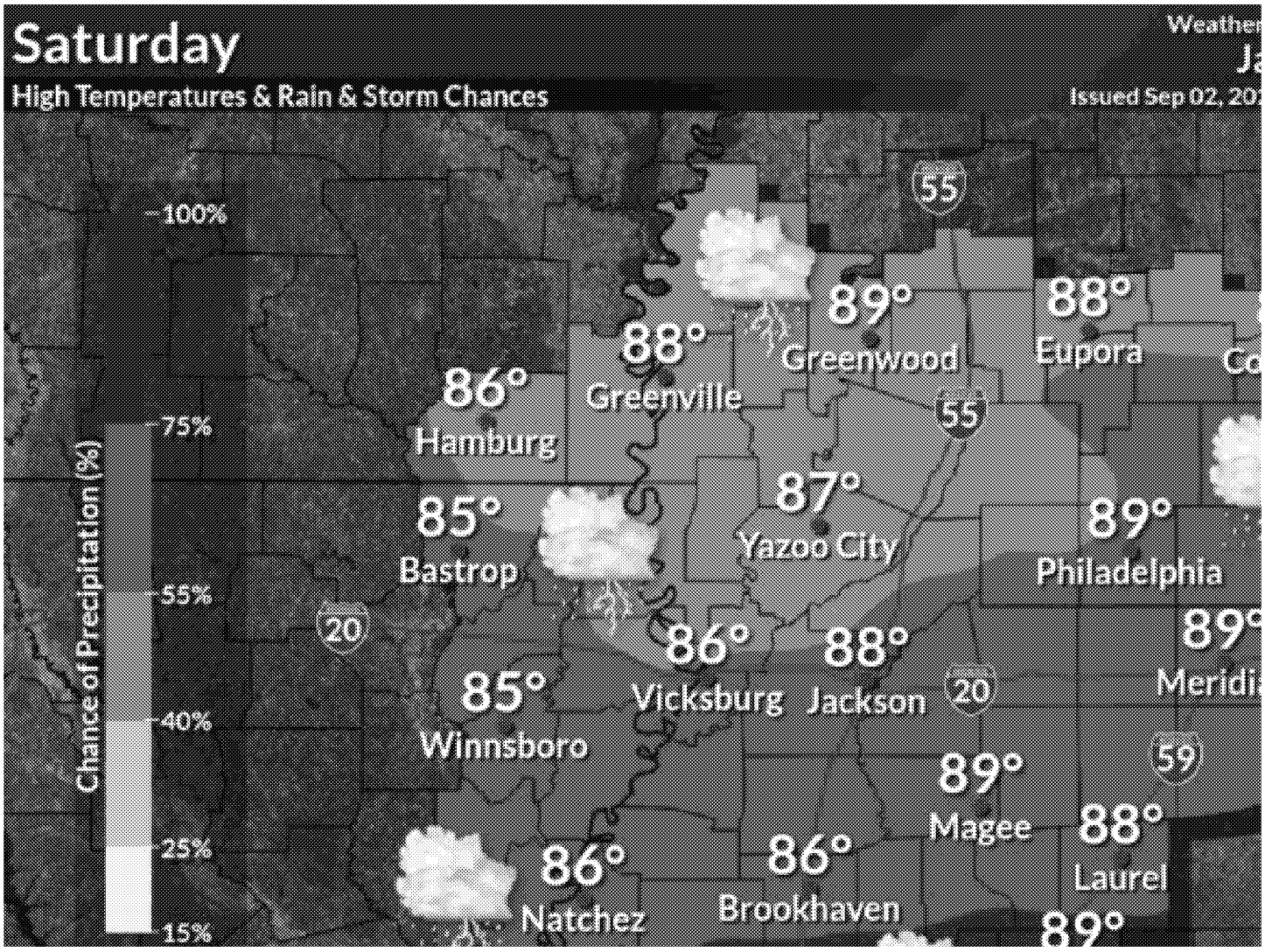
Dr. Daniel Edney, State Health Officer of the Mississippi State Department of Health, issued a Declaration of a Public Drinking Water Supply Emergency in the City of Jackson ordering the City including, but not limited to, employees of the Public Works Department and Emergency Management immediately cooperate with state response teams and contractors deployed to augment current staffing and to take remediation actions deemed necessary by the State Incident Commander. The Governor of Mississippi, Tate Reeves, has declared an emergency for the City of Jackson due to the effect on essential government services, medical facilities, and schools. A Unified Command has been established to combat this emergency.

Weather Forecast:
Saturday
A slight chance of showers before 1300 hours, then a chance of showers and thunderstorms between 1300 hours and 1700 hours, then showers likely and possibly a thunderstorm after 1700 hours. Partly sunny, with a high near 90 degrees. Calm wind becoming west around 5 mph in the afternoon. Chance of precipitation is 60 percent. New rainfall amounts of less than a tenth of an inch, except higher amounts possible in thunderstorms.

Saturday Night
A chance of showers and thunderstorms. Mostly cloudy, with a low around 74 degrees. South southwest wind around 5 mph becoming calm in the evening. Chance of precipitation is 50 percent. New precipitation amounts of less than a tenth of an inch, except higher amounts possible in thunderstorms.

RAINFALL (MS)
No rain expected at this time.

Weather Graphics



6. Planning Assumptions

1. A unified command has been established between federal, state, and local authorities
2. A population of approximately 170,000 people has been affected.
3. Essential services have been affected.
4. Flood waters have affected the chemistry of the water system.

7. Incident Priorities for Operational Period

1. Provide services for life safety of the public.
2. Provide life safety for responders for the incident.
3. Re-establish minimum water distribution to 50 million gallons per day from the OB Curtis Treatment Facility.
4. Re-establish minimum water distribution to 20 million gallons per day and flex to 30 million per day at the Fewell Treatment Facility.
5. Increase the number of certified operators at both treatment facilities.
6. Increase and augment facility maintenance capabilities and capacity at both treatment facilities.
7. Monitor the chemistry of water from the reservoir.
8. Engineer and develop liquid soda-ash feed system.
9. Evaluate the winterization needs of all facilities.

8. Objectives for the Operational Period

1. Continue distribution of potable water to the public per operational period
2. Continue distribution non-potable water for use per operational period
3. Provide water for firefighting efforts per operational period
4. Repair ammonia tank number one
5. Continue operations at state staging area to support distribution sites
6. Continue operation of temporary raw water intake pump on the conventional side at OB Curtis facility per operational period.
7. Identify and scope redundant pumping needs to the OB Curtis facility
8. Identify and source fourteen (14) maintenance personnel and twelve (12) additional Class A operators for both treatment facilities through EMAC, RWEAC, and/or emergency contracts.
11. Continue pumping out EQ Basin

10. Safety and Security Concerns

Major Hazard and Risks:

- Ammonia leak from ammonia tank number one
- Electrical boxes covered by cardboard boxes instead of proper covering
- Ear plug stations not located
- Replacement SCBAs (self-contained breathing apparatus) may be out of date.
- Fire extinguisher used as door props instead of hanging in designated places
- Fire extinguishers are outside of the expiration service dates
- Air compressor needs electrical components to be covered
- Piping system in the ammonia room needs to be capped off even though line of concentration is isolated by surrounding valves.
- Needs an up-to-date chlorine safety kit(s) for 1-ton cylinders
- Leak located on pig tail lines in the chlorine room
- Area appeared to have missing handrails
- Identified eye wash stations appeared to not have any servicing in long periods of time

- Lock-Out Tag-Out system needs to be implemented or improved

Hazard Mitigation:

- Hard hats required while inside facilities
- ANSI break-away safety vests required while inside facilities
- Limit plant visitations

Prepared By	Approved By
Planning Section Chief **D. Austin Cunningham/Thomas Harris**	**Unified Command** **Jim Craig**

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022
MSDH ORGANIZATION ASSIGNMENT LIST (ICS 203)

1. Incident Name: City of Jackson Water Crisis 2022		2. Operational Period: Date From: 03 Sept 2022 Date To: 04 Sept 2022 Time From: 0700 Time To: 0659	
Unified Command Staff:		**Operations Section:**	
Mississippi Emergency Management Agency (MEMA)	Andrew McMillin	**Operations Chief**	Lester Herrington (MSDH)
Mississippi State Department of Health (MSDH)	Jim Craig	**Deputy Operations Chief**	Alisa Williams
City of Jackson (COJ)	Robert Lee	**EMAC Coordination**	Nyssa Gatlin (MEMA)
Hinds County EMA	Joey Perkins		
Environmental Protection Agency (EPA)	Brian Smith		
Command Staff:		**City of Jackson**	
Safety Officer	Jarrett Watkins (MEMA)	**Section Chief**	Jordan Hillman (COJ)
Public Information Officer	Malary White (MEMA)	**Division A-OB Curtis Facility Conventional**	Robert Lee (COJ)
Public Information Officer (MSDH)	Liz Sharlot (MSDH)	**Division B-OB Curtis Facility Membrane**	Robert Lee (COJ)
		Division C-Fewell Facility	Terrance Byrd (COJ)
Planning Section:		**Fire Services Support**	
Planning Chief MEMA	Thomas Harris (MEMA)	**Unit Leader**	Joey Perkins (Hinds County)
Planning Chief MSDH	D. Austin Cunningham (MSDH)		
Situation Unit	Charlie Lewis (MEMA)	**Engineering Unit**	
Resource Unit	Ramous Austin (MEMA)	**Unit Leader**	Amy McLeod
Healthcare Intelligence	Melissa Parker (MSDH)		
Healthcare Intelligence	Fabrizio Salazar (MSDH)		
At Risk Populations	Amber Hall (MSDH)	**Water Distribution**	
		Unit Leader	Don Wilson (MEMA)
Finance/Administration Section:		**Staging**	Shaun Rogers (MFC)
Finance/Admin Chief	Crystal Thompson		
Time Unit		**Hazmat Response**	
Compensation Claim Unit		**Unit Leader**	Cody Fisher (MDEQ)
Procurement Unit			
Cost Unit			
Logistics Section:			
Logistics Chief	Don Wilson (MEMA)		
MSDH Logistics	Marshall Horn (MSDH)		
Support	Mike Campbell (MSDH)	**Private Sector:**	
Medical Support	D. Austin Cunningham (MSDH)	**MS Rural Water Association**	Kirby Mayfield
Prepared by:	**D. Austin Cunningham**	**Date/Time:**	**09/02/2022 at 1130**

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 1 of 1
3. Branch: Infrastructure	4. Division/Group: ESF-1 MDOT		5. Prepared By: Michael Davis — Date: 09/02/2022
			6. Reviewed By (PSC): Thomas Harris — Date: 09/02/22

9. Operations Personnel

Operations Section Chief: Justin Watson	Email Address: bwatson@mema.ms.gov	Phone: (601)278-3410	7. Reviewed By OSC): Justin Watson — Date: 09/02/22
Branch Director:: Charlee Alford	Email Address: charter@mema.ms.gov	Phone: (601)540-4623	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor:	Email Address:	Phone:	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Lee Davis	601-946-7108 mldavis@mdot.ms.gov	1	POC for MDOT Resource Request through response O-period	MDOT Administration Building	
	James Sullivan	601-359-1454 jasullivan@mdot.ms.gov	20	Provide cone traffic control resources as needed for response support.	MDOT Shop Complex	
	Jason Ridout Andy McNair James Sulivan		15	Provide Traffic Control signs for the 7 Water Distro Sites	MDOT Shop Complex	
	Jeff Gray		6	Trim trees over city streets in vicinity of Fairgrounds	District 5 personnel	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ Water Crisis	2. Operational Period (Date/Time) 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 2 of 3
			5. Prepared By: Date Tracy Pharr 09/02/2022
3. Branch Response	4. Division/Group ESF-5 Field Services		6. Reviewed By (PSC): Date Thomas Harris 09/02/2022

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:
Justin Watson	bwatson@mema.ms.gov	601-278-3410
Branch Director:	**Email Address:**	**Phone:**
Tracy Pharr	tpharr@mema.ms.gov	601-209-6038
Division/Group Supervisor:	**Email Address:**	**Phone:**
Tracy Pharr	tpharr@mema.ms.gov	601-209-6038

7. Reviewed By OSC): Date
Justin Watson 09/02/2022

8. Reviewed By (OSC-FEMA): Date

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Area Coordinator	Tim Gordy	601-278-4260 (Cell) Foxtrot 8	1	District 8, Smith, Jasper, Clarke, Scott, Newton, Lauderdale		None
Area Coordinator	David Shaw	769-798-81791 (Cell) Foxtrot 1	1	District 1 and District 2		None
Area Coordinator	Myrl Williams	769-257-8799 (Cell) Foxtrot 2	1	Off		None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Primary communications for each Area Coordinator are MEMA cellphones (numbers listed)
Secondary communication for each Area Coordinator is via MSWIN, MEMA Primary or assigned district channels according to the ICS 205

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 1 of 3
			5. Prepared By: Tracy Pharr — Date: 09/02/2022
3. Branch: Response	4. Division/Group: ESF-5 Field Services		6. Reviewed By (PSC): Thomas Harris — Date: 09/02/2022

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By (OSC): Justin Watson — Date: 09/02/2022
Justin Watson	bwatson@mema.ms.gov	601-278-3410	
Branch Director: Tracy Pharr	Email Address: tpharr@mema.ms.gov	Phone: 601-209-6038	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Tracy Pharr	Email Address: tpharr@mema.ms.gov	Phone: 601-209-6038	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Area Coordinator	John Michael Sledge	601-832-8985 (Cell) Foxtrot 5	1	Hinds County		None
Area Coordinator	Brent Miller	601-953-1306 (Cell) Foxtrot 3	1	District 3, Issaquena, Sharkey, Yazoo, Madison		None
Area Coordinator	Chaston Bullock	601-946-6771	1	District 7, Warren, Claiborne, Copiah, Simpson, Rankin		None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Primary communications for each Area Coordinator are MEMA cellphones (numbers listed)
Secondary communication for each Area Coordinator is via MSWIN, MEMA Primary or assigned district channels according to the ICS 205

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 3 of 3
			5. Prepared By: Tracy Pharr — Date: 09/02/2022
3. Branch: Response	4. Division/Group: ESF-5 Field Services		6. Reviewed By (PSC): Thomas Harris — Date: 09/02/2022

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:
Justin Watson	bwatson@mema.ms.gov	601-278-3410
Branch Director:	**Email Address:**	**Phone:**
Tracy Pharr	tpharr@mema.ms.gov	601-209-6038
Division/Group Supervisor:	**Email Address:**	**Phone:**
Tracy Pharr	tpharr@mema.ms.gov	601-209-6038

7. Reviewed By (OSC): Justin Watson — Date: 09/02/2022

8. Reviewed By (OSC-FEMA): Date:

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Area Coordinator/Interim FSB Director	Tracy Pharr	601-209-6038 (Cell) Foxtrot 4	1	District 4, SEOC		None
Area Coordinator	Will Berry	601-383-4731 (Cell) Foxtrot 9	1	District 9		None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Primary communications for each Area Coordinator are MEMA cellphones (numbers listed)
Secondary communication for each Area Coordinator is via MSWIN, MEMA Primary or assigned district channels according to the ICS 205

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 1 of 1
			5. Prepared By: Justin Watson — Date: 9/2/2022
3. Branch: ESF-5 Response	4. Division/Group: Operations Section		6. Reviewed By (PSC): Thomas Harris — Date: 09/02/2022

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By OSC): Justin Watson — Date: 09/02/2022
Justin Watson	bwatson@mema.ms.gov	601-278-3410	
Branch Director:	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor: Justin Watson	Email Address: bwatson@mema.ms.gov	Phone: 601-278-3410	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Operations Officer	Justin Watson	601-278-3410	13	Monitor radio and email. Coordinate with ESF's and stakeholders. Monitor WebEOC for routing resource requests	SEOC 0700	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Bobby Hobson 769-798-3507, Nyssa Gatlin 601-954-6949, Robin Fortune 601-813-8341, Charlee Alford 61-540-4623, Kaitlyn French 601-813-4459, Watchdesk 601-933-6671

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 01 of 01
			5. Prepared By: Glynn Babb — Date: 8/31/22
3. Branch: Human Services	4. Division/Group: ESF-6 MIHL		6. Reviewed By (PSC): Thomas Harris — Date: 09/02/22
9. Operations Personnel			
Operations Section Chief:	Email Address:	Phone:	7. Reviewed By OSC): Justin Watson — Date: 09/22/02
Branch Director:	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor: Leigh Lino	Email Address:	Phone:	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
ESF6 / MIHL	Glynn Babb	601-941-8602	3	Monitoring the Situation	8/31/22	Working with JSU requesting support through Hinds County EOC

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ Water Crisis 2022	2. Operational Period (Date/Time) 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 1 of 1
			5. Prepared By: Date Linell Nemeth 9-01-2022
3. Branch Human Services	4. Division/Group ESF 6 - American Red Cross		6. Reviewed By (PSC): Date Thomas Harris 09/02/22

9. Operations Personnel			
Operations Section Chief:	Email Address	Phone	7. Reviewed By OSC): Date Justin Watson 09/02/22
Branch Director: Kaitlyn Sellers French	Email Address ksellers@mema.ms.gov	Phone 601-813-4459	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Leigh Liao	Email Address leigh.liao@mdhs.ms.gov	Phone 601-720-6615	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
DDSRD/ Water Mission Liaison	Bruce Cuber	504-342-5297	10	Collaborate and coordinate with MEMA, MDHS -ESF-6 and local and national partners to secure water and support planning for City of Jackson water crisis.	Flowood MS/0800 CST	N/A

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ WATER CRISIS 2022	2. Operational Period (Date/Time) 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page of
			5. Prepared By: Date Lauren Houston 8/31/22
3. Branch Human Services	4. Division/Group ESF-6 Department of Education		6. Reviewed By (PSC): Date Thomas Harris 09/02/22

9. Operations Personnel			
Operations Section Chief:	Email Address:	Phone:	7. Reviewed By OSC): Date Justin Watson 09/02/22
Branch Director: Kaidyn Sellers	Email Address:	Phone:	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Leigh Liao	Email Address:	Phone:	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
ESF 6/ Dept of Education	Lauren Houston	228-861-3433	3	monitoring the situation	8/31/22 0852	n/a

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 1 of 1
			5. Prepared By: Leigh Liao — Date: 08/31/22
3. Branch: Human Services Branch	4. Division/Group: ESF-6 Mississippi Department of Human Services		6. Reviewed By (PSC): Thomas Harris — Date: 09/02/22

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By OSC): Justin Watson — Date: 09/02/22
Justin Watson	bwatson@mema.ms.gov	601-278-3410	
Branch Director:	**Email Address:**	**Phone:**	8. Reviewed By (OSC-FEMA): Date
Kaidyn French	ksellers@mema.ms.gov	601-813-4459	
Division/Group Supervisor:	**Email Address:**	**Phone:**	
Leigh Liao	Leigh.Liao@mdhs.ms.gov	601-720-6615	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
MDHS-State Office	Leigh Liao	601-720-6615	1	Continue to Monitor SitRoom and WebEOC to assess and respond as needed. (Obj 1).	Virtual/0700	None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ WATER CRISIS 2022	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page of
3. Branch: ESF 6	4. Division/Group: The Salvation Army		5. Prepared By: Nina Ghaffari — Date: 8/31/22
			6. Reviewed By (PSC): Thomas Harris — Date: 09/02/22

9. Operations Personnel

Operations Section Chief:	Email Address	Phone
Ken Freeman	ken.freeman@uss.salvationarmy	601-951-0932
Branch Director:	**Email Address**	**Phone**
Major Bill Shafer	bill.shafer@uss.salvationarmy.or	601-850-3026
Division/Group Supervisor:	**Email Address**	**Phone**
William Trueblood	william.trueblood@uss.salvations	601-572-6793

7. Reviewed By OSC): Justin Watson — Date: 09/02/22

8. Reviewed By (OSC-FEMA): Date:

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
ESF 6/ The Salvation Army	Nina Ghaffari	601-850-3295	1	Liaison	8/31/22	n/a

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 1 of 1
			5. Prepared By: Chelsea Hopson — Date: 09/01/2022
3. Branch: Logistics	4. Division/Group: ESF-7		6. Reviewed By (PSC): Thomas Harris — Date: 09/02/22

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By OSC): Justin Watson — Date: 09/02/22
Justin Watson	jwatson@mema.ms.gov	601-278-3410	
Branch Director: Don Wilson	Email Address: dwilson@mema.ms.gov	Phone: 601-519-1883	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Dennis Stewart	Email Address: dstewart@mema.ms.gov	Phone: 601-613-6279	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Logistics	Sandra Barnette	769-867-3820	17 (include 6 Air National Guard)	Receive and distribute water, hand sanitizer and equipment to POD sites, government and medical facilities	SELOC 0700	None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Sandra Barnette email: sbarnette@mema.ms.gov Cell Phone: 769-867-3820

ED_013319_00000142-00016

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 03 Sept 2022 at 0700 hours - 04 Sept 2022 at 0659 hours	Page 1 of 1 5. Prepared By: Date D. Austin Cunningham 09/02/2022
3. Branch Emergency Services	4. Division/Group ESF-8 Public Health		6. Reviewed By (PSC): Date D. Austin Cunningham 09/02/2022
9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington 09/02/2022
Branch Director: Amy McLeod	Email Address amy.mcleod@msdh.ms.gov	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor:	Email Address	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Engineering Unit	Amy McLeod		3	Provide Operational coordination for incident. Water system damage analysis	OB Curtis Unified Command Post 0700	Command Trailer, printer capabilities

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 09/02/2022 at 0700 - 09/03/2022 at 0659	Page 2 of
			5. Prepared By: Date Cody Fisher 09/02/2022
3. Branch Emergency Services	4. Division/Group MDEQ-ESF10		6. Reviewed By (PSC): Date D. Austin Cunningham 09/02/2022

9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington 09/02/2022
Branch Director: Robin Fortune	Email Address rlee@mema.ms.gov	Phone 601.813.8341	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Cody Fisher	Email Address cfisher@mdeq.ms.gov	Phone 601.941.2505	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Hazmat Response	Cody Fisher	601.941.2505	6-10	Provide SOSC and response contractors to address leaking anhydrous ammonia tank at OB Curtis	OB Curtis 0800	MDEQ hired contractual support at MEMA's request

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page of
			5. Prepared By: MSGT. Steven Pugh — Date: 09/02/2022
3. Branch: Emergency Services	4. Division/Group: ESF-13		6. Reviewed By (PSC): Thomas Harris — Date: 09/02/22

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:
Brian Watson	bwatson@mema.ms.gov	
Branch Director:	**Email Address:**	**Phone:**
Robin Fortune	rlee@mema.ms.gov	601-813-8341
Division/Group Supervisor:	**Email Address:**	**Phone:**

7. Reviewed By OSC): Justin Watson — Date: 09/02/22

8. Reviewed By (OSC-FEMA): Date:

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Law. Enf.	Major Steve Shows	601-382-4037	32	24 hours coverage. 7 POD sites, 6 sites in Jackson, 1 site in Byram	0630 09/02/2022	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ Water Crisis 2022	2. Operational Period (Date/Time) 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 1 of 1 5. Prepared By: Date Justin Watson 09/02/2022
3. Branch BEOC	4. Division/Group ESF-14		6. Reviewed By (PSC): Date Thomas Harris 09/02/2022
9. Operations Personnel			
Operations Section Chief: Andrew McMillin	Email Address amcmillin@mema.ms.gov	Phone 601-540-1102	7. Reviewed By OSC): Date Andrew McMillin 09/02/2022
Branch Director: Todd DeMuth	Email Address tdemuth@mema.ms.gov	Phone 769-798-7321	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor:	Email Address	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
BEOC Director	Todd DeMuth	769-798-7321	3	receive and coordinate donations from private businesses	SEOC 0700	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):
Nicole Presley 601-850-8578, Heather Freeman 601-213-6489

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name COJ Water Emergency Aug 2022	2. Operational Period (Date/Time) 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page of
			5. Prepared By: Date Allie Jasper ESF15 9/2/2022
3. Branch EA	4. Division/Group ESF-15		6. Reviewed By (PSC): Date Thomas Harris 09/02/2022

9. Operations Personnel

Operations Section Chief:	Email Address	Phone	7. Reviewed By OSC): Date
Justin Watson	bwatson@mema.ms.gov	(601) 278-3410	Justin Watson 09/02/22
Branch Director:	Email Address	Phone	8. Reviewed By (OSC-FEMA): Date
Malary White	mwhite@mema.ms.gov	601-933-6841	
Division/Group Supervisor:	Email Address	Phone	
Malary White	mwhite@mema.ms.gov	601-933-6841	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Malary White Allie Jasper	601-933-6841	2	Managing press requests, coordinating FEMA admin walk through, arranging press conferences, briefing administration, writing press releases and media advisories, creating messaging	SSA - OB Curtis SEOC	
	Eric Bullard Vergie Morgan	601-933-6623	2	Shooting video for messaging, creating graphics, updating website and social pages	SSA - SEOC	
	Erica Hibbler		1	Stationed at SELOC to assist in Call Center	SSA-SELOC	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):
Primary Operations contact is Malary White 601-933-6841

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: COJ Water Crisis 2022	2. Operational Period (Date/Time): 09/02/2022 at 0700 to 09/03/2022 at 0659.	Page of
			5. Prepared By: MAJ David W. Austin — Date: 8/31/2022
3. Branch: Emergency Services	4. Division/Group: ESF 16		6. Reviewed By (PSC): Thomas Harris — Date: 09/02/22

9. Operations Personnel			
Operations Section Chief: Brian Watson	Email Address: bwatson@mema.ms.gov	Phone:	7. Reviewed By OSC): Justin Watson — Date: 09/02/22
Branch Director: Robin Fortune	Email Address: rlee@mema.ms.gov	Phone: 601-813-8341	8. Reviewed By (OSC-FEMA): Date:
Division/Group Supervisor: COL Lee Henry	Email Address: william.l.henry.mil@army.mil	Phone: 601-455-5597	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
POD Site Operations	MAJ Curwin Burk	601-946-4248	301	Distribution of drinking water and hand sanitizer	Jackson, Ms 0800	
Water Distribution	MAJ Douglas Griffin	601-639-5245	182	Non potable water distribution	Jackson, Ms 0800	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

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02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis	2. Operational Period (Date/Time) 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 2 of 5
			5. Prepared By: Date Denise Gray-Hunt 9/2/2022
3. Branch Office of Housing and Individual Assistance	4. Division/Group Individual Assistance		6. Reviewed By (PSC): Date Thomas Harris 09/02/22

9. Operations Personnel			
Operations Section Chief:	Email Address	Phone	7. Reviewed By OSC): Date Justin Watson 09/02/22
Branch Director: Nicole Pressley	Email Address npressley@mema.ms.gov	Phone 601-850-8578	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Denise Gray-Hunt	Email Address dhunt1@mema.ms.gopv	Phone 601-991-8259	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Individual Assistance	Carlos Martinez	601-441-5791	1	Support the Disaster Call Center and other duties as assigned	0730	None
Individual Assistance	Meredith Lee	228-217-2535	1	Support the Disaster Call Center and other duties as assigned	0730	None
Individual Assistance	Perry Overstreet	601-5861571	1	Support the Disaster Call Center and other duties as assigned	0730	None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: City of Jackson Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 3 of 5
			5. Prepared By: Date Denise Gray-Hunt 9/2/2022
3. Branch: Office of Housing and Individual Assistance	4. Division/Group: Individual Assistance		6. Reviewed By (PSC): Date Thomas Harris 09/02/22

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:
Branch Director: Nicole Pressley	Email Address: npressley@mema.ms.gov	Phone: 601-850-8578
Division/Group Supervisor: Denise Gray-Hunt	Email Address: dhunt1@mema.ms.gopv	Phone: 601-991-8259

7. Reviewed By OSC): Date
Justin Watson 09/02/22

8. Reviewed By (OSC-FEMA): Date

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Human Resource	Mary K Shanahan	601-573-6347	1	Support the Disaster Call Center and other duties as assigned	0730	None
Public Assistance	Shenita Douglas	601-278-3998	1	Support the Disaster Call Center and other duties as assigned	0730	None
Public Assistance	Mark Harrington	601-383-4119	1	Support the Disaster Call Center and other duties as assigned	0730	None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: City of Jackson Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 4 of 5
			5. Prepared By: Date Denise Gray-Hunt 9/2/2022
3. Branch: Office of Housing and Individual Assistance	4. Division/Group: Individual Assistance		6. Reviewed By (PSC): Date Thomas Harris 09/02/22

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:
Branch Director: Nicole Pressley	Email Address: npressley@mema.ms.gov	Phone: 601-850-8578
Division/Group Supervisor: Denise Gray-Hunt	Email Address: dhunt1@mema.ms.gopv	Phone: 601-991-8259

7. Reviewed By OSC): Date
Justin Watson 09/02/22

8. Reviewed By (OSC-FEMA): Date

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Finance	Sharon Roberts	601-813-8440	1	Support the Disaster Call Center and other duties as assigned	0730	None
Preparedness	Sierra Esco	601-209-9776	1	Support the Disaster Call Center and other duties as assigned	0730	None
Preparedness	Jasmine Divinity	601-850-8566	1	Support the Disaster Call Center and other duties as assigned	0730	None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name: City of Jackson Water Crisis	2. Operational Period (Date/Time): 0700 CDT 09/03/2022 - 0659 CDT 09/04/2022	Page 5 of 5
			5. Prepared By: Date Denise Gray-Hunt 9/2/2022
3. Branch: Office of Housing and Individual Assistance	4. Division/Group: Individual Assistance		6. Reviewed By (PSC): Date Thomas Harris 09/02/22

9. Operations Personnel

Operations Section Chief:	Email Address:	Phone:	7. Reviewed By OSC): Date Justin Watson 09/02/22
Branch Director:: Nicole Pressley	Email Address: npressley@mema.ms.gov	Phone: 601-850-8578	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Denise Gray-Hunt	Email Address: dhunt1@mema.ms.gopv	Phone: 601-991-8259	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
Mitigation	Kandice NcNamee	601-940-3973	1	Support the Disaster Call Center and other duties as assigned	0730	None

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

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City of Jackson Water Crisis 2022
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MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 03 Sept 2022 at 0700 hours - 04 Sept 2022 at 0659 hours	Page 1 of 3
			5. Prepared By: Date D. Austin Cunningham 09/02/2022
3. Branch City of Jackson	4. Division/Group Division A-OB Curtis Facility Conventional		6. Reviewed By (PSC): Date D. Austin Cunningham 09/02/2022

9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington
Branch Director: Jordan Hillman	Email Address jhillman@jacksonms.gov	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Robert Lee	Email Address rlee@jacksonms.gov	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Robert Lee	rlee@jacksonms.gov	6	1. Develop and scope ACH Backup Pump 2. Develop and scope repair of raw water screens 3. Develop and scope repair Clarit Rac	OB Curtis Conventional Facility	
				4. Develop and scope relace fluccuators 6. Assess repair needs HS Pump 2 and 3 Repair 7. Potassium pumps 8. Sedimentation basins drain		

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

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City of Jackson Water Crisis 2022
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MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 03 Sept 2022 at 0700 hours - 04 Sept 2022 at 0659 hours	Page 1 of 2
			5. Prepared By: Date D. Austin Cunningham 09/02/2022
3. Branch City of Jackson	4. Division/Group Division B-OB Curtis Facility Membrane		6. Reviewed By (PSC): Date D. Austin Cunningham 09/02/2022

9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington
Branch Director: Jordan Hillman	Email Address jhillman@jacksonms.gov	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Robert Lee	Email Address rlee@jacksonms.gov	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Robert Lee	rlee@jacksonms.gov	6	1. Develop and scope back-pulse process valving (Pump 88A) 2. Develop and scope sluce gates (valve) that do not work in automatic	OB Curtis Membrane Facility	
				3. Develop and scope bubble test and fiber repairs - all trains 4. Develop and scope train 5 - Evaluate and repair 5. Develop and scope HS 11 and 12 Pumps - electrical problem		
				6. Develop and scope membrane pumps and ACH Pumps repair 7. Develop and scope flocculation motors repair 8. Develop and scope water softener repair		

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 03 Sept 2022 at 0700 hours - 04 Sept 2022 at 0659 hours	Page 2 of 2
			5. Prepared By: Date D. Austin Cunningham 09/02/2022
3. Branch City of Jackson	4. Division/Group Division B-OB Curtis Facility Membrane		6. Reviewed By (PSC): Date D. Austin Cunningham 09/02/2022

9. Operations Personnel			
Operations Section Chief: Lester Herrington	Email Address lester.herrington@msdh.ms.gov	Phone	7. Reviewed By OSC): Date Lester Herrington
Branch Director: Jordan Hillman	Email Address jhillman@jacksonms.gov	Phone	8. Reviewed By (OSC-FEMA): Date
Division/Group Supervisor: Robert Lee	Email Address rlee@jacksonms.gov	Phone	

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Robert Lee	rlee@jacksonms.gov	6	10. Develop and scope general electric repairs 11. Develop and scope ammonia tank valve repair	OB Curtis Membrane Facility	
				12. Develop and scope ammonia injection cleaned		

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

MEMA ICS FORM 204 ASSIGNMENT LIST	1. Incident Name City of Jackson Water Crisis 2022	2. Operational Period (Date/Time) 03 Sept 2022 at 0700 hours - 04 Sept 2022 at 0659 hours	Page 1 of 1
3. Branch City of Jackson	4. Division/Group Division C-JH Fewell Conventional		5. Prepared By: D. Austin Cunningham Date 09/02/2022
			6. Reviewed By (PSC): D. Austin Cunningham Date 09/02/2022

9. Operations Personnel

Operations Section Chief:	Email Address	Phone
Lester Herrington	lester.herrington@msdh.ms.gov	
Branch Director:	**Email Address**	**Phone**
Jordan Hillman	jhillman@jacksonms.gov	
Division/Group Supervisor:	**Email Address**	**Phone**
Terrance Byrd		601.213.8575

7. Reviewed By OSC): Lester Herrington Date 09/02/2022

8. Reviewed By (OSC-FEMA): Date

10. Resources Assigned

Resource Identifier	Resource Leader Name	Leader Contact Information (Cell#, Radio Call sign)	Total # of Persons	Work Assignments	Reporting Location/Time	Logistical Needs & Special Instructions
	Terrance Byrd	601.213.8575	5	Maintain Authorized outflow with flex capabilities.	Fewell Facility	

11. Communications (radio frequency/channel information and/or phone contact numbers needed for this assignment):

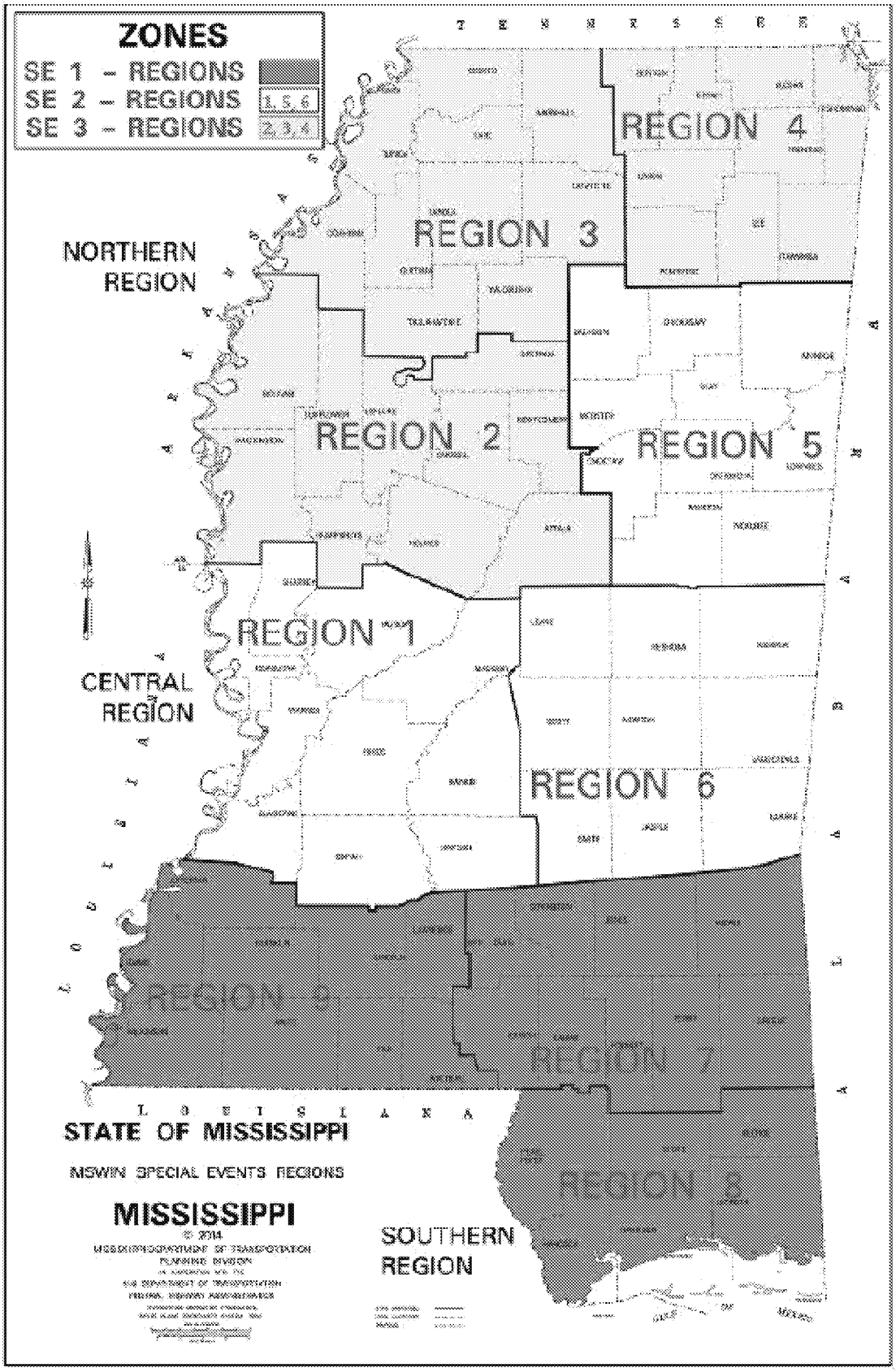
Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022
INCIDENT RADIO COMMUNICATIONS PLAN (ICS205)

1. Incident Name:	2. Date/Time Prepared:	3. Op
COJ WATER EMERGENCY AUG 2022	8/29/22 @ 2045	TBA

4. Basic Radio Channel Use:

Zone Grp.	Ch #	Function	Channel Name/Trunked Radio System	Assignment	RX Freq N or W	RX Tone/NAC	TX Freq N or W	TX Tone/NAC
SE1,SE2,SE3	1	CALLING	ST SE CMN	CALLING CHANNEL TO ASK FOR ASSIGNMENTS	Mississippi Wireless Information Networ			
SE1,SE2,SE3	4	UNIFIED COMMAND	ST SE 3	MEMA/MSDH/HINDS CO/COJ/MMD	Mississippi Wireless Information Networ			
SE2	9	OB CURTIS OPERATIONS	R1 SE 3	MEMA/MSDH/HINDS CO/COJ/MMD	Mississippi Wireless Information Networ			
MMD		WATER DISTRIBUTION	MMD OPS	MMD	Mississippi Wireless Information Networ			

5. Special Instructions: *MACS = Multi-Agency Coordination System (Coordination and Support)


ZONES
SE 1 – REGIONS
SE 2 – REGIONS 1, 5, 6
SE 3 – REGIONS 2, 3, 4
REGION 4
REGION 3
NORTHERN REGION
REGION 2
REGION 5
REGION 1
CENTRAL REGION
REGION 6
REGION 8
REGION 7
REGION 9
STATE OF MISSISSIPPI
MSWIN SPECIAL EVENTS REGIONS
MISSISSIPPI
SOUTHERN REGION

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022
COMMUNICATIONS LIST (ICS 205A)

Incident Name:	**Operational Period:**		
City of Jackson Water Crisis 2022	From: 03 Sept 2022 at 0700 To: 04 Sept 2022 at 0659		
Communications Information: Unified Command & General Staff			
Mississippi Emergency Management Agency (MEMA)	Andrew McMillin	O-601.540.1102	amcmillin@mema.ms.gov
Mississippi State Department of Health (MSDH)	Jim Craig	O-601.576.8066 C-601.946.6046	Jim.craig@msdh.ms.gov
City of Jackson (COJ)	Robert Lee	C-601.519.5008	rlee@jacksonms.gov
Hinds County	Joey Perkins	C-601.942.7005	jperkins@co.hinds.ms.gov
Environmental Protection Agency (EPA)	Brian Smith	O-404.562.9845 C-404.630.3866	Smith.brian@epa.gov
Safety Officer	Jarrett Watkins	C-601.850.7085	jwatkins@mema.ms.gov
Public Information Officer	Malary White	O-601.933.6848	mwhite@mema.ms.gov
General Staff	**A**		
Planning Section, Resource Unit (MEMA)	Austin, Ramous	C-601.383.4850	raustin@mema.ms.gov
	B		
Planning Section (MSDH)	Boxx, Tommy	C-601.750.7445	Robert.boxx@msdh.ms.gov
Division C-Fewell Facility (COJ)	Byrd, Terrance	C-601.213.8575	
Assistant Safety Officer (MEMA)	Battaly, David	C-601.662.7078	dbattaly@mema.ms.gov
	C		
Logistics, Support (MSDH)	Campbell, Mike	O-601.576.8144	Thomas.campbell@msdh.ms.gov
Planning Section (MSDH)	Cunningham, D. Austin	C-601.575.1018	Donald.cunningham1@msdh.ms.gov
	F		
Hazardous Materials Unit Leader (MDEQ)	Fisher, Cody	C-601.941.2505	
	G		
EMAC Coordinator (MEMA)	Gatlin, Nyssa	C-601.586.9227	ngatlin@mema.ms.gov
	H		
Operations Section Chief (MSDH)	Herrington, Les	O-601.576.7690	Lester.herrington@msdh.ms.gov
Logistics (MSDH)	Horn, Marshall	O-601.939.2660 C-601.573.8915	Marshall.horn@msdh.ms.gov
At Risk Coordinator (MSDH)	Hall, Amber	O-601.933.7188	Amber.hall@msdh.ms.gov
Logistics/Site Safety Assistant (MSDH)	Head, Matt	C-601.939.2660	matthew.head@msdh.ms.gov

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022

Incident Name:	Operational Period:		
City of Jackson Water Crisis 2022	From: 03 Sept 2022 at 0700 To: 04 Sept 2022 at 0659		
Planning Section (MEMA)	Harris, Thomas	C-601.573.2051	tharris@mema.ms.gov
Operations, Unit Leader (COJ)	Hillman, Jordan	C-601.720.6048	jhillman@jacksonms.gov
Division A-OB Curtis Conventional (COJ)	Harper, Richard	C-769.798.6890	rharper@city.jackson.ms.us
Engineering Team (MSDH)	Holmes, Lenore	O-601.576.7518	lenore.holmes@msdh.ms.gov
L			
Planning Section, Situation Unit Leader (MEMA)	Lewis, Charlie	C-601.832.2903	clewis@mema.ms.gov
M			
Private Sector, MS Rural Water Association	Mayfield, Kirby	C-601.517.0177	kmayfield@msrwa.org
Engineering Unit Leader (MSDH)	McLeod, Amy	O-601.576.7518	amy.mcleod@msdh.ms.gov
Engineering Unit Leader (MSDH)	Moody, Bill	O-601.576.7527	william.moody@msdh.ms.gov
P			
Healthcare Intelligence (MSDH)	Parker, Melissa	C-601.942.2373	melissa.parker@msdh.ms.gov
R			
Operations, Water Distribution Staging (MS Forestry Commission)	Rogers, Shaun	C-662.891.3522	srogers@msf.ms.gov
S			
Healthcare Intelligence (MSDH)	Salazar, Fabrizio	C-769.209.5379	byron.salazar1@msdh.ms.gov
Public Information Officer (MSDH)	Sharlot, Liz	O-601.576.7667	Liz.sharlot@msdh.ms.gov
T			
Finance Section Chief (MEMA)	Thompson, Crystal	O-601.933.6603	cthompson@mema.ms.gov
W			
Logistics Section Chief (MEMA)	Wilson, Don	O-601.933.6705	dwilson@mema.ms.gov
Deputy Operations Section Chief (MSDH)	Williams, Alisa	C-601.669.0794	Alisa.williams@msdh.ms.gov

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022
MEDICAL PLAN ICS 206

MEDICAL PLAN ICS 206	1. Incident Name	2. Date Prepared	3. Time Prepared	4. Operational Period
	City of Jackson Water Crisis 2022	09/02/2022	1130	03 Sept 2022 at 0700 – 04 Sept 2022 at 0659

5. Incident Medical Aid Station

Medical Aid Stations	Locations	Paramedic/EMT Yes	Paramedic/EMT No
MSDH Command Trailer – Basic Life Support	OB Curtis Facility	X	

6. Transportation

A. Ambulance Services

Name	Address	Phone	Paramedics Yes	Paramedics No
Pafford Ambulance Service	Ridgeland, MS	911	X	
AirCare	Jackson, MS	601-984-4367	X	

B. Incident Ambulances

Name	Location	Paramedics Yes	Paramedics No
N/A	N/A		

7. Hospitals

Name	Address	Phone	Helipad Yes	Helipad No
UMMC	2500 North State Street, Jackson, MS 32.329190, -90.174263	601-984-4367 FQ 155.340 CSQ	X	
St. Dominic Hospital	969 Lakeland Dr, Jackson, MS 32.333361, -90.163835	601-200-200 FQ 155.340 CSQ	X	

8. Medical Emergency Procedures

A. Report emergencies by Calling 911 from telephone.
B. Assist the injured person(s) offering reassurance, comfort, and aid.
C. If you trained in first aid, CPR and/or AED, you may offer medical assistance within the scope of your training.
D. When an emergency situation involves blood or other bodily fluids, do not touch the fluids without proper personal equipment

ICS 206	9. Prepared by	Reviewed by
	D. Austin Cunningham	Jarrett Watkins, Safety Officer

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022
SAFETY MESSAGE/PLAN (ICS 208)

1. Incident Name:	2. Operational Period:
City of Jackson Water Crisis 2022	**Date From:** 03 Sept 2022 **Date To:** 04 Sept 2022 **Time From:** 0700 **Time To:** 0659

3. Safety Message/Expanded Safety Message, Safety Plan, Site Safety Plan:

ENSURES CRITICAL SAFETY INFORMATION IS GIVEN TO ALL PERSONNEL AND SITE SPECIFIC

HAZARDS ARE UNDERSTOOD PRIOR TO PERMITTING ACCESS TO THE WORK SITE, THEREBY

CREATING A SAFER WORK ENVIRONMENT AND FACILITATING THE PROCESS OF ADJUSTMENTFOR RESPONDERS, CONTRACTORS, AND VISITORS.

- Ensure to be assigned one or more competent person(s) to guide guests/visitors through the water treatment plant or any individual facility.
- Three points of contact when ascending/descending stairs inside facilities.
- Observe surrounding crane activity and stay a safe distance away from live loads.
- Ensure personnel correctly wear proper PPE around the plant.
- Keep a safe distance from hazardous materials and open unsafe live electrical components.
- Upon entering a room where hazardous materials are present, identify safety eye wash stations.
- Do not touch or use equipment you are not certified to operate, this includes the opening and closing of valves.
- Avoid leaks of hazard materials and liquids from piping system.
- Report any unsafe actions, conditions, or accidents to the designated Safety Officer.

4. Site Safety Plan Required? **Yes** ■ **No** ☐
Approved Site Safety Plan(s)

Location: MDSH Command Trailer

Prepared by:	Position/Title:
Jarrett Watkins	Safety Officer

Incident Action Plan (IAP) 2
City of Jackson Water Crisis 2022
02 September 2022
MEETING SCHEDULE (ICS 230)

1. Incident Name: City of Jackson Water Crisis 2022		2. Operational Period: Date From: 03 Sept 2022 Time From: 0700 Date To: 04 Sept 2022 Time To: 0659		Page: 1 of 1
Day/Time	**Meeting**	**Purpose**	**Attendees**	**Location**
Month Day				
09/03/2022 0800	Unified Command and General Staff	Review objectives and preparedness brief outs	Incident Commanders, Section Chiefs	MSDH Command Trailer Virtual Zoom
09/03/2022 1000	ICS 204 Submissions	Send ICS 204s to Operations Section Chief		
09/03/2022 1100	Tactics Meeting	Meeting with Operations Section		
09/03/2022 1400	Situation Report Submissions	All situational information due to the Situation Unit.		
09/03/2022 1700	Operational Summary (OpSum) and Incident Action Plan (IAP) Meeting	Review of operational period activities. Review and approval of the Incident Action Plan (IAP)	Established distribution lists	
09/03/2022 1800	Operational Summary (OpSum) and Incident Action Plan (IAP) distributed	OpSum and IAP distributed	Established distribution lists	

Message

From: Smith, Brian [Smith.Brian@epa.gov]
Sent: 2/4/2022 8:01:37 PM
To: Eric Branch [eric.branch@makersresource.com]
CC: Mary D. Carter [mdcarter@city.jackson.ms.us]; Charles Williams [cwilliams@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Burns, Robert [Burns.Robert@epa.gov]; Frost, Tara [Frost.Tara@epa.gov]; Minton, Gabrielle [minton.gabrielle@epa.gov]; Dyson, Nushat [Dyson.Nushat@epa.gov]; Pickard, Brian [Pickard.Brian@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Gettle, Jeaneanne [Gettle.Jeaneanne@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]
Subject: RE: requesting call to discuss expediting part delivery

Great news, Eric. Thanks for the update and thank you for assistance!

-Brian

From: Eric Branch <eric.branch@makersresource.com>
Sent: Friday, February 4, 2022 2:59 PM
To: Smith, Brian <Smith.Brian@epa.gov>
Cc: Mary D. Carter <mdcarter@city.jackson.ms.us>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Minton, Gabrielle <minton.gabrielle@epa.gov>; Dyson, Nushat <Dyson.Nushat@epa.gov>; Pickard, Brian <Pickard.Brian@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Gettle, Jeaneanne <Gettle.Jeaneanne@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: requesting call to discuss expediting part delivery

Brian,

I just got this from the plant confirming your report:

" We had a meeting yesterday to get all of the players on the same team, and get commitments form all parties. We have been working on juggling the schedule today to make this request happen. We have a plan in place, and I have updated the system to reflect the 3/7/2022 shipment."

Thanks,

Eric Branch
(601) 954-8976

On Feb 4, 2022, at 7:57 AM, Smith, Brian <Smith.Brian@epa.gov> wrote:

Good morning all,

I think we have some good news. Thanks to the communication through Eric and the support from some critical infrastructure partners, and most of all from ABB's understanding and willingness to support the City of Jackson's needs, I understand the new target for shipping date is March 7th. I will look for Eric to confirm on his end, but wanted to reach out and thank everyone for the good communication this week!

-Brian

From: Eric Branch <eric.branch@makersresource.com>
Sent: Thursday, February 3, 2022 12:23 PM
To: Dyson, Nushat <Dyson.Nushat@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Cc: Mary D. Carter <mdcarter@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Minton, Gabrielle <minton.gabrielle@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Good morning, all.

I just got word from the production manager that he has a meeting this afternoon with the plant manager this afternoon to discuss options for what can be done to improve the schedule. Although I will not be in that meeting, and I do not know what time it will be, I will let you know of any developments as I get them.

Thanks,

Eric Branch
(601) 954-8976

From: Dyson, Nushat <Dyson.Nushat@epa.gov>
Sent: Wednesday, February 2, 2022 3:21 PM
To: Smith, Brian <Smith.Brian@epa.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Cc: Eric Branch <eric.branch@makersresource.com>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Minton, Gabrielle <minton.gabrielle@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Thank you, Brian, for this additional information. It will certainly help to get to the right individuals within GE. I will request the name of the contact that GE would like to provide.

V/R
Nushat

From: Smith, Brian <Smith.Brian@epa.gov>
Sent: Wednesday, February 2, 2022 4:18 PM
To: Pickard, Brian <Pickard.Brian@epa.gov>; Dyson, Nushat <Dyson.Nushat@epa.gov>
Cc: eric.branch@makersresource.com; Mary D. Carter <mdcarter@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>
Subject: FW: requesting call to discuss expediting part delivery

Hi Brian and Nushat,

The order number is included in the drawings. Order # 152351497
This is a custom engineered piece of equipment. We have been told that it has been ordered through GE, but it appears that GE may have sold the Mebane, NC facility to ABB.

ABB Inc., ELDS
6801 Industrial Drive
Mebane, NC 27302
abb.com

Eric Branch, with Makers Resources and cc'd on this email, is the rep. the City is working with. I think it will help if we can provide Eric any contact at GE that is part of the CISA Critical Manufacturing Sector.

Could you reply with that contact and we'll hopefully be able to close the loop on introductions of the right folks that may be able to expedite anything needed to complete this order?

We can then schedule a conference call to understand if there is any opportunity to advance the timeline (currently 4/27).

Thank you all for your communication on this!

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

From: Mary D. Carter <mdcarter@city.jackson.ms.us>
Sent: Wednesday, February 2, 2022 2:49 PM
To: Smith, Brian <Smith.Brian@epa.gov>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Brian,

Please see the attached for your information. I would request that if there are any meetings scheduled for discussion regarding the part, the City would be included.

Thanks for your assistance.

Mary

From: Mary D. Carter
Sent: Wednesday, February 2, 2022 1:17 PM
To: 'Smith, Brian' <Smith.Brian@epa.gov>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Brian,

I was expecting an email from Allied this morning, but unfortunately I have not received one. I just called Dwayne's cell phone and left a message. As soon as I hear from him, I will let you know.

Mary

From: Smith, Brian [mailto:Smith.Brian@epa.gov]
Sent: Wednesday, February 2, 2022 11:53 AM
To: Mary D. Carter <mdcarter@city.jackson.ms.us>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Pickard, Brian <Pickard.Brian@epa.gov>
Subject: RE: requesting call to discuss expediting part delivery

Good afternoon Mary,

Any word from Allied?

Here is a quick update on communication EPA had with partner agencies yesterday, FYI:

- EPA Water Security Division (WSD) reached out to the Section Chief for the Critical Manufacturing Sector at the U.S. Cybersecurity Infrastructure Security Agency (CISA) to find out if GE is a member and if we could contact them about the issue. CISA agreed and has conveyed the issue to GE who is now reaching out to the section who would have knowledge of equipment orders. However, we still need to speak with Allied to get the details on the Jackson, MS order specifically.
- WSD also reached out to the Dept. of Homeland Security state Protective Security Advisor, Max Fenn, to alert him of the issue and raise the profile in order to convey the sense of urgency that may assist GE in prioritizing Jackson, MS for the equipment delivery. He replied that he will elevate the issue to his regional leads and will participate in the call once scheduled. He was unaware of the need, however he is aware that there are issues.

Many folks are ready to assist as soon as we get the info on the equipment order from Allied or a call schedule with them to discuss. We are also happy to convene a call of federal and state partners to facilitate any mutual aid assistance for temporary high service pump options.

-Brian

From: Mary D. Carter <mdcarter@city.jackson.ms.us>
Sent: Tuesday, February 1, 2022 6:02 PM
To: Smith, Brian <Smith.Brian@epa.gov>; Charles Williams <cwilliams@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>
Subject: Re: requesting call to discuss expediting part delivery

Brian,

The Allied rep is not in his office, but will forward the information to me tomorrow morning and I will forward to you.

Thanks,

Mary

From: Smith, Brian <Smith.Brian@epa.gov>
Sent: Tuesday, February 1, 2022 4:10 PM
To: Charles Williams; Mary D. Carter; Marlin King
Cc: Campbell-Dunbar, Shawneille; Burns, Robert; Frost, Tara; Bragan, Mary Jo; Myers, Bryan
Subject: RE: requesting call to discuss expediting part delivery

Good evening all,

I am writing with a quick update. We have been able to elevate this need within GE through a Critical Manufacturing network contact. However, we need to close the loop on the specifics of the order. **Please email the part #, order # and/or the GE contact Allied has been in touch with, and we will connect the dots within GE and get some feedback on anything that might be done to speed the delivery.** Also a question came up that I hope you can answer: During the fire, were pumper trucks used put out the fire?

Thanks,
Brian

From: Smith, Brian
Sent: Tuesday, February 1, 2022 9:54 AM
To: Charles Williams <cwilliams@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; mking@city.jackson.ms.us
Cc: Campbell-Dunbar, Shawneille <Campbell-Dunbar.Shawneille@epa.gov>; Burns, Robert <burns.robert@epa.gov>; Frost, Tara <Frost.Tara@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>
Subject: requesting call to discuss expediting part delivery

Good morning Marlon, Charles and Mary,

The highlighted txt is what we are sending out to help expedite the delivery of the pump control. We discussed scheduling a call with Allied to discuss what might be done to help speed things along. **Please provide your Allied contact(s) if you would like me to schedule the call, otherwise I will look for an invite from you and ask that you include those cc'd on this email.**

We would like to get as many specifics as we can on the part and the order number. As we discussed we will be highlighting the critical infrastructure needs when looking for the right contacts that can engage with GE at the appropriate level. This may be response partners on the power side of the federal government or through public/private partnership networks. Our intent is to support COJ and your existing contract to get this part as fast as possible.

In April 2021, an electrical fire broke out at Jackson's OB Curtis Water Treatment Plant. The fire damaged electrical controls in the High Service Pump #2 building. The fire damage necessitated replacing an electrical controller for their pumps. This controller is currently on order with General Electric through their vendor, Allied Electronics and Automation (https://www.alliedelec.com/about-us/) with an expected delivery date of April 27, 2022.

While the Curtis plant remains limited in operations due to waiting for this critical component, Jackson continues to experience repeated instances of decreased pressure from the Curtis plant, which translates into distribution system pressure loss to a significant number of customers.

During EPA Administrator Regan's Journey to Justice stop in Jackson in December 2021 the water system experienced another pressure loss and the school he was visiting had to close for the day due to the loss of service. The water crisis in Mississippi's capital has Administrator Regan's attention.

The City of Jackson has requested the EPA's assistance to expedite delivery of this part for their critical infrastructure and it is a high priority for the Agency to assist Jackson with returning to a normal operational status. EPA headquarters has engaged with chemical manufacturers to help with communicating the urgency of needs to the water sector's critical infrastructure over the past year of supply chain disruptions. Region 4 is requesting EPA headquarters assistance with communicating this equipment need at a high level to GE. The Region is working to set up a call with the City of Jackson and Allied to gather additional information on the delivery timeline the component. We would like to know whom from the Water Security Division we should include on this call in preparation for requesting high level engagement with GE.

Thank you for your time and continued partnership!

Brian Smith, P.E.
Chief
Safe Drinking Water Branch
U.S. EPA, Region 4
404-562-9845

Message

From: Jenkins, Brandi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B3EA7AACD1A44C0AB3EE9A8F0A2EA3F-JENKINS, BRANDI]
Sent: 2/1/2022 11:55:30 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
Subject: Re: Call with Mayor Lumumba

30 minutes should work.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Feb 1, 2022, at 6:29 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Sure Brandi, how much time do you need?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:20 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Call with Mayor Lumumba

Hi Tiffany,

I've been in communication with Mayor Lumumba this evening and wanted to know if I can get a call scheduled with him for early tomorrow morning. Could you help me get this scheduled?

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

Message

From: Jenkins, Brandi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B3EA7AACD1A44C0AB3EE9A8F0A2EA3F-JENKINS, BRANDI]
Sent: 2/2/2022 1:07:50 AM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
Subject: Re: Call with Mayor Lumumba

Yes, 9 am central works for us. Should I send the invitation?

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Feb 1, 2022, at 7:50 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Please consider 10:00 CT. Thanks

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Tuesday, February 1, 2022 6:46 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Call with Mayor Lumumba

Does 9:30 CT works?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:55 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Re: Call with Mayor Lumumba

30 minutes should work.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

> On Feb 1, 2022, at 6:29 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:
>
> Sure Brandi, how much time do you need?
>
> **Tiffany Murray**
> Executive Assistant
> Mayor & Chief of Staff
> City of Jackson
> 219 S. President St.
> Jackson, MS, 39201

(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:20 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Call with Mayor Lumumba

Hi Tiffany,

I've been in communication with Mayor Lumumba this evening and wanted to know if I can get a call scheduled with him for early tomorrow morning. Could you help me get this scheduled?

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

Message

From: Jenkins, Brandi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B3EA7AACD1A44C0AB3EE9A8F0A2EA3F-JENKINS, BRANDI]
Sent: 1/3/2022 3:10:23 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

It may be a good idea to do a virtual meet and greet with Mayor Lumumba and Regional Administrator Blackman in advance of an in-person meeting. Can the Mayor accommodate a virtual meet and greet tomorrow, Jan. 4?

Thanks,

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 10:04 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Brandi,

Thank you for the update.

Happy New Year!

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

(601)960-2396 (office)

tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 8:18 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: No EPA visit to Jackson on 1/4

Tiffany,

I wanted to follow-up with you to let you know that the meeting with Congressman Thompson was canceled so we will not be traveling to Jackson. I will follow-up with you soon because I would like to get the new Regional Administrator to Jackson as soon as possible to meet Mayor Lumumba and Dr. Omari.

Happy New Year!

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

From: Jenkins, Brandi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B3EA7AACD1A44C0AB3EE9A8F0A2EA3F-JENKINS, BRANDI]
Sent: 2/2/2022 4:03:29 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
Subject: RE: Call with Mayor Lumumba

Good morning, Tiffany. Carol and I are on the call now. Let me know if the Mayor is having difficulty joining.

Thanks,
Brandi

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Tuesday, February 1, 2022 9:09 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Call with Mayor Lumumba

Does 10:00am central work for you all? If it does, please send the invitation.

> On Feb 1, 2022, at 7:07 PM, Jenkins, Brandi <Jenkins.Brandi@epa.gov> wrote:
>
> Yes, 9 am central works for us. Should I send the invitation?
>
> Brandi Jenkins, Public Affairs Director
> U.S. EPA - Region 4
> (678) 575-2148 (mobile)
> (404) 562-9124 (office)
>
> Sent from my iPhone
>
>> On Feb 1, 2022, at 7:50 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:
>>
>> Please consider 10:00 CT. Thanks
>>
>> **Tiffany Murray**
>> Executive Assistant
>> Mayor & Chief of Staff
>> City of Jackson
>> 219 S. President St.
>> Jackson, MS, 39201
>> (601)960-2396 (office)
>> tmurray@jacksonms.gov

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--

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Tuesday, February 1, 2022 6:46 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Call with Mayor Lumumba

Does 9:30 CT works?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:55 PM

To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Re: Call with Mayor Lumumba

30 minutes should work.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Feb 1, 2022, at 6:29 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Sure Brandi, how much time do you need?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:20 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Call with Mayor Lumumba

Hi Tiffany,

I've been in communication with Mayor Lumumba this evening and wanted to know if I can get a call scheduled with him for early tomorrow morning. Could you help me get this scheduled?

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

Message

From: Jenkins, Brandi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B3EA7AACD1A44C0AB3EE9A8F0A2EA3F-JENKINS, BRANDI]
Sent: 7/1/2022 3:34:26 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
CC: Safiya Omari [somari@city.jackson.ms.us]
Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

It's the same one. Please work through me on the request.

Thanks,
Brandi

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Friday, July 1, 2022 11:24 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Brandi,

All is well and I hope the same for you. Carol Kemker connected us with Nicole Radford in regards to scheduling a meeting on July 21st. I suggested 3:30 to her. Would this be the same meeting request or would this be different?

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Thursday, June 30, 2022 10:23 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Tiffany,

I hope you are doing well. We (EPA) will be in Jackson on July 21 for a few meetings at the state level. We wanted to see if we could schedule some time to meet with Mayor Lumumba and Dr. Omari on the afternoon of July 21.

Please let me know if you have any questions.

Thank you,

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

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Sent: 7/1/2022 4:28:10 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
CC: Safiya Omari [somari@city.jackson.ms.us]
Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

Tiffany,

Let's do 3:30 on the 21st.

Thanks so much!

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
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Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
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Sent: 7/5/2022 2:28:16 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
CC: Safiya Omari [somari@city.jackson.ms.us]
Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

Tiffany – I hope you had a good holiday weekend.

Do I need to send out the meeting invite, or will you send to me?

Thanks,
Brandi

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Friday, July 1, 2022 2:18 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

You're welcome and thank you for confirming.

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

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tmurray@jacksonms.gov

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Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

Tiffany,

Let's do 3:30 on the 21st.

Thanks so much!

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
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Tiffany Murray

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Subject: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Tiffany,

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Please let me know if you have any questions.

Thank you,

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
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Sent: 1/3/2022 10:56:27 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

Can we do 1:00 – 1:30 CT tomorrow?

Thank so much,

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 12:22 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Of course, Mayor Lumumba has availability from 1:00 to 3:30 CT. Would that work for Administrator Blackman's schedule?

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

(601)960-2396 (office)

tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 9:10 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

It may be a good idea to do a virtual meet and greet with Mayor Lumumba and Regional Administrator Blackman in advance of an in-person meeting. Can the Mayor accommodate a virtual meet and greet tomorrow, Jan. 4?

Thanks,

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 10:04 AM

To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Brandi,

Thank you for the update.

Happy New Year!

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

(601)960-2396 (office)

tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 8:18 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: No EPA visit to Jackson on 1/4

Tiffany,

I wanted to follow-up with you to let you know that the meeting with Congressman Thompson was canceled so we will not be traveling to Jackson. I will follow-up with you soon because I would like to get the new Regional Administrator to Jackson as soon as possible to meet Mayor Lumumba and Dr. Omari.

Happy New Year!

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

From: Jenkins, Brandi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B3EA7AACD1A44C0AB3EE9A8F0A2EA3F-JENKINS, BRANDI]
Sent: 7/5/2022 3:11:46 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

Yes, I will forward to the EPA Team.

Brandi

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Tuesday, July 5, 2022 10:57 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Brandi,

I had a wonderful weeknd. I hope you did as well.

I'll send the invite. Will you forward it to your team? Thanks.

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

(601)960-2396 (office)

tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, July 5, 2022 9:28 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

Tiffany – I hope you had a good holiday weekend.

Do I need to send out the meeting invite, or will you send to me?

Thanks,
Brandi

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Friday, July 1, 2022 2:18 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

You're welcome and thank you for confirming.

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

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tmurray@jacksonms.gov

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Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

Tiffany,

Let's do 3:30 on the 21st.

Thanks so much!

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
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From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Friday, July 1, 2022 11:24 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Brandi,

All is well and I hope the same for you. Carol Kemker connected us with Nicole Radford in regards to scheduling a meeting on July 21st. I suggested 3:30 to her. Would this be the same meeting request or would this be different?

Tiffany Murray

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Sent: 7/19/2022 11:49:19 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

Good evening, Tiffany. The EPA team is looking forward to meeting with the mayor and his team on Thursday. Unfortunately, I will not be able to attend the meeting.

Also, a representative from the MS State Department of Health will accompany EPA to the meeting. His name is Jim Craig.

Thanks.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Jul 5, 2022, at 11:11 AM, Jenkins, Brandi <Jenkins.Brandi@epa.gov> wrote:

Yes, I will forward to the EPA Team.

Brandi

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Mayor & Chief of Staff

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(601)960-2396 (office)

tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Thursday, June 30, 2022 10:23 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Tiffany,

I hope you are doing well. We (EPA) will be in Jackson on July 21 for a few meetings at the state level. We wanted to see if we could schedule some time to meet with Mayor Lumumba and Dr. Omari on the afternoon of July 21.

Please let me know if you have any questions.

Thank you,

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

From: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Sent: 8/31/2022 5:56:35 PM
To: calumumba@jacksonms.gov
CC: Safiya Omari [somari@city.jackson.ms.us]
Subject: Follow-up from yesterday's discussion

Mayor Lumumba,

As I mentioned yesterday, we wanted to provide clarification on using fire stations to distribute water bottles. We've also shared this information with the state. EPA is aware that MSDH and MEMA are working to distribute both potable and non-potable water to the citizens of Jackson, Mississippi. When we spoke to MSDH on the morning of August 30th, we clarified that EPA has not and will not require the use of fire stations in the City of Jackson for water distribution. Our primary interest is ensuring that citizens have readily available access to potable water. The city of Jackson, MSDH and MEMA should rely on internal expertise regarding identification of the most appropriate water distribution points to support the city of Jackson during this water emergency.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

Message

From: Jenkins, Brandi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B3EA7AACD1A44C0AB3EE9A8F0A2EA3F-JENKINS, BRANDI]
Sent: 1/3/2022 11:07:05 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
Subject: RE: No EPA visit to Jackson on 1/4

Thanks, Tiffany. I will send a Microsoft Teams invitation.

Below is Regional Administrator Blackman's bio.

Daniel Blackman

Daniel Blackman

- Email: blackman.daniel@epa.gov

Daniel Blackman has dedicated his career to creating economic opportunities for marginalized communities throughout the South, specifically in building more resilient communities with equitable economic opportunity, greater access to education and a healthy environment for all, not just for a select few.

Daniel was the 2020 Democratic nominee for Georgia's Public Service Commission, amassing over 2.2 million votes, and has spent over a decade advising policymakers at the state capitol, and advocating on behalf of Georgia ratepayers and small businesses in energy-related matters before Georgia's Public Service Commission. He has served as chairman of the Georgia Chapter of the Sierra Club, board member to the ACLU, and chair of Georgia's 7th Congressional District.

During the Obama Administration, Daniel worked closely within EPA Region 4 on issues including water infrastructure, clean air, and land/emergency management policies that impacted the

southeast. He leaned heavily on his civil rights background to amplify the Region's Environmental Justice (EJ) Policy and convened stakeholders with federal agencies to address a multitude of community concerns strategically and comprehensively.

His work in addressing groundwater contamination at nuclear plants and its impact on public health and safety has given him the opportunity to testify numerous times before the Nuclear Regulatory Commission; and his commitment to working throughout the Southeastern United States to push for legislation that addresses toxic ash left behind from burning coal has given him the opportunity to play a key role in the transitioning from coal to clean energy in the United States.

He is the son of immigrants from Barbados and is an alumnus of Clark Atlanta University. Daniel and his wife Jeanelle are the proud parents of four children, and the family resides in Forsyth County, Georgia.

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 6:03 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Yes, that works. Thank you!

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

(601)960-2396 (office)

tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 4:56 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

Can we do 1:00 – 1:30 CT tomorrow?

Thank so much,

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 12:22 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Of course, Mayor Lumumba has availability from 1:00 to 3:30 CT. Would that work for Administrator Blackman's schedule?

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

(601)960-2396 (office)

tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 9:10 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

It may be a good idea to do a virtual meet and greet with Mayor Lumumba and Regional Administrator Blackman in advance of an in-person meeting. Can the Mayor accommodate a virtual meet and greet tomorrow, Jan. 4?

Thanks,

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 10:04 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Brandi,

Thank you for the update.

Happy New Year!

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

(601)960-2396 (office)

tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 8:18 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: No EPA visit to Jackson on 1/4

Tiffany,

I wanted to follow-up with you to let you know that the meeting with Congressman Thompson was canceled so we will not be traveling to Jackson. I will follow-up with you soon because I would like to get the new Regional Administrator to Jackson as soon as possible to meet Mayor Lumumba and Dr. Omari.

Happy New Year!

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
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Webpage: EPA Region 4 (Southeast Region)

Message

From: Jenkins, Brandi [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=9B3EA7AACD1A44C0AB3EE9A8F0A2EA3F-JENKINS, BRANDI]
Sent: 1/12/2022 5:21:07 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
CC: Katims, Casey [Katims.Casey@epa.gov]; Enobakhare, Rosemary [Enobakhare.Rosemary@epa.gov]
Subject: Re: Meeting with Administrator Regan

Hi Tiffany,

I'm adding my DC Colleagues who can assist you with the request.

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Jan 12, 2022, at 11:07 AM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Hi Brandi,

Mayor Lumumba will be traveling to Washington D.C. on next week. I would like to see if Administrator Regan would be available to meet with Mayor Lumumba sometime Wednesday or Thursday? Thanks.

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email is strictly prohibited.
--

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 1/3/2022 3:04:26 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: No EPA visit to Jackson on 1/4

Brandi,

Thank you for the update.

Happy New Year!

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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Sent: Monday, January 3, 2022 8:18 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: No EPA visit to Jackson on 1/4

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I wanted to follow-up with you to let you know that the meeting with Congressman Thompson was canceled so we will not be traveling to Jackson. I will follow-up with you soon because I would like to get the new Regional Administrator to Jackson as soon as possible to meet Mayor Lumumba and Dr. Omari.

Happy New Year!

Brandi Jenkins, Public Affairs Director

Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

From: Katims, Casey [Katims.Casey@epa.gov]
Sent: 1/12/2022 11:41:53 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]; Tiffany Murray [tmurray@city.jackson.ms.us]
CC: Enobakhare, Rosemary [Enobakhare.Rosemary@epa.gov]; Gill, Sonam [Gill.Sonam@epa.gov]
Subject: RE: Meeting with Administrator Regan

Tiffany:

Great to be connected and many thanks for reaching out. We are still figuring out the Administrator's availability to take 1:1 meetings during USCM next week, but we really appreciate the interest in connecting and Sonam Gill (cc'd) will be happy to put this into the queue for scheduling consideration. We'll be back in touch as soon as we know more about his availability to meet.

Thank you again and look forward to being back in touch shortly.

Casey

Casey Katims
Deputy Associate Administrator for Intergovernmental Relations
U.S. Environmental Protection Agency
Cell: (202) 494-4609
Pronouns: he/him/his

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Wednesday, January 12, 2022 12:21 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Katims, Casey <Katims.Casey@epa.gov>; Enobakhare, Rosemary <Enobakhare.Rosemary@epa.gov>
Subject: Re: Meeting with Administrator Regan

Hi Tiffany,

I'm adding my DC Colleagues who can assist you with the request.

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

> On Jan 12, 2022, at 11:07 AM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:
>
> Hi Brandi,

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Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
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--

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 1/12/2022 11:56:19 PM
To: Katims, Casey [Katims.Casey@epa.gov]; Jenkins, Brandi [Jenkins.Brandi@epa.gov]
CC: Enobakhare, Rosemary [Enobakhare.Rosemary@epa.gov]; Gill, Sonam [Gill.Sonam@epa.gov]
Subject: Re: Meeting with Administrator Regan

Thank you, Brandi, for making this connection.

Casey, I appreciate you and Sonam for checking his availability and I look forward to hearing back. Thanks.

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Katims, Casey <Katims.Casey@epa.gov>
Sent: Wednesday, January 12, 2022 5:41 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Enobakhare, Rosemary <Enobakhare.Rosemary@epa.gov>; Gill, Sonam <Gill.Sonam@epa.gov>
Subject: RE: Meeting with Administrator Regan

Tiffany:

Great to be connected and many thanks for reaching out. We are still figuring out the Administrator's availability to take 1:1 meetings during USCM next week, but we really appreciate the interest in connecting and Sonam Gill (cc'd) will be happy to put this into the queue for scheduling consideration. We'll be back in touch as soon as we know more about his availability to meet.

Thank you again and look forward to being back in touch shortly.

Casey

Casey Katims
Deputy Associate Administrator for Intergovernmental Relations
U.S. Environmental Protection Agency
Cell: (202) 494-4609
Pronouns: he/him/his

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Wednesday, January 12, 2022 12:21 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Katims, Casey <Katims.Casey@epa.gov>; Enobakhare, Rosemary <Enobakhare.Rosemary@epa.gov>
Subject: Re: Meeting with Administrator Regan

Hi Tiffany,

I'm adding my DC Colleagues who can assist you with the request.

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Jan 12, 2022, at 11:07 AM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Hi Brandi,

Mayor Lumumba will be traveling to Washington D.C. on next week. I would like to see if Administrator Regan would be available to meet with Mayor Lumumba sometime Wednesday or Thursday? Thanks.

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

Message

From: Katims, Casey [Katims.Casey@epa.gov]
Sent: 1/14/2022 7:30:37 PM
To: Tiffany Murray [tmurray@city.jackson.ms.us]
CC: Morgan, Ashley [Morgan.Ashley.M@epa.gov]; Gill, Sonam [Gill.Sonam@epa.gov]
Subject: RE: Meeting with Administrator Regan

Hi, Tiffany:

Thank you for your patience on this request. We are following new testing protocols given current circumstances, which Ashley Morgan (cc'd) can speak to in more detail, but if the Mayor is able to take a PCR test next week ahead of a meeting, the Administrator would be happy to find a time for a meeting at EPA HQ while Mayor Lumumba is in DC.

I'll let Ashley follow up with you here to discuss potential timing options and any questions on testing.

Thanks!
Casey

Casey Katims
Deputy Associate Administrator for Intergovernmental Relations
U.S. Environmental Protection Agency
Cell: (202) 494-4609
Pronouns: he/him/his

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Wednesday, January 12, 2022 6:56 PM
To: Katims, Casey <Katims.Casey@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Cc: Enobakhare, Rosemary <Enobakhare.Rosemary@epa.gov>; Gill, Sonam <Gill.Sonam@epa.gov>
Subject: Re: Meeting with Administrator Regan

Thank you, Brandi, for making this connection.

Casey, I appreciate you and Sonam for checking his availability and I look forward to hearing back. Thanks.

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

(601)960-2396 (office)

tmurray@jacksonms.gov

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From: Katims, Casey <Katims.Casey@epa.gov>
Sent: Wednesday, January 12, 2022 5:41 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Enobakhare, Rosemary <Enobakhare.Rosemary@epa.gov>; Gill, Sonam <Gill.Sonam@epa.gov>
Subject: RE: Meeting with Administrator Regan

Tiffany:

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Thank you again and look forward to being back in touch shortly.

Casey

Casey Katims
Deputy Associate Administrator for Intergovernmental Relations
U.S. Environmental Protection Agency
Cell: (202) 494-4609
Pronouns: he/him/his

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Sent: Wednesday, January 12, 2022 12:21 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Katims, Casey <Katims.Casey@epa.gov>; Enobakhare, Rosemary <Enobakhare.Rosemary@epa.gov>
Subject: Re: Meeting with Administrator Regan

Hi Tiffany,

I'm adding my DC Colleagues who can assist you with the request.

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Jan 12, 2022, at 11:07 AM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Hi Brandi,

Mayor Lumumba will be traveling to Washington D.C. on next week. I would like to see if Administrator Regan would be available to meet with Mayor Lumumba sometime Wednesday or Thursday? Thanks.

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

219 S. President St.

Jackson, MS, 39201

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tmurray@jacksonms.gov

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computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email is strictly prohibited.

--

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 2/1/2022 11:29:36 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: Call with Mayor Lumumba

Sure Brandi, how much time do you need?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:20 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Call with Mayor Lumumba

Hi Tiffany,

I've been in communication with Mayor Lumumba this evening and wanted to know if I can get a call scheduled with him for early tomorrow morning. Could you help me get this scheduled?

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 2/2/2022 12:46:41 AM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: Call with Mayor Lumumba

Does 9:30 CT works?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:55 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Re: Call with Mayor Lumumba

30 minutes should work.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Feb 1, 2022, at 6:29 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Sure Brandi, how much time do you need?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
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To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Call with Mayor Lumumba

Hi Tiffany,

I've been in communication with Mayor Lumumba this evening and wanted to know if I can get a call scheduled with him for early tomorrow morning. Could you help me get this scheduled?

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 2/2/2022 12:50:01 AM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: Call with Mayor Lumumba

Please consider 10:00 CT. Thanks

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Tuesday, February 1, 2022 6:46 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Call with Mayor Lumumba

Does 9:30 CT works?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:55 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Re: Call with Mayor Lumumba

30 minutes should work.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Feb 1, 2022, at 6:29 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Sure Brandi, how much time do you need?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email is strictly prohibited.
--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:20 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Call with Mayor Lumumba

Hi Tiffany,

I've been in communication with Mayor Lumumba this evening and wanted to know if I can get a call scheduled with him for early tomorrow morning. Could you help me get this scheduled?

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 2/2/2022 2:08:44 AM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: Call with Mayor Lumumba

Does 10:00am central work for you all? If it does, please send the invitation.

On Feb 1, 2022, at 7:07 PM, Jenkins, Brandi <Jenkins.Brandi@epa.gov> wrote:

Yes, 9 am central works for us. Should I send the invitation?

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Feb 1, 2022, at 7:50 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:

Please consider 10:00 CT. Thanks

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Tuesday, February 1, 2022 6:46 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Call with Mayor Lumumba

Does 9:30 CT works?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:55 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Re: Call with Mayor Lumumba

30 minutes should work.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

> On Feb 1, 2022, at 6:29 PM, Tiffany Murray <tmurray@city.jackson.ms.us> wrote:
>
> Sure Brandi, how much time do you need?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 1, 2022 5:20 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Call with Mayor Lumumba

Hi Tiffany,

I've been in communication with Mayor Lumumba this evening and wanted to know if I can get a call scheduled with him for early tomorrow morning. Could you help me get this scheduled?

Thanks,

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 2/14/2022 10:06:37 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: Upcoming Regional Administrator Visit

Hi Brandi,

I hope all is well. I've tried reaching you several times by phone to discuss your note below. Please let me know when the Regional Administrator has availability to meet next week and I'll be happy to schedule. Also, I'm also available to speak with you regarding the community groups meetings. Please let me know. Thanks.

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Tuesday, February 8, 2022 12:18 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: Upcoming Regional Administrator Visit

Hi Tiffany,

I wanted to reach out to you to let you know that the RA is planning to visit Jackson during the week of Feb. 21. Specifically, he is doing a Black History Month event at Tougaloo on Feb. 23. I would like for him and the mayor to have the opportunity to meet face to face. I would also like for him to meet with some community groups as well. Is this something we can discuss?

Thanks,

Brandi Jenkins, Public Affairs Director

U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

From: Katims, Casey [Katims.Casey@epa.gov]
Sent: 3/21/2022 2:52:46 PM
To: AnneHall.Brashier@govreeves.ms.gov; Mackenzie.Dickerson@GovReeves.ms.gov; Robert.Walker@GovReeves.ms.gov
CC: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Letter to Governor Reeves
Attachments: Reeves.pdf

Anne Hall, Mackenzie, Robert:

Please find enclosed a letter to Governor Reeves from EPA Administrator Regan, following up on his visit to Jackson last year and offering our agency's assistance as we work together to implement the water investments in the Bipartisan Infrastructure Law. We look forward to partnering on these important issues and would welcome further discussion at your convenience. My cell is 202-494-4609, feel free to reach out anytime.

Thank you,

Casey

Casey Katims
Deputy Associate Administrator for Intergovernmental Relations
U.S. Environmental Protection Agency

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

MAR 18 2022

THE ADMINISTRATOR

The Honorable Tate Reeves
Governor of Mississippi
P.O. Box 139
Jackson, Mississippi 39205

Dear Governor Reeves:

In November of last year, I had the opportunity to travel through Mississippi, Louisiana and Texas to speak with communities across those states. This trip spotlighted longstanding environmental justice concerns in historically marginalized communities, and I heard firsthand from residents dealing with the impacts of pollution. I write to follow up on this visit and to ask for your partnership in advancing environmental justice for the people of Mississippi.

My first stop was in Jackson, Mississippi, where I spent the day speaking with city leaders about how the capital city could benefit from financial support, including federal funding. I also met with members of the community who expressed frustration with the many water challenges they have been experiencing for far too long. Every day, they face anxiety and uncertainty about whether their water is safe to use and reliable enough to meet basic necessities, such as bathing and washing clothes. Many have had no choice but to turn to bottled water to sustain their daily water needs.

While in Jackson, I also toured the O.B. Curtis Water Treatment Plant and saw firsthand the challenges remaining to get the facility operating at full capacity – an action critical to the city's ability to deliver safe and healthy water to the people of Jackson. As President Joe Biden was signing the Bipartisan Infrastructure Law, I was meeting with school administrators and student leaders at Wilkins Elementary School on a day the school was closed due to citywide water issues. Water pressure at this school is regularly so low that it must provide portable toilets for more than 350 students, faculty and staff. The water issues also mean Wilkins Elementary School is unable to provide hot meals to students. I am sure we can agree that educators and students should be focused on learning, not whether there is sufficient running water to service toilets or provide sanitary conditions for cooking.

The U.S. Environmental Protection Agency wants to ensure federal infrastructure resources are immediately targeted to those who need them most. We are committed to working diligently with our state partners to be sure that in the first year of BIL implementation, communities like Jackson will be able to access needed funds and move forward with investing those resources. These communities cannot wait for subsequent years' allotments. I need your help to make this

happen. I am writing to ask for your partnership in ensuring that the State Revolving Funds allocated by the EPA to the state of Mississippi in 2022 reach the communities most in need of drinking water and wastewater infrastructure improvements, such as Jackson. I offer the assistance of our agency in the SRF process, and I would welcome further dialogue with you to meet these critical needs.

Almost half of the Bipartisan Infrastructure Law's nearly $44 billion in SRF funds are eligible for distribution as grants or fully forgivable loans. States have the power to open the door to disadvantaged communities who for too long have struggled to compete for financing from traditional SRFs and other loan programs. Importantly, Mississippi and other states will have the ability to direct funding to assist communities as states develop the plans needed to address water challenges. States and the federal government will need to work together to remove barriers and ensure these funds reach underserved communities that have previously been shut out of accessing water infrastructure funding because they lack the financial, technical and managerial capacity to access traditional SRF loans.

Mississippi's allotment of BIL funds for 2022 is estimated to be $74,899,000 through the SRF program. As the governor of Mississippi, you have the authority to direct these resources to the communities most in need. It is a moral imperative that we ensure no child and no family is left to drink dirty water because of their zip code. I hope that you will personally engage in the distribution of your state's funding to ensure it is used to solve some of most dire needs in Jackson and other areas of need across the great state of Mississippi.

We are also communicating with Mayor Chokwe Lumumba about the need for the city to work with the state to expedite action to begin resolving these issues. The EPA issued a Notice of Noncompliance that underscores the need for critical repairs to the water system on January 25, 2022. The city worked quickly with the state and the EPA to chart an approved path forward to address the compliance concerns raised in this letter.

Please do not hesitate to contact me, and your staff can always contact Casey Katims, deputy associate administrator for Intergovernmental Relations, at (202) 494-4609 or katims.casey@epa.gov.

Sincerely yours,

Michael S. Regan

Michael S. Regan

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 1/3/2022 5:22:27 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: No EPA visit to Jackson on 1/4

Of course, Mayor Lumumba has availability from 1:00 to 3:30 CT. Would that work for Administrator Blackman's schedule?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 9:10 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

It may be a good idea to do a virtual meet and greet with Mayor Lumumba and Regional Administrator Blackman in advance of an in-person meeting. Can the Mayor accommodate a virtual meet and greet tomorrow, Jan. 4?

Thanks,

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast

Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 10:04 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Brandi,

Thank you for the update.

Happy New Year!

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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--

From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 8:18 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: No EPA visit to Jackson on 1/4

Tiffany,

I wanted to follow-up with you to let you know that the meeting with Congressman Thompson was canceled so we will not be traveling to Jackson. I will follow-up with you soon because I would like to get the new Regional Administrator to Jackson as soon as possible to meet Mayor Lumumba and Dr. Omari.

Happy New Year!

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

From: Kemker, Carol [Kemker.Carol@epa.gov]
Sent: 6/30/2022 8:08:04 PM
To: Chokwe A. Lumumba [calumumba@jacksonms.gov]; vlindsay@city.jackson.ms.us; Angelique C. Lee [angeliquel@jacksonms.gov]
CC: Safiya Omari [somari@city.jackson.ms.us]; Craig, Jim [Jim.Craig@msdh.ms.gov]; mking@city.jackson.ms.us; William Moody [william.moody@msdh.ms.gov]; lester.herrington@msdh.ms; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Newman, Keriema [Newman.Keriema@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Angelique C. Lee [angeliquel@jacksonms.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Rubini, Suzanne [Rubini.Suzanne@epa.gov]; Jenkins, Brandi [Jenkins.Brandi@epa.gov]; Nicholson, John [Nicholson.John@epa.gov]
Subject: Information Request Letter for City of Jackson Drinking Water
Attachments: Information Request SDWA 1445 Draft.6.29.22.pdf

Dear Mayor Lumumba and Ms. Lindsay,

Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.

Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

ELECTRONIC EMAIL
CONFIRMATION OF EMAIL RECEIPT REQUESTED

The Honorable Mayor Chokwe A. Lumumba
Mayor of the City of Jackson
219 South President Street
Jackson, Mississippi 39205
calumumba@jacksonms.gov

Ms. Virgi Lindsay
President
Jackson City Council
219 South President Street
Jackson, Mississippi 39205
vlindsay@city.jackson.ms.us

Re: Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act
PWS ID # MS0250008
City of Jackson Public Water System

Dear Mayor Lumumba and Ms. Lindsay:

The U.S. Environmental Protection Agency is responsible for assuring public water systems provide safe drinking water in accordance with the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f *et. seq.*, the National Primary Drinking Water Regulations (NPDWRs) promulgated thereunder at 40 C.F.R. Part 141; and the Mississippi Primary Drinking Water Regulations (MPDWRs), promulgated pursuant to the Mississippi Safe Drinking Water Act of 1997, Miss. Code Ann. § 41-26-1 *et seq.* Based on information contained in the Safe Drinking Water Information System, the City of Jackson Public Water System (Jackson PWS) serves 173,514 people, and pursuant to Section 1401(15) of the SDWA, 42 U.S.C. § 300f(15), is therefore a community water system. As a community water system, the Jackson PWS is subject to the requirements of the NPDWRs and the MPDWRs, including the requirement that a certified Class A operator be onsite whenever the PWS is in operation. *See* 40 C.F.R. § 141.70(c); Miss. Admin. Code § 15-20-72.2.2.1(5).

On April 2, 2020, the EPA issued an Emergency Administrative Order, Docket No. SDWA-04-2020-2300 (effective April 2, 2020) (Emergency Order) to the City, which, among other things, outlines requirements for the City to follow in the implementation of its Alternative Water Source Plan, reporting requirements for low pressure/loss of pressure events, and public notice. The EPA and the City subsequently entered into an Administrative Compliance Order on Consent, Docket No. SDWA-04-2300-2301, effective July 1, 2021 (AOC), which outlines a number of actions the City is required to take to bring the PWS into compliance with the SDWA, including those outlined in the Comprehensive Equipment Repair Plan (CERP), attached thereto as Appendix A, as amended.

On June 16, 2022, the O.B. Curtis Water Treatment Plant (O.B. Curtis WTP) experienced an ammonia leak, which caused treatment to be disrupted for more than two days. After reviewing weekly operating reports and discussing these reports with Mississippi Department of Health (MSDH)[1] staff, we noted that the Jackson PWS tank levels and finished water output were low. During a subsequent call between the EPA and the City of Jackson on June 18, 2022, the City attributed the low production levels from the O.B. Curtis WTP to several conventional filters being down, inconsistencies in membrane train operations, and the inoperable status of High Service Pump #2 at the O.B. Curtis WTP. Given low tank levels and ongoing severe hot weather, MSDH and the EPA recommended that the City issue a conserve water notice until the O.B. Curtis WTP could be restored to appropriate operations and tanks were allowed to fill. The City issued a Water Conservation Advisory on June 22, 2022. As of Friday, June 24, 2022, tank levels remained low and output pressure had dropped to 68 psi at O. B. Curtis WTP. This loss in pressure led the City to issue a City-Wide Boil Water Advisory on June 24, 2022.

Section 1445 of the SDWA, 42 U.S.C. § 300j-4, and 40 Code of Federal Regulations (C.F.R.) § 141.31 authorize the EPA to require the submittal of information so it can determine whether a public water system is in compliance with the NPDWRs and other applicable requirements, including MPDWRs and the AOC. See Section 1414(i) of the SDWA, 42 U.S.C. § 300g-3(i). Pursuant to Section 1445(a)(1)(B) of the SDWA, 42 U.S.C. §300j-4(a)(1)(B), and after consultation with MSDH, the EPA hereby requests that the City provide the information described in Enclosure A within seven calendar days of receipt of this letter

The EPA requests that this information be submitted in electronic format to Ms. Charlotte Bunch at Bunch.Charlotte@epa.gov. If portions are unavailable in electronic format, please notify Ms. Bunch in your electronic submission that additional information is being sent in hardcopy to:

Bryan Myers
Water Enforcement Branch
Enforcement and Compliance Assurance Division
US Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Please be advised that, under Section 1445(c) of the SDWA, 42 U.S.C. § 300j-4(c), as amended by 40 C.F.R. § 19.4, Table 2 (Adjustment of Civil Monetary Penalties for Inflation), failure to provide the information required by this letter may result in a civil penalty of up to $62,689. In addition, under SDWA Section 1414(g), 42 U.S.C. § 300g-3(g), failure to provide the information required by this letter may result in an order requiring compliance. Violation of such order may lead to sanctions under SDWA Section 1414, 42 U.S.C. § 300g-3(g)(3)(A) and 40 C.F.R. § 19.4, Table 2, which include penalties of up to $62,689 per day of violation. The information provided in response to this letter may be used by the United States in any enforcement proceeding related to this matter.

You may, if you so desire, assert a confidential business information (CBI) claim covering any or all the information furnished to the EPA in response to this letter. Every CBI claim must be made in a manner described in 40 C.F.R. § 2.203 and must be fully substantiated with documentary evidence which shows how the claim meets every criterion listed in 40 C.F.R. §§ 2.208 and 2.304. If no CBI claim

[1] The MSDH is the entity in the State of Mississippi with primary enforcement authority over the SDWA, pursuant to SDWA Section 1413, 42 U.S.C. § 300g-2. On February 28, 2020, MSDH sent a written request for EPA to assist in addressing the City of Jackson's SDWA noncompliance.

accompanies your information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. Further details, including how to make a business confidentiality claim, are included in Enclosure B.

This request for information is not subject to review by the Office of Management and Budget (OMB) under the Paper Reduction Act because it is not an "informal collection request" within the meaning of 44 U.S.C. §§ 3502(4), (11), 3507, 3512, and 3518. Furthermore, it is exempt from OMB review under the Paper Reduction Act because it is directed to fewer than 10 persons. *See* 44 U.S.C. § 3502(4), (11); 5 C.F.R. § 1320.5(a).

If you have any questions regarding this matter, please contact me at (404) 562-8975 or kemker.carol@epa.gov, or Ms. Mary Jo Bragan at (404) 617-6432 or bragan.maryjo@epa.gov. For legal inquiries, please have your attorneys contact Ms. Suzanne Armor, Associate Regional Counsel, at (404) 562-9701 or Armor.Suzanne@epa.gov.

Sincerely,

CAROL KEMKER

Digitally signed by CAROL KEMKER
Date: 2022.06.30 15:18:53 -04'00'

Carol L. Kemker
Director
Enforcement and Compliance Assurance Division

Enclosures

cc: Ms. Angelique C. Lee, Vice President
Jackson City Council

Dr. Safiya Omari, Chief of Staff
City of Jackson

Mr. Marlin KingDirector, Public Works Department, City of Jackson

Mr. Jim Craig
Director of Health Protection, Mississippi State Department of Health

ENCLOSURE A

INFORMATION REQUEST PURSUANT TO SECTION 1445(a)(1)(B) OF THE SAFE DRINKING WATER ACT

Instructions

1. Identify the person(s) responding to this Information Request.

2. Please provide a separate narrative response to each and every question and subpart of a question set forth in this Information Request.

3. Precede each answer with the text and the number of the question and its subpart to which the answer corresponds.

4. All documents submitted must contain a notation indicating the question and subpart of the question to which they are responsive.

5. In answering each Information Request question and subpart thereto, identify all documents and persons consulted, examined or referred to in the preparation of each response, and provide true and accurate copies of all such documents.

6. If information not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Should you find at any time after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA as soon as possible.

7. Where specific information has not been memorialized in a document, but is nonetheless responsive to a question, you must respond to the question with a written response.

8. If information responsive to this Information Request is not in your possession, custody or control, then identify the person from whom such information may be obtained.

9. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any question or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

10. The EPA requests that all documents provided in an electronic format be compatible with pdf.

11. The EPA requests that all spreadsheet information be in an electronic format and compatible with MS Excel.

12. You may submit the requested information using a shared online repository.

13. If any question relates to activities undertaken by entities other than the recipient of this Information Request, and to the extent that you have information pertaining to such activities, provide such information for each entity.

Definitions

1. All terms not defined herein shall have their ordinary meanings, unless such terms are defined in the Safe Drinking Water Act or its implementing regulations, in which case the statutory or regulatory definitions shall control.

2. Words in the masculine may be construed in the feminine if appropriate, and vice versa, and words in the singular may be construed in the plural if appropriate, and vice versa, in the context of a particular question or questions.

3. The terms "And" and "Or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed outside it scope.

4. The term "Jackson PWS" or "PWS" means the City of Jackson Public Water System, including the O.B. Curtis and J.H. Fewell WTPs.

5. "O.B. Curtis WTP" means the O.B. Curtis Water Treatment Plant, located at 100 O.B. Curtis Drive, Ridgeland, Mississippi 39157, and its appurtenant equipment and conveyances.

6. "J.H. Fewell WTP" means the J.H. Fewell Water Treatment Plant, located at 2302 Laurel Street, Jackson, Mississippi 39202, and its appurtenant equipment and conveyances.

7. The term "MSDH" means the Mississippi Department of Health.

8. The term "Administrative Compliance Order on Consent" or "AOC" means the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021, including the Comprehensive Equipment Repair Plan ("CERP"), attached thereto as Appendix A, as amended.

9. The term "Comprehensive Equipment Repair Plan" or "CERP" means the Attachment A to the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021.

Questions

1. Provide all communications regarding staffing, staffing shortages, and/or plans to fill open positions permanently and/or temporarily at the J.H. Fewell and O.B. Curtis WTPs, including, but not limited to, any notes of communications, email correspondence, meeting minutes, memoranda, budget information or any other directives commencing, from the effective date of the AOC to the date of the City's receipt of this letter. This includes any communications within and between the City's Finance Department, Public Works Department, the Mayor's Office and/or the City Council.

2. Identify whether any current positions at the J.H. Fewell and O.B. Curtis WTPs are being staffed or are planned to be staffed through use of a contractor. If a position is filled through use of a contractor, please provide a copy of the executed contract for that service and any City Council meeting minute(s) in which the contract was authorized.

3. Please identify and provide copies of any outstanding or unpaid invoices with respect to staffing support for the Jackson PWS.

4. Identify the total number of hours each week for the past four weeks that each operator of the O.B. Curtis and J.H. Fewell WTPs worked, including any overtime hours.

5. Provide a description of all currently open and/or vacant positions for the J.H. Fewell and O.B. Curtis WTPs.

6. Explain how the City intends to maintain adequate pressure in the System while the O.B. Curtis WTP High Service Line #2 is inoperable, and/or explain how the City intends to bring the O.B. Curtis WTP High Service Line #2 into fully-operational status, identifying interim timelines and milestones as appropriate.

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS

(40 C.F.R. Part 2)

Except for information which deals with the existence, absence, or level of contaminants in drinking water, you may, if you desire, assert a business confidentiality claim as to any or all of the information that the EPA is requesting from you. The EPA regulation relating to business confidentiality claims is found at 40 C.F.R. Part 2.

If you assert such a claim for the requested information, the EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, the EPA may make the information available to the public without any further notice to you.

40 C.F.R. § 2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to the EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to the EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by the EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 7/1/2022 3:23:30 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
CC: Safiya Omari [somari@city.jackson.ms.us]
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Brandi,

All is well and I hope the same for you. Carol Kemker connected us with Nicole Radford in regards to scheduling a meeting on July 21st. I suggested 3:30 to her. Would this be the same meeting request or would this be different?

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Thursday, June 30, 2022 10:23 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Tiffany,

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Please let me know if you have any questions.

Thank you,

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 7/1/2022 6:18:18 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
CC: Safiya Omari [somari@city.jackson.ms.us]
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

You're welcome and thank you for confirming.

Tiffany Murray
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Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

Tiffany,

Let's do 3:30 on the 21st.

Thanks so much!

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Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 7/5/2022 2:57:08 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Brandi,

I had a wonderful weeknd. I hope you did as well.

I'll send the invite. Will you forward it to your team? Thanks.

Tiffany Murray
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Subject: RE: Meeting Request for Mayor Lumumba and Dr. Omari

Tiffany – I hope you had a good holiday weekend.

Do I need to send out the meeting invite, or will you send to me?

Thanks,
Brandi

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Sent: Friday, July 1, 2022 2:18 PM

To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

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Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 7/20/2022 12:00:49 AM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

Good evening, Brandi. Thank you for this update and we'll miss seeing you.

On Jul 19, 2022, at 6:49 PM, Jenkins, Brandi <Jenkins.Brandi@epa.gov> wrote:

Good evening, Tiffany. The EPA team is looking forward to meeting with the mayor and his team on Thursday. Unfortunately, I will not be able to attend the meeting.

Also, a representative from the MS State Department of Health will accompany EPA to the meeting. His name is Jim Craig.

Thanks.

Brandi Jenkins, Public Affairs Director
U.S. EPA - Region 4
(678) 575-2148 (mobile)
(404) 562-9124 (office)

Sent from my iPhone

On Jul 5, 2022, at 11:11 AM, Jenkins, Brandi <Jenkins.Brandi@epa.gov> wrote:

Yes, I will forward to the EPA Team.

Brandi

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Tuesday, July 5, 2022 10:57 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: Meeting Request for Mayor Lumumba and Dr. Omari

Hi Brandi,

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I'll send the invite. Will you forward it to your team? Thanks.

Tiffany Murray

Executive Assistant

Mayor & Chief of Staff

City of Jackson

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Thanks so much!

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Webpage: EPA Region 4 (Southeast Region)

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 1/3/2022 11:03:21 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: No EPA visit to Jackson on 1/4

Yes, that works. Thank you!

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 4:56 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

Can we do 1:00 – 1:30 CT tomorrow?

Thank so much,

Brandi Jenkins, Public Affairs Director
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 12:22 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Of course, Mayor Lumumba has availability from 1:00 to 3:30 CT. Would that work for Administrator Blackman's schedule?

Tiffany Murray
Executive Assistant
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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 9:10 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

It may be a good idea to do a virtual meet and greet with Mayor Lumumba and Regional Administrator Blackman in advance of an in-person meeting. Can the Mayor accommodate a virtual meet and greet tomorrow, Jan. 4?

Thanks,

Brandi Jenkins, Public Affairs Director

Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
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From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 10:04 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Brandi,

Thank you for the update.

Happy New Year!

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 8:18 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: No EPA visit to Jackson on 1/4

Tiffany,

I wanted to follow-up with you to let you know that the meeting with Congressman Thompson was canceled so we will not be traveling to Jackson. I will follow-up with you soon because I would like to get the new Regional Administrator to Jackson as soon as possible to meet Mayor Lumumba and Dr. Omari.

Happy New Year!

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
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Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 1/3/2022 11:26:37 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Re: No EPA visit to Jackson on 1/4
Attachments: ATT00001.txt

Got it, thanks!

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 5:07 PM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: RE: No EPA visit to Jackson on 1/4

Thanks, Tiffany. I will send a Microsoft Teams invitation.

Below is Regional Administrator Blackman's bio.

Daniel Blackman

Daniel Blackman

- Email: blackman.daniel@epa.gov

Daniel Blackman has dedicated his career to creating economic opportunities for marginalized communities throughout the South, specifically in building more resilient communities with equitable economic opportunity, greater access to education and a healthy environment for all, not just for a select few.

Daniel was the 2020 Democratic nominee for Georgia's Public Service Commission, amassing over 2.2 million votes, and has spent over a decade advising policymakers at the state capitol, and advocating on behalf of Georgia ratepayers and small businesses in energy-related matters before Georgia's Public Service Commission. He has served as chairman of the Georgia Chapter of the Sierra Club, board member to the ACLU, and chair of Georgia's 7th Congressional District.

During the Obama Administration, Daniel worked closely within EPA Region 4 on issues including water infrastructure, clean air, and land/emergency management policies that impacted the southeast. He leaned heavily on his civil rights background to amplify the Region's Environmental Justice (EJ) Policy and convened stakeholders with federal agencies to address a multitude of community concerns strategically and comprehensively.

His work in addressing groundwater contamination at nuclear plants and its impact on public health and safety has given him the opportunity to testify numerous times before the Nuclear Regulatory Commission; and his commitment to working throughout the Southeastern United States to push for legislation that addresses toxic ash left behind from burning coal has given him the opportunity to play a key role in the transitioning from coal to clean energy in the United States.

He is the son of immigrants from Barbados and is an alumnus of Clark Atlanta University. Daniel and his wife Jeanelle are the proud parents of four children, and the family resides in Forsyth County, Georgia.

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 6:03 PM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Yes, that works. Thank you!

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(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 9:10 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: RE: No EPA visit to Jackson on 1/4

Tiffany,

It may be a good idea to do a virtual meet and greet with Mayor Lumumba and Regional Administrator Blackman in advance of an in-person meeting. Can the Mayor accommodate a virtual meet and greet tomorrow, Jan. 4?

Thanks,

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast

Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

From: Tiffany Murray <tmurray@city.jackson.ms.us>
Sent: Monday, January 3, 2022 10:04 AM
To: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Subject: Re: No EPA visit to Jackson on 1/4

Brandi,

Thank you for the update.

Happy New Year!

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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From: Jenkins, Brandi <Jenkins.Brandi@epa.gov>
Sent: Monday, January 3, 2022 8:18 AM
To: Tiffany Murray <tmurray@city.jackson.ms.us>
Subject: No EPA visit to Jackson on 1/4

Tiffany,

I wanted to follow-up with you to let you know that the meeting with Congressman Thompson was canceled so we will not be traveling to Jackson. I will follow-up with you soon because I would like to get the new Regional Administrator to Jackson as soon as possible to meet Mayor Lumumba and Dr. Omari.

Happy New Year!

Brandi Jenkins, Public Affairs Director
Outreach and External Engagement Office
U.S. Environmental Protection Agency – Region 4
404-562-9124 (office)
678-575-2148 (cell)

Twitter: @EPASoutheast
Facebook: U.S. EPA Southeast Region
Webpage: EPA Region 4 (Southeast Region)

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 1/12/2022 4:06:57 PM
To: Jenkins, Brandi [Jenkins.Brandi@epa.gov]
Subject: Meeting with Administrator Regan

Hi Brandi,

Mayor Lumumba will be traveling to Washington D.C. on next week. I would like to see if Administrator Regan would be available to meet with Mayor Lumumba sometime Wednesday or Thursday? Thanks.

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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Agenda
Mississippi Department of Health and R4 ECAD Annual Enforcement Meeting
July 20, 2022

John Nicholson, Chief of Staff

1. Introduction & General Overview of the State Calls

John Nicholson and Jim Craig, Office of Health Protection Senior Deputy and Director

2. Check in on State Partnership

Carol Kemker, ECAD Director to open discussion on following topics

3. Jackson Next Steps & Prep for meeting with Mayor
4. Brief Review Staff Updates/Recent Policy/Guidance
    a. Staff Update
    b. Partnership Memo
    c. Drinking Water National Compliance Initiative Process
    d. Supplemental Environmental Projects
    e. Climate Change
    f. Environmental Justice
    g. PFAS Strategy
5. Overview of R4 ECAD Inspection Targeting and Enforcement
    a. Safe Drinking Water Act
        i. NCI - Reducing Noncompliance with Drinking Water Standards at Community Water Systems
        ii. Sanitary Survey Program
        iii. FY22 Finalized Enforcement Actions
6. Open Judicial/Administrative Cases and Referrals
7. Crosscutting Joint Strategic Discussion
    a. State Assists & Joint Inspection Follow-up – Ongoing, Requests and Needs
    b. Program Oversight Inspections
    c. Training Opportunities & Needs
    d. Updated EPA/State Contact Information (handout only)
    e. Tips & Complaints (handout only unless questions)

Mississippi FY22 Tips & Complaints Analysis Report

- Tips and complaints received from Oct 1, 2021 – July 10, 2022

State	# Tips/Complaints	2021 Population Est. (U.S Census Bureau)	Tips/Complaints per capita of population
Mississippi	**135**	**2.95 million**	**4.58 complaints per 100,000 people**
Alabama	235	5.04 million	4.66 complaints per 100, 000 people
Florida	900	21.78 million	4.13 complaints per 100, 000 people
Georgia	449	10.79 million	4.16 complaints per 100,000 people
Kentucky	233	4.51 million	5.17 complaints per 100,000 people
North Carolina	488	10.55 million	4.62 complaints per 100,000 people
South Carolina	765	5.19 million	14.74 complaints per 100, 000 people
Tennessee	421	6.97 million	6.04 complaints per 100, 000 people
Region 4 Total	**3626**		

- Mississippi Totals by Media

Media	# Tips/Complaints	Tips/Complaints per capita of population
RCRA	29	0.98 complaints per 100,000 people
CWA	48	1.63 complaints per 100,000 people
CAA	29	0.98 complaints per 100,000 people
CERCLA	0	0.00 complaints per 100,000 people
FIFRA	4	0.13 complaints per 100,000 people
TSCA	1	0.03 complaints per 100,000 people
SDWA	**6**	**0.20 complaints per 100,000 people**
Investigations/Other	18	0.61 complaints per 100,000 people

EPA/MSDH Communication Contacts

EPA/State Communication - SDWA		
Activity	**Frequency**	**Points of Contact**
EPA/State Grant Workplan and Coordination Call	As needed	EPA: Bryan Myers State: Bill Moody
Quarterly ETT Calls	Quarterly	EPA: Amanda Driskell State: Bill Moody
EPA Lead Inspections	At least 7 days in advance	EPA: As assigned State: Bill Moody
Citizen Complaints	As needed	EPA: Pamela Riley State: Bill Moody
EPA Lead Compliance and Enforcement	As needed	EPA: As assigned State: Bill Moody

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 2/4/2022 6:07:53 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Hardage, Melissa [Hardage.Melissa@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]
Subject: RE: Additional Tasks deemed completed under EPA/COJ 1414 AOC and concurrence on extension requests

Dr. Williams:

As we discussed in our last biweekly call on January 27, 2022, we continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Task:

CERP 16 – Chlorine Analyzer associated with Membrane train

Additionally, we concur with your amended Scope of Work for CERP Task 6.B. – SOW for General Filter rehab work at Fewell. We agree with the requested additional time based on logistical circumstances to address each filter.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 8/17/2022 5:06:45 PM
To: Kemker, Carol [Kemker.Carol@epa.gov]
Subject: Meeting

Good afternoon, Ms. Kemker.

Dr. Omari asked that I reach out to you in reference to meeting dates/times for October. Please see the suggestions below. If one of these does not work, I'll send more. Thanks.

Wed., 10/5 at 10:00, 11:00, 2:00 or 3:00
Mon., 10/10 at 2.30
Wed., 10/12 at 10:00

Tiffany Murray
Executive Assistant
Mayor & Chief of Staff
City of Jackson
219 S. President St.
Jackson, MS, 39201
(601)960-2396 (office)
tmurray@jacksonms.gov

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Message

From: Marlin King [mking@city.jackson.ms.us]
Sent: 8/18/2022 9:29:37 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: RE: Approval of CERP Task and information requested based on last biweekly call
Attachments: JHF Rehab 24 26 NTP.pdf; Maintenance Worker I and II.pdf; Scope of work for Asset Management Program revised 7 26 2022.docx; Utility Maintenance Mechanic.pdf; Utility Plant Electrician.pdf; Vacancies.pdf; Water Plant Maintenance Supervisor.pdf; Water Plant Operations Supervisor.pdf; Water Plant Operator I and II.pdf; WATER SYSTEMS MANAGER Job Description.pdf

Good afternoon,

Please review the responses below.

1) Please update the Asset Management Plan Scope of Work and submit for final approval. Please see the attached documents.
2) Please provide the signed notice to proceed for Tasks 6.A.6, related to Filters 24 and 26 at JH Fewell WTP. Please see the attached documents.
3) Please provide the information we requested related to the recent Information Request Letter:
    a. Which positions in the Staffing Report, file *FW: PW- Staffing Report* (attached), are PWS related (plants, distribution system, meter readers, etc.)?
    b. Previous submission for Question 5 gave position description for each water operator job classification, and COJ stated that they will supplement with job descriptions for maintenance and instrument technicians. We have not received the supplemental information. We also requested that COJ clarify which positions were vacant, and have not received a response to that question. Please see the attached documents.
4) Please keep EPA and MSDH updated on the repairs associated with the Raw Intake pumps and changing of location of the new turbidity sampling point.
5) On yesterday's call it was mentioned that the City planned to resubmit plans for Task 25 – General Filter rehab at OBC, that afternoon. Was this accomplished? Yes, I will send documentation in a separate email.
6) Polymer pump – What is the status of the flow directional valve needed to repair the polymer pump on the conventional side. Has the part been ordered? Is there an expected delivery date of the part? The valve will be ordered on 8/19/22
7) Please have an update on the next call on the status of the contractor coming out to close out remaining tasks for the membrane filters, Task 26.

Thanks,

Marlin B. King Jr.

Director of Public Works
City of Jackson
e: mking@jacksonms.gov
p: 601.960.2419
m: 769.257.1579

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From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Tuesday, August 16, 2022 4:31 PM
To: William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
Subject: RE: Approval of CERP Task and information requested based on last biweekly call

Good afternoon

Can I please get an update on the questions listed below as requested during our last biweekly call. Thank you

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

From: Myers, Bryan
Sent: Friday, August 12, 2022 12:23 PM
To: William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert

<Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; Shultis, Charles <Charles.Shultis@msdh.ms.gov>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>; Burns, Robert <Burns.Robert@epa.gov>; Marlin King <mking@jacksonms.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
Subject: Approval of CERP Task and information requested based on last biweekly call

Good morning Mr. King

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). As a part of that review the following task now appears to be complete:

1) Tasks 40.C.f, related to Corrosion Control at JH Fewell WTP.

I wanted to remind you of several items we discussed yesterday and information we are awaiting from the City of Jackson.

1) Please update the Asset Management Plan Scope of Work and submit for final approval.
2) Please provide the signed notice to proceed for Tasks 6.A.6, related to Filters 24 and 26 at JH Fewell WTP.
3) Please provide the information we requested related to the recent Information Request Letter:
    a. Which positions in the Staffing Report, file *FW: PW- Staffing Report* (attached), are PWS related (plants, distribution system, meter readers, etc.)?
    b. Previous submission for Question 5 gave position description for each water operator job classification, and COJ stated that they will supplement with job descriptions for maintenance and instrument technicians. We have not received the supplemental information. We also requested that COJ clarify which positions were vacant, and have not received a response to that question.
4) Please keep EPA and MSDH updated on the repairs associated with the Raw Intake pumps and changing of location of the new turbidity sampling point.
5) On yesterday's call it was mentioned that the City planned to resubmit plans for Task 25 – General Filter rehab at OBC, that afternoon. Was this accomplished?
6) Polymer pump – What is the status of the flow directional valve needed to repair the polymer pump on the conventional side. Has the part been ordered? Is there an expected delivery date of the part?
7) Please have an update on the next call on the status of the contractor coming out to close out remaining tasks for the membrane filters, Task 26.

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Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

THE CITY OF
JACKSON
MISSISSIPPI

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

August 1, 2022

Mr. Richard Rula
President
Hemphill Construction Company, Inc.
P.O. Box 879
Florence, Mississippi 39073

RE: **JH Fewell Water Treatment Plant Conventional Filter 24 and 26 Rehabilitation Project-DWI SRF Loan # DWI-L250008-03, (Notice to Proceed)**

Dear Mr. Rula:

The City of Jackson awarded the above subject contract to your company on May 24, 2022. This award was based on your bid of $1,744,718 for the work specified in the contract documents prepared by Cornerstone Engineering, LLC.

In accordance with the provisions of the contract documents for the subject project Hemphill Construction Company, Inc. is directed by this Construction Work Order to begin work under this contract and to prosecute the work to successful completion. The construction time shall commence on or by August 15, 2022. Substantial completion of the work shall be attained two hundred seventy days (270) calendar days from the effective date of this Notice to Proceed. Liquidated damages in the amount of $500.00 per calendar day for each day the work has not achieved substantial completion will be assessed unless the Contract time is otherwise adjusted for due cause by change order to the Contract.

Please return this original NOTICE TO PROCEED and ACCEPTANCE OF NOTICE to the Engineering Division indicating your receipt of this document in the space provided below. Please retain a copy once signed for your records.

Sincerely,

Robert Lee

Robert Lee, PE
Acting City Engineer

Acknowledgement of Receipt of Notice to Proceed: JH Fewell Filter 24 & 26 Rehabilitation Project

By: _____

Title: _____

Date: _____

cc: Mauricka McKenzie, PE, Cornerstone Engineering, LLC

ED_013319_00000211-00001

FLSA RANGE
JCP FAMILY
EEO CLASS
EFFECTIVE 9/9/93
AUTHORIZED

MAINTENANCE WORKER I
MAINTENANCE WORKER II

DEFINITION

To perform semi-skilled maintenance work in the construction and maintenance of city streets, street signs, parks, and water and sewer utilities.

DISTINGUISHING CHARACTERISTICS

Maintenance Worker I–This is the entry level class in the Maintenance Worker series. This class is distinguished from the Maintenance Worker II by the performance of the more routine tasks and duties assigned within the series. Employees in this class work under immediate supervision. Since this class is typically used as a training, employees may have only limited or no directly related work experience.

Maintenance Worker II–This is the full journey level class within the Maintenance Worker series. Employees within this class are distinguished from the Maintenance Worker I by the performance of the full range of duties as assigned. Employees at this level receive only occasional instruction or assistance as new or unusual situations arise, and are fully aware of the operating procedures and policies of the work unit. Positions in this class are flexibly staffed and are normally filled by advancement from the I level or when filled from the outside, have prior experience.

SUPERVISION RECEIVED AND EXERCISED

Maintenance Worker I

Receives immediate supervision from an assigned supervisor.

Exercises no supervision.

Maintenance Worker II

Receives general supervision from an assigned supervisor.

Exercises no supervision.

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EXAMPLES OF ESSENTIAL RESPONSIBILITIES AND DUTIES--*Essential responsibilities and duties may include, but are not limited to, the following:*

When assigned to any position in the class:

Operate hand and power tools including air compressor, welding torch, grinder, grease machine, chainsaw, weedeater, riding and push lawn mower, paint machine, pole chipper, and a stump grinder.

Perform additional construction and maintenance tasks such as concrete work, truck driving, asphalt spreading, jackhammering, and a variety of minor repair activities.

Participate in cleaning job site; remove refuse and debris; cut and remove foliage.

May work evenings and weekends as required by staffing shortages or emergency conditions.

When assigned to Streets & Drainage:

Secure and partition off work areas with traffic signs, cones and barricades; flag and direct traffic around work areas.

Clear drainage channels of refuse and debris; clean road shoulders.

Provide assistance in mudjacking activities including drilling holes in street surfaces for injection; plug exposed holes with cement.

Saw and jackhammer paved surfaces to perform necessary repairs; set forms for concrete; finish concrete and pull forms.

Tar road surface to be repaired and tack edges; prepare and shovel mix into repair area and sweep patch for rolling.

Maintain street right of way and medians; remove litter and cut grass.

Clean city streets, gutters and alleyways along assigned routes.

When assigned to Parks:

Oversee and assist maintenance staff engaged in a variety of park maintenance activities.

Water, mow, weed, trim, renovate and fertilize lawns.

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Plant, water and maintain landscaped areas consisting of bushes, trees, flowers, shrubs, and lawns.

Trim and prune bushes, trees and shrubs; stake trees as necessary.

Rake leaves and clear debris from walks, fields, courts and other facilities.

Apply herbicides, fungicides and pesticides to landscaped areas.

Prepare and maintain athletic fields and related facilities.

Maintain and clean park buildings including restrooms and gymnasiums.

Perform a variety of duties in the maintenance and repair of the city's irrigation system; change and adjust heads; maintain controllers and assist in large irrigation system installation and maintenance projects.

When assigned to Water & Sewer Utilities:

Oversee and assist maintenance staff engaged in a variety of water maintenance/distribution and water and sewer meter maintenance activities.

Excavate, inspect, flush, clean and repair water mains, lines and laterals; make taps for new services.

Install, repair and replace manholes, fire hydrants, valves, meters and meter vaults and boxes.

Test, disassemble, clean and repair commercial and residential water meters; replace worn or faulty parts.

Disconnect water service and plug or pull water meters for delinquent bills.

Ensure pumps are running properly; repair pumps as needed.

Oversee and assist maintenance staff engaged in a variety of sewer maintenance activities.

Excavate, inspect, flush, clean and repair sewer lines, inlets and storm drains

Inspect and clear obstructions from storm drains, gutters and culverts.

Install, repair and replace manholes and valves; exercise valves according to prescribed schedules.

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Rescue animals from storm drains; remove objects and debris.

When assigned to Traffic:

Trim and remove foliage obstructing vision of traffic signs, lights and oncoming traffic.

Install and repair traffic control devices, guardrails and barricades; maintain existing signs and traffic control devices; clean sign faces as necessary.

May install and repair parking meters.

OTHER IMPORTANT DUTIES AND RESPONSIBILITIES

Perform other duties as assigned.

QUALIFICATIONS

Maintenance Worker I

Knowledge of:

Uses and purposes of general construction tools and equipment.

Safe work practices.

Ability to:

Learn to perform semi-skilled tasks in a variety of construction and maintenance activities.

Learn to use and operate a variety of mechanical equipment in a safe and effective manner in routine situations.

Understand and follow instructions.

Establish and maintain effective working relationships with those contacted during the course of work.

Maintain effective audio-visual discrimination and perception needed for:
— *making observations*
— *operating assigned equipment.*

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Effectively handle a work environment and conditions which involve:
- *hazardous chemicals and materials*
- *electrical hazards*
- *confined work places*
- *loud noises*
- *working in and near traffic*
- *working in extreme high or low temperatures.*

Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
- *walking, standing, stooping or sitting for extended periods of time*
- *performing heavy manual labor*
- *lifting and transporting various heavy materials*
- *operating assigned tools and equipment.*

Experience and Training Guidelines
Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:

No experience required.

Training:

Formal or informal education or training which ensures the ability to read and write at a level necessary for successful job performance.

Maintenance Worker II

In addition to the qualifications for Maintenance Worker I:

Knowledge of:

Methods and techniques of construction, maintenance and repair related to the assigned area of responsibility.

Operational characteristics of mechanical equipment and tools used in the assigned area of responsibility.

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Ability to:

Perform semi-skilled maintenance, construction and repair work in the area of work assigned.

Use and operate hand tools, mechanical equipment and power tools and equipment required for the work in a safe and efficient manner.

Work independently in the absence of supervision.

Work safely with dangerous materials.

Experience and Training Guidelines
Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:

One year of experience comparable to that of a Maintenance Worker I in the City of Jackson.

Training:

Formal or informal education or training which ensures the ability to read and write at a level necessary for successful job performance.

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Scope of work, Timelines and Milestones

for City of Jackson Asset Management plan

June 10, 2022

- Within 2 months of selection of a consultant to develop Asset Management Plan (AMP): Obtain EPA approval of consultant credentials from EPA (completed 8/30/2021)
- Within 9 Months of Obtaining EPA approval of consultant credentials from EPA: Submit Scope of Work for AMP to EPA for review and approval. (6/30/2022)
- Within 1 year of EPA approval of the AMP Scope of Work: Submit completed AMP for EPA review and approval
- Within 6 months of EPA approval of AMP: Submit supporting documents showing completion (or percent completion as described below) of the various asset inventories described by the AMP.
- Within 2 years of EPA approval of AMP: Submit supporting documents showing completion (or percent completion as described below) of the various asset inventories described by the AMP.

General Comments:

The scope of work and timeline prioritize the critical assets at the City of Jackson's two water treatment plants and distribution system. It acknowledges the use of the City's computer maintenance management system (CMMS) as a tool in the AMP development process. It provides example milestone achievements to gauge progress to prepare and implement an AMP.

It is noted that a two-step process is necessary for implementation of this plan. Existing facilities and inventories must be properly cataloged along with inventory changes that occur daily in a utility such as the City of Jackson Water system. The AMP designed below will capture this process.

Plan Development priority

1. ***Task 1 – Assess AMP Consultant Qualifications and Submit to EPA Region 4***
   As part of the development of this scope of work, the City will request a summary of qualifications from the proposed AMP consultant, Cornerstone Engineering (hereafter "consultant"), specific to development of asset management plans, including examples of similar past work from the consultant. They will assess those qualifications and determine if the qualifications meet the City's requirements. The city will prepare a description of the consultant's qualifications and provide it to EPA Region 4 as part of this scope of work and timeline submittal for approval.
   Deliverable: Qualification submittal for the proposed consultant(s) that will assist Jackson with AMP for EPA Region 4 review and approval.
   Milestones:

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1) Pick AMP consultant – Completed 7/1/2021
2) Summarize Consultant's Qualifications – Completed 8/1/2021
3) Deliverable: Submit AMP Consultant's Qualifications to EPA Reg 4 Completed 8/30/2021

Task 2 – Build Asset Management Team.

The City will determine the key personnel at the city that will work with the AMP consultant(s), EPA Region 4 staff, state staff, and any staff from the Compliance Advisor team. The team will set a schedule to meet regularly. Early meetings will be focused on setting goals and initiating training. The team will discuss roles and responsibilities for completing tasks associated with all deliverables.

Deliverable: List of Jackson staff, consultant(s), EPA staff, state staff, and Compliance Advisor staff with assigned roles and responsibilities.

Milestones:

1) Identify City staff – Completed.
2) Identify EPA and State Staff – Completed.
3) Identify Consultant's Staff – Completed.
4) Assign Roles and Responsibilities – due 9 months from EPA approval of AMP Scope of Work.
5) Conduct Training on CMMS System – due 6 months from EPA approval of AMP Scope of Work.
6) Deliverable: Submit AMP Team with Roles and Responsibilities - due 9 months from EPA approval of AMP Scope of Work.

Completion date for Task 2: Within 9 months of EPA Approval of AMP Scope of Work.

Task 3 – Identify Critical Assets and Enter into CMMS/CityWorks

The City and its consultant(s) will identify critical assets and enter these assets into the CMMS/CityWorks. Each asset entered should include:

- Location through a GIS-based system or other spatially based system.
- Unique identifier plus description, size, length, capacity, materials type

Deliverable: List of Critical Assets with Location and General Information

Deliverable: Verification All Information Entered into CMMS and Accurate

Milestones:

1) Identify Critical WTP Assets - due 9 months from EPA approval of AMP Scope of Work.
2) Provide training on CMMS system to all City employees with responsibility for entering data into the tracking system – Provide 1 training per month for employees after EPA approval of AMP Scope of Work for 9 months with additional training as needed.
3) Populate WTP Assets with Location and General Asset Information into CMMS tracking system - due 1 year from EPA approval of AMP
4) Populate Distribution Assets with Location and General Asset Information into CMMS tracking system – due 2 years from EPA approval of AMP.

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5) Verify All Information Entered and Accurate – due 2 years from EPA approval of AMP.

Completion date for Task 3: Within 2 years of EPA Approval of AMP.

Note: The attached spreadsheet will be used to track progress on the compilation of the AMP inventory lists with periodic review (every 6 months)

Task 4 - Assess Age, Condition, Remaining Useful Life, and Expected Replacement Date of Each Asset

City staff will start by working with their consultant(s) to determine the age, condition, remaining useful life, and expected date of replacement of the existing asset inventory. In order to ensure consistency in approach and accuracy in evaluation, the City will work with the consultant to develop an asset evaluation guide and rating system to ensure that evaluations and condition ratings are assigned in a systematic and consistent approach.

The evaluation will also include a determination of the remaining useful life of each asset. This will be based on generally accepted expected life of given infrastructure types, paired with information about the age/installation date and the condition assessment. All of this information will be used to determine the expected replacement date for each asset.

Deliverable: Condition Rating System Criteria.

Deliverable: Remaining Useful Life Criteria.

Deliverable: List of Assets with Age, Condition Rating, Remaining Useful Life, and Expected Replacement Date.

Deliverable: Verification all Information Entered into CMMS and Correct.

Milestones:

1) Develop Condition Rating System - due 6 months from EPA approval of AMP Scope of Work.
2) Develop Remaining Useful Life Assessment Criteria - due 6 months from EPA approval of AMP Scope of Work.
3) Assign Age, Condition, Remaining Life, and Expected Replacement Date for each Asset – due 9 months from EPA approval of AMP.
4) Enter Age, Condition Rating, Remaining Useful Life, and Expected Replacement Date Information for each Asset into CMMS tracking system – due 2 years from EPA approval of AMP.

Completion date for Task 4: Within 2 years of EPA Approval of AMP.

Note: The attached spreadsheet will be used to track progress on the compilation of the AMP inventory lists with periodic review (suggested every 6 months)

Task 5- Assign Criticality to Each Asset

For each asset, the City and their consultant(s) will develop a system to assign criticality ranking to each asset. Criticality ranking is tied to level of service and is used to help guide the prioritization of asset replacement. Criticality assessment should also include a method to uniformly assess the probability of

failure and consequence of failure of the critical assets systematically and consistently. If the City has Level of Service policies adopted, those policies should be used to guide criticality assignments.

Deliverable: Criticality Scoring Matrix

Deliverable: List of Assets with Criticality Score

Deliverable: Verification All Information Entered into CMMS and Accurate

Milestones:

1) Develop Criticality Scoring Matrix - due 9 months from EPA approval of AMP Scope of Work.
2) Assign and Populate Criticality Scores for Each Asset into CMMS tracking system - due 2 years from EPA approval of AMP.

Completion date for Task 5: Within 2 years of EPA Approval of AMP.

Note: The attached spreadsheet will be used to track progress on the compilation of the AMP inventory lists with periodic review (every 6 months)

Task 6 – Develop 5-year Financial Plan

The City will use the AMP to help develop a 5-year Financial Plan The financial plan will include O&M costs plus anticipated capital costs. The 5-year Financial Plan will include the following for each year:

- Annual O&M costs anticipated for maintenance of assets
- Other annual O&M and system costs, including salaries, insurance, chemical costs, electrical costs
- Assessment of rates and if rates are sufficient to cover O&M activities
- List of assets to be replaced over the next 5 years with replacement cost for each asset
- Other drinking water capital improvement projects with cost needed to maintain the system in proper working order
- Method for funding asset replacement and capital improvement projects, such as potential sources of funding

Deliverable: 5-Year Financial Plan for EPA Region 4 Review.

Milestones:

1) Develop Annual O&M Costs for Asset Maintenance- due 9 months from EPA approval of AMP Scope of Work.
2) Develop Annual O&M Costs for all Other Activities - due 6 months from EPA approval of AMP.
3) Review Rates for Adequacy to Cover O&M Costs - due 1 year from EPA approval of AMP
4) Identify Assets to Replace within the next 5 Years – due 1 year from EPA approval of AMP.
5) Identify other Capital Improvements Projects within next 5 Years – due 2 years from EPA approval of AMP.

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6) Funding Strategy for 5-Year Asset Replacement and Capital Projects – due 2 years from EPA approval of AMP.

Completion date for Task 6: Within 2 years of EPA Approval of AMP.

Note: The attached spreadsheet will be used to track progress on the compilation of the AMP inventory lists with periodic updates to EPA (suggested every 6 months)

Task 7 – Preparation of Asset Management Plan

The City will work with the consultant to develop a comprehensive asset management plan that draws from and incorporates information collected in previous tasks. List of assets

- Condition assessment criteria used and assigned to each asset
- Probability and consequence of failure assessment criteria and how criteria were applied to each asset
- Level of service policies
- Criticality ranking criteria used to determine which key assets should be considered for short term versus longer-term rehabilitation or replacement
- O&M schedule and preventative maintenance for each asset, including staff assigned to perform duties O&M costs, including staff time to perform duties
- Prioritization of asset replacement and expected date for replacement of asset

Interim versions of the plan will be provided to EPA Region 4 for input at intervals through the nine-month period.

Deliverable: Draft AMP for EPA Region 4 review.

Milestones:

1) Prepare Draft Asset Management Plan to Implement with Information Gathered to Date- due 9 months from EPA approval of AMP Scope of Work.
2) Develop O&M Schedule for Each Asset Included in AMP - due 9 months from EPA approval of AMP Scope of Work.
3) Prioritization of Assets to be Replaced with Date Included in AMP - due 9 months from EPA approval of AMP Scope of Work.
4)

Completion date for Task 7: Within 9 months of EPA Approval of AMP Scope of Work.

Note: The attached spreadsheet will be used to track progress on the compilation of the AMP inventory lists with periodic review (every 6 months)

General Note: some parts of tasks 1 through 6 are scheduled to be completed after Task 7 since those are on-going data collection and data entry tasks which will never be "completed" since inventory is continually being used, replaced and updated. The City intends to get current inventory lists completed and in Spreadsheet form by delivery of AMP to EPA and into the CMMS tracking system within 2 years of AMP approval.

ED_013319_00000213-00005

UTILITY MAINTENANCE MECHANIC

DEFINITION

To perform skilled labor in the maintenance, repair and related service activities for the city's water treatment plants, water well stations and water tanks.

SUPERVISION RECEIVED AND EXERCISED

Receives general supervision from Water Plant Maintenance Supervisor.

May exercise functional supervision over lower level maintenance staff.

EXAMPLES OF ESSENTIAL RESPONSIBILITIES AND DUTIES--*Essential responsibilities and duties may include, but are not limited to, the following:*

Troubleshoot, diagnose and repair disabled machinery and mechanical equipment at the city's water treatment plants, water well stations and water tanks.

Maintain and repair pumps; replace bearings, valves, seals and sleeves and repack pumps.

Monitor chlorine, ammonia, lime, polymer and fluoride machines and repair as necessary.

Disassemble, clean, overhaul and rebuild motors, valves, pumps, filters and other pumping station equipment.

Inspect, repair and maintain well systems including chlorinators, chlorine feed rate, chlorine whips, valves and injectors.

Operate hand tools and equipment including welding machines, drill press, bench grinders, air packs, band saws and other related equipment.

Drain, wash and fill settling basins.

Respond to emergency situations as required; work evenings and weekends as required in emergencies to maintain proper operation of plant controls and equipment.

Fabricate parts and equipment including mounts, brackets and shields, operate welding and cutting equipment.

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OTHER IMPORTANT DUTIES AND RESPONSIBILITIES

Perform building and grounds maintenance activities for two water plant facilities, water wells and storage facilities.

Perform other duties as assigned.

QUALIFICATIONS

Knowledge of:

Operational characteristics of mechanical and hydraulic equipment found in water treatment plants, water wells and water tanks.

Water plant repair and preventative maintenance techniques and procedures.

Tools and equipment used in the maintenance and repair of water treatment plants, water well stations and water tanks.

Principles and practices of welding and fabrication.

Occupational hazards and standard safety precautions.

Ability to:

Perform skilled maintenance and repair work on water treatment machinery, equipment and controls.

Troubleshoot, diagnose and repair equipment and machinery malfunctions.

Use and operate hand tools, mechanical equipment, and power tools and equipment required for the work in a safe and efficient manner.

Understand and follow instructions.

Communicate clearly and concisely.

Establish and maintain cooperative working relationships with those contacted in the course of work.

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Maintain effective audio-visual discrimination and perception needed for:
- *making observations*
- *reading and writing*
- *operating assigned vehicles, tools and equipment*
- *communicating with others.*

Maintain mental capacity which permits:
- *making sound decisions and using good judgement*
- *demonstrating intellectual capabilities.*

Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
- *walking, standing, sitting, stooping or kneeling for extended periods of time*
- *operating assigned vehicles, tools and equipment*
- *elevating and moving heavy materials and equipment*
- *climbing ladders and stairs.*

Effectively handle a work environment and conditions which involve exposure to:
- *hazardous and toxic chemicals and materials*
- *electrical hazards*
- *confined or high work places*
- *loud noises.*

Experience and Training Guidelines

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:

One to two years of responsible experience in mechanical maintenance and repair work including maintenance on motors, control systems and pumps.

Training:

Equivalent to the completion of the twelfth grade.

License or Certificate:

Possession of, or ability to obtain, an appropriate, valid driver's license.

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UTILITY PLANT ELECTRICIAN

FLSA CHANGE
EEO CLASS
EFFECTIVE 9/9/93
AUTHORIZED

DEFINITION

To perform skilled electrical work in the repair, installation, maintenance and alteration of electrical equipment and wiring systems related to the city's water treatment plants, water well stations and water tanks.

SUPERVISION RECEIVED AND EXERCISED

Receives direction from the Water Plant Maintenance Supervisor.

May exercise functional and technical supervision over lower level maintenance staff.

EXAMPLES OF ESSENTIAL RESPONSIBILITIES AND DUTIES--*Essential responsibilities and duties may include, but are not limited to, the following:*

Troubleshoot, diagnose and repair disabled electrical and electronic equipment in the city's water treatment plants, water wells and water tanks including motors, coils, transformers and lighting systems.

Install new electrical services and equipment; run conduit for fixtures, receptacles, control circuits, and lighting; select and install wires; perform routine hookups; test installation.

Perform various technical tasks including diagnosing motors for overload and failure; perform voltage and resistance tests; calibrate solid State circuit boards; upgrade existing electrical services.

Troubleshoot boiler and incinerator furnace burners for pilot ignition failures.

Resolve problems of balancing electrical loads, peak loading, overloading and phasing.

Estimate material and labor costs necessary for electrical installations, upgraded electrical services, and repair projects.

Utilize a variety of hand tools including strippers, crimpers, and various electrician tools.

Ensure adherence to proper safety precautions related to all work performed.

OTHER IMPORTANT DUTIES AND RESPONSIBILITIES

Repair electrical problems in emergency situations as required.

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Purchase electrical parts, materials and supplies as needed; maintain minimum inventories; perform record keeping duties for parts and materials used.

Perform other duties as assigned.

QUALIFICATIONS

Knowledge of:

Operation and characteristics of plant electrical systems including motors, control systems, and related equipment.

Methods and techniques of installation, maintenance, and repair related to electrical work.

Functions, mechanics, maintenance and service requirements of electric motors, water pumps, turbine pumps, and chlorination, fluoridation and metering equipment.

Operational characteristics of mechanical equipment and tools used in electrical work.

Occupational hazards and standard safety precautions.

Electrical codes and standards.

Electrical construction including installation of all sizes of electrical conduit.

Ability to:

Troubleshoot and repair defects in electrical and electronic systems and equipment.

Install and repair a variety of electrical systems related to water treatment plant operation.

Use and care for hand and power tools required for the work in a safe and efficient manner.

Work from drawings, specifications and blueprints.

Work independently in the absence of supervision.

Understand and follow instructions.

Communicate clearly and concisely.

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Establish and maintain cooperative working relations with those contacted in the course of work.

Maintain effective audio-visual discrimination and perception needed for:
- *making observations*
- *reading blueprints and schematics*
- *operating assigned vehicles, tools and equipment*
- *communicating with others.*

Maintain mental capacity which permits:
- *making sound decisions and using good judgement*
- *demonstrating intellectual capabilities.*

Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
- *walking, standing, sitting, stooping or kneeling for extended periods of time*
- *operating assigned vehicles, tools and equipment*
- *elevating and moving heavy materials and equipment*
- *climbing ladders and stairs.*

Effectively handle a work environment and conditions which involve exposure to:
- *hazardous and toxic chemicals and materials*
- *electrical hazards*
- *confined or high work places*
- *loud noises.*

Experience and Training Guidelines

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:

Three years of experience as a journey level electrician, preferably with some experience in a water treatment facility.

Training:

Equivalent to the completion of the twelfth grade supplemented by the completion of a formal electrical apprenticeship program.

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License or Certificate:

Possession of, or ability to obtain, an appropriate, valid driver's license.

Possession of an appropriate, valid Electrician's Certificate issued by the City of Jackson Electrical Board of Examiners.

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FLSA E
RANGE 22
JOB FAMILY Supervisory Professional
EO CLASS
EFFECTIVE 6/19/02
AUTHORIZED

WATER PLANT MAINTENANCE SUPERVISOR

CS approved on 5/10/02

DEFINITION

To supervise, assign, review and participate in the work of staff responsible for the maintenance and repair of water treatment plants, wells, pumps, and related systems; and to perform a variety of technical tasks related to assigned area of responsibility.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from the Water Plant Operations Supervisor.

Exercises direct supervision over plant maintenance staff.

EXAMPLES OF ESSENTIAL RESPONSIBILITIES AND DUTIES—*Essential responsibilities and duties may include, but are not limited to, the following:*

Plan, prioritize, assign, supervise and review the work of staff responsible for performing plant maintenance, repair and construction work including the maintenance of treatment plant systems, wells, and pumps.

Supervise the maintenance and repair of plant equipment, machinery and controls; oversee the repair and maintenance of well systems and elevated and ground storage tanks.

Plan, schedule and supervise all building and grounds maintenance activities for water plant facilities, well and tank locations.

Oversee the draining, washing and filling of settling basins.

Maintain inventory of supplies, tools and equipment; prepare purchase requisitions to order parts and supplies.

Inspect plant facilities and equipment for needed maintenance and repairs; implement and monitor a preventive maintenance program.

Participate in the selection of Water Plant maintenance staff; provide or coordinate staff training; evaluate employee performance; work with employees to correct deficiencies; implement discipline procedures.

Prepare various reports on plant maintenance operations and activities.

Recommend and assist in the implementation of goals and objectives; establish schedules and methods for providing water plant and well maintenance services; implement policies and procedures.

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Ability to:

Supervise, organize, and review the work of plant maintenance personnel.

Develop maintenance schedules and implement a preventive maintenance program.

Operate and maintain water treatment controls, machinery and equipment.

Make repairs and adjustments to telemetry equipment, motors, pumps and other equipment.

Read meters and gauges correctly.

Ensure facility compliance with Federal, State and local rules, laws and regulations.

Select, supervise, train and evaluate staff.

Interpret and apply departmental policies and procedures.

Perform welding.

Communicate clearly and concisely, both orally and in writing.

Establish and maintain cooperative working relationships with those contacted in the course of work.

Maintain effective audio-visual discrimination and perception needed for:
- *making observations*
- *reading and writing*
- *operating assigned equipment*
- *communicating with others.*

Maintain mental capacity which permits:
- *making sound decisions and using good judgement*
- *demonstrating intellectual capabilities.*

Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
- *walking, standing, sitting, stooping or kneeling for extended periods of time*
- *operating assigned vehicles and equipment*
- *elevating and moving heavy materials and equipment*
- *climbing ladders and stairs.*

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Participate in the preparation and administration of the budget; submit budget recommendations; monitor expenditures.

Ensure the adherence to safe work practices by maintenance personnel.

Respond to emergencies as necessary; coordinate and assign staff in emergency situations; make decisions to resolve emergency conditions resulting from equipment or machinery malfunctions.

OTHER IMPORTANT DUTIES AND RESPONSIBILITIES

Supervise and direct the receiving and unloading of plant chemicals.

Respond to and resolve difficult and sensitive citizen inquiries and complaints.

Perform other duties as assigned.

QUALIFICATIONS

Knowledge of:

Types and levels of maintenance activities generally performed in a water treatment operation.

Materials, methods, practices and equipment used in water purification and plant operations.

Materials, methods, practices and equipment used in maintenance of electrical and electronic equipment, pumps, valves, instrumentation, and other mechanical and electrical systems.

Principles and practices of mechanics, electronics and instrumentation.

Occupational hazards and standard safety precautions.

Principles and procedures of record keeping and reporting.

Principles of supervision, training and performance evaluation.

Pertinent Federal, State, and local laws, codes and regulations related to water treatment and water quality.

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Effectively handle a work environment and conditions which involve exposure to:
- *hazardous and toxic chemicals and materials*
- *electrical hazards*
- *confined or high work places*
- *loud noises*
- *intense levels of vibration.*

Experience and Training Guidelines

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:

Five years of journey level mechanical and electrical maintenance experience, including two years of lead or supervisory responsibility.

Training:

Equivalent to completion of the twelfth grade supplemented by specialized training in water treatment, plant maintenance or a related field.

License or Certificate:

Possession of, or ability to obtain, an appropriate, valid driver's license.

ED_013319_00000217-00004

WATER PLANT OPERATIONS SUPERVISOR

DEFINITION

To plan, supervise, assign, review and participate in the work of staff responsible for the operation of the city's water production facilities including treatment plants, storage facilities and well operations.

SUPERVISION RECEIVED AND EXERCISED

Receives general direction from the Water Plant Superintendent.

Exercises direct supervision over Water Plant Operators.

EXAMPLES OF ESSENTIAL RESPONSIBILITIES AND DUTIES--*Essential responsibilities and duties may include, but are not limited to, the following:*

Plan, prioritize, assign, supervise and review the work of staff involved in the operations of the water treatment plants, storage facilities and water wells.

Oversee, direct and advise staff on water flow changes; recommend chemical changes; review records and data.

Participate in the selection of water plant operations staff; provide or coordinate staff training; evaluate employee performance; work with employees to correct deficiencies; implement discipline procedures.

Recommend and assist in the implementation of goals and objectives for water plant operations; establish schedules and methods for providing water treatment services; implement policies and procedures.

Participate in the preparation and administration of the water plant budget; submit budget recommendations; monitor expenditures.

Maintain records on equipment and chemical data; make recommendations regarding equipment and material needs; prepare purchase requisitions as necessary.

Inspect water treatment plant facilities, water wells and water tanks for maintenance and repair needs.

Maintain records and prepare reports regarding operations of the water plant and quality of water.

Inspect the work of plant operators; provide advice and assistance as necessary.

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Ensure the adherence to safe work practices by water plant operations personnel.

Respond to and resolve difficult and sensitive customer inquiries and complaints.

Respond to emergencies as necessary; make decisions to resolve emergency conditions resulting from water treatment system malfunctions.

OTHER IMPORTANT DUTIES AND RESPONSIBILITIES

May provide tours of the treatment plants for groups and individuals.

Stay abreast of trends and innovations in the field of water treatment and plant operations; attend professional group meetings, seminars and workshops.

Perform other duties as assigned.

QUALIFICATIONS

Knowledge of:

Materials, methods, practices and equipment used in water purification and plant operations.

Water purification processes including chemical treatment, filtration and standard methods of water sampling and analyses.

Hydraulics, measuring devices, pumps and related water plant equipment.

Principles of biology, chemistry and mathematics as related to water treatment.

Electrical, mechanical and chemical elements of water treatment.

Occupational hazards and standard safety precautions.

Industrial hazards, toxins and chemical reactions.

Principles and procedures of record keeping and reporting.

Principles of supervision, training and performance evaluation.

Federal, State, and local laws, codes and regulations related to water treatment and water quality.

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Recent developments, current literature and sources of information related to water treatment.

Ability to:

Supervise, organize, and review the work of plant operations personnel.

Operate and maintain water plant machinery and equipment.

Select, supervise, train and evaluate staff.

Interpret and explain Federal, State and local rules, regulations, policies and procedures regarding water treatment and water quality.

Ensure facility compliance with Federal, State and local rules, laws and regulations.

Prepare clear and concise records and reports.

Communicate clearly and concisely, both orally and in writing.

Establish and maintain cooperative working relationships with those contacted in the course of work.

Maintain effective audio-visual discrimination and perception needed for:
- *making observations*
- *reading and writing*
- *operating assigned vehicles and equipment*
- *communicating with others.*

Maintain mental capacity which permits:
- *making sound decisions and using good judgement*
- *analyzing and evaluating data*
- *reading and interpreting meters and gauges and responding appropriately*
- *demonstrating intellectual capabilities.*

Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
- *walking, standing or sitting for extended periods of time*
- *climbing ladders or stairs*
- *lifting and moving light to moderately heavy materials and equipment*
- *operating assigned vehicles and equipment.*

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Effectively handle a work environment and conditions which involve exposure to:

- *hazardous and toxic fumes and chemicals*
- *electrical hazards*
- *loud noises*
- *some exposure to temperature extremes*
- *dust, dirt, grease and oil*
- *high work places*
- *vibrations.*

Experience and Training Guidelines

Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:

Five years of increasingly responsible experience in the operation and/or maintenance of water treatment facilities including two years of lead or supervisory responsibility.

Training:

Equivalent to completion of the twelfth grade supplemented by specialized training in chemistry, environmental science, or a related field.

License or Certificate:

Possession of, or ability to obtain, an appropriate, valid driver's license.

Possession of a valid Class A Water Works Certificate.

ED_013319_00000218-00004

WATER PLANT OPERATOR I
WATER PLANT OPERATOR II

DEFINITION

To perform a variety of semi-skilled technical duties and manual labor in the operation and maintenance of the city's water treatment plants and water wells.

DISTINGUISHING CHARACTERISTICS

Water Plant Operator I–This is the entry level class in the Water Plant Operator series. Positions at this level typically perform similar duties as the Water Plant Operator II but are not expected to perform with the same independence and judgement on matters related to established procedures and methods. Employees at this level may progress to the II level once they have obtained their Class C Water Works Certification. This class is typically used as a training class in that positions may have only limited or no related work experience.

Water Plant Operator II–This is the full journey level classification within the Water Plant Operator series. Positions at this level are flexibly staffed and are normally filled by advancement from the I level, or, when filled from the outside, require prior training and experience. Appointment to the II level requires that the employee be performing the full range of duties as assigned and meet the qualification standards for the class including the possession of a Class C Water Works Certificate.

SUPERVISION RECEIVED AND EXERCISED

Water Plant Operator I

Receives immediate supervision from a Senior Water Plant Operator.

Exercises no supervision.

Water Plant Operator II

Receives general supervision from a Senior Water Plant Operator.

Exercises no supervision.

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EXAMPLES OF ESSENTIAL RESPONSIBILITIES AND DUTIES--*Essential responsibilities and duties may include, but are not limited to, the following:*

Perform inspections of water treatment plants; monitor and document plant operations; read plant equipment gauges, dials, graphs and other instrumentation.

Operate and adjust treatment plant pumps, motors, feeders and other equipment; maintain appropriate basin level.

Document amount of chemicals used; report material or equipment needs to supervisor.

Collect liquid samples including chlorine and pH samples from raw and finish water; assist in performing a variety of routine water quality laboratory tests.

OTHER IMPORTANT DUTIES AND RESPONSIBILITIES

May perform minor preventive maintenance including cleaning and lubricating plant equipment.

Assist in cleaning and maintaining plant facilities.

Perform other duties as assigned.

QUALIFICATIONS

Water Plant Operator I

Knowledge of:

Functions and purposes of water purification systems.

Safe work practices.

Ability to:

Learn Federal, State and local laws, codes and regulations related to water treatment and water quality.

Learn standard plant operations procedures.

Learn to read meters and gauges correctly.

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Learn to conduct basic laboratory tests.

Maintain records and compile data.

Communicate clearly and concisely.

Establish and maintain cooperative working relationships with those contacted in the course of work.

Work shifts including evenings and weekends.

Maintain effective audio-visual discrimination and perception needed for:
- *making observations*
- *reading and writing*
- *operating assigned equipment*
- *communicating with others.*

Maintain mental capacity which permits:
- *making sound decisions and using good judgement*
- *analyzing and evaluating data*
- *reading and interpreting meters and gauges and responding appropriately*
- *demonstrating intellectual capabilities.*

Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
- *walking, standing or sitting for extended periods of time*
- *climbing ladders or stairs*
- *lifting and moving light to moderately heavy materials and equipment*
- *operating assigned vehicles and equipment.*

Effectively handle a work environment and conditions which involve exposure to:
- *hazardous and toxic fumes and chemicals*
- *electrical hazards*
- *loud noises*
- *some exposure to temperature extremes*
- *dust, dirt, grease and oil*
- *high work places*
- *vibrations.*

Experience and Training Guidelines

Any combination of experience and education that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

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Experience:

No experience is required.

Training:

Equivalent to the completion of the twelfth grade.

License or Certificate:

Possession of, or ability to obtain within eighteen months of employment, a valid Class D Water Works Certificate.

Water Plant Operator II

In addition to the qualifications for Water Plant Operator I:

Knowledge of:

Principles and practices of water treatment plant operations.

Operating principles of plant equipment such as valves, pumps, and motors.

Basic principles of chemistry, biology and mathematics.

Basic laboratory analysis techniques as it relates to water treatment.

Safe work practices.

Water sampling methods and techniques.

Federal, State and local laws, codes and regulations related to water treatment and water quality.

Ability to:

Operate and maintain water treatment plant and well system equipment.

Read and interpret gauges and other recording devices at water treatment plants, water well stations and water tanks.

Take liquid samples and perform routine laboratory tests.

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Recognize and react to treatment process changes and demands.

Experience and Training Guidelines
Any combination of experience and education that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:

Two years of experience performing water purification or treatment duties.

Training:

Equivalent to the completion of the twelfth grade supplemented by specialized training in water treatment operations.

License or Certificate:

Possession of a valid Class C Water Works Certificate.

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FLSA	E
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JOB FAMILY	Engineering
EEO CLASS	
EFFECTIVE	
AUTHORIZED	

CITY OF JACKSON

WATER SYSTEMS MANAGER

DEFINITION

To direct, manager, supervise, plan and coordinate the activities and operations of the Water Plants and Wells Section within the Water/Sewer division of the Public Works Department; to coordinate activities with other city departments, divisions, and outside agencies, with special communication and coordination responsibilities with the Water Maintenance section; and to provide highly responsible and complex administrative support to the Utilities Manager of the Water/Sewer division.

SUPERVISION RECEIVED AND EXERCISED

Receives administrative direction from the Utilities Manager, Water/Sewer division.

Exercise direct supervision over management, supervisory, professional, maintenance, technical and clerical staff.

Exercises communication and coordination responsibilities with the Water Maintenance section with regard to areas of mutual involvement in the operations category.

EXAMPLES OF ESSENTIAL RESPONSIBILITIES AND DUTIES—*Essential responsibilities and duties may include, but are not limited to, the following:*

Assume management responsibilities for all services and activities, including operation and maintenance, of the Water Treatment Plants, water well stations, water tanks, and laboratory operations.

Serve as primary liaison between Water Treatment and Water Maintenance groups to enhance communication and coordination of activities.

Participate in the development and implementation of goals, objectives, policies, and priorities for the water treatment plant; identify resource needs; recommend and implement policies and procedures.

Assume management responsibility for the selection, training, motivation, and evaluation of Water Plant personnel, including staff training work with employees to correct deficiencies; implement discipline and termination procedures.

Manage and participate in the development and administration of the Water Plant annual budget; direct the forecast of funds needed for staffing, equipment, materials, and supplies; direct the monitoring of and the expenditures; direct and implement adjustments as necessary.

Ensure the adherence to safe work practices by all personnel.

Respond to and resolve difficult and sensitive citizen inquiries and complaints regarding water plant operations.

Respond to emergencies as necessary; coordinate and assign work crews during emergency operations.

Review and approve design plans for all Water Plant operation activities.

Provide responsible staff assistance to the Manager of the Water/Sewer utility; prepare and present staff reports and other necessary correspondence.

Conduct a variety of organizational studies, investigations, and operational studies; recommend modifications to the utilities programs, policies and procedures as appropriate.

Coordinate all media information and media contacts regarding water supply information, utilizing the media relations employees of the City whenever possible.

Prepare and review a variety of correspondence, reports and documents including contracts, agenda items, and mandated paper work, complete various forms.

Meet with engineers and related external business and governmental agencies; provide information as requested; research inquiries.

OTHER IMPORTANT DUTIES AND RESPONSIBILITIES

Attend and participate in professional group meetings; stay abreast of new trends, legislation and innovations in the field of Water Plant operations.

Represent city in litigation involving the Water Plant and/or water wells.

Perform other duties as assigned.

QUALIFICATIONS

Knowledge of:

Techniques used in handling the resolution of difficult and sensitive inquiries and complaints.

Operational characteristics, service and activities of a city water and sewer utilities program.

Modern and complex principles and practices of program development and administration.

Advanced principles and practices of municipal budget preparation and administration.

Principles of supervision, training and performance evaluation.

Occupational hazards and standard safety precautions.

City and departmental policies and procedures.

Ability to:

Manage, direct and coordinate the work of management, supervisory, professional, and technical personnel.

Provide administrative and professional leadership and direction for the Water Plant group.

Ensure compliance with federal, state and local rules, laws and regulations.

Respond effectively and calmly to emergency situations as they arise.

Select, supervise, train and evaluate staff.

Perform responsible and difficult work involving the use of independent judgment and personal initiative.

Communicate clearly and concisely, both orally and in writing.

Establish and maintain effective working relationships in all phases of job responsibilities.

Maintain effective audio-visual discrimination and perception needed for:
--making observations
--reading and writing
--analyzing and evaluating water plant operations
--communicating with others
--operating assigned equipment including computers and city vehicles.

Maintain physical condition appropriate to the performance of assigned duties and responsibilities which may include the following:
--sitting for extended periods of time
--operating assigned equipment including computers.

Maintain mental capacity which permits:
--making sound decisions and using good judgment
--evaluating highly technical and complex information
--developing solutions to complex problems
--demonstrating intellectual capabilities.

Effectively handle a work environment and conditions which involve:
--a typical office setting
--high levels of public contact
--potentially severe consequences for improper handling of sensitive issues.

Prepare and review a variety of correspondence and reports.

Experience and Training Guidelines
Any combination of experience and training that would likely provide the required knowledge and abilities is qualifying. A typical way to obtain the knowledge and abilities would be:

Experience:
Eight years of increasingly responsible experience in the administration, engineering, planning, operation and maintenance of water and sewer facilities or similar utility systems, including five years of administrative and supervisory responsibility.

Training:
Equivalent to a Bachelor's degree from an accredited college or university with major course work in engineering or a related field. Other degrees will be considered with heavy management experience, especially in a technical field.

License or Certificate:
Possession of, or ability to obtain, an appropriate valid driver's license and a Class A Water Works Certificate.

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 2/7/2022 1:06:16 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Hardage, Melissa [Hardage.Melissa@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]
Subject: Extension Request approval for CERP Task 31

Dr. Williams:

At this time, EPA approves the time extension request for CERP Task 31 – Wells so that repairs will be completed by April 14, 2022, to coincide with the City's work to address significant deficiencies in the recent sanitary survey.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 8/25/2022 6:15:15 PM
To: William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: Approval of CERP Tasks

Good afternoon Mr. King

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). As a part of that review the following task now appears to be complete:

1) Paragraph 41.a – Asset Management Plan Scope of Work. Accordingly, the Asset Management Plan shall be completed within 9 months as outlined in Paragraph 41.a
2) Tasks 6.A.6, related to Filters 24 and 26 at JH Fewell WTP
3) Task 30 - Plan for TV Road Booster Station
4) Task 40.c.f – Fewell Corrosion Control - Issue notice to proceed with construction

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Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 2/11/2022 5:41:14 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Hardage, Melissa [Hardage.Melissa@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]
Subject: Additional Tasks deemed completed under EPA/COJ 1414 AOC

Dr. Williams:

As we discussed in our last biweekly call on February 10, 2022, we continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Task:

CERP Task 33.a – OB Curtis Automation – Issue notice to proceed to begin engineering design process.
CERP Task 40.C.a – Fewell Corrosion Control Treatment – Issue notice to proceed to begin engineering design process.

Additionally, the following tasks are also complete as a result of information supplied by the City of Jackson on January 5, 2022:

CERP Task 6.A.1 – Filters 24 & 26 at JHF – Issued a Notice to Proceed to Begin Engineering Design Process
CERP Task 25.A.1 – General Filter rehab at OBC - Issued a Notice to Proceed to Begin Engineering Design Process
CERP Task 26.A.1 – Membrane train rehab - Issued a Notice to Proceed to Begin Engineering Design Process

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Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division

U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 2/11/2022 5:55:59 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Hardage, Melissa [Hardage.Melissa@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]
Subject: Updated CERP and Timeline of deliverables under AOC
Attachments: Updated Timeline of deliverables under AOC 02_11_2022.docx; Appendix A - Jackson CERP- Updated 2_11_22.docx

Dr. Williams:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time EPA has approved many completed tasks and a number of scope of works that need to be rolled into Appendix A. We appreciate the City working with us to update Appendix A to include as many task completions and new timelines in this update. Attached is the Comprehensive Equipment Repair Plan with the changes and updates we agreed upon as of today along with an updated Timeline of deliverables under the AOC to aid in tracking.

There are obviously a number of tasks ongoing at different stages of completion, so if you do find an error, please let us know and we will work to remedy.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
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Pronouns: He, Him, His

City of Jackson AOC - Timeline of Deliverables

Please note that this timeline was prepared as a supporting document to assist in the tracking of COJ AOC's compliance milestones and not to be considered an enforceable document nor all-inclusive of COJ AOC's requirements. Please refer to the COJ's executed AOC dated 7/1/2021 for a detailed description of all enforceable requirements. To the extent that this timeline and the AOC conflict, the deadlines in the AOC control.

Immediately upon order effective date:

Stage 2 Disinfection Byproducts Requirements

- Respondent shall conduct monitoring quarterly for TTHM and HAA5 in accordance with 40 C.F.R. § 141.621(a) and its state approved monitoring plan, calculate the LRAAs for TTHM and HAA5 using monitoring results collected, in accordance with 40 C.F.R. § 141.620(d) and calculate compliance with the MCL based on available data from the most recent four quarters. (Section 44a. of AOC).
- In addition to routine reporting to MSDH, Respondent shall submit to the EPA the results of the monitoring required pursuant to 40 C.F.R. § 141.621 by the 10th day of the month following the end of the calendar quarter within which sample was collected. Respondent shall report quarterly.

Public Notification and Consumer Confidence Reports

- Carry out all public notice requirements as required by 40 C.F.R. Part 141, Subpart Q for all future violations of the NPDWRs (Section 38 of AOC).

Reporting and Notifications

- Submit MOR information weekly (Sunday to Saturday) as described under Section 45(a) of AOC.
  - Reports must be submitted by Tuesday of the following week.
- Continue to submit Water Quality Parameters (WQP) sampling data as described under Section 45(b) of AOC.
  - Results from entry points sampling shall be included with weekly MOR.
  - Results from tap sampling shall be submitted within fifteen days of the end of each month.
- When Respondent uses chlorine dioxide for disinfection or oxidation at either J.H. Fewell WTP or O.B. Curtis WTP, Respondent shall conduct daily monitoring for chlorite.
    - Chlorite monitoring data shall be included on a weekly basis with the MOR information as required under Section 45(a) of AOC.
- Submit weekly updates to EPA as described under Section 45.d of AOC.
- All reports, notifications, documentation and submittals must be submitted in writing via email to (Section 45(e) of AOC):

  U.S. EPA, Region 4
  Enforcement and Compliance Assurance Division
  Attn: Amanda Driskell
  Email: [HYPERLINK "mailto:driskell.amanda@epa.gov" \h]

AND

U.S. EPA, Region 4
Enforcement and Compliance Assurance Division
Attn: Bryan Myers
Email: [HYPERLINK "mailto:myers.bryan@epa.gov"]

- All reports, notifications, documentation and submissions required by this AOC must be signed by a duly authorized representative of the Respondent and must include the following statement (Section 52.h of AOC):

  "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate theinformation submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge andbelief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

By July 31, 2021:

Staffing

- Comprehensive Staffing Plan - This Plan shall include the staff's primary duty location (*i.e.*, either O.B. Curtis or J.H. J.H. Fewell), role(s), and years of experience in that role along with including date of original certification(s). Additionally, Respondent's Plan shall identify how it will ensure that a Class A operator is onsite at all times, including any backup plans in case staff are unavailable (Section 39 of AOC).
- Provide documentation of CERP Task 2 completion.
  - Funding to hire two operators for O.B. Curtis.
  - Hiring two unlicensed operators for O.B. Curtis in FY2020-21.

LCR

- Materials Evaluation and Lead Service Line Replacement – Submit to the EPA for review and approval a plan for development of an updated materials evaluation as described under Section 43.a of AOC.
  - Within 30 days of the completed materials evaluation, develop and provide to the EPA for review and concurrence an updated Lead Service Line Replacement Program Plan ("LSLRPP") that identifies timeframes for implementing the identified activities and addresses EPA's comments (Section 43.b of AOC).
  - Within fifteen days of receipt of the EPA's concurrence on the revised LSLRPP, Respondent shall begin implementation of the plan and at a minimum it shall continue until the Optimal Corrosion Control has been installed and is determined to be effective based on follow-up sampling (Section 43.c of AOC)

Stage 2 Disinfection Byproducts Requirements

- Submit documentation that all public notice requirements specified in 40 C.F.R. Part 141, Subpart Q have been completed for the DBP MCL violations. Thereafter, Respondent must continue to repeat public notice quarterly until the violations have been resolved (Section 44.b).

By August 30, 2021:

Asset Management Plan

Provide a scope of work for the EPA's review and approval for the development of an Asset Management Plan with the specifications described under Section 41 of the AOC.

By January 1, 2022:

O.B. Curtis

- Operator/Staffing - Submit documentation of funding for an additional two (2) operators for O.B. Curtis (CERP Task 2.A). Due if not completed by July 31, 2021.
- Operator/Staffing - City will hire 2 unlicensed operators for O.B. Curtis in FY2020-21 (CERP Task 2.B). Due if not completed by July 31, 2021.

Groundwater System-Storage Tank

- Storage Tanks – TV Rd Booster Station – Submit plan for bringing back into service (CERP Task 30).

By February 1, 2022:

O.B. Curtis

a) Operator/Staffing

- Both operations new hires should be eligible for licensure and must complete testing for Class A Waterworks (CERP Task 3).

By March 30, 2022: (Potential Deadline)

J.H Fewell

- Filters 24 & 26- Submit plans to MSDH for review and approval within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process (potential deadline based on 11/30/2021 deadline for 6.A.1) (CERP Task 6.A.2).
- General Filter Rehab - Submit plans to MSDH for review and approval within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process (potential deadline based on 11/30/2021 deadline for 6.B.1) (CERP Task 6.B.2).

O.B Curtis

a) Conventional
- UV Filter Gallery – UV #5 – Operational and functional (CERP Task 15).

a) Membrane
- Trains #1-6 - Submit plans to MSDH for review and approval within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process (potential deadline based on 11/30/2021 deadline for 26.A.1) (CERP Task 26.A.2).

b) Conventional and Membrane
- Submit plans to MSDH for review and approval within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process (potential deadline based on 11/30/2021 deadline for 25.A.1) (CERP Task 25.A.2).

By April 1, 2022

O.B. Curtis

a) Membrane
- Cover – Complete membrane basin building structure project (CERP Task 27).

By April 14, 2022

Groundwater System – Storage Tank

- Wells – Completion of repairs/replacements including any interim steps. (CERP Task 31.B).

Two weeks from MSDH Approval of Plans: (Potential Deadline 4/15/2022)

J.H Fewell

- Filters 24 & 26 - Advertise for Construction Bids within 2 weeks of MSDH approval (CERP Task 6.A.3).

O.B Curtis

a) Membrane and Conventional

- Advertise for Construction Bids within 2 weeks of MSDH approval (CERP Task 25.A.3).

b) Membrane

- Trains #1-6 - Advertise for Construction Bids within 2 weeks of MSDH approval (CERP Task 26.A.3).

<u>Six weeks from Advertise for Construction Bids: (Potential Deadline 5/31/2022)</u>

J.H. Fewell

- Filters 24 & 26 - Receive construction bid within 6 weeks of Advertise for Construction Bids (CERP Task 6.A.4).

O.B Curtis

a) Membrane and Conventional

- Receive construction bid within 6 weeks of Advertise for Construction Bids (CERP Task 25.A.4).

b) Membrane

- Trains #1-6 - Receive construction bid within 6 weeks of Advertise for Construction Bids (CERP Task 26.A.4).

<u>By May 31, 2022</u>

O.B. Curtis

a) Conventional

- All basins (Clari-Trac System) - Clari-Trac System shall be functioning and operational and repairs completed for all Basins including Butterfly Valves, Actuators, Drives, and Vacuum Hoses. (CERP Task 13.A).

J.H. Fewell

- General Filter Rehab - Issue Notice to Proceed to Begin Engineering Design Process within 8 months of execution of SRF Loan #3 - SRF Loan #3 executed on 9/30/21. (CERP Task 6.B.1).

<u>By June 28, 2022 (Potential Deadline)</u>

O.B Curtis

- Dosing Automation – Submit plans to MSDH for review and approval. (CERP Task 33.B)

- pH control - pH control will be investigated during the design phase of the OB Curtis automation project, including the potential use of CO2. (CERP Task 38.A)

J.H. Fewell

- Dosing Automation – Submit plans to MSDH for review and approval. (CERP Task 40.C.b)

By August 30, 2022 (Potential Deadline)

O.B Curtis

a) **Membrane**
   - Blower C - 17. Provide documentation of completion and fully operational - Completed within 9 months of issuance of Notice to Proceed with Construction of the OBC Automation Construction Contract to coincide with completion of Task 26.

By August 31, 2022

O.B Curtis

- Dosing Automation – Advertise for construction bids. (CERP Task 33.C)

By September 30, 2022

O.B Curtis

- Dosing Automation – Receive construction bids. (CERP Task 33.D)

J.H. Fewell

- Dosing Automation – Advertise for construction bids. (CERP Task 40.C.c)

By September 30, 2022: (Potential Deadline)

J.H Fewell

- General Filter Rehab - Submit plans to MSDH for review and approval within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process (potential deadline based on 11/30/2021 deadline for 6.B.1) (CERP Task 6.B.2).

Two weeks from MSDH Approval of Plans: (Potential Deadline 10/15/2022)

J.H Fewell

- General Filter Rehab - Advertise for Construction Bids within 2 weeks of MSDH approval (CERP Task 6.B.3).

By November 15, 2022

J.H. Fewell

- Dosing Automation – Receive construction bids. (CERP Task 40.C.d)

Six weeks from Advertise for Construction Bids: (Potential Deadline 11/30/2022)

J.H. Fewell

- General Filter Rehab - Receive construction bid within 6 weeks of Advertise for Construction Bids (CERP Task 6.B.4).

By December 15, 2022

O.B Curtis

- Dosing Automation – Award construction contract. (CERP Task 33.E)

By January 15, 2023

O.B Curtis

- Dosing Automation – Issue Notice to Proceed with Construction to the General Contractor. (CERP Task 33.F)

J.H. Fewell

- Dosing Automation – Award construction contract. (CERP Task 40.C.e)

By March 2, 2023

J.H. Fewell

- Dosing Automation – Issue Notice to Proceed with Construction to the General Contractor. (CERP Task 40.C.f)

By May 31, 2023

O.B Curtis

a) **Conventional**
   - Raw Water Flow Meter – Not currently running automatically. Project due date. (CERP Task 39)

By November 30, 2023

J.H Fewell

- Chloramination and Ammonia Feed System and Automation Improvements – Completion Date (CERP Task 40.C.1)

By December 30, 2023

O.B Curtis

b) **Conventional**
   - Chlorine Room, HS#1 – During the automation project, the original 24-inch mag meter will be replaced, and automation restored. (CERP Task 12).

c) **ACH** – Aluminum Chlorohydrate (coagulant)- project due date. (CERP Task 35)

d) **pH -** Completion of pH control process project and pH meters working properly. (CERP Task 38.B)

By February 30, 2024

O.B Curtis

- Fluoride – project due date. (CERP Task 37)

J.H. Fewell

- Process Automation and Other Chemical Feed System Improvements – Completion date (CERP Task 40.C.2)

By March 24, 2024

O.B Curtis

- Dosing Automation – Complete all construction upgrades for the automation process. (CERP Task 33.G)

By March 28, 2024

O.B Curtis

- Potassium Permanganate Feeds – project due date. (CERP Task 36)

By April 30, 2024

J.H. Fewell

- Potassium Permanganate Feed System at Pearl River Intake (copper sulfate will be evaluated for algae control.) Completion Date (CERP Task 40.C.4)

By April 31, 2024

J.H. Fewell

- Fluoride Feed System – Completion Date (CERP 40.C.3)

By May 28, 2024

O.B. Curtis

a) **Conventional and Membrane**
   - Intake – Roof Repairs/Potassium Permanganate feeder (CERP Task 21).

By May 30, 2024

J.H. Fewell

- Automation System Startup and Operator Training – Completion Date (CERP Task 40.C.5)

Final report and termination of order:

- Within thirty (30) calendar days after Respondent has fully completed and implemented the actions required by Section [REF _Ref40099803 \r \h * MERGEFORMAT]II (Order) of this Order, including work outlined in the CERP, Respondent shall submit for the EPA's review and approval a final report (Final Report) as described under Section 46 of AOC.
- If the EPA determines, after review of the Final Report, that all the requirements of this Order have been completed and implemented in accordance with this Order and no further actions are necessary to comply with the SDWA, the EPA will provide notice to Respondent and this Order shall be deemed terminated (Section 47 of AOC).
- If the EPA determines, after review of the Final Report, that, despite all the requirements of this Order having been completed and implemented in accordance with this Order, further actions are necessary to comply with the SDWA, the NPDWRs, and the MPDWRs, the Parties agree that this Order may be amended to reflect such necessary additional actions. Such amendment must be agreed to in writing to become effective under this Order (Section 48 of AOC).
- If the EPA determines that any requirement has not been completed and implemented in accordance with this Order, the EPA will notify the Respondent, provide a list of deficiencies, and may require Respondent to modify its actions as appropriate in order to correct such deficiencies. If so required, Respondent shall implement the modified and approved requirement(s) and submit a modified Final Report in accordance with the EPA notice. Failure by Respondent to implement any of the approved modified requirement(s) shall be a violation of this Order (Section 49 of AOC).
- Notwithstanding the provisions above, the EPA may extend any timeframe contained in Appendix A upon a showing of good cause as to why such timeframe (interim or final) cannot be achieved. Such extension of time shall be in writing, but may be incorporated

into a revision to Appendix A and not necessarily in a revision or amendment to this Order (Section 50 of AOC).

APPENDIX A
Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	**Plant and/or Category**	**Task**	**Deadline or Timeframe**	**Approved/Overdue**
General Tasks				
1	Operator/Staffing	City will hire an Instrument Technician for O.B. Curtis	October 1, 2021	Approved on 11/19/21.
2	Operator/Staffing	2. Provide documentation of completion or 2.A. Submit documentation of funding for an additional two (2) operators for O.B. Curtis. 2.B.City will hire 2 unlicensed operators for O.B. Curtis in FY2020-21.	2 - August 2, 2021* or 2.A and 2.B - January 3, 2022*	
3	Operator/Staffing	Both operations new hires should be eligible for licensure and must complete testing for Class A Waterworks	February 1, 2022	Due on 2/01/2022
Fewell				
4	Clari-Trac	Clari-Trac System shall be functioning and operational and repairs completed for all Basins including Butterfly Valves, Actuators, Drives, and Vacuum Hoses.4. Provide documentation of completion or 4.A. Contact Manufacturer and identify necessary work/schedule and submit Scope of Work* to EPA; 4.B. Clari-Trac system shall be fully functional and operational with all repairs completed	4 - August 2, 2021* or 4.A - August 2, 2021* 4.B - January 3, 2022*	4 – Approved on 8/20/2021
5	UV Reactors	UV Sensors - Functional and fully operational. 5. Provide documentation of completion or 5.A. Order parts identified on the parts list provided by the Technician report from the 1/19/2021 evaluation. Provide the Technician Report/parts list and date parts were ordered to EPA. 5.B. Return all UV Sensors to fully functional/operational status.	5 - August 2, 2021* or 5.A - August 2, 2021* 5.B - January 3, 2022*	5 – Approved on 8/20/2021
6		6.COJ will develop a Scope of Work* with timeframes for returning filters to fully operational and functional status. Upon EPA approval of Scope of Work/plan, the CERP will be updated to include the individual tasks and timeframes. Individual Tasks and Timeframes Task 6.A - Filters 24 & 26 rehab at JHF WTP 6.A.1) Within 2 months of execution of SRF Loan #3:Issue Notice to Proceed to Begin Engineering Design Process. SRF Loan #3 executed on 9/30/21. 6.A.2) Within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process: Submit plans to MSDH for review and approval.	August 30, 2021 Task 6.A. Due Dates 6.A.1) Due 11/30/21 6.A.2) Due 3/31/22 6.A.3) TBD 6.A.4) TBD 6.A.5) TBD 6.A.6) TBD 6.A.7) TBD 6.A.8) TBD	6-Two SOWS Approved on 12/10/21. One for Filters 24/26 and one for general filters. Updated General Filter SOW approved 2/5/22 6.A.1 – approved 2/11/22

		6.A.3) Within 2 weeks of MSDH approval: Advertise for Construction Bids. 6.A.4) Within 6 weeks of Advertise for Construction Bids: Receive Construction Bids. 6.A.5) Within 2 months of closure to Receive Construction Bids: Award Construction Contract. 6.A.6) Within 6 weeks of awarding construction contract: Issue Notice to Proceed with Construction to the General Contractor. 6.A.7) Within 8 months of issuance of Notice to Proceed with Construction: Filters 24 & 26 at JHF WTP Rehabilitation Complete. 6.A.8) Within 1 month of Filter Rehabilitation Completion: J HF Filter Startup and training complete. Individual Tasks and Timeframes Task 6.B – General Filter Rehab 6.B.1) Within 8 months of execution of SRF Loan #3: Issue Notice Proceed to Begin Engineering Design Process. 6.B.2) Within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process: Submit plans to MSDH for review and approval. 6.B.3) Within 2 weeks of MSDH approval: Advertise for Construction Bids. 6.B.4) Within 6 weeks of Advertise for Construction Bids: Receive Construction Bids. 6.B.5) Within 2 months of closure to Receive Construction Bids: Award Construction Contract. 6.B.6) Upon completion of JHF Filters 24 & 26 (Task 6.A.7): Issue Notice to Proceed with Construction to the General Contractor 6.B.7) Within 40 months of issuance of Notice to Proceed with Construction: J.H. Fewell General Filter Rehabilitation Complete. 6.B.8) Within 1 month of Filter Rehabilitation Completion: J.H. Fewell Filter Startup and training complete.	Task 6.B. Due Dates 6.B.1) Due 5/30/22 6.B.2) Due 9/30/22 6.B.3) TBD 6.B.4) TBD 6.B.5) TBD 6.B.6) TBD 6.B.7) TBD 6.B.8) TBD	
7	Monitoring Equip	7.A. Flow Measurement Devices - Research and assessment completed 7.B Flow Measurement Devices -will be functional and fully operational.	7.A - August 2, 2021* 7.B - January 3, 2022*	7.A - Approved on 8/27/2021 7.B – Approved on 11/19/22

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	**Plant and/or Category**	**Task**	**Deadline or Timeframe**	**Approved/Overdue**
8	Monitoring Equip	8. Provide documentation of completion or 8.A. Submit a status report for all turbidimeters, to include current status (operational or not) and what repairs/replacement is needed for each item. 8.B. Return all to fully operational status.	8 - August 2, 2021* or 8.A - August 2, 2021* 8.B - October 1, 2021	8 – Approved on 8/27/2021
9	Intake Structure	Pedestrian Bridge	January 3, 2022*	Approved on 11/19/21
10	Entire Plant	Corrosion Control report	August 2, 2021*	Approved on 8/13/2021
Curtis				
11	Conventional - Chlorine Room	Weight Indicator - 11.A Parts ordered 11.B Functional and fully operational.	11.A - August 2, 2021* 11.B - September 29, 2021	11.A - Approved on 8/13/2021 11.B – Approved on 11/19/21
12	Conventional - Chlorine Room	During the automation project, the original 24-inch mag meter will be replaced, and automation restored.	December 30, 2023	Language change approved on 12/10/21
13	Conventional - All Conventional Basins	Clari-Trac System shall be functioning and operational and repairs completed for all Basins including Butterfly Valves, Actuators, Drives, and Vacuum Hoses.	13 - May 31, 2022 (Approved language change on 12/10/21 and extension granted on 11/19/21)	
14	Conventional - Turbidimeters for Basis 1, 2, 3	14. Provide documentation of completion or 14.A. Submit a status report for all turbidimeters, to include current status (operational or not) and what repairs/replacement is needed for each item. 14.B. Return all to fully operational status.	14 - August 2, 2021* or 14.A - August 2, 2021* 14.B - October 1, 2021	14.A - Approved on 9/24/21 14.B – Approved on 11/19/21
15	Conventional - UV Filter Gallery	UV #5 - Operational and Fully functional	15 - To be completed within 4 months of issuance of Notice to Proceed with Construction on the general filter rehab at OBC outlined in Task 25. (Extension Request granted on 12/10/21)	
16	Membrane - HS#2	Chlorine analyzers - Operational and Fully functional. Provide documentation of replacement of one chlorine analyzer and installationof second chlorine analyzer	August 2, 2021*	16- Approved on 2/5/22
17	Membrane - Blower Room	Blower C - 17. Provide documentation of completion and fully operational.	17 - Completed within 9 months of issuance of Notice to Proceed with Construction of the OBC Automation Construction Contract to coincide with completion of Task 26. (Updated language and accepted extension request on 12/10/21.)	

18	Conventional-Intake	Microscreens -18. Provide documentation of completion or 18.A. Submit status report for the microscreens, include current status and any needed repairs/replacement; 18.B. Complete any needed repairs/replacement	18 - August 2, 2021 or 18.A - August 2, 2021* 18.B - August 30, 2021	18 – Approved on 8/13/2021
19	Conventional-Intake	60-inch sluice gate -19. Provide documentation of completion or 19.A. Submit status report, include current status and any needed repairs/replacement; 19.B. Complete any needed repairs/replacement	19 - August 2, 2021* or 19.A - August 2, 2021* 19.B - August 30, 2021	19 - Approved on 8/13/2021

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	Plant and/or Category	Task	Deadline or Timeframe	Approved/Overdue
20	Conventional-Intake	72-inch sluice gate - 20. Provide documentation of completion or 20.A. Submit status report, include current status and any needed repairs/replacement; 20.B. Complete any needed repairs/replacement	20 - August 2, 2021* or 20.A - August 2, 2021* 20.B - August 30, 2021	20 – Approved on 8/13/21
21	Both - Intake	Roof Repairs/Potassium Permanganate feeder	March 28, 2024 (Extension Request granted on 11/19/21)	
22	Membrane - Intake	Microscreens -22. Provide documentation of completion or 22.A. Submit status report for the microscreens, include current status and any needed repairs/replacement; 22.B. Complete any needed repairs/replacement	22 - August 2, 2021* or 22.A - August 2, 2021* 22.B - August 30, 2021	22 - Approved on 8/13/2021
23	Membrane - Intake	60-inch sluice gate - 23. Provide documentation of completion or 23.A. Submit status report, include current status and any needed repairs/replacement; 23.B. Complete any needed repairs/replacement	23 - August 2, 2021*. or 23.A - August 2, 2021* 23.B - August 30, 2021	23 - Approved on 8/13/2021
24	Membrane - Sludge Plant Handling Facility	Gravity Thickener #1 and #2 - Functional and Fully Operational	December 1, 2021	24- Approved on 11/19/21
25	Both - Filters	Filter Rehab - Submit detailed Scope of Work*. Upon approval of the Scope of Work, the tasks will be updated to include additional milestones and final completion of this task. Updated Milestones from SOW Individual Tasks and Timeframes Task 25.A – OBC General Filter Rehab 25.A.1) Within 2 months of execution of SRF Loan #3: Issue Notice Proceed to Begin Engineering Design Process. 25.A.2) Within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process: Submit plans to MSDH for review and approval. 25.A.3) Within 2 weeks of MSDH approval: Advertise for Construction Bids. 25.A.4) Within 6 weeks of Advertise for Construction Bids: Receive Construction Bids. 25.A.5) Within 2 months of closure to Receive Construction Bids: Award Construction Contract. 25.A.6) Within 6 weeks of awarding construction contract: Issue Notice to Proceed with Construction to the General Contractor. 25.A.7) Within 19 months of issuance of Notice to Proceed with Construction: OBC General Filter Rehabilitation Complete. 25.A.8) Within 1 month of Filter Rehabilitation Completion: OBC Filter Startup and training complete.	August 30, 2021 Task 25.A. Due Dates 25.A.1) Due 11/30/21 25.A.2) Due 3/31/22 25.A.3) TBD 25.A.4) TBD 25.A.5) TBD 25.A.6) TBD 25.A.7) TBD 25.A.8) TBD	25.A - SOW Approved on 12/10/21 25.A.1 – Approved on 2/11/22

26	Membrane - Trains #1-6	26.A. Submit a report on the current status and any needed repairs/replacement for each membrane train and its components including sluice gate, flocculator, centrifuge, reject valve, turbidimeter and rapid mixer. 26.B. Submit detailed Scope of Work* to address the identified concerns, including any sequencing. Upon approval of the Scope of Work, the tasks will be updated to include additional milestones and final completion of this task. Individual Tasks and Timeframes Task 26.A – Membrane Plant Pretreatment Rehab 26.A.1) Within 2 months of execution of SRF Loan #3: Issue Notice Proceed to Begin Engineering Design Process. 26.A.2) Within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process: Submit plans to MSDH for review and approval. 26.A.3) Within 2 weeks of MSDH approval: Advertise for Construction Bids. 26.A.4) Within 6 weeks of Advertise for Construction Bids: Receive Construction Bids. 26.A.5) Within 2 months of closure to Receive Construction Bids: Award Construction Contract. 26.A.6) Within 6 weeks of awarding construction contract: Issue Notice to Proceed with Construction to the General Contractor. 26.A.7) Within 9 months of issuance of Notice to Proceed with Construction OBC Membrane Rehabilitation Complete.	26.A - August 2, 2021* 26.B - August 30, 2021 Task 26.A. Due Dates 26.A.1) Due 11/30/21 26.A.2) Due 3/31/22 26.A.3) TBD 26.A.4) TBD 26.A.5) TBD 26.A.6) TBD 26.A.7) TBD	26.A - Approved on 9/24/2021 26.B – SOW Approved on 12/10/21 26.A.1 – Approved on 2/11/2022
27	Membrane - Cover	Complete Membrane Basin Building Structure Project.	April 1, 2022* (Extension Request approved on 12/10/21)	
28	Conventional - Soda Ash System	dilution system - - Functional and Fully Operational - Provide documentation of completion or repair the dry powder level indicators	August 2, 2021*	Approved on 8/20/2021
Groundwater System-Storage Tank				
29	Storage Tanks	Maddox Rd (Hwy 18) - Provide documentation that tank is fully functioning and operational.	August 2, 2021*	Approved on 10/15/2021
30	Storage Tanks	TV Rd Booster Station - Submit plan for bringing back into service.	January 3, 2022*	

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	**Plant and/or Category**	**Task**	**Deadline or Timeframe**	**Approved/Overdue**
31	Wells	31.A - Provide a status and plan for each of the wells, include a status of each well, identify any need repairs/replacement, and propose timeframe for addressing these repairs/replacement including any interim steps. 31.B – Completion of need repairs/replacement	31.B - April 14, 2022	31.A – Approved on 2/7/21
32	Well House	Well Houses - Submit Scope of Work* including proposed timeframes. Upon EPA approval of the Scope of Work, Appendix A will be updated to include those individual tasks and timeframes.	August 30, 2021	Approved on 10/15/2021
Dosing Automation				
33	Curtis	O.B. Curtis: Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation. a) Issue notice proceed to begin engineering design process. b) Submit plans to MSDH for review and approval. c) Advertise for construction bids. d) Receive construction bids. e) Award construction contract. f) Issue notice to proceed with construction to the General Contractor. g) Complete all construction upgrades for the automation project. **Completion dates of specific feeds are outlined in Tasks 34-37 and 39.**	August 30, 2021 Funding/Project Due dates: 33.a) 01/30/2022 33.b) 06/28/2022 33.c) 08/31/2022 33.d) 09/30/2022 33.e) 12/15/2022 33.f) 01/15/2023 33.g) 03/24/2024	SOW approved on 9/10/2021 33.a – approved on 2/11/22
34	Curtis	Ammonia/Chlorine Feeds: All chlorinator and ammoniator equipment and appurtenances will be fully functional with automatic, flow-pacing capabilities in service and redundancy present. Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 11/28/2023	SOW approved on 9/10/2021

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	Plant and/or Category	Task	Deadline or Timeframe	Approved/Overdue
35	Curtis	ACH (Aluminum Chlorohydrate) (coagulant): The treatment system was installed by using the same method as the Alum/lime system that was previously being used and not tweaked for the new ACH coagulant. Studying the coagulation system to determine if CO2 treatment addition will be helpful in improving the treatment system for future automation. Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 12/30/2023	SOW approved on 9/10/2021
36	Curtis	O.B. Curtis: Potassium Permanganate Feeds: flow pacing or feed back loop. Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 03/28/2024	SOW approved on 9/10/2021
37	Curtis	O.B. Curtis: Fluoride - Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 02/30/2024	SOW approved on 10/15/2021
38	Curtis	pH control 38.A pH control will be investigated during the design phase of the OB Curtis automation project, including the potential use of CO2. 38.B Completion of pH control process project and pH meters working properly.	38.A June 28, 2022 38.B December 30, 2023 (New language and due dates approved 12/1/21)	

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	Plant and/or Category	Task	Deadline or Timeframe	Approved/Overdue
39	Curtis	O.B Curtis: Raw Water Flow Meter - Conventionalplant (related to the Clari-Trac System): Not currently running automatically. Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 05/31/2023	SOW approved on 10/15/2021
40	Fewell	The dosing equipment has always been run in manual for disinfection and pH at the Fewell plant. 40.A. Submit a plan to complete research/assessment; 40.B. Based on research,submit work proposal, which should include a proposed treatment plan; 40.C. Complete work.	Task 40.A will be due one month after approval of OCCT Study Findings Plan and Task 40.B will be due two months after approval. Upon approval, Appendix A will be updated to include completion timeframe for Task40.C A proposed treatment plan shall include a scope of work, timeframes for completion of any necessary treatment modifications, and identify funding for implementation of the treatment plan.	40.A and 40.B - approved on 9/24/2021
		40.C a) Issue notice proceed to begin engineering design process. b) Submit plans to MSDH for review and approval. c) Advertise for construction bids. d) Receive construction bids. e) Award construction contract. f) Issue notice to proceed with construction to the General Contractor. Specific projects: 1) Chloramination and Ammonia Feed System and Automation Improvements 2) Process Automation and Other Chemical Feed System Improvement 3) Fluoridation Feed System 4) Potassium Permanganate Feed System at Pearl River Intake (copper sulfate will be evaluated for algae control 5) Automation System Startup and Operator Training	See below for approved timeframes on 40.C Completion dates: a) 02/01/2022 b) 06/28/2022 c) 09/30/2022 d) 11/15/2022 e) 01/15/2023 f) 03/02/2023 Completion dates for specific projects: 1) 11/30/2023 2) 02/30/2024 3) 04/31/2024 4) 04/30/2024 5) 05/30/2024	40.C.a 0 approved on 2/11/22

*The Scope of Work (SOW) submitted to the EPA must contain detailed descriptions of all work necessary to successfully complete the Task listed in this AOC. The SOW must include all interim steps, including completion dates and/or timeframes to complete each interim step. In

addition to completion dates/timeframes for each interim step, the SOW must also contain the deadline (date) for the completion of the entire Task. Scope of Works may be combined if tasks will all be a part of same project.

The EPA understands that the City may not be able to provide exact completion dates due to the complex nature of some Tasks included in the AOC. If the City is unable to project exact dates of completion for each interim step necessary to complete a Task, the City must, at a minimum, describe the interim steps necessary to complete each Task, along with timeframes that the City reasonably expects to be necessary for each interim step to be completed. For example, if the City has a requirement to submit and receive approval of a "Plans and Specs" document to the MSDH as an interim step, the SOW could include a statement similar to, "The City will submit "Plans and Specs" document for review and approval to the MSDH. Within two (2) weeks of MSDH approval of "Plans and Specs" document, the City will put the work out for bid."

This level of detail must be provided for each interim step necessary to complete each Task identified in the AOC. Without specific, detailed SOWs, including interim steps and completion dates or timeframes for completion, the EPA is unable to adequately review and approve the SOW proposed bythe City.

Message

From: Armor, Suzanne [Armor.Suzanne@epa.gov]
Sent: 1/4/2022 2:27:36 PM
To: Terry Williamson [twilliamson@city.jackson.ms.us]
CC: Myers, Bryan [Myers.Bryan@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Hardage, Melissa [Hardage.Melissa@epa.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; King, Carol [King.Carol@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]
Subject: RE: Update on tasks, extension requests, and approvals

Hi, Terry –

Following up on our email exchange below to see if you have any update on the City's review of the proposed revisions to the CERP deadlines. Please let me know when we can expect to hear back from the City on this.

Wishing you and the City personnel a happy and healthy 2022,
Suzanne

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Tuesday, December 14, 2021 7:15 PM
To: Armor, Suzanne <Armor.Suzanne@epa.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: RE: Update on tasks, extension requests, and approvals

Suzanne,

Thank you for providing this. I forwarded it to Dr. Williams to distribute to the appropriate team members for their review. I will advise you if there are any questions or concerns about the revisions to the CERP.

Very truly,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson | Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207 | Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 | www.jacksonms.gov
Follow COJ on Social Media: Facebook | Twitter | Instagram

THE CITY OF JACKSON MISSISSIPPI

This e-mail and any files transmitted with it are City of Jackson property, are confidential, and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email are strictly

prohibited. If you have received this message in error, please notify the sender or the Office of the City Attorney at (601) 960-1799 immediately be telephone or by return email and double delete this message from your computer.

From: Armor, Suzanne [mailto:Armor.Suzanne@epa.gov]
Sent: Tuesday, December 14, 2021 8:51 AM
To: Terry Williamson <twilliamson@city.jackson.ms.us>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: RE: Update on tasks, extension requests, and approvals

SETTLEMENT CONFIDENTIAL – SUBJECT TO FRE 408

Dear Terry:

Per Bryan's email below and the EPA's ongoing discussions with the City of Jackson, attached for the City's review is a draft updated Comprehensive Equipment Repair Plan (CERP), Appendix A to Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). Consistent with Paragraph 56 of the AOC, the EPA believes that the City has demonstrated good cause as to why certain interim and/or final deadlines in the CERP warrant extensions, and those extensions to the CERP are incorporated in the updated CERP. The EPA is requesting that the City review the CERP for accuracy and to let us know if you have any concerns with the revisions.

Please note that, under the terms of Paragraph 56 of the AOC, this is not an amendment to the AOC requiring re-signature by our signatories to take legal effect; however, we understand that the City may wish to have the revised CERP reviewed by its leadership. Please advise: (1) who the City believes needs to review/concur on its end; and (2) a timeframe for completing such review.

Once we have a "final" version of this CERP revision, we will circulate that to the City and our MSDH partners, along with an updated timeline.

Thank you for your continued assistance in this matter.

Best regards,
Suzanne

SUZANNE K. ARMOR | ATTORNEY-ADVISOR
United States Environmental Protection Agency
Office of Regional Counsel
Water Legal Office
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
tel: 404.562.9701
fax: 404.562.8078
armor.suzanne@epa.gov
She/Her/Hers

CONFIDENTIALITY NOTICE: This message is being sent by or on behalf of an attorney. It is intended exclusively for the individual(s) or entity(ies) to whom or to which it is addressed. This communication may contain information that is proprietary, privileged, or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by email and delete all copies of the message.

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Monday, December 13, 2021 7:59 AM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; karen.walters <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>
Subject: Update on tasks, extension requests, and approvals

Dr. Williams:

As we discussed in our last biweekly call on December 2, 2021, we continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, I wanted to update everyone on the status of recent submissions and also summarize where EPA believes several tasks are currently at in process. Based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Tasks:

CERP Task 6 – Two Scope of Works for filters at JH Fewell (one for rehab of filters 24 & 26 and one for general filter rehab)
CERP Task 25 – OBC General Filter Rehab SOW
CERP Task 26 – OBC Membrane Plant Pretreatment Rehab SOW

At this time, EPA also approves the time extension requests for the following Tasks:

CERP Task 12 – Conventional-Chlorine Room project moved to completion of December 30, 2023
CERP Task 15 – UV #5 – moved to coincide to be completed with general filter rehab at OBC outlined in Task 25.
CERP Task 17 – Membrane Blower C moved to coincide to be completed with general filter rehab at OBC outlined in Task 26.
CERP Task 27 – Membrane Basin Building Structure Project moved to April 22, 2022.

I wanted to make you aware that several tasks have now had their description edited based on discussion with COJ and will be presented in the next updated CERP. The tasks impacted include:

CERP Task 12 - Replacement of original 14-inch mag meter
CERP Task 13 - Updated to now only say Clari-Trac System shall be functioning and operational by new date – May 31, 2022.
CERP Task 17 – Blower Room – Blower C has had language updated to only consist of being completed and functional by new date outlined above.

The following tasks are still outstanding, however, EPA is awaiting additional information from COJ in order to consider a deadline extension. Those Tasks are:

CERP Task 16 - OBC Membrane – HS#2 Chlorine analyzers. COJ is awaiting tech to provide timeline for work completion for potential extension request.
CERP Task 31 – Wells – Awaiting MSDH Sanitary Survey Report to determine completion date for potential extension request.

Finally, I wanted to let you know that we do plan to send you an updated CERP later today, along with an updated timeline for your informational use. You can let us know if you have any concerns at our call next Thursday.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 2/25/2022 3:48:32 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]
Subject: RE: Additional Tasks deemed completed under EPA/COJ 1414 AOC

Dr. Williams:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Tasks:

CERP Task 6.A.2 – Fewell Filter 24 & 26 – Submit plans to MSDH for review and approval.
CERP Task 40.C.b – Fewell Corrosion Control Treatment – Submit plans to MSDH for review and approval.

EPA appreciates the City's work to meet these deadlines well ahead of the scheduled dates. We hope to see the work continue to progress quickly under CERP Task 40.C. Additionally, since MSDH has approved the plans for both these projects, we want the City to be aware that the deadline for CERP Task 6.A.3 (Within 2 weeks of MSDH approval: Advertise for Construction Bids) is now March 11th. Please make sure to update myself and Region 4 once the advertisement is out. Thank you for your attention to these tasks.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Charles Williams [cwilliams@city.jackson.ms.us]
Sent: 2/25/2022 7:32:26 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@city.jackson.ms.us]; Burns, Robert [Burns.Robert@epa.gov]
Subject: RE: Additional Tasks deemed completed under EPA/COJ 1414 AOC
Attachments: MSDH Approval Letters.pdf; Signed Advertisements.pdf

Mr. Myers,

Please find attached MSDH Approval Letters, and the signed advertisements. The City plans to open bids on March 15, 2022. If any additional information is required to satisfy CERP TASK 6. A.3, please do not hesitate to contact me.

Respectfully,

Charles Williams Jr., PE, PhD
City Engineer
Department of Public Works
(601) 960-1651

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Friday, February 25, 2022 9:49 AM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>
Subject: RE: Additional Tasks deemed completed under EPA/COJ 1414 AOC

Dr. Williams:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Tasks:

CERP Task 6.A.2 – Fewell Filter 24 & 26 – Submit plans to MSDH for review and approval.

CERP Task 40.C.b – Fewell Corrosion Control Treatment – Submit plans to MSDH for review and approval.

EPA appreciates the City's work to meet these deadlines well ahead of the scheduled dates. We hope to see the work continue to progress quickly under CERP Task 40.C. Additionally, since MSDH has approved the plans for both these projects, we want the City to be aware that the deadline for CERP Task 6.A.3 (Within 2 weeks of MSDH approval: Advertise for Construction Bids) is now March 11th. Please make sure to update myself and Region 4 once the advertisement is out. Thank you for your attention to these tasks.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

MISSISSIPPI STATE DEPARTMENT OF HEALTH

February 23, 2022

Honorable Chokwe Antar Lumumba, Mayor
City of Jackson
P.O. Box 17
Jackson, MS 39205-0017

Re: Plans, Specifications, and Contract Documents Approval
Contract 2 – JH Fewell Corrosion Control Improvements Project
City of Jackson; Hinds County; PWS ID: MS0250008
DWI-L250008-02 & DWI-L250008-03

Dear Mayor Lumumba:

In accordance with the Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program Regulations, the referenced plans, specifications, and contract documents are hereby approved. This contract includes construction of the following facilities:

JH Fewell Water Corrosion Control Treatment Plant Improvements

A set of plans, specifications, and contract documents identical to those approved hereunder shall be used for bidding and shall be available at the project site at all times.

In accordance with DWSIRLF Regulation Rule 3.7.7(1), within 90 days after MSDH approval, the loan recipient must: (1) submit clear title certificates from the loan recipient and title counsel for all real property (enclosed); (2) secure all local funds necessary for the project; **then** (3) advertise all construction related contracts for bids including submitting the Advertisement Memorandum (AM) with required attachments to the online Agency Bid Bank at the Mississippi Procurement Technical Assistance Program's (MPTAP) website. If the AM with attachments is not submitted to the MPTAP Agency Bid Bank, the project will have to be rebid.

This approval recommendation is based on a loan eligibility and regulatory conformance review performed by the Mississippi State Department of Health (Department) staff; however, as specified by the DWSIRLF regulations, the applicant is solely responsible for the proper planning, design, construction, operation, maintenance, replacement, performance, and fiscal integrity of the project. The Department's recommendation of approval of any document does not relieve the applicant or any others of any liabilities or responsibilities. Department approval of any document is for loan eligibility/allowability purposes only and does not establish or convey any such liability or responsibility.

We are returning a stamped approved set to you and your consultant for your official project files. If you have any questions, or if we may provide further assistance, please call me at (601) 576-7527.

Sincerely,

Harry D. Gong, Jr.

Harry D. Gong, Jr., P.E., F.NSPE
DWSRF Engineering Coordinator
Bureau of Public Water Supply
Mississippi State Department of Health

Enclosure

cc: Mauricka D. McKenzie, Sr., P.E., Cornerstone Engineering
Dr. Charles Williams, P.E., City of Jackson
Harry D. Gong, Jr., P.E., F.NSPE
Amy McLeod, E.I.
File

MISSISSIPPI STATE DEPARTMENT OF HEALTH

February 23, 2022

Honorable Chokwe Antar Lumumba, Mayor
City of Jackson
P.O. Box 17
Jackson, MS 39205-0017

Re: Plans, Specifications, and Contract Documents Approval
Contract 3 – JH Fewell Conventional Filter #24 & #26 Rehabilitation Project
City of Jackson; Hinds County; PWS ID: MS0250008
DWI-L250008-02 & DWI-L250008-03

Dear Mayor Lumumba:

In accordance with the Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program Regulations, the referenced plans, specifications, and contract documents are hereby approved. This contract includes construction of the following facilities:

Rehabilitation of Convention Filter #24 & #26 at JH Fewell Water Treatment Plant

A set of plans, specifications, and contract documents identical to those approved hereunder shall be used for bidding and shall be available at the project site at all times.

In accordance with DWSIRLF Regulation Rule 3.7.7(1), within 90 days after MSDH approval, the loan recipient must: (1) submit clear title certificates from the loan recipient and title counsel for all real property (enclosed); (2) secure all local funds necessary for the project; **then** (3) advertise all construction related contracts for bids including submitting the Advertisement Memorandum (AM) with required attachments to the online Agency Bid Bank at the Mississippi Procurement Technical Assistance Program's (MPTAP) website. If the AM with attachments is not submitted to the MPTAP Agency Bid Bank, the project will have to be rebid.

This approval recommendation is based on a loan eligibility and regulatory conformance review performed by the Mississippi State Department of Health (Department) staff; however, as specified by the DWSIRLF regulations, the applicant is solely responsible for the proper planning, design, construction, operation, maintenance, replacement, performance, and fiscal integrity of the project. The Department's recommendation of approval of any document does not relieve the applicant or any others of any liabilities or responsibilities. Department approval of any document is for loan eligibility/allowability purposes only and does not establish or convey any such liability or responsibility.

We are returning a stamped approved set to you and your consultant for your official project files. If you have any questions, or if we may provide further assistance, please call me at (601) 576-7527.

Sincerely,

Harry D. Gong, Jr.

Harry D. Gong, Jr., P.E., F.NSPE
DWSRF Engineering Coordinator
Bureau of Public Water Supply
Mississippi State Department of Health

Enclosure

cc: Mauricka D. McKenzie, Sr., P.E., Cornerstone Engineering
Dr. Charles Williams, P.E., City of Jackson
Harry D. Gong, Jr., P.E., F.NSPE
Amy McLeod, E.I.
File

MISSISSIPPI STATE DEPARTMENT OF HEALTH

February 23, 2022

Honorable Chokwe Antar Lumumba, Mayor
City of Jackson
P.O. Box 17
Jackson, MS 39205-0017

Re: Plans, Specifications, and Contract Documents Approval
Contract 1 – OB Cutis Winterization Project
City of Jackson; Hinds County; PWS ID: MS0250008
DWI-L250008-02 & DWI-L250008-03

Dear Mayor Lumumba:

In accordance with the Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) Program Regulations, the referenced plans, specifications, and contract documents are hereby approved. This contract includes construction of the following facilities:

OB Curtis Water Treatment Plant Winterization

A set of plans, specifications, and contract documents identical to those approved hereunder shall be used for bidding and shall be available at the project site at all times.

In accordance with DWSIRLF Regulation Rule 3.7.7(1), within 90 days after MSDH approval, the loan recipient must: (1) submit clear title certificates from the loan recipient and title counsel for all real property (enclosed); (2) secure all local funds necessary for the project; **then** (3) advertise all construction related contracts for bids including submitting the Advertisement Memorandum (AM) with required attachments to the online Agency Bid Bank at the Mississippi Procurement Technical Assistance Program's (MPTAP) website. If the AM with attachments is not submitted to the MPTAP Agency Bid Bank, the project will have to be rebid.

This approval recommendation is based on a loan eligibility and regulatory conformance review performed by the Mississippi State Department of Health (Department) staff; however, as specified by the DWSIRLF regulations, the applicant is solely responsible for the proper planning, design, construction, operation, maintenance, replacement, performance, and fiscal integrity of the project. The Department's recommendation of approval of any document does not relieve the applicant or any others of any liabilities or responsibilities. Department approval of any document is for loan eligibility/allowability purposes only and does not establish or convey any such liability or responsibility.

We are returning a stamped approved set to you and your consultant for your official project files. If you have any questions, or if we may provide further assistance, please call me at (601) 576-7527.

Sincerely,

Harry D. Gong, Jr.

Harry D. Gong, Jr., P.E., F.NSPE
DWSRF Engineering Coordinator
Bureau of Public Water Supply
Mississippi State Department of Health

Enclosure

cc: Mauricka D. McKenzie, Sr., P.E., Cornerstone Engineering
Dr. Charles Williams, P.E., City of Jackson
Harry D. Gong, Jr., P.E., F.NSPE
Amy McLeod, E.I.
File

ADVERTISEMENT FOR BIDS – NOTICE TO CONTRACTORS JH FEWELL WATER TREATMENT PLANT CONVENTIONAL FILTER #24 AND #26 REHABILITATION PROJECT JACKSON, MISSISSIPPI

Sealed bids will be received by the City of Jackson, Mississippi, until 3:30 P.M. CST, Tuesday, March 15, 2022 at the City Clerk's Office located at 219 S. President St., for supplying all labor, materials and equipment as required under the plans and specifications for the construction of **JH FEWELL WATER TREATMENT PLANT CONVENTIONAL FILTER #24 AND #26 REHABILITATION PROJECT, SRF LOAN NO. DWI-L250008-03.** Please address envelope to City Clerk, P.O. Box 17, Jackson, MS 39205.

The entire project must be completed within two hundred seventy (270) calendar days. The contract will be subject to liquidated damages in the amount of five hundred dollars ($500.00) per calendar day for each consecutive calendar day in which the contract time is exceeded.

The City of Jackson is committed to the principle of non-discrimination in public contracting. It is the policy of the City of Jackson to promote full an equal business opportunity for all persons doing business with the City. As a precondition to selection, each contractor, bidder or offeror shall submit a completed and signed Equal Business Opportunity (EBO) plan. Failure to comply with the City's ordinance shall disqualify a contractor, bidder or offeror from being awarded an eligible contract. For more information on the City of Jackson's Equal Business Opportunity Program, please contact Yika Hoover with the office of Economic Development at (601) 960-1611 or by email: thoover@jacksonms.gov. Copies of the ordinance, EBO Plan Applications and a copy of the Program are available at 200 South President Street, Warren Hood Building, Second Floor, Jackson, Mississippi.

The City of Jackson, Mississippi ("City of Jackson") is committed to cultivating and ensuring the quality of life of its citizens, through various programs, employment, initiatives, and assistance. The City encourages all persons, corporations, and/or entities doing business within the City, as well as those who seek to contract with the City on various projects and/or conduct business in the City to assist the City in achieving its goal by strongly considering City residents for employment opportunities.

The City of Jackson hereby notifies all bidders that in compliance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. 2000d to 2000d-4 that all bidders will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, or disability in consideration for an award.

Minority and women's business enterprises are solicited to bid on this contract as prime contractors and are encouraged to make inquiries regarding potential subcontracting opportunities and equipment, material and/or supply needs.

This contract is funded in whole or in part by funds from the Consolidated Appropriations Act of 214 (H.R. 3547); therefore, this project must comply with the American Iron and Steel Requirements of the Act.

Any contract or contracts awarded under this invitation for bids are expected to be funded in whole or in part by anticipated funds from the Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) loan program from the State of Mississippi. Neither the State of Mississippi, the Local Governments and Rural Water Systems Improvements Board, the MS Department of Health, the MS Commission on Environmental Quality, nor any of their employees, is or will be a party to this invitation for bids or any resulting or related contracts. This procurement will be subject to all applicable sections of the Mississippi Code of 1972, Annoted, as they apply to local governments, in accordance with Appendix D of the DWSIRLF Program Regulations.

The PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS may be examined at the following locations:

1. Office of the Consulting Engineer: Cornerstone Engineering LLC, located at 600 Northside Drive, Suite A, Clinton, MS 39056, call Mauricka McKenzie, P.E., Project Engineer at 601-473-2403 office. One copy of the Plans, Specifications and Contract Documents may be procured from the Consulting Engineer, upon payment of $250, none of which is refundable.
2. Official bid documents can be downloaded from Central Bidding at www.centralbidding.com. Electronic bids can be submitted at www.centralbidding.com. For any questions relating to the electronic bidding process, please call Central Bidding at 225-810-4814.
3. Office of the MSDH/DWSIRLF Program: located at 570 East Woodrow Wilson, Suite U232, Jackson MS 39215, call Harry Gong, P.E., Project Manager at 601-576-7518.

The BID SCHEDULE may be examined at the following locations:

A. Mississippi Procurement Technical Assistance Program (MPTAP)
   Mississippi Development Authority, Minority & Small Business Development
   Woolfolk Building
   501 North West Street, Suite B-01
   Jackson, MS 39201
   Contact: LaTisha Landing 601-359-3448

The Standard Specifications adopted by the City Council may be procured from the Department of Public Works, if desired upon payment of $5.00 dollars for each specification.

A Pre-Bid Conference will be held on February 25, 2022 at 10 am. The meeting will be held at the Hood Building in the Andrew Jackson Room on the 1st Floor. The Hood Building is located at 200 South President Street, Jackson, MS 390205.

Bidders must be qualified under Mississippi law and possess a certificate of responsibility issued by the Mississippi State Board of Contractors establishing its classification as to the value and type of construction on which it is authorized to bid. Each bidder must deposit with its proposal, a bid bond or certified check in an amount equal to five percent (5%) of the total bid for the work, payable to the City of Jackson, as the bid security.

The successful bidder shall furnish a Performance Bond and Payment Bond each in the amount of one hundred percent (100%) of the contract amount awarded. Attorneys-in-fact who sign Bid Bonds or Payment Bonds and Performance Bonds must file with each bond a certified and effective dated copy of their power of attorney.

Proposals shall be submitted in triplicate, sealed and deposited with the City of Jackson's City Clerk prior to the hour and date designated above. Each bidder shall write its certificate of responsibility number on the outside of the sealed envelope containing its proposal.

The City of Jackson reserves the right to reject any and all bids and to waive any and all informalities

Charles Williams, PE, PhD
City Engineer, Department of Public Works

Publication Dates: February 10, 2022; February 17, 2022
Pre-Bid Date: February 25, 2022
Bid Opening Date: March 15, 2022
Publication: Mississippi Link & Clarion Ledger

ADVERTISEMENT FOR BIDS – NOTICE TO CONTRACTORS
JH FEWELL WATER TREATMENT PLANT CORROSION CONTROL CHEMICAL FEED SYSTEM IMPROVEMENT PROJECT
JACKSON, MISSISSIPPI

Sealed bids will be received by the City of Jackson, Mississippi, until 3:30 P.M. CST, Tuesday, March 15, 2022 at the City Clerk's Office located at 219 S. President St., for supplying all labor, materials and equipment as required under the plans and specifications for the construction of **JH FEWELL WATER TREATMENT PLANT CORROSION CONTROL CHEMICAL FEED SYSTEM IMPROVEMENT PROJECT, SRF LOAN NO. DWI-L250008-03.** Please address envelope to City Clerk, P.O. Box 17, Jackson, MS 39205.

The entire project must be completed within four hundred (400) calendar days. The contract will be subject to liquidated damages in the amount of five hundred dollars ($500.00) per calendar day for each consecutive calendar day in which the contract time is exceeded.

The City of Jackson is committed to the principle of non-discrimination in public contracting. It is the policy of the City of Jackson to promote full an equal business opportunity for all persons doing business with the City. As a precondition to selection, each contractor, bidder or offeror shall submit a completed and signed Equal Business Opportunity (EBO) plan. Failure to comply with the City's ordinance shall disqualify a contractor, bidder or offeror from being awarded an eligible contract. For more information on the City of Jackson's Equal Business Opportunity Program, please contact Yika Hoover with the office of Economic Development at (601) 960-1611 or by email: thoover@jacksonms.gov. Copies of the ordinance, EBO Plan Applications and a copy of the Program are available at 200 South President Street, Warren Hood Building, Second Floor, Jackson, Mississippi.

The City of Jackson, Mississippi ("City of Jackson") is committed to cultivating and ensuring the quality of life of its citizens, through various programs, employment, initiatives, and assistance. The City encourages all persons, corporations, and/or entities doing business within the City, as well as those who seek to contract with the City on various projects and/or conduct business in the City to assist the City in achieving its goal by strongly considering City residents for employment opportunities.

The City of Jackson hereby notifies all bidders that in compliance with Title VI of the Civil Rights Act of 1964, as amended, 42 U.S.C. 2000d to 2000d-4 that all bidders will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, national origin, sex, or disability in consideration for an award.

Minority and women's business enterprises are solicited to bid on this contract as prime contractors and are encouraged to make inquiries regarding potential subcontracting opportunities and equipment, material and/or supply needs.

This contract is funded in whole or in part by funds from the Consolidated Appropriations Act of 214 (H.R. 3547); therefore, this project must comply with the American Iron and Steel Requirements of the Act.

Any contract or contracts awarded under this invitation for bids are expected to be funded in whole or in part by anticipated funds from the Drinking Water Systems Improvements Revolving Loan Fund (DWSIRLF) loan program from the State of Mississippi. Neither the State of Mississippi, the Local Governments and Rural Water Systems Improvements Board, the MS Department of Health, the MS Commission on Environmental Quality, nor any of their employees, is or will be a party to this invitation for bids or any resulting or related contracts. This procurement will be subject to all applicable sections of the Mississippi Code of 1972, Annoted, as they apply to local governments, in accordance with Appendix D of the DWSIRLF Program Regulations.

The PLANS, SPECIFICATIONS AND CONTRACT DOCUMENTS may be examined at the following locations:

1. Office of the Consulting Engineer: Cornerstone Engineering LLC, located at 600 Northside Drive, Suite A, Clinton, MS 39056, call Mauricka McKenzie, P.E., Project Engineer at 601-473-2403 office. One copy of the Plans, Specifications and Contract Documents may be procured from the Consulting Engineer, upon payment of $300, none of which is refundable.
2. Official bid documents can be downloaded from Central Bidding at www.centralbidding.com. Electronic bids can be submitted at www.centralbidding.com. For any questions relating to the electronic bidding process, please call Central Bidding at 225-810-4814.
3. Office of the MSDH/DWSIRLF Program: located at 570 East Woodrow Wilson, Suite U232, Jackson MS 39215, call Harry Gong, P.E., Project Manager at 601-576-7518.

The BID SCHEDULE may be examined at the following locations:

A. Mississippi Procurement Technical Assistance Program (MPTAP)
   Mississippi Development Authority, Minority & Small Business Development
   Woolfolk Building
   501 North West Street, Suite B-01
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   Contact: LaTisha Landing 601-359-3448

The Standard Specifications adopted by the City Council may be procured from the Department of Public Works, if desired upon payment of $5.00 dollars for each specification.

A Pre-Bid Conference will be held on February 25, 2022 at 9 am. The meeting will be held at the Hood Building in the Andrew Jackson Room on the 1st Floor. The Hood Building is located at 200 South President Street, Jackson, MS 390205.

Bidders must be qualified under Mississippi law and possess a certificate of responsibility issued by the Mississippi State Board of Contractors establishing its classification as to the value and type of construction on which it is authorized to bid. Each bidder must deposit with its proposal, a bid bond or certified check in an amount equal to five percent (5%) of the total bid for the work, payable to the City of Jackson, as the bid security.

The successful bidder shall furnish a Performance Bond and Payment Bond each in the amount of one hundred percent (100%) of the contract amount awarded. Attorneys-in-fact who sign Bid Bonds or Payment Bonds and Performance Bonds must file with each bond a certified and effective dated copy of their power of attorney.

Proposals shall be submitted in triplicate, sealed and deposited with the City of Jackson's City Clerk prior to the hour and date designated above. Each bidder shall write its certificate of responsibility number on the outside of the sealed envelope containing its proposal.

The City of Jackson reserves the right to reject any and all bids and to waive any and all informalities

Charles Williams, PE, PhD
City Engineer, Department of Public Works

Publication Dates: February 10, 2022; February 17, 2022
Pre-Bid Date: February 25, 2022
Bid Opening Date: March 15, 2022
Publication: Mississippi Link & Clarion Ledger

ADVERTISEMENT FOR BIDS – NOTICE TO CONTRACTORS
OB CURTIS WATER TREATMENT PLANT WINTERIZATION PROJECT
JACKSON, MISSISSIPPI

Sealed bids will be received by the City of Jackson, Mississippi, until 3:30 P.M. CST, Tuesday, March 15, 2022 at the City Clerk's Office located at 219 S. President St., for supplying all labor, materials and equipment as required under the plans and specifications for the construction of **OB CURTIS WATER TREATMENT PLANT WINTERIZATION PROJECT, SRF LOAN NO. DWI-L250008-03.** Please address envelope to City Clerk, P.O. Box 17, Jackson, MS 39205.

The entire project must be completed within three hundred-thirty (330) calendar days. The contract will be subject to liquidated damages in the amount of five hundred dollars ($500.00) per calendar day for each consecutive calendar day in which the contract time is exceeded.

The City of Jackson is committed to the principle of non-discrimination in public contracting. It is the policy of the City of Jackson to promote full an equal business opportunity for all persons doing business with the City. As a precondition to selection, each contractor, bidder or offeror shall submit a completed and signed Equal Business Opportunity (EBO) plan. Failure to comply with the City's ordinance shall disqualify a contractor, bidder or offeror from being awarded an eligible contract. For more information on the City of Jackson's Equal Business Opportunity Program, please contact Yika Hoover with the office of Economic Development at (601) 960-1611 or by email: thoover@jacksonms.gov. Copies of the ordinance, EBO Plan Applications and a copy of the Program are available at 200 South President Street, Warren Hood Building, Second Floor, Jackson, Mississippi.

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Minority and women's business enterprises are solicited to bid on this contract as prime contractors and are encouraged to make inquiries regarding potential subcontracting opportunities and equipment, material and/or supply needs.

This contract is funded in whole or in part by funds from the Consolidated Appropriations Act of 214 (H.R. 3547); therefore, this project must comply with the American Iron and Steel Requirements of the Act.

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2. Official bid documents can be downloaded from Central Bidding at www.centralbidding.com. Electronic bids can be submitted at www.centralbidding.com. For any questions relating to the electronic bidding process, please call Central Bidding at 225-810-4814.
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Jackson, MS 39201
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Charles Williams, PE, PhD
City Engineer, Department of Public Works

Publication Dates: February 10, 2022; February 17, 2022
Pre-Bid Date: February 25, 2022
Bid Opening Date: March 15, 2022
Publication: Mississippi Link & Clarion Ledger

Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 1/4/2022 3:05:00 PM
To: Armor, Suzanne [Armor.Suzanne@epa.gov]
CC: Myers, Bryan [Myers.Bryan@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Hardage, Melissa [Hardage.Melissa@epa.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; King, Carol [King.Carol@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]
Subject: Re: Update on tasks, extension requests, and approvals

Suzanne, I'll try to get back to you on this by the end of the week. Business in the City has been somewhat disrupted by going back to working remotely Wednesday of last week.

Thanks,

Terry

From: Armor, Suzanne <Armor.Suzanne@epa.gov>
Sent: Tuesday, January 4, 2022 8:27 AM
To: Terry Williamson
Cc: Myers, Bryan; Bragan, Mary Jo; Driskell, Amanda; Hardage, Melissa; Bunch, Charlotte; Quinones, Rebecca; Lamberth, Larry; Wetherington, Michele; Kemker, Carol; King, Carol; Rausch, Heidi
Subject: RE: Update on tasks, extension requests, and approvals

Hi, Terry –

Following up on our email exchange below to see if you have any update on the City's review of the proposed revisions to the CERP deadlines. Please let me know when we can expect to hear back from the City on this.

Wishing you and the City personnel a happy and healthy 2022,
Suzanne

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Tuesday, December 14, 2021 7:15 PM
To: Armor, Suzanne <Armor.Suzanne@epa.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: RE: Update on tasks, extension requests, and approvals

Suzanne,

Thank you for providing this. I forwarded it to Dr. Williams to distribute to the appropriate team members for their review. I will advise you if there are any questions or concerns about the revisions to the CERP.

Very truly,

OFFICE OF THE CITY ATTORNEY

Terry S. Williamson | Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207 | Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 | www.jacksonms.gov
Follow COJ on Social Media: Facebook | Twitter | Instagram

THE CITY OF JACKSON MISSISSIPPI

This e-mail and any files transmitted with it are City of Jackson property, are confidential, and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email are strictly prohibited. If you have received this message in error, please notify the sender or the Office of the City Attorney at (601) 960-1799 immediately be telephone or by return email and double delete this message from your computer.

From: Armor, Suzanne [mailto:Armor.Suzanne@epa.gov]
Sent: Tuesday, December 14, 2021 8:51 AM
To: Terry Williamson <twilliamson@city.jackson.ms.us>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: RE: Update on tasks, extension requests, and approvals

SETTLEMENT CONFIDENTIAL – SUBJECT TO FRE 408

Dear Terry:

Per Bryan's email below and the EPA's ongoing discussions with the City of Jackson, attached for the City's review is a draft updated Comprehensive Equipment Repair Plan (CERP), Appendix A to Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). Consistent with Paragraph 56 of the AOC, the EPA believes that the City has demonstrated good cause as to why certain interim and/or final deadlines in the CERP warrant extensions, and those extensions to the CERP are incorporated in the updated CERP. The EPA is requesting that the City review the CERP for accuracy and to let us know if you have any concerns with the revisions.

Please note that, under the terms of Paragraph 56 of the AOC, this is not an amendment to the AOC requiring re-signature by our signatories to take legal effect; however, we understand that the City may wish to have the revised CERP reviewed by its leadership. Please advise: (1) who the City believes needs to review/concur on its end; and (2) a timeframe for completing such review.

Once we have a "final" version of this CERP revision, we will circulate that to the City and our MSDH partners, along with an updated timeline.

Thank you for your continued assistance in this matter.

Best regards,
Suzanne

SUZANNE K. ARMOR | ATTORNEY-ADVISOR

United States Environmental Protection Agency
Office of Regional Counsel
Water Legal Office
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
tel: 404.562.9701
fax: 404.562.8078
armor.suzanne@epa.gov
She/Her/Hers

CONFIDENTIALITY NOTICE: This message is being sent by or on behalf of an attorney. It is intended exclusively for the individual(s) or entity(ies) to whom or to which it is addressed. This communication may contain information that is proprietary, privileged, or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by email and delete all copies of the message.

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Monday, December 13, 2021 7:59 AM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; karen.walters <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>
Subject: Update on tasks, extension requests, and approvals

Dr. Williams:

As we discussed in our last biweekly call on December 2, 2021, we continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, I wanted to update everyone on the status of recent submissions and also summarize where EPA believes several tasks are currently at in process. Based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Tasks:

CERP Task 6 – Two Scope of Works for filters at JH Fewell (one for rehab of filters 24 & 26 and one for general filter rehab)
CERP Task 25 – OBC General Filter Rehab SOW
CERP Task 26 – OBC Membrane Plant Pretreatment Rehab SOW

At this time, EPA also approves the time extension requests for the following Tasks:

CERP Task 12 – Conventional-Chlorine Room project moved to completion of December 30, 2023
CERP Task 15 – UV #5 – moved to coincide to be completed with general filter rehab at OBC outlined in Task 25.

CERP Task 17 – Membrane Blower C moved to coincide to be completed with general filter rehab at OBC outlined in Task 26.
CERP Task 27 – Membrane Basin Building Structure Project moved to April 22, 2022.

I wanted to make you aware that several tasks have now had their description edited based on discussion with COJ and will be presented in the next updated CERP. The tasks impacted include:

CERP Task 12 - Replacement of original 14-inch mag meter
CERP Task 13 - Updated to now only say Clari-Trac System shall be functioning and operational by new date – May 31, 2022.
CERP Task 17 – Blower Room – Blower C has had language updated to only consist of being completed and functional by new date outlined above.

The following tasks are still outstanding, however, EPA is awaiting additional information from COJ in order to consider a deadline extension. Those Tasks are:

CERP Task 16 - OBC Membrane – HS#2 Chlorine analyzers. COJ is awaiting tech to provide timeline for work completion for potential extension request.
CERP Task 31 – Wells – Awaiting MSDH Sanitary Survey Report to determine completion date for potential extension request.

Finally, I wanted to let you know that we do plan to send you an updated CERP later today, along with an updated timeline for your informational use. You can let us know if you have any concerns at our call next Thursday.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 4/22/2022 8:18:24 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]
Subject: Tasks under EPA/COJ 1414 AOC

Dr. Williams:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). EPA received your extension requests for several tasks submitted April 4, 2022. After review we are prepared to grant the extension for:

CERP Task 27 – Membrane Cover – The new completion date will be adjusted to August 31, 2022 given supply chain issues and the new timeline provided by the contractor.

At this time we are not prepared to grant extensions for the following tasks and both tasks are considered or will be considered overdue:

CERP Task 5.B – UV Sensors on Filter #5 at Fewell
CERP Task 6.B – General Filter rehab at Fewell

Finally, EPA would like some help understanding several dates related to Tasks 6A, 6B, 25, 26 and 40. I have attached a spreadsheet with known dates, but there are some blanks that we could use help filling. I have greyed out those blocks not needed. Please take a look and populate the spreadsheet and return. If you have any questions please don't hesitate to reach out. Once I hear back from you, I plan to close a number of other tasks.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section

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Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 4/22/2022 8:22:05 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]
Subject: RE: Tasks under EPA/COJ 1414 AOC
Attachments: Tracking Tasks 6, 25,26, 33,40 Spreadsheet.xlsx

Sorry. Here is the attached spreadsheet. Happy Friday.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

From: Myers, Bryan
Sent: Friday, April 22, 2022 4:18 PM
To: 'Charles Williams' <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; 'Terry Williamson' <twilliamson@city.jackson.ms.us>; 'Mary D. Carter' <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; 'Walters, Karen' <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; 'Estridge, Jeffrey' <Jeffrey.Estridge@msdh.ms.gov>; 'Shultis, Charles' <Charles.Shultis@msdh.ms.gov>; 'Holmes, Lenore' <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; 'Marlin King' <mking@jacksonms.gov>; Burns, Robert <Burns.Robert@epa.gov>
Subject: Tasks under EPA/COJ 1414 AOC

Dr. Williams:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). EPA received your extension requests for several tasks submitted April 4, 2022. After review we are prepared to grant the extension for:

CERP Task 27 – Membrane Cover – The new completion date will be adjusted to August 31, 2022 given supply chain issues and the new timeline provided by the contractor.

At this time we are not prepared to grant extensions for the following tasks and both tasks are considered or will be considered overdue:

CERP Task 5.B – UV Sensors on Filter #5 at Fewell
CERP Task 6.B – General Filter rehab at Fewell

Finally, EPA would like some help understanding several dates related to Tasks 6A, 6B, 25, 26 and 40. I have attached a spreadsheet with known dates, but there are some blanks that we could use help filling. I have greyed out those blocks not needed. Please take a look and populate the spreadsheet and return. If you have any questions please don't hesitate to reach out. Once I hear back from you, I plan to close a number of other tasks.

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Bryan M. Myers, Chief
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Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
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		Issue Notice to Proceed to Begin Engineering Design Process. DUE DATE	Issue Notice to Proceed to Begin Engineering Design Process. ISSUED DATE	Submit plans to MSDH for review and approval DUE DATE	Submit plans to MSDH for review and approval SUBMISSION DATE
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Task 26	Pretreatment Rehab	11/30/2021	1/5/2022	3/31/2022	
Task 33	Dosing automation OBC			1/30/2022	
Task 40	Corrosion Control at JHF			2/1/2022	

Date of MSDH Approval	Advertise for Construction Bids DUE DATE	Advertise for Construction Bids DATE ADVERTISED	Receive Construction Bids. END DATE	Award Construction Contract. DUE DATE	Award Construction Contract. AWARD DATE
2/23/2022	3/7/2022	2/25/2022	3/15/2022	5/15/2022	Next week?
6/28/2022	8/31/2022		9/30/2022	12/15/2022	
2/23/2022	9/30/2022	2/25/2022	3/15/2022	5/15/2022	Next Week?

Issue Notice to Proceed with Construction to the General Contractor. DUE DATE

Message

From: Charles Williams [cwilliams@city.jackson.ms.us]
Sent: 4/25/2022 4:07:43 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; Mauricka McKenzie [admin@cornerstoneengllc.com]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@city.jackson.ms.us]; Burns, Robert [Burns.Robert@epa.gov]; ka.tran@qsiworld.com; Terrence Byrd [tbyrd@city.jackson.ms.us]; Vincent Thomas [vthomas@city.jackson.ms.us]; Louis Wright [louisw@city.jackson.ms.us]
Subject: RE: Tasks under EPA/COJ 1414 AOC
Attachments: Tracking Tasks 6, 25,26, 33,40 Spreadsheet.xlsx

Mr. Myers,

The team will review this information, and provide the requested clarity. I will assist as much as possible before my departure on Friday.

Respectfully,

Charles Williams Jr., PE, PhD
City Engineer
Department of Public Works
(601) 960-1651

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Friday, April 22, 2022 3:22 PM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>
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U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
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Subject: Tasks under EPA/COJ 1414 AOC

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Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
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Pronouns: He, Him, His

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2/23/2022	9/30/2022	2/25/2022	3/15/2022	5/15/2022	Next Week?

Issue Notice to Proceed with Construction to the General Contractor. DUE DATE

Message

From: Armor, Suzanne [Armor.Suzanne@epa.gov]
Sent: 1/4/2022 3:09:28 PM
To: Terry Williamson [twilliamson@city.jackson.ms.us]
CC: Myers, Bryan [Myers.Bryan@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Hardage, Melissa [Hardage.Melissa@epa.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; King, Carol [King.Carol@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]
Subject: RE: Update on tasks, extension requests, and approvals

Thanks for the prompt response, Terry. Understand that these are indeed trying times.

Hope you all are staying safe (and warm!). Looking forward to hearing back from you soon.

-Suzanne

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Tuesday, January 4, 2022 10:05 AM
To: Armor, Suzanne <Armor.Suzanne@epa.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: Re: Update on tasks, extension requests, and approvals

Suzanne, I'll try to get back to you on this by the end of the week. Business in the City has been somewhat disrupted by going back to working remotely Wednesday of last week.

Thanks,

Terry

From: Armor, Suzanne <Armor.Suzanne@epa.gov>
Sent: Tuesday, January 4, 2022 8:27 AM
To: Terry Williamson
Cc: Myers, Bryan; Bragan, Mary Jo; Driskell, Amanda; Hardage, Melissa; Bunch, Charlotte; Quinones, Rebecca; Lamberth, Larry; Wetherington, Michele; Kemker, Carol; King, Carol; Rausch, Heidi
Subject: RE: Update on tasks, extension requests, and approvals

Hi, Terry –

Following up on our email exchange below to see if you have any update on the City's review of the proposed revisions to the CERP deadlines. Please let me know when we can expect to hear back from the City on this.

Wishing you and the City personnel a happy and healthy 2022,
Suzanne

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Tuesday, December 14, 2021 7:15 PM
To: Armor, Suzanne <Armor.Suzanne@epa.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: RE: Update on tasks, extension requests, and approvals

Suzanne,

Thank you for providing this. I forwarded it to Dr. Williams to distribute to the appropriate team members for their review. I will advise you if there are any questions or concerns about the revisions to the CERP.

Very truly,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson |Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov
Follow COJ on Social Media: Facebook | Twitter | Instagram

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From: Armor, Suzanne [mailto:Armor.Suzanne@epa.gov]
Sent: Tuesday, December 14, 2021 8:51 AM
To: Terry Williamson <twilliamson@city.jackson.ms.us>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: RE: Update on tasks, extension requests, and approvals

SETTLEMENT CONFIDENTIAL – SUBJECT TO FRE 408

Dear Terry:

Per Bryan's email below and the EPA's ongoing discussions with the City of Jackson, attached for the City's review is a draft updated Comprehensive Equipment Repair Plan (CERP), Appendix A to Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). Consistent with Paragraph 56 of the AOC, the EPA believes that the City has demonstrated good cause as to why certain interim and/or final deadlines in the CERP warrant extensions, and those extensions to the CERP are incorporated in the updated CERP. The EPA is requesting that the City review the CERP for accuracy and to let us know if you have any concerns with the revisions.

Please note that, under the terms of Paragraph 56 of the AOC, this is not an amendment to the AOC requiring re-signature by our signatories to take legal effect; however, we understand that the City may wish to have the revised CERP reviewed by its leadership. Please advise: (1) who the City believes needs to review/concur on its end; and (2) a timeframe for completing such review.

Once we have a "final" version of this CERP revision, we will circulate that to the City and our MSDH partners, along with an updated timeline.

Thank you for your continued assistance in this matter.

Best regards,
Suzanne

SUZANNE K. ARMOR | ATTORNEY-ADVISOR
United States Environmental Protection Agency
Office of Regional Counsel
Water Legal Office
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
tel: 404.562.9701
fax: 404.562.8078
armor.suzanne@epa.gov
She/Her/Hers

CONFIDENTIALITY NOTICE: This message is being sent by or on behalf of an attorney. It is intended exclusively for the individual(s) or entity(ies) to whom or to which it is addressed. This communication may contain information that is proprietary, privileged, or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by email and delete all copies of the message.

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Monday, December 13, 2021 7:59 AM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; karen.walters <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte

<Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>
Subject: Update on tasks, extension requests, and approvals

Dr. Williams:

As we discussed in our last biweekly call on December 2, 2021, we continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, I wanted to update everyone on the status of recent submissions and also summarize where EPA believes several tasks are currently at in process. Based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Tasks:

CERP Task 6 – Two Scope of Works for filters at JH Fewell (one for rehab of filters 24 & 26 and one for general filter rehab)
CERP Task 25 – OBC General Filter Rehab SOW
CERP Task 26 – OBC Membrane Plant Pretreatment Rehab SOW

At this time, EPA also approves the time extension requests for the following Tasks:

CERP Task 12 – Conventional-Chlorine Room project moved to completion of December 30, 2023
CERP Task 15 – UV #5 – moved to coincide to be completed with general filter rehab at OBC outlined in Task 25.
CERP Task 17 – Membrane Blower C moved to coincide to be completed with general filter rehab at OBC outlined in Task 26.
CERP Task 27 – Membrane Basin Building Structure Project moved to April 22, 2022.

I wanted to make you aware that several tasks have now had their description edited based on discussion with COJ and will be presented in the next updated CERP. The tasks impacted include:

CERP Task 12 - Replacement of original 14-inch mag meter
CERP Task 13 - Updated to now only say Clari-Trac System shall be functioning and operational by new date – May 31, 2022.
CERP Task 17 – Blower Room – Blower C has had language updated to only consist of being completed and functional by new date outlined above.

The following tasks are still outstanding, however, EPA is awaiting additional information from COJ in order to consider a deadline extension. Those Tasks are:

CERP Task 16 - OBC Membrane – HS#2 Chlorine analyzers. COJ is awaiting tech to provide timeline for work completion for potential extension request.
CERP Task 31 – Wells – Awaiting MSDH Sanitary Survey Report to determine completion date for potential extension request.

Finally, I wanted to let you know that we do plan to send you an updated CERP later today, along with an updated timeline for your informational use. You can let us know if you have any concerns at our call next Thursday.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997,

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U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 5/13/2022 6:54:30 PM
To: William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]
Subject: Tasks under EPA's 1414 AOC

Mr. King:

The EPA Region 4 Offices continue to review the City's submitted deliverables that are required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, based upon the EPA's rolling review, the City of Jackson has adequately completed the following additional Task:

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5) Please forward me the most recent Scope of Work for Asset Management Plan that was sent to Ms. Driskell

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shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Marlin King [mking@city.jackson.ms.us]
Sent: 5/13/2022 7:33:23 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]
Subject: RE: Tasks under EPA's 1414 AOC

Hi Mr. Myers,

I will meet with Mrs. Carter on the outstanding items and I will provide an update at next week's meeting.

Thanks

Marlin B. King Jr.
Director of Public Works
City of Jackson
e: mking@jacksonms.gov
p: 601.960.2419
m: 769.257.1579

THE CITY OF JACKSON MISSISSIPPI

This e-mail and any files transmitted with it are City of Jackson property, are confidential, and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email is strictly prohibited.

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Friday, May 13, 2022 1:55 PM
To: William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>
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Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 5/16/2022 12:25:14 PM
To: Marlin King [mking@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]
Subject: RE: Tasks under EPA's 1414 AOC
Attachments: Tracking Tasks 6, 25,26, 33,40 Spreadsheet.xlsx

Thank you Mr. King. Here is the spreadsheet. If you could fill the spreadsheet and respond to that sooner, that would be much appreciated. Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
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Sent: Friday, May 13, 2022 3:33 PM
To: Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>
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Director of Public Works

City of Jackson
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Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

		Issue Notice to Proceed to Begin Engineering Design Process. DUE DATE	Issue Notice to Proceed to Begin Engineering Design Process. ISSUED DATE	Submit plans to MSDH for review and approval DUE DATE	Submit plans to MSDH for review and approval SUBMISSION DATE
Task 6.A	JHF Filters 24 & 26 rehab	11/30/2021	1/5/2022	3/31/2022	
Task 6.B	JHF General Filter Rehab	5/30/2022		9/20/2022	
Task 25	OBC General Filter Rehab Membrane Plant	11/30/2021	1/5/2022	3/31/2022	3/31/2022
Task 26	Pretreatment Rehab	11/30/2021	1/5/2022	3/31/2022	
Task 33	Dosing automation OBC			1/30/2022	
Task 40	Corrosion Control at JHF			2/1/2022	

Date of MSDH Approval	Advertise for Construction Bids DUE DATE	Advertise for Construction Bids DATE ADVERTISED	Receive Construction Bids. END DATE	Award Construction Contract. DUE DATE	Award Construction Contract. AWARD DATE
2/23/2022	3/7/2022	2/25/2022	3/15/2022	5/15/2022	Next week?
6/28/2022	8/31/2022		9/30/2022	12/15/2022	
2/23/2022	9/30/2022	2/25/2022	3/15/2022	5/15/2022	Next Week?

Issue Notice to Proceed with Construction to the General Contractor. DUE DATE

Message

From: Marlin King [mking@city.jackson.ms.us]
Sent: 5/18/2022 3:37:58 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Jeffrey.Estridge@msdh.ms.gov; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; admin@cornerstoneengllc.com; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; ka.tran@qsiworld.com; Terrence Byrd [tbyrd@city.jackson.ms.us]; Vincent Thomas [vthomas@city.jackson.ms.us]; Louis Wright [louisw@city.jackson.ms.us]
Subject: RE: Tasks under EPA/COJ 1414 AOC
Attachments: Answers to Bryan Myers email 4 27 2022.docx; Tracking Tasks 6, 25,26, 33,40 Spreadsheet (1) revised.xlsx

Hello Mr. Myers,

Please review the attachments at your earliest convenience. We look forward to discussing these items with you.

Thanks

Marlin B. King Jr.
Director of Public Works
City of Jackson
e: mking@jacksonms.gov
p: 601.960.2419
m: 769.257.1579

THE CITY OF JACKSON MISSISSIPPI

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From: Charles Williams <cwilliams@city.jackson.ms.us>
Date: April 25, 2022 at 11:07:47 AM CDT
To: "Myers, Bryan" <Myers.Bryan@epa.gov>, William Moody <william.moody@msdh.ms.gov>, Terry Williamson <twilliamson@city.jackson.ms.us>, "Mary D. Carter" <mdcarter@city.jackson.ms.us>, "Armor, Suzanne" <Armor.Suzanne@epa.gov>, "Bragan, Mary Jo" <Bragan.Maryjo@epa.gov>, "Driskell, Amanda" <Driskell.Amanda@epa.gov>, "Quinones, Rebecca" <quinones.rebecca@epa.gov>, "Burns, Robert" <Burns.Robert@epa.gov>, "Smith, Dominique" <smith.dominique@epa.gov>, "Smith, Brian" <Smith.Brian@epa.gov>, "Rausch, Heidi" <Rausch.Heidi@epa.gov>, "King, Carol" <King.Carol@epa.gov>, "Kemker, Carol" <Kemker.Carol@epa.gov>, "Lamberth, Larry" <Lamberth.Larry@epa.gov>, "Walters,

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Mr. Myers,

The team will review this information, and provide the requested clarity. I will assist as much as possible before my departure on Friday.

Respectfully,

Charles Williams Jr., PE, PhD
City Engineer
Department of Public Works
(601) 960-1651

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Friday, April 22, 2022 3:22 PM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>
Subject: RE: Tasks under EPA/COJ 1414 AOC

Sorry. Here is the attached spreadsheet. Happy Friday.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

From: Myers, Bryan
Sent: Friday, April 22, 2022 4:18 PM

To: 'Charles Williams' <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; 'Terry Williamson' <twilliamson@city.jackson.ms.us>; 'Mary D. Carter' <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; 'Walters, Karen' <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; 'Estridge, Jeffrey' <Jeffrey.Estridge@msdh.ms.gov>; 'Shultis, Charles' <Charles.Shultis@msdh.ms.gov>; 'Holmes, Lenore' <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; 'Marlin King' <mking@jacksonms.gov>; Burns, Robert <Burns.Robert@epa.gov>
Subject: Tasks under EPA/COJ 1414 AOC

Dr. Williams:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). EPA received your extension requests for several tasks submitted April 4, 2022. After review we are prepared to grant the extension for:

CERP Task 27 – Membrane Cover – The new completion date will be adjusted to August 31, 2022 given supply chain issues and the new timeline provided by the contractor.

At this time we are not prepared to grant extensions for the following tasks and both tasks are considered or will be considered overdue:

CERP Task 5.B – UV Sensors on Filter #5 at Fewell
CERP Task 6.B – General Filter rehab at Fewell

Finally, EPA would like some help understanding several dates related to Tasks 6A, 6B, 25, 26 and 40. I have attached a spreadsheet with known dates, but there are some blanks that we could use help filling. I have greyed out those blocks not needed. Please take a look and populate the spreadsheet and return. If you have any questions please don't hesitate to reach out. Once I hear back from you, I plan to close a number of other tasks.

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Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Answers to Bryan Myers Email

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). EPA received your extension requests for several tasks submitted April 4, 2022. After review we are prepared to grant the extension for:

CERP Task 27 – Membrane Cover – The new completion date will be adjusted to August 31, 2022 given supply chain issues and the new timeline provided by the contractor.

Thank you

At this time we are not prepared to grant extensions for the following tasks and both tasks are considered or will be considered overdue:

CERP Task 5.B – UV Sensors on Filter #5 at Fewell
Answer: We assume this refers to Task 15 at OBC since filter #5 is not in use at Fewell. The UV on Filter #5 cannot be repaired at the current time because the influent and effluent valves are leaking which prohibit evacuation of water on the UV unit. The UV unit cannot be repaired while under water. These valves will be replaced as soon as possible during the OBC filter rehab which is in the design and review process with MSDH. The UV on filter #5 will be repaired at this time.

CERP Task 6.B – General Filter rehab at Fewell
Answer: The City of Jackson's focus at JHF is to maintain and exceed filter capacity to at least the current treatment capacity. At the current time, the reliable filter capacity at JHF is 28.5 MGD without filter 24, 26, and 28 (the filter in the same filter bay with 24 and 26). When filters 24 and 26 are repaired, the reliable filter capacity at JHF will be 36 MGD. The current maximum capacity of the plant is 20 MGD by order of MSDH. The maximum production capacity possible at JHF, even if the MSDH capacity restriction is lifted after the completion of the corrosion control improvements, is 28 MGD because that is the maximum capacity of the Parshall Flume to the flocculators. The major rehab needs at JHF are in building 2 which are the oldest filters and comprise only 6 MGD of the current capacity. Since these filters are more than 75 years old, we request that EPA reconsider an extension of time on the JHF general filter rehab until after completion of the work on Filters 24 and 26 to ensure that no loss of filter capacity occurs prior to restoration of this additional capacity.

Finally, EPA would like some help understanding several dates related to Tasks 6A, 6B, 25, 26 and 40. I have attached a spreadsheet with known dates, but there are some blanks that we could use help filling. I have greyed out those blocks not needed. Please take a look and populate the spreadsheet and return. If you have any questions please don't hesitate to reach out. Once I hear back from you, I plan to close a number of other tasks.
Answer: see attached updated Spreadsheet

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		Issue Notice to Proceed to Begin Engineering Design Process. DUE DATE	Issue Notice to Proceed to Begin Engineering Design Process. ISSUED DATE	Submit plans to MSDH for review and approval DUE DATE	Submit plans to MSDH for review and approval SUBMISSION DATE
Task 6.A	JHF Filters 24 & 26 rehab	11/30/2021	1/5/2022	3/31/2022	11/25/2022
Task 6.B	JHF General Filter Rehab	5/30/2022		9/20/2022	
Task 25	OBC General Filter Rehab Membrane Plant	11/30/2021	1/5/2022	3/31/2022	3/31/2022
Task 26	Pretreatment Rehab	11/30/2021	1/5/2022	3/31/2022	
Task 33	Dosing automation OBC			1/30/2022	
Task 40	Corrosion Control at JHF			2/1/2022	1/31/2022

Date of MSDH Approval	Advertise for Construction Bids DUE DATE	Advertise for Construction Bids DATE ADVERTISED	Receive Construction Bids. END DATE	Award Construction Contract. DUE DATE	Award Construction Contract. AWARD DATE
2/23/2022	3/7/2022	2/25/2022	3/15/2022	5/15/2022	
6/28/2022	8/31/2022		9/30/2022	12/15/2022	
2/23/2022	9/30/2022	2/25/2022	3/29/2022	5/30/2022	4/12/2023

Issue Notice to Proceed with Construction to the General Contractor. DUE DATE

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 5/18/2022 7:40:31 PM
To: Marlin King [mking@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Jeffrey.Estridge@msdh.ms.gov; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; admin@cornerstoneengllc.com; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; ka.tran@qsiworld.com; Terrence Byrd [tbyrd@city.jackson.ms.us]; Vincent Thomas [vthomas@city.jackson.ms.us]; Louis Wright [louisw@city.jackson.ms.us]
Subject: RE: Tasks under EPA/COJ 1414 AOC

Thank you Mr. King

Confirming receipt.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

From: Marlin King <mking@city.jackson.ms.us>
Sent: Wednesday, May 18, 2022 11:38 AM
To: Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Jeffrey.Estridge@msdh.ms.gov; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; admin@cornerstoneengllc.com; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; ka.tran@qsiworld.com; Terrence Byrd <tbyrd@city.jackson.ms.us>; Vincent Thomas <vthomas@city.jackson.ms.us>; Louis Wright <louisw@city.jackson.ms.us>
Subject: RE: Tasks under EPA/COJ 1414 AOC

Hello Mr. Myers,

Please review the attachments at your earliest convenience. We look forward to discussing these items with you.

Thanks

Marlin B. King Jr.
Director of Public Works
City of Jackson
e: mking@jacksonms.gov
p: 601.960.2419
m: 769.257.1579

This e-mail and any files transmitted with it are City of Jackson property, are confidential, and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email is strictly prohibited.

From: Charles Williams <cwilliams@city.jackson.ms.us>
Date: April 25, 2022 at 11:07:47 AM CDT
To: "Myers, Bryan" <Myers.Bryan@epa.gov>, William Moody <william.moody@msdh.ms.gov>, Terry Williamson <twilliamson@city.jackson.ms.us>, "Mary D. Carter" <mdcarter@city.jackson.ms.us>, "Armor, Suzanne" <Armor.Suzanne@epa.gov>, "Bragan, Mary Jo" <Bragan.Maryjo@epa.gov>, "Driskell, Amanda" <Driskell.Amanda@epa.gov>, "Quinones, Rebecca" <quinones.rebecca@epa.gov>, "Burns, Robert" <Burns.Robert@epa.gov>, "Smith, Dominique" <smith.dominique@epa.gov>, "Smith, Brian" <Smith.Brian@epa.gov>, "Rausch, Heidi" <Rausch.Heidi@epa.gov>, "King, Carol" <King.Carol@epa.gov>, "Kemker, Carol" <Kemker.Carol@epa.gov>, "Lamberth, Larry" <Lamberth.Larry@epa.gov>, "Walters, Karen" <Karen.Walters@msdh.ms.gov>, "Wetherington, Michele" <Wetherington.Michele@epa.gov>, "Estridge, Jeffrey" <Jeffrey.Estridge@msdh.ms.gov>, "charles.shultis" <charles.shultis@msdh.ms.gov>, "Holmes, Lenore" <lenore.holmes@msdh.ms.gov>, Mauricka McKenzie <admin@cornerstoneengllc.com>, amy.mcleod@msdh.ms.gov, "Bunch, Charlotte" <Bunch.Charlotte@epa.gov>, Marlin King <mking@city.jackson.ms.us>, "Burns, Robert" <Burns.Robert@epa.gov>, ka.tran@qsiworld.com, Terrence Byrd <tbyrd@city.jackson.ms.us>, Vincent Thomas <vthomas@city.jackson.ms.us>, Louis Wright <louisw@city.jackson.ms.us>**Subject: RE: Tasks under EPA/COJ 1414 AOC**

Mr. Myers,

The team will review this information, and provide the requested clarity. I will assist as much as possible before my departure on Friday.

Respectfully,

Charles Williams Jr., PE, PhD
City Engineer
Department of Public Works
(601) 960-1651

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Friday, April 22, 2022 3:22 PM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>
Subject: RE: Tasks under EPA/COJ 1414 AOC

Sorry. Here is the attached spreadsheet. Happy Friday.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

From: Myers, Bryan
Sent: Friday, April 22, 2022 4:18 PM
To: 'Charles Williams' <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; 'Terry Williamson' <twilliamson@city.jackson.ms.us>; 'Mary D. Carter' <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; 'Walters, Karen' <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; 'Estridge, Jeffrey' <Jeffrey.Estridge@msdh.ms.gov>; 'Shultis, Charles' <Charles.Shultis@msdh.ms.gov>; 'Holmes, Lenore' <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; 'Marlin King' <mking@jacksonms.gov>; Burns, Robert <Burns.Robert@epa.gov>
Subject: Tasks under EPA/COJ 1414 AOC

Dr. Williams:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). EPA received your

extension requests for several tasks submitted April 4, 2022. After review we are prepared to grant the extension for:

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CERP Task 6.B – General Filter rehab at Fewell

Finally, EPA would like some help understanding several dates related to Tasks 6A, 6B, 25, 26 and 40. I have attached a spreadsheet with known dates, but there are some blanks that we could use help filling. I have greyed out those blocks not needed. Please take a look and populate the spreadsheet and return. If you have any questions please don't hesitate to reach out. Once I hear back from you, I plan to close a number of other tasks.

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Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 6/3/2022 3:16:48 PM
To: Charles Williams [cwilliams@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: Questions and Approval of Tasks under EPA/COJ 1414 AOC
Attachments: EPA Response August 20, 2021.pdf

Good morning Mr. King:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Tasks:

CERP Task 6.A.3
CERP Task 6.A.4
CERP Task 33.B
CERP Task 40.C.c
CERP Task 40.C.d

I also wanted to make you aware of several questions and asks we had during our June 2, 2022, biweekly call that I am hoping you or someone else from the City can address.

1) Please timely notify EPA when the polymer pumps are working in the potassium permanganate room at OB Curtis.
2) When is Allied able to return and look at pumps 7 and 8 on HS 2 at OB Curtis?
3) Provide a copy of minutes of city council meeting awarding contracts for Filters 24 & 26 (Task 6.A.5) and the corrosion control (Task 40.C.e)at Fewell. And make sure to provide me with a copy of Notice to Proceed with construction for both of these tasks once they occur.
4) Please let us know your plan for obtaining funding for Task 6.B.
5) Can you provide a list of projects that are currently in pipeline when funding becomes available, such as with a potential SRF Loan #4?
6) Please update the Membrane equipment spreadsheet that was provided in the attached EPA Response August 20, 2021 (Pages 10-16). Keith Allen has supplied some of this information in the weekly Inventory Checklist, but we would like in the August 20 format.
7) What is the status of Task 33 and submitting the Dosing Automation plan to MSDH?
8) Asset Management Plan Scope of Work – I spoke with Keith Allen and he is creating a new SOW with all of EPA's comments and with deadlines and timeframes. We hope to get the new document by June 10, 2022.

Finally, I would like to reiterate our hope that the City will make every effort to increase staffing at both Fewell and Curtis WTPs as staffing levels at both plants continue to be low for operations and maintenance.

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Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

THE CITY OF JACKSON MISSISSIPPI

MEMORANDUM

TO: BRYAN MYERS AND AMANDA DRISKELL

FROM: CHARLES WILLIAMS, P.E, PHD, CITY ENGINEER

SUBJECT: ADDITIONAL INFORMATION NEEDED FOR TASK UNDER EPA/COJ 1414 AOC

DATE: AUGUST 20, 2021

CC: CHOKWE ANTAR LUMUMBA, MAYOR

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Charles Williams, PE, PhD
City Engineer

8/20/2021
Date

Dr. Williams,

Below is a description of the CERP Tasks where EPA is either waiting on confirmation of task completion from the State or where we need more information in order to complete our evaluation. Please be advise that we haven't completed our review. We will provide more information on the pending tasks as we complete our evaluation. Please provide this information as soon as possible so that we may address by next Friday, but later than by COB Friday, August 20th.

Items were more information is required:
CERP Task 4 – Clari-Trac – additional information required
Clari-Trac System shall be functioning and operational and repairs completed for all basins including butterfly valves, actuators, drivers, and vacuum hoses.

EPA's evaluation and current requirement:

Work continues to be performed on the basins.

Please provide a list of pending/needed work per basin for the Clari-Trac system to be fully functional and estimated timeframe for each part needing work.

Answer: There is no work required. These Clara-tracs have been working continuously since July 2020 when most of the work was done. The last valve required was installed in October 2020 with only minor maintenance items required since then. This has been verified on MOR's/WOR.

CERP Task 12 - Chlorine Room, HS #1 – additional information required
Documentation showing functioning and operational.
EPA's evaluation and current requirement:
Documentation provided included several invoices with work performed on the ammonia and chlorine feed equipment. There is no indication that the equipment is fully functional.
Is there documentation that specifies that the equipment is fully operational or is there a way to show what the invoice repaired more explicitly?

Answer: Control Works invoices dated 6/2/2021 state that a booster pump was installed to provide differential pressure for the Ammonia system and that 2 chlorinators and 2 Ammoniators (one for each plant) were working correctly in automatic. A PLC issue was noted

The dosage equation was corrected on the PLC for the membrane Chlorinator on July 28, 2021. The chlorinator and ammoniator are working correctly in automatic as witnessed by MSDH on Friday August 13, 2021. Dosage calculations show the Chlorinator and Ammoniator operating properly in automatic.

Update: A leak on the line to the Ejector on the Conventional chlorinator has caused a switch to the two backup chlorinators which are not SCADA capable, so they are not working in automatic

pending repair of the leak. Repairs need to be made ASAP to restore automatic function. Ammonia feeders remain in automatic.

SCADA ready backup chlorinators are part of the automation projects.

CERP Task 13.A - Clari-Trac System – additional information required.
Contact Manufacturer and identify necessary work/schedule and submit Scope of Work to EPA.
EPA's evaluation and current requirement:
Response from COJ indicates that report from manufacturer's visit on 10/27/2020 can't be located. SOW indicates City has been troubleshooting the system internally and intends to continue working on it. If their efforts don't work, then the manufacturer will be contacted. City must provide report from manufacturer as required on this Task. Scope of work needs to be resubmitted to specify work required per basin and estimated timeframe per service needed. Please refer to CERP in AOC for detail instructions on what an SOW requires.

Answer: See the attached service report from Leopold on OBC dated 9/2/2020. A revised Scope of Work is also attached.

CERP Task 15 – UV # 5 Filter Gallery
Operational and fully functional.
EPA's evaluation and current requirement:
The unit is not currently fully operational.
Please provide additional work required and estimated timeframe for completion. This task remains incomplete until operational and fully functional.

Answer: The 24" isolation valves on filter #4 and #5 UV's are not closing properly which prevents the removal and repair on the wipers. The valves are to be replaced ASAP but COJ will be attempting to prevent the water from interrupting repair while valves are being replaced.

CERP Task 26 - Membrane Train 1-6 Insight Report
Submit a report on the current status and any needed repairs/replacement for each membrane train and its components including sluice gate, flocculator, centrifuge, reject valve, turbidimeter and rapid mixer.
EPA's evaluation and current requirement:
A status of the trains and required work was not provided.
Please submit a table listing each train, current status, repairs/replacement needed for the units to be fully functional.

Answer: See the attached spreadsheet.

Items that may be deemed complete upon State visit:
CERP Task 5 –UV reactors (Fewell) – pending State's site visit
Functional and fully operational.

Answer: This task is complete. MSDH visit should confirm.

CERP Task 14 – Turbidimeters (Curtis) – pending State's site visit

Provide documentation of completion.

Answer: This task is complete. MSDH visit should confirm.

CERP Task 16 - Chlorine analyzers (Curtis) - pending State's site visit and additional information
Operational and fully functional. Provide documentation of replacement of one chlorine analyzer and installation of second chlorine analyzer.
EPA's evaluation and current requirement: Information provided included invoices for universal controllers, pH probes and service contracts. None of the documents nor the part numbers mentioned chlorine. EPA's evaluation included a search of all part numbers and equipment manual/specs and chlorine was not listed for any of them. If State is unable to confirm the completion of this task, can the City provide additional information where it is clearly stated that equipment is to measure chlorine?

Answer: This task is complete. MSDH visit should confirm. The pH meters and other equipment invoices not for chlorine analyzers should have been under monitoring tab. This was a mistake.

CERP Task 17 – Blower Room (Curtis) - pending State's site visit and additional information
Provide documentation of completion.
COJ's response included an invoice for butterfly valves. If State is unable to confirm the completion of this task, please provide additional documentation that describes the installation of equipment and that certifies that it is properly functioning?

Answer: The blowers trip out and must be reset at times likely because of a malfunctioning valve or high TMP's effecting back pulse. This will be investigated and repaired since previous repairs have not been successful.

CERP Task 28 – Soda Ash System (Curtis) – pending State's site visit
Dilution system functional and fully operational.

Answer: This task is complete. MSDH visit should confirm.

I would also like to take this opportunity for you to keep in mind that the bi-weekly calls are where EPA is informing COJ when we need additional information to be able to determine a task is complete and get clarification on submissions. As my staff conducts the review, there will be occasions where the response will be deemed insufficient and more information will be required. The biweekly meetings should be used to make sure we understand each other, not a place to challenge our request. We want to be able to mark a task complete as much as you do and expect you are open to understanding that we sometimes will need additional information as we are not there at the system. With the number of tasks in the AOC and with trying to make these meetings as effective as we can, we ask that COJ address any concerns in the biweekly follow up email (like this one) that requests additional information. This will save time and give us a chance to understand your concern.

If you have any questions or concerns, please feel free to reach out.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

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SERVICE REPORT

REV. 02
5/22/12

QUALITY SYSTEM FORM

Part I - Customer & Plant Site Information

1. Customer Information (Include Customer Name, Address, P#, Email)

O B Curtis WTP
100 O B Curtis Drive
Ridgeland, Ms. 39157

2. Today's Date: 2SEPT2020

3. Contract Number:

4. Arrival Time: 1300
31AUG2020

5. Departure Time: 1200
2SEPT2020

6. Plant Site Information (Include Site Contact Name, Address, Ph#, Email)

O B Curtis WTP
100 O B Curtis Drive
Ridgeland, Ms. 39157

7. XYLEM Address

XYLEM.
227 Division Street
Zellenople, PA 16063
Phone: 724-452-6300; Fax: 724-452-1377

Part II – Worked Performed

8. Did the customer request this visit? ☒ Yes No ☐
Authority for call: Pat Rattigan

9. Is the equipment operating satisfactorily? ☐ Yes No ☒

10. Describe the work performed:

Basin 3 is the only basin that is drained and will need to start filling Tuesday evening, this is the only basin and equipment that I will be checking this trip.

The home (Park position) Go proximity switches for all three collectors have been installed upside down and reversed, there is no way for the system to work in automatic without these functioning correctly. All three of the proximity switches have been removed, and installed correctly by changing the bracket to mount these. I found an H1 (hot wire) labelled for Collector A's proximity switch lying in the bottom of our panel. I connected the wire back to the proper terminal and we now have power going out to the proximity switch. Collector A and C's proximity switches are now working properly and are showing the park position and stopping the collectors correctly during manual operations. Collector B's proximity switch has a wiring problem internal of the cabling, the plant is going to order new switches and cabling and install when received, they have the model number and I have given them the model numbers we have used. Collector B's hoses have been removed until the proximity switch problem has been corrected.

Collector C's cable is dragging on the ground the entire length of the basin, the plant is going to buy a come along and tighten the cable as their old one broke trying to tighten it previously. This cable also has a lot of splices in it which would suggest that this cable has broken a couple times in the past. The secondary side (Effluent) collector is about 20 feet offset from the other two secondary side collectors and will be corrected the next time the basin is down.

The end caps have been removed from all 6 collectors and cleaned out with a water hose to remove any old sludge left in them.

Collector A's secondary side (Effluent) collector does not have a hose run to it as there is no valve to connect to, the valve has been removed previously (Not known when) and the collector and the pipe where the valve connected have been plugged.

There is no way to tell if the sludge valves are working or whether they are open or closed (no flags or indicators). They have a wire running directly from a breaker to the open/close switch in our panel (I did not correct any wiring that

has been changed this trip as I and they don't know why the changes were made or for what purpose). I verified that our switches on the panel will fire all 6 of the solenoid valves for the valves (This is in someone else's panel) but do not know that the valves are moving. The valves are pneumatic and when the air was turned on (to the Influent collector sludge valves) there was a lot of water running through the plastic tubing in the panel, not air only. The Effluent collector sludge panel has tubing pulled off of the controls to the valves and the air is off to the panel. I believe the valves are manually opened and no control has been used in a long time.

Collectors A and C have been fully tested in Automatic with short one way, short round trip, long way and long round trip working properly.

The panels appear to be in good shape, no rust on the relay base screws or anywhere else for that matter. Wiring looks ok, they have made changes to wiring to make things work, this probably could be corrected using our drawings and time and testing. They have SLC 5/05 processors which in Basin 3 is working but probably should be upgraded as spare parts I would believe would be costly and hard to come by.

This report is for Basin 3 only, any problems found in Basin 3 could also be found in Basins 1 and 2 along with more or less problems. No tests or troubleshooting of any kind were done to Basins 1 and 2. Pictures will be attached to the email sending this report.

My suggestions for Basin 3:

If any of this is considered, I recommend we send a controls and mechanical representative together to complete any or all upgrades on each basin.

Replace all of the sludge valves and solenoid actuators with electric actuators and new valves, this will allow new programming for limit switches that would let you know that the valves are open/close and have better manual control from the actuator itself if ever needed.
Replace all hoses that are cracked, cut or damaged in anyway and get proper length set for all.
Replace all broken, stretched cables (Basin 3, C collector has numerous splices in it) or just replace all cables.
Verify communications to Scada and give Scada addressing to change set point for runtimes.
The dog houses need maintenance done every time the basin is down for cleaning, greasing the four bearing for each collector and spraying lubricant on the wheels on the wall.
Upgrade the PLC's.

11. Other Remarks or Comments:

Part III – Service Sign-Off (Leopold Representative to Fill In)

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SERVICE REPORT

REV. 02
5/22/12

QUALITY SYSTEM FORM

12. Company	13. Leopold Representative Printed Name & Title	14. Leopold Representative Signature:
XYLEM	Larry Seals Field Service-Controls	Larry Seals

Scope of work for repairing OBC Clari-trac system

OBC maintenance personnel will continue to make repairs on Basin 1 and Basin 3 Clari-trac system when basins are periodically taken down for cleaning. If both basins are not fully functioning by completion of HS2 repairs and at least one additional membrane train (1 or 5) then:

Upon completion of repairs for HS2, replacement of train 1 and train 5, a suitable contractor with experience in these areas will be obtained and Basin 1 will be taken down for the recommended period of time to allow the contractor to completely repair and bring the basin 1 Clari-trac system to fully automatic operational condition. This must require no more than 7 months from the date of the signed Agreed Order.

The following is a description of necessary replacement items for the existing Leopold CT2 Siphon Sludge Removal Assemblies in each basin. All necessary repairs/replacements shall be made according to this list per basin which total 3.

SUBMERGED SLUDGE COLLECTOR PARTS:

1 -	DC Motor Controller KBPB-125
1 -	Motor 1/4hp DC
2 -	DC Overcurrent Monitor - Telemecanique
3 -	Ethernet Switches – Fiber Optic - Hirschmann
3 -	SLC Batteries
9 -	Stainless Steel Wire ropes – 3/16 x 7 x 19. Length provided will be enough for entire CT2 unit
18 -	Flexible Sludge Hoses – 4" Bantam Flex RS Plastic
9 -	Proximity Sensors - Telemecanique
9 -	Limit Switches - GO SWITCH SERIES

NOTE: Valve actuators shall be provided by others as Leopold does not have the information on the existing actuators.

Timelines:

Completion of Membrane Train 1 (just completed) and Train 5 repairs are anticipated by November 1, 2021.

November 1, 2021: Repair of Basin 1 will begin immediately and should last one Month

December 1, 2021: Repair of Basin 2 will begin immediately and should last one Month

January 1, 2022: Repair of Basin 3 will begin immediately and should last one Month

Repairs to be completed by February 1, 2022.

OBC membrane equipment tracking sheet

Train	Unit	location	Part description	Part #	repairs needed	repairs completed	Date repaired
All	Rapid Mix # 3	Front	Motor/mixer	D-010-01A	in service		
All	Rapid Mix # 3	Back	Motor/mixer	D-010-01B	in service		
All	Rapid Mix # 3	Rapid mix exit	valve	D-015-01	in service		
All	Rapid Mix # 4	Front	Motor/mixer	D-010-02A	Disabled		
All	Rapid Mix # 4	Back	Motor/mixer	D-010-02B	Disabled		
All	Rapid Mix #4	Rapid mix exit	valve	D-015-02	Disabled		
Train 1	Flocculator #4	Flocculator entry	valve	D-025-01	out for repair	Fibers replaced	8/14/2021
Train 1	Flocculator #4	Front	Motor/mixer	D-030-01A	out for repair	Fibers replaced	8/14/2021
Train 1	Flocculator #4	Back	Motor/mixer	D-030-01B	out for repair	Fibers replaced	8/14/2021
Train 1	Flocculator #4	Flocculator exit	valve	D-035-01	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	tank entry	valve	D-055-01	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	Tank drain	valve	PV-D-11	out for repair	Fibers replaced	8/14/2021
Train 1	Cassette A	discharge	valve	FV3466A	out for repair	Fibers replaced	8/14/2021
Train 1	Cassette A	backpulse	valve	FV8860A	out for repair	Fibers replaced	8/14/2021
Train 1	Cassette B	discharge	valve	FV3466B	out for repair	Fibers replaced	8/14/2021
Train 1	Cassette B	backpulse	valve	FV8860B	out for repair	Fibers replaced	8/14/2021
Train 1	Cassette D	discharge	valve	FV3466D	out for repair	Fibers replaced	8/14/2021
Train 1	Cassette D	backpulse	valve	FV8860D	out for repair	Fibers replaced	8/14/2021
Train 1	Cassette F	discharge	valve	FV3466F	out for repair	Fibers replaced	8/14/2021
Train 1	Cassette F	backpulse	valve	FV8860F	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	CIP fill/recirc	valve	FV9760A	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	CIP fill/recirc	valve	FV9760B	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	CIP fill/recirc drain	valve	FV9760C	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	CIP backwash	valve	FV8160A	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	CIP backwash	valve	FV8160B	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	CIP backwash drain	valve	FV8160C	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	permeate	valve	FV3561A	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	permeate	valve	FV3561B	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	permeate drain	valve	FV3561C	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	permeate pressure	valve	FV3423	out for repair	Fibers replaced	8/14/2021

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Train 1	Membrane tank	permeate ARV	valve	FV3468	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	permeate	pump	P-35	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	permeate sample	valve	FV3536A	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	perm sample drain	valve	FV3536B	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	Vacuum	valve	FV3593	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	Vacuum eject drain	valve	FV-9290-EJCT	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	CIP recirc drain	valve	FV-9761	out for repair	Fibers replaced	8/14/2021
Train 1	Membrane tank	reject	valve	FCV-3863	out for repair	Fibers replaced	8/14/2021
Train 2	Flocculator #5	Flocculator entry	valve	D-025-02	in service		
Train 2	Flocculator #5	Front	Motor/mixer	D-030-02A	Disabled		
Train 2	Flocculator #5	Back	Motor/mixer	D-030-02B	in service		
Train 2	Flocculator #5	Flocculator exit	valve	D-035-02	in service		
Train 2	Membrane tank	tank entry	valve	D-055-02	in service		
Train 2	Membrane tank	Tank drain	valve	PV-D-12	in service		
Train 2	Cassette A	discharge	valve	FV3466A	in service		
Train 2	Cassette A	backpulse	valve	FV8860A	in service		
Train 2	Cassette B	discharge	valve	FV3466B	in service		
Train 2	Cassette B	backpulse	valve	FV8860B	in service		
Train 2	Cassette D	discharge	valve	FV3466D	needs repair		
Train 2	Cassette D	backpulse	valve	FV8860D	in service		
Train 2	Cassette F	discharge	valve	FV3466F	in service		
Train 2	Cassette F	backpulse	valve	FV8860F	in service		
Train 2	Membrane tank	CIP fill/recirc	valve	FV9760A	in service		
Train 2	Membrane tank	CIP fill/recirc	valve	FV9760B	in service		
Train 2	Membrane tank	CIP fill/recirc drain	valve	FV9760C	in service		
Train 2	Membrane tank	CIP backwash	valve	FV8160A	in service		
Train 2	Membrane tank	CIP backwash	valve	FV8160B	in service		
Train 2	Membrane tank	CIP backwash drain	valve	FV8160C	in service		
Train 2	Membrane tank	permeate	valve	FV3561A	in service		
Train 2	Membrane tank	permeate	valve	FV3561B	in service		
Train 2	Membrane tank	permeate drain	valve	FV3561C	in service		
Train 2	Membrane tank	permeate pressure	valve	FV3423	in service		
Train 2	Membrane tank	permeate ARV	valve	FV3468	in service		

Train 2	Membrane tank	permeate	pump	P-35	in service
Train 2	Membrane tank	permeate sample	valve	FV3536A	in service
Train 2	Membrane tank	perm sample drain	valve	FV3536B	in service
Train 2	Membrane tank	Vacuum	valve	FV3593	in service
Train 2	Membrane tank	Vacuum eject drain	valve	FV-9290-EJCT	in service
Train 2	Membrane tank	CIP recirc drain	valve	FV-9761	in service
Train 2	Membrane tank	reject	valve	FCV-3863	in service
Train 3	Flocculator #6	Flocculator entry	valve	D-025-03	in service
Train 3	Flocculator #6	Front	Motor/mixer	D-030-03A	in service
Train 3	Flocculator #6	Back	Motor/mixer	D-030-03B	in service
Train 3	Flocculator #6	Flocculator exit	valve	D-035-03	in service
Train 3	Membrane tank	tank entry	valve	3D-055-03	in service
Train 3	Membrane tank	Tank drain	valve	PV-D-13	in service
Train 3	Cassette A	discharge	valve	FV3466A	in service
Train 3	Cassette A	backpulse	valve	FV8860A	in service
Train 3	Cassette B	discharge	valve	FV3466B	in service
Train 3	Cassette B	backpulse	valve	FV8860B	in service
Train 3	Cassette D	discharge	valve	FV3466D	in service
Train 3	Cassette D	backpulse	valve	FV8860D	in service
Train 3	Cassette F	discharge	valve	FV3466F	in service
Train 3	Cassette F	backpulse	valve	FV8860F	in service
Train 3	Membrane tank	CIP fill/recirc	valve	FV9760A	in service
Train 3	Membrane tank	CIP fill/recirc	valve	FV9760B	in service
Train 3	Membrane tank	CIP fill/recirc drain	valve	FV9760C	in service
Train 3	Membrane tank	CIP backwash	valve	FV8160A	in service
Train 3	Membrane tank	CIP backwash	valve	FV8160B	in service
Train 3	Membrane tank	CIP backwash drain	valve	FV8160C	in service
Train 3	Membrane tank	permeate	valve	FV3561A	in service
Train 3	Membrane tank	permeate	valve	FV3561B	in service
Train 3	Membrane tank	permeate drain	valve	FV3561C	in service
Train 3	Membrane tank	permeate pressure	valve	FV3423	in service
Train 3	Membrane tank	permeate ARV	valve	FV3468	in service
Train 3	Membrane tank	permeate	pump	P-35	in service

Train 3	Membrane tank	permeate sample	valve	FV3536A	in service
Train 3	Membrane tank	perm sample drain	valve	FV3536B	in service
Train 3	Membrane tank	Vacuum	valve	FV3593	in service
Train 3	Membrane tank	Vacuum eject drain	valve	FV-9290-EJCT	in service
Train 3	Membrane tank	CIP recirc drain	valve	FV-9761	in service
Train 3	Membrane tank	reject	valve	FCV-3863	in service
Train 4	Flocculator #7	Flocculator entry	valve	D-025-04	in service
Train 4	Flocculator #7	Front	Motor/mixer	D-030-04A	in service
Train 4	Flocculator #7	Back	Motor/mixer	D-030-04B	Disabled
Train 4	Flocculator #7	Flocculator exit	valve	D-035-04	in service
Train 4	Membrane tank	tank entry	valve	3D-055-04	in service
Train 4	Membrane tank	Tank drain	valve	PV-D-14	in service
Train 4	Cassette A	discharge	valve	FV3466A	in service
Train 4	Cassette A	backpulse	valve	FV8860A	in service
Train 4	Cassette B	discharge	valve	FV3466B	in service
Train 4	Cassette B	backpulse	valve	FV8860B	in service
Train 4	Cassette D	discharge	valve	FV3466D	needs repair
Train 4	Cassette D	backpulse	valve	FV8860D	in service
Train 4	Cassette F	discharge	valve	FV3466F	needs repair
Train 4	Cassette F	backpulse	valve	FV8860F	in service
Train 4	Membrane tank	CIP fill/recirc	valve	FV9760A	in service
Train 4	Membrane tank	CIP fill/recirc	valve	FV9760B	in service
Train 4	Membrane tank	CIP fill/recirc drain	valve	FV9760C	in service
Train 4	Membrane tank	CIP backwash	valve	FV8160A	in service
Train 4	Membrane tank	CIP backwash	valve	FV8160B	in service
Train 4	Membrane tank	CIP backwash drain	valve	FV8160C	in service
Train 4	Membrane tank	permeate	valve	FV3561A	in service
Train 4	Membrane tank	permeate	valve	FV3561B	in service
Train 4	Membrane tank	permeate drain	valve	FV3561C	in service
Train 4	Membrane tank	permeate pressure	valve	FV3423	in service
Train 4	Membrane tank	permeate ARV	valve	FV3468	in service
Train 4	Membrane tank	permeate	pump	P-35	in service
Train 4	Membrane tank	permeate sample	valve	FV3536A	in service

Train 4	Membrane tank	perm sample drain	valve	FV3536B	in service
Train 4	Membrane tank	Vacuum	valve	FV3593	in service
Train 4	Membrane tank	Vacuum eject drain	valve	FV-9290-EJCT	in service
Train 4	Membrane tank	CIP recirc drain	valve	FV-9761	in service
Train 4	Membrane tank	reject	valve	FCV-3863	in service
Train 5	Flocculator #8	Flocculator entry	valve	D-025-05	out for repair
Train 5	Flocculator #8	Front	Motor/mixer	D-030-05A	out for repair
Train 5	Flocculator #8	Back	Motor/mixer	D-030-05B	out for repair
Train 5	Flocculator #8	Flocculator exit	valve	D-035-05	out for repair
Train 5	Membrane tank	tank entry	valve	3D-055-05	out for repair
Train 5	Membrane tank	Tank drain	valve	PV-D-15	out for repair
Train 5	Cassette A	discharge	valve	FV3466A	out for repair
Train 5	Cassette A	backpulse	valve	FV8860A	out for repair
Train 5	Cassette B	discharge	valve	FV3466B	out for repair
Train 5	Cassette B	backpulse	valve	FV8860B	out for repair
Train 5	Cassette D	discharge	valve	FV3466D	out for repair
Train 5	Cassette D	backpulse	valve	FV8860D	out for repair
Train 5	Cassette F	discharge	valve	FV3466F	out for repair
Train 5	Cassette F	backpulse	valve	FV8860F	out for repair
Train 5	Membrane tank	CIP fill/recirc	valve	FV9760A	out for repair
Train 5	Membrane tank	CIP fill/recirc	valve	FV9760B	out for repair
Train 5	Membrane tank	CIP fill/recirc drain	valve	FV9760C	out for repair
Train 5	Membrane tank	CIP backwash	valve	FV8160A	out for repair
Train 5	Membrane tank	CIP backwash	valve	FV8160B	out for repair
Train 5	Membrane tank	CIP backwash drain	valve	FV8160C	out for repair
Train 5	Membrane tank	permeate	valve	FV3561A	out for repair
Train 5	Membrane tank	permeate	valve	FV3561B	out for repair
Train 5	Membrane tank	permeate drain	valve	FV3561C	out for repair
Train 5	Membrane tank	permeate pressure	valve	FV3423	out for repair
Train 5	Membrane tank	permeate ARV	valve	FV3468	out for repair
Train 5	Membrane tank	permeate	pump	P-35	out for repair
Train 5	Membrane tank	permeate sample	valve	FV3536A	out for repair
Train 5	Membrane tank	perm sample drain	valve	FV3536B	out for repair

Train 5	Membrane tank	Vacuum	valve	FV3593	out for repair
Train 5	Membrane tank	Vacuum eject drain	valve	FV-9290-EJCT	out for repair
Train 5	Membrane tank	CIP recirc drain	valve	FV-9761	out for repair
Train 5	Membrane tank	reject	valve	FCV-3863	out for repair
Train 6	Flocculator #9	Flocculator entry	valve	D-025-06	in service
Train 6	Flocculator #9	Front	Motor/mixer	D-030-06A	in service
Train 6	Flocculator #9	Back	Motor/mixer	D-030-06B	in service
Train 6	Flocculator #9	Flocculator exit	valve	D-035-06	in service
Train 6	Membrane tank	tank entry	valve	3D-055-06	in service
Train 6	Membrane tank	Tank drain	valve	PV-D-16	in service
Train 6	Cassette A	discharge	valve	FV3466A	in service
Train 6	Cassette A	backpulse	valve	FV8860A	in service
Train 6	Cassette B	discharge	valve	FV3466B	in service
Train 6	Cassette B	backpulse	valve	FV8860B	in service
Train 6	Cassette D	discharge	valve	FV3466D	needs repair
Train 6	Cassette D	backpulse	valve	FV8860D	in service
Train 6	Cassette F	discharge	valve	FV3466F	in service
Train 6	Cassette F	backpulse	valve	FV8860F	in service
Train 6	Membrane tank	CIP fill/recirc	valve	FV9760A	in service
Train 6	Membrane tank	CIP fill/recirc	valve	FV9760B	in service
Train 6	Membrane tank	CIP fill/recirc drain	valve	FV9760C	in service
Train 6	Membrane tank	CIP backwash	valve	FV8160A	in service
Train 6	Membrane tank	CIP backwash	valve	FV8160B	needs repair
Train 6	Membrane tank	CIP backwash drain	valve	FV8160C	in service
Train 6	Membrane tank	permeate	valve	FV3561A	in service
Train 6	Membrane tank	permeate	valve	FV3561B	in service
Train 6	Membrane tank	permeate drain	valve	FV3561C	in service
Train 6	Membrane tank	permeate pressure	valve	FV3423	in service
Train 6	Membrane tank	permeate ARV	valve	FV3468	in service
Train 6	Membrane tank	permeate	pump	P-35	in service
Train 6	Membrane tank	permeate sample	valve	FV3536A	in service
Train 6	Membrane tank	perm sample drain	valve	FV3536B	in service
Train 6	Membrane tank	Vacuum	valve	FV3593	in service

Train 6	Membrane tank	Vacuum eject drain	valve	FV-9290-EJCT	in service
Train 6	Membrane tank	CIP recirc drain	valve	FV-9761	in service
Train 6	Membrane tank	reject	valve	FCV-3863	in service

Message

From: Safiya Omari [somari@city.jackson.ms.us]
Sent: 6/26/2022 8:02:30 PM
To: Kemker, Carol [Kemker.Carol@epa.gov]
Subject: Re: Scheduling a discussion re: Drinking Water Status

Hi, Carol. I will contact you in the morning with my availability for Monday afternoon.

Sent from my iPhone

> On Jun 25, 2022, at 7:27 PM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:
>
> Dr. Omari,
>
> I would like to schedule some time for us to discuss the City of Jackson's drinking water status. I can be reached this weekend at 404-538-2647 or can schedule some time on Monday morning. Please either call me directly or let me know your availability on Monday.
>
> Thank you,
> *Carol L. Kemker*
> Director
> Enforcement and Compliance Assurance Division
> EPA Region 4
> 404-562-8975
> *Pronouns: she/her*

Message

From: Safiya Omari [somari@city.jackson.ms.us]
Sent: 6/27/2022 5:21:17 PM
To: Kemker, Carol [Kemker.Carol@epa.gov]
Subject: Re: Scheduling a discussion re: Drinking Water Status

Hi, Carol. I would like to meet at 4:00 EDT. I will have my assistant send a calendar invite. Thanks.

On Jun 27, 2022, at 10:17 AM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:

Dr. Omari,

Thanks for the note. I am available at 2:30 EDT and the at 4:00 EDT. If you need me to make additional time slots available, please let me know. I can work something out on my schedule to be able to speak with you.

Carol

From: Safiya Omari <somari@city.jackson.ms.us>
Sent: Sunday, June 26, 2022 4:03 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: Scheduling a discussion re: Drinking Water Status

Hi, Carol. I will contact you in the morning with my availability for Monday afternoon.

Sent from my iPhone

On Jun 25, 2022, at 7:27 PM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:

Dr. Omari,

I would like to schedule some time for us to discuss the City of Jackson's drinking water status. I can be reached this weekend at 404-538-2647 or can schedule some time on Monday morning. Please either call me directly or let me know your availability on Monday.

Thank you,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Message

From: Tiffany Murray [tmurray@city.jackson.ms.us]
Sent: 6/27/2022 7:34:20 PM
To: Kemker, Carol [Kemker.Carol@epa.gov]
Subject: Re: Scheduling a discussion re: Drinking Water Status

Good afternoon,

I sent the calendar invite just to put it one your calendar. She's going to call you. Thanks.

On Jun 27, 2022, at 2:28 PM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:

Thanks. I have not seen and invitation, yet. I will keep an eye out for one.

From: Safiya Omari <somari@city.jackson.ms.us>
Sent: Monday, June 27, 2022 1:21 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: Scheduling a discussion re: Drinking Water Status

Hi, Carol. I would like to meet at 4:00 EDT. I will have my assistant send a calendar invite. Thanks.

On Jun 27, 2022, at 10:17 AM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:

Dr. Omari,

Thanks for the note. I am available at 2:30 EDT and the at 4:00 EDT. If you need me to make additional time slots available, please let me know. I can work something out on my schedule to be able to speak with you.

Carol

From: Safiya Omari <somari@city.jackson.ms.us>
Sent: Sunday, June 26, 2022 4:03 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: Scheduling a discussion re: Drinking Water Status

Hi, Carol. I will contact you in the morning with my availability for Monday afternoon.

Sent from my iPhone

On Jun 25, 2022, at 7:27 PM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:

Dr. Omari,

I would like to schedule some time for us to discuss the City of Jackson's drinking water status. I can be reached this weekend at 404-538-2647 or can schedule some time on Monday morning. Please either call me directly or let me know your availability on Monday.

Thank you,

Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 1/13/2022 9:00:56 PM
To: Armor, Suzanne [Armor.Suzanne@epa.gov]
CC: Myers, Bryan [Myers.Bryan@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Hardage, Melissa [Hardage.Melissa@epa.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; King, Carol [King.Carol@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]
Subject: Re: Update on tasks, extension requests, and approvals

Suzanne,

This email will serve to confirm that the City has review the revised CERP and concurs in the revisions proposed by the EPA.

Please let me know if you need anything additionally on the revised CERP.

Thanks,

Terry Williamson

From: Armor, Suzanne <Armor.Suzanne@epa.gov>
Sent: Tuesday, January 4, 2022 9:09 AM
To: Terry Williamson
Cc: Myers, Bryan; Bragan, Mary Jo; Driskell, Amanda; Hardage, Melissa; Bunch, Charlotte; Quinones, Rebecca; Lamberth, Larry; Wetherington, Michele; Kemker, Carol; King, Carol; Rausch, Heidi
Subject: RE: Update on tasks, extension requests, and approvals

Thanks for the prompt response, Terry. Understand that these are indeed trying times.

Hope you all are staying safe (and warm!). Looking forward to hearing back from you soon.

-Suzanne

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Tuesday, January 4, 2022 10:05 AM
To: Armor, Suzanne <Armor.Suzanne@epa.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: Re: Update on tasks, extension requests, and approvals

Suzanne, I'll try to get back to you on this by the end of the week. Business in the City has been somewhat disrupted by going back to working remotely Wednesday of last week.

Thanks,

Terry

From: Armor, Suzanne <Armor.Suzanne@epa.gov>
Sent: Tuesday, January 4, 2022 8:27 AM
To: Terry Williamson
Cc: Myers, Bryan; Bragan, Mary Jo; Driskell, Amanda; Hardage, Melissa; Bunch, Charlotte; Quinones, Rebecca; Lamberth, Larry; Wetherington, Michele; Kemker, Carol; King, Carol; Rausch, Heidi
Subject: RE: Update on tasks, extension requests, and approvals

Hi, Terry –

Following up on our email exchange below to see if you have any update on the City's review of the proposed revisions to the CERP deadlines. Please let me know when we can expect to hear back from the City on this.

Wishing you and the City personnel a happy and healthy 2022,
Suzanne

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Tuesday, December 14, 2021 7:15 PM
To: Armor, Suzanne <Armor.Suzanne@epa.gov>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: RE: Update on tasks, extension requests, and approvals

Suzanne,

Thank you for providing this. I forwarded it to Dr. Williams to distribute to the appropriate team members for their review. I will advise you if there are any questions or concerns about the revisions to the CERP.

Very truly,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson |Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov
Follow COJ on Social Media: Facebook | Twitter | Instagram

THE CITY OF JACKSON MISSISSIPPI

This e-mail and any files transmitted with it are City of Jackson property, are confidential, and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email are strictly prohibited. If you have received this message in error, please notify the sender or the Office of the City Attorney at (601) 960-1799 immediately be telephone or by return email and double delete this message from your computer.

From: Armor, Suzanne [mailto:Armor.Suzanne@epa.gov]
Sent: Tuesday, December 14, 2021 8:51 AM
To: Terry Williamson <twilliamson@city.jackson.ms.us>
Cc: Myers, Bryan <Myers.Bryan@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; King, Carol <King.Carol@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>
Subject: RE: Update on tasks, extension requests, and approvals

SETTLEMENT CONFIDENTIAL – SUBJECT TO FRE 408

Dear Terry:

Per Bryan's email below and the EPA's ongoing discussions with the City of Jackson, attached for the City's review is a draft updated Comprehensive Equipment Repair Plan (CERP), Appendix A to Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). Consistent with Paragraph 56 of the AOC, the EPA believes that the City has demonstrated good cause as to why certain interim and/or final deadlines in the CERP warrant extensions, and those extensions to the CERP are incorporated in the updated CERP. The EPA is requesting that the City review the CERP for accuracy and to let us know if you have any concerns with the revisions.

Please note that, under the terms of Paragraph 56 of the AOC, this is not an amendment to the AOC requiring re-signature by our signatories to take legal effect; however, we understand that the City may wish to have the revised CERP reviewed by its leadership. Please advise: (1) who the City believes needs to review/concur on its end; and (2) a timeframe for completing such review.

Once we have a "final" version of this CERP revision, we will circulate that to the City and our MSDH partners, along with an updated timeline.

Thank you for your continued assistance in this matter.

Best regards,
Suzanne

SUZANNE K. ARMOR | ATTORNEY-ADVISOR
United States Environmental Protection Agency
Office of Regional Counsel
Water Legal Office
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
tel: 404.562.9701
fax: 404.562.8078
armor.suzanne@epa.gov
She/Her/Hers

CONFIDENTIALITY NOTICE: This message is being sent by or on behalf of an attorney. It is intended exclusively for the individual(s) or entity(ies) to whom or to which it is addressed. This communication may contain information that is proprietary, privileged, or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by email and delete all copies of the message.

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Monday, December 13, 2021 7:59 AM
To: Charles Williams <cwilliams@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Hardage, Melissa <Hardage.Melissa@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; karen.walters <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>
Subject: Update on tasks, extension requests, and approvals

Dr. Williams:

As we discussed in our last biweekly call on December 2, 2021, we continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). At this time, I wanted to update everyone on the status of recent submissions and also summarize where EPA believes several tasks are currently at in process. Based upon the EPA's rolling review, it appears that the City of Jackson has adequately completed the following additional Tasks:

CERP Task 6 – Two Scope of Works for filters at JH Fewell (one for rehab of filters 24 & 26 and one for general filter rehab)
CERP Task 25 – OBC General Filter Rehab SOW
CERP Task 26 – OBC Membrane Plant Pretreatment Rehab SOW

At this time, EPA also approves the time extension requests for the following Tasks:

CERP Task 12 – Conventional-Chlorine Room project moved to completion of December 30, 2023
CERP Task 15 – UV #5 – moved to coincide to be completed with general filter rehab at OBC outlined in Task 25.
CERP Task 17 – Membrane Blower C moved to coincide to be completed with general filter rehab at OBC outlined in Task 26.
CERP Task 27 – Membrane Basin Building Structure Project moved to April 22, 2022.

I wanted to make you aware that several tasks have now had their description edited based on discussion with COJ and will be presented in the next updated CERP. The tasks impacted include:

CERP Task 12 - Replacement of original 14-inch mag meter
CERP Task 13 - Updated to now only say Clari-Trac System shall be functioning and operational by new date – May 31, 2022.
CERP Task 17 – Blower Room – Blower C has had language updated to only consist of being completed and functional by new date outlined above.

The following tasks are still outstanding, however, EPA is awaiting additional information from COJ in order to consider a deadline extension. Those Tasks are:

CERP Task 16 - OBC Membrane – HS#2 Chlorine analyzers. COJ is awaiting tech to provide timeline for work completion for potential extension request.
CERP Task 31 – Wells – Awaiting MSDH Sanitary Survey Report to determine completion date for potential extension request.

Finally, I wanted to let you know that we do plan to send you an updated CERP later today, along with an updated timeline for your informational use. You can let us know if you have any concerns at our call next Thursday.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Bragan, Mary Jo [Bragan.Maryjo@epa.gov]
Sent: 6/30/2022 8:47:34 PM
To: lester.herrington@msdh.ms.gov
CC: Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Kemker, Carol [Kemker.Carol@epa.gov]
Subject: FW: Information Request Letter for City of Jackson Drinking Water
Attachments: Information Request SDWA 1445 Draft.6.29.22.pdf

Les –

Please see the email below that was sent to the City of Jackson. The original email was sent to you but it bounced back. Hopefully, this works. If you have any questions, please feel free to call.

Thank you-
Mary Jo
404-617-6432

From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 4:08 PM
To: Chokwe A. Lumumba <calumumba@jacksonms.gov>; vlindsay@city.jackson.ms.us; Angelique C. Lee <angeliquel@jacksonms.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; mking@city.jackson.ms.us; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique C. Lee <angeliquel@jacksonms.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
Subject: Information Request Letter for City of Jackson Drinking Water

Dear Mayor Lumumba and Ms. Lindsay,

Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.

Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

ELECTRONIC EMAIL
CONFIRMATION OF EMAIL RECEIPT REQUESTED

The Honorable Mayor Chokwe A. Lumumba
Mayor of the City of Jackson
219 South President Street
Jackson, Mississippi 39205
calumumba@jacksonms.gov

Ms. Virgi Lindsay
President
Jackson City Council
219 South President Street
Jackson, Mississippi 39205
vlindsay@city.jackson.ms.us

Re: Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act
PWS ID # MS0250008
City of Jackson Public Water System

Dear Mayor Lumumba and Ms. Lindsay:

The U.S. Environmental Protection Agency is responsible for assuring public water systems provide safe drinking water in accordance with the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f *et. seq.*, the National Primary Drinking Water Regulations (NPDWRs) promulgated thereunder at 40 C.F.R. Part 141; and the Mississippi Primary Drinking Water Regulations (MPDWRs), promulgated pursuant to the Mississippi Safe Drinking Water Act of 1997, Miss. Code Ann. § 41-26-1 *et seq.* Based on information contained in the Safe Drinking Water Information System, the City of Jackson Public Water System (Jackson PWS) serves 173,514 people, and pursuant to Section 1401(15) of the SDWA, 42 U.S.C. § 300f(15), is therefore a community water system. As a community water system, the Jackson PWS is subject to the requirements of the NPDWRs and the MPDWRs, including the requirement that a certified Class A operator be onsite whenever the PWS is in operation. *See* 40 C.F.R. § 141.70(c); Miss. Admin. Code § 15-20-72.2.2.1(5).

On April 2, 2020, the EPA issued an Emergency Administrative Order, Docket No. SDWA-04-2020-2300 (effective April 2, 2020) (Emergency Order) to the City, which, among other things, outlines requirements for the City to follow in the implementation of its Alternative Water Source Plan, reporting requirements for low pressure/loss of pressure events, and public notice. The EPA and the City subsequently entered into an Administrative Compliance Order on Consent, Docket No. SDWA-04-2300-2301, effective July 1, 2021 (AOC), which outlines a number of actions the City is required to take to bring the PWS into compliance with the SDWA, including those outlined in the Comprehensive Equipment Repair Plan (CERP), attached thereto as Appendix A, as amended.

On June 16, 2022, the O.B. Curtis Water Treatment Plant (O.B. Curtis WTP) experienced an ammonia leak, which caused treatment to be disrupted for more than two days. After reviewing weekly operating reports and discussing these reports with Mississippi Department of Health (MSDH)[1] staff, we noted that the Jackson PWS tank levels and finished water output were low. During a subsequent call between the EPA and the City of Jackson on June 18, 2022, the City attributed the low production levels from the O.B. Curtis WTP to several conventional filters being down, inconsistencies in membrane train operations, and the inoperable status of High Service Pump #2 at the O.B. Curtis WTP. Given low tank levels and ongoing severe hot weather, MSDH and the EPA recommended that the City issue a conserve water notice until the O.B. Curtis WTP could be restored to appropriate operations and tanks were allowed to fill. The City issued a Water Conservation Advisory on June 22, 2022. As of Friday, June 24, 2022, tank levels remained low and output pressure had dropped to 68 psi at O. B. Curtis WTP. This loss in pressure led the City to issue a City-Wide Boil Water Advisory on June 24, 2022.

Section 1445 of the SDWA, 42 U.S.C. § 300j-4, and 40 Code of Federal Regulations (C.F.R.) § 141.31 authorize the EPA to require the submittal of information so it can determine whether a public water system is in compliance with the NPDWRs and other applicable requirements, including MPDWRs and the AOC. See Section 1414(i) of the SDWA, 42 U.S.C. § 300g-3(i). Pursuant to Section 1445(a)(1)(B) of the SDWA, 42 U.S.C. §300j-4(a)(1)(B), and after consultation with MSDH, the EPA hereby requests that the City provide the information described in Enclosure A within seven calendar days of receipt of this letter

The EPA requests that this information be submitted in electronic format to Ms. Charlotte Bunch at Bunch.Charlotte@epa.gov. If portions are unavailable in electronic format, please notify Ms. Bunch in your electronic submission that additional information is being sent in hardcopy to:

Bryan Myers
Water Enforcement Branch
Enforcement and Compliance Assurance Division
US Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Please be advised that, under Section 1445(c) of the SDWA, 42 U.S.C. § 300j-4(c), as amended by 40 C.F.R. § 19.4, Table 2 (Adjustment of Civil Monetary Penalties for Inflation), failure to provide the information required by this letter may result in a civil penalty of up to $62,689. In addition, under SDWA Section 1414(g), 42 U.S.C. § 300g-3(g), failure to provide the information required by this letter may result in an order requiring compliance. Violation of such order may lead to sanctions under SDWA Section 1414, 42 U.S.C. § 300g-3(g)(3)(A) and 40 C.F.R. § 19.4, Table 2, which include penalties of up to $62,689 per day of violation. The information provided in response to this letter may be used by the United States in any enforcement proceeding related to this matter.

You may, if you so desire, assert a confidential business information (CBI) claim covering any or all the information furnished to the EPA in response to this letter. Every CBI claim must be made in a manner described in 40 C.F.R. § 2.203 and must be fully substantiated with documentary evidence which shows how the claim meets every criterion listed in 40 C.F.R. §§ 2.208 and 2.304. If no CBI claim

[1] The MSDH is the entity in the State of Mississippi with primary enforcement authority over the SDWA, pursuant to SDWA Section 1413, 42 U.S.C. § 300g-2. On February 28, 2020, MSDH sent a written request for EPA to assist in addressing the City of Jackson's SDWA noncompliance.

accompanies your information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. Further details, including how to make a business confidentiality claim, are included in Enclosure B.

This request for information is not subject to review by the Office of Management and Budget (OMB) under the Paper Reduction Act because it is not an "informal collection request" within the meaning of 44 U.S.C. §§ 3502(4), (11), 3507, 3512, and 3518. Furthermore, it is exempt from OMB review under the Paper Reduction Act because it is directed to fewer than 10 persons. *See* 44 U.S.C. § 3502(4), (11); 5 C.F.R. § 1320.5(a).

If you have any questions regarding this matter, please contact me at (404) 562-8975 or kemker.carol@epa.gov, or Ms. Mary Jo Bragan at (404) 617-6432 or bragan.maryjo@epa.gov. For legal inquiries, please have your attorneys contact Ms. Suzanne Armor, Associate Regional Counsel, at (404) 562-9701 or Armor.Suzanne@epa.gov.

Sincerely,

CAROL KEMKER

Digitally signed by CAROL KEMKER
Date: 2022.06.30 15:18:53 -04'00'

Carol L. Kemker
Director
Enforcement and Compliance Assurance Division

Enclosures

cc: Ms. Angelique C. Lee, Vice President
Jackson City Council

Dr. Safiya Omari, Chief of Staff
City of Jackson

Mr. Marlin KingDirector, Public Works Department, City of Jackson

Mr. Jim Craig
Director of Health Protection, Mississippi State Department of Health

ENCLOSURE A

INFORMATION REQUEST PURSUANT TO SECTION 1445(a)(1)(B) OF THE SAFE DRINKING WATER ACT

Instructions

1. Identify the person(s) responding to this Information Request.

2. Please provide a separate narrative response to each and every question and subpart of a question set forth in this Information Request.

3. Precede each answer with the text and the number of the question and its subpart to which the answer corresponds.

4. All documents submitted must contain a notation indicating the question and subpart of the question to which they are responsive.

5. In answering each Information Request question and subpart thereto, identify all documents and persons consulted, examined or referred to in the preparation of each response, and provide true and accurate copies of all such documents.

6. If information not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Should you find at any time after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA as soon as possible.

7. Where specific information has not been memorialized in a document, but is nonetheless responsive to a question, you must respond to the question with a written response.

8. If information responsive to this Information Request is not in your possession, custody or control, then identify the person from whom such information may be obtained.

9. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any question or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

10. The EPA requests that all documents provided in an electronic format be compatible with pdf.

11. The EPA requests that all spreadsheet information be in an electronic format and compatible with MS Excel.

12. You may submit the requested information using a shared online repository.

13. If any question relates to activities undertaken by entities other than the recipient of this Information Request, and to the extent that you have information pertaining to such activities, provide such information for each entity.

Definitions

1. All terms not defined herein shall have their ordinary meanings, unless such terms are defined in the Safe Drinking Water Act or its implementing regulations, in which case the statutory or regulatory definitions shall control.

2. Words in the masculine may be construed in the feminine if appropriate, and vice versa, and words in the singular may be construed in the plural if appropriate, and vice versa, in the context of a particular question or questions.

3. The terms "And" and "Or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed outside it scope.

4. The term "Jackson PWS" or "PWS" means the City of Jackson Public Water System, including the O.B. Curtis and J.H. Fewell WTPs.

5. "O.B. Curtis WTP" means the O.B. Curtis Water Treatment Plant, located at 100 O.B. Curtis Drive, Ridgeland, Mississippi 39157, and its appurtenant equipment and conveyances.

6. "J.H. Fewell WTP" means the J.H. Fewell Water Treatment Plant, located at 2302 Laurel Street, Jackson, Mississippi 39202, and its appurtenant equipment and conveyances.

7. The term "MSDH" means the Mississippi Department of Health.

8. The term "Administrative Compliance Order on Consent" or "AOC" means the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021, including the Comprehensive Equipment Repair Plan ("CERP"), attached thereto as Appendix A, as amended.

9. The term "Comprehensive Equipment Repair Plan" or "CERP" means the Attachment A to the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021.

Questions

1. Provide all communications regarding staffing, staffing shortages, and/or plans to fill open positions permanently and/or temporarily at the J.H. Fewell and O.B. Curtis WTPs, including, but not limited to, any notes of communications, email correspondence, meeting minutes, memoranda, budget information or any other directives commencing, from the effective date of the AOC to the date of the City's receipt of this letter. This includes any communications within and between the City's Finance Department, Public Works Department, the Mayor's Office and/or the City Council.

2. Identify whether any current positions at the J.H. Fewell and O.B. Curtis WTPs are being staffed or are planned to be staffed through use of a contractor. If a position is filled through use of a contractor, please provide a copy of the executed contract for that service and any City Council meeting minute(s) in which the contract was authorized.

3. Please identify and provide copies of any outstanding or unpaid invoices with respect to staffing support for the Jackson PWS.

4. Identify the total number of hours each week for the past four weeks that each operator of the O.B. Curtis and J.H. Fewell WTPs worked, including any overtime hours.

5. Provide a description of all currently open and/or vacant positions for the J.H. Fewell and O.B. Curtis WTPs.

6. Explain how the City intends to maintain adequate pressure in the System while the O.B. Curtis WTP High Service Line #2 is inoperable, and/or explain how the City intends to bring the O.B. Curtis WTP High Service Line #2 into fully-operational status, identifying interim timelines and milestones as appropriate.

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS

(40 C.F.R. Part 2)

Except for information which deals with the existence, absence, or level of contaminants in drinking water, you may, if you desire, assert a business confidentiality claim as to any or all of the information that the EPA is requesting from you. The EPA regulation relating to business confidentiality claims is found at 40 C.F.R. Part 2.

If you assert such a claim for the requested information, the EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, the EPA may make the information available to the public without any further notice to you.

40 C.F.R. § 2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to the EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to the EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by the EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

Message

From: Herrington, Lester [Lester.Herrington@msdh.ms.gov]
Sent: 6/30/2022 8:55:03 PM
To: Bragan, Mary Jo [Bragan.Maryjo@epa.gov]
CC: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Kemker, Carol [Kemker.Carol@epa.gov]
Subject: RE: Information Request Letter for City of Jackson Drinking Water

Mary Jo: Received. Thank you for making sure I got this.

Les Herrington, P.E., BCEE, CPM
Director
Office of Environmental Health

MISSISSIPPI STATE DEPARTMENT OF HEALTH
Physical Address:
570 East Woodrow Wilson Ave.
Jackson, MS 39216
Mailing Address:
PO Box 1700
Jackson, MS 29215-1700

(O) 601.576.7690
(F) 601.576.7632
www.healthyms.com

From: Bragan, Mary Jo <Bragan.Maryjo@epa.gov>
Sent: Thursday, June 30, 2022 3:48 PM
To: Herrington, Lester <Lester.Herrington@msdh.ms.gov>
Cc: Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Moody, William "Bill" <William.Moody@msdh.ms.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: FW: Information Request Letter for City of Jackson Drinking Water

Les –

Please see the email below that was sent to the City of Jackson. The original email was sent to you but it bounced back. Hopefully, this works. If you have any questions, please feel free to call.

Thank you-
Mary Jo
404-617-6432

From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 4:08 PM
To: Chokwe A. Lumumba <calumumba@jacksonms.gov>; vlindsay@city.jackson.ms.us; Angelique C. Lee <angeliquel@jacksonms.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; mking@city.jackson.ms.us; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>;

Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique C. Lee <angeliquel@jacksonms.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
Subject: Information Request Letter for City of Jackson Drinking Water

Dear Mayor Lumumba and Ms. Lindsay,

Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.

Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

This message and all attachments are confidential and/or proprietary to the Mississippi State Department of Health, and may contain sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the intended recipient. The use, disclosure, copying or distribution by any means, to anyone other than the intended recipient without the prior written permission of the Mississippi State Department of Health, is strictly prohibited. Any such unauthorized disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance in the protection of confidential information.

Message

From: Moody, William "Bill" [William.Moody@msdh.ms.gov]
Sent: 6/30/2022 9:15:29 PM
To: Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Herrington, Lester [Lester.Herrington@msdh.ms.gov]
CC: Myers, Bryan [Myers.Bryan@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]
Subject: RE: Information Request Letter for City of Jackson Drinking Water

Mary Jo,

On page 2:
"During a subsequent call between the EPA and the City of Jackson on June 18, 2022, the City attributed the low production levels from the O.B. Curtis WTP to several conventional filters being down, inconsistencies in membrane train operations, and the inoperable status of High Service Pump #2 at the O.B. Curtis WTP."

Should read "… inoperable status of High Service Pumps 7 & 8 at the O.B. Curtis WTP."

Bill

William F. Moody, P.E., BCEE
Director, Bureau of Public Water Supply
570 East Woodrow Wilson Blvd
P.O. Box 1700
Jackson, MS 39215-1700
O 601-576-7534
F 601-576-7822

From: Bragan, Mary Jo <Bragan.Maryjo@epa.gov>
Sent: Thursday, June 30, 2022 3:48 PM
To: Herrington, Lester <Lester.Herrington@msdh.ms.gov>
Cc: Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Moody, William "Bill" <William.Moody@msdh.ms.gov>; Kemker, Carol <Kemker.Carol@epa.gov>
Subject: FW: Information Request Letter for City of Jackson Drinking Water

Les –

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404-617-6432

From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 4:08 PM
To: Chokwe A. Lumumba <calumumba@jacksonms.gov>; vlindsay@city.jackson.ms.us; Angelique C. Lee <angeliquel@jacksonms.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; mking@city.jackson.ms.us;

William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique C. Lee <angeliquel@jacksonms.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
Subject: Information Request Letter for City of Jackson Drinking Water

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Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

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Message

From: Virgi Lindsay [vlindsay@city.jackson.ms.us]
Sent: 7/5/2022 8:48:43 PM
To: Kemker, Carol [Kemker.Carol@epa.gov]
CC: Virgi Lindsay [vlindsay@city.jackson.ms.us]
Subject: Re: Information Request Letter for City of Jackson Drinking Water

Good afternoon, Ms. Kemker. Thanks so much for your email. Effective today, Councilwoman Lindsay is no longer President of the City Council. Ashby Foote was elected for the year of 2022-2023 as President. His contact information is afoote@city.jackson.ms.us.

Thank you and please let me know if you have questions.

Warm regards,
Alice

Alice Patterson, Assistant
On behalf of Councilwoman Virgi Lindsay

vlindsay@city.jackson.ms.us
601-960-1063

This e-mail and any files transmitted with it are City of Jackson property, are confidential and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing or coping of this email is strictly prohibited.

From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 3:08 PM
To: Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Virgi Lindsay <vlindsay@city.jackson.ms.us>; Angelique Lee <angeliquel@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; Marlin King <mking@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms <lester.herrington@msdh.ms>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique Lee <angeliquel@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
Subject: Information Request Letter for City of Jackson Drinking Water

Dear Mayor Lumumba and Ms. Lindsay,

Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.
Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975

Pronouns: she/her

Message

From: Virgi Lindsay [vlindsay@city.jackson.ms.us]
Sent: 7/7/2022 2:38:09 PM
To: Kemker, Carol [Kemker.Carol@epa.gov]
CC: Lamberth, Larry [Lamberth.Larry@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Virgi Lindsay [vlindsay@city.jackson.ms.us]
Subject: Re: Information Request Letter for City of Jackson Drinking Water

Good morning. I will forward to him now. For your information for future use, his email address is afoote@city.jackson.ms.us and the phone number is 601-960-2051.

Thanks so much and let me know if I can be of further assistance.

Kind regards,
Alice

Alice Patterson, Assistant
On behalf of Councilwoman Virgi Lindsay

vlindsay@city.jackson.ms.us
601-960-1063

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From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Wednesday, July 6, 2022 11:47 AM
To: Virgi Lindsay <vlindsay@city.jackson.ms.us>
Cc: Lamberth, Larry <Lamberth.Larry@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>
Subject: RE: Information Request Letter for City of Jackson Drinking Water

Hello Ms. Patterson,

Thanks for the information. Has the information request been forwarded to Council President Ashby Foote?

Regards,
Carol

From: Virgi Lindsay <vlindsay@city.jackson.ms.us>
Sent: Tuesday, July 5, 2022 4:49 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Cc: Virgi Lindsay <vlindsay@city.jackson.ms.us>
Subject: Re: Information Request Letter for City of Jackson Drinking Water

Good afternoon, Ms. Kemker. Thanks so much for your email. Effective today, Councilwoman Lindsay is no longer President of the City Council. Ashby Foote was elected for the year of 2022-2023 as President. His contact information is afoote@city.jackson.ms.us.

Thank you and please let me know if you have questions.

Warm regards,
Alice

Alice Patterson, Assistant
On behalf of Councilwoman Virgi Lindsay

vlindsay@city.jackson.ms.us
601-960-1063

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From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 3:08 PM
To: Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Virgi Lindsay <vlindsay@city.jackson.ms.us>; Angelique Lee <angeliquel@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; Marlin King <mking@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms <lester.herrington@msdh.ms>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique Lee <angeliquel@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
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Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.
Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Message

From: Virgi Lindsay [vlindsay@city.jackson.ms.us]
Sent: 7/7/2022 2:41:20 PM
To: Ashby Foote [afoote@jacksonms.gov]
CC: Kemker, Carol [Kemker.Carol@epa.gov]; Virgi Lindsay [vlindsay@city.jackson.ms.us]
Subject: Fw: Information Request Letter for City of Jackson Drinking Water
Attachments: Information Request SDWA 1445 Draft.6.29.22.pdf

Good morning. At the request of Ms. Kemker I'm forwarding this email to Mr. Foote in his capacity as Council President.

Many thanks and let me know if you have questions.

Kind regards,
Aice

Alice Patterson, Assistant
On behalf of Councilwoman Virgi Lindsay

vlindsay@city.jackson.ms.us
601-960-1063

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From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 3:08 PM
To: Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Virgi Lindsay <vlindsay@city.jackson.ms.us>; Angelique Lee <angeliquel@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; Marlin King <mking@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms <lester.herrington@msdh.ms>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique Lee <angeliquel@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
Subject: Information Request Letter for City of Jackson Drinking Water

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Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975

Pronouns: she/her

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

ELECTRONIC EMAIL
CONFIRMATION OF EMAIL RECEIPT REQUESTED

The Honorable Mayor Chokwe A. Lumumba
Mayor of the City of Jackson
219 South President Street
Jackson, Mississippi 39205
calumumba@jacksonms.gov

Ms. Virgi Lindsay
President
Jackson City Council
219 South President Street
Jackson, Mississippi 39205
vlindsay@city.jackson.ms.us

Re: Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act
PWS ID # MS0250008
City of Jackson Public Water System

Dear Mayor Lumumba and Ms. Lindsay:

The U.S. Environmental Protection Agency is responsible for assuring public water systems provide safe drinking water in accordance with the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f *et. seq.*, the National Primary Drinking Water Regulations (NPDWRs) promulgated thereunder at 40 C.F.R. Part 141; and the Mississippi Primary Drinking Water Regulations (MPDWRs), promulgated pursuant to the Mississippi Safe Drinking Water Act of 1997, Miss. Code Ann. § 41-26-1 *et seq.* Based on information contained in the Safe Drinking Water Information System, the City of Jackson Public Water System (Jackson PWS) serves 173,514 people, and pursuant to Section 1401(15) of the SDWA, 42 U.S.C. § 300f(15), is therefore a community water system. As a community water system, the Jackson PWS is subject to the requirements of the NPDWRs and the MPDWRs, including the requirement that a certified Class A operator be onsite whenever the PWS is in operation. *See* 40 C.F.R. § 141.70(c); Miss. Admin. Code § 15-20-72.2.2.1(5).

On April 2, 2020, the EPA issued an Emergency Administrative Order, Docket No. SDWA-04-2020-2300 (effective April 2, 2020) (Emergency Order) to the City, which, among other things, outlines requirements for the City to follow in the implementation of its Alternative Water Source Plan, reporting requirements for low pressure/loss of pressure events, and public notice. The EPA and the City subsequently entered into an Administrative Compliance Order on Consent, Docket No. SDWA-04-2300-2301, effective July 1, 2021 (AOC), which outlines a number of actions the City is required to take to bring the PWS into compliance with the SDWA, including those outlined in the Comprehensive Equipment Repair Plan (CERP), attached thereto as Appendix A, as amended.

On June 16, 2022, the O.B. Curtis Water Treatment Plant (O.B. Curtis WTP) experienced an ammonia leak, which caused treatment to be disrupted for more than two days. After reviewing weekly operating reports and discussing these reports with Mississippi Department of Health (MSDH)[1] staff, we noted that the Jackson PWS tank levels and finished water output were low. During a subsequent call between the EPA and the City of Jackson on June 18, 2022, the City attributed the low production levels from the O.B. Curtis WTP to several conventional filters being down, inconsistencies in membrane train operations, and the inoperable status of High Service Pump #2 at the O.B. Curtis WTP. Given low tank levels and ongoing severe hot weather, MSDH and the EPA recommended that the City issue a conserve water notice until the O.B. Curtis WTP could be restored to appropriate operations and tanks were allowed to fill. The City issued a Water Conservation Advisory on June 22, 2022. As of Friday, June 24, 2022, tank levels remained low and output pressure had dropped to 68 psi at O. B. Curtis WTP. This loss in pressure led the City to issue a City-Wide Boil Water Advisory on June 24, 2022.

Section 1445 of the SDWA, 42 U.S.C. § 300j-4, and 40 Code of Federal Regulations (C.F.R.) § 141.31 authorize the EPA to require the submittal of information so it can determine whether a public water system is in compliance with the NPDWRs and other applicable requirements, including MPDWRs and the AOC. See Section 1414(i) of the SDWA, 42 U.S.C. § 300g-3(i). Pursuant to Section 1445(a)(1)(B) of the SDWA, 42 U.S.C. §300j-4(a)(1)(B), and after consultation with MSDH, the EPA hereby requests that the City provide the information described in Enclosure A within seven calendar days of receipt of this letter

The EPA requests that this information be submitted in electronic format to Ms. Charlotte Bunch at Bunch.Charlotte@epa.gov. If portions are unavailable in electronic format, please notify Ms. Bunch in your electronic submission that additional information is being sent in hardcopy to:

Bryan Myers
Water Enforcement Branch
Enforcement and Compliance Assurance Division
US Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Please be advised that, under Section 1445(c) of the SDWA, 42 U.S.C. § 300j-4(c), as amended by 40 C.F.R. § 19.4, Table 2 (Adjustment of Civil Monetary Penalties for Inflation), failure to provide the information required by this letter may result in a civil penalty of up to $62,689. In addition, under SDWA Section 1414(g), 42 U.S.C. § 300g-3(g), failure to provide the information required by this letter may result in an order requiring compliance. Violation of such order may lead to sanctions under SDWA Section 1414, 42 U.S.C. § 300g-3(g)(3)(A) and 40 C.F.R. § 19.4, Table 2, which include penalties of up to $62,689 per day of violation. The information provided in response to this letter may be used by the United States in any enforcement proceeding related to this matter.

You may, if you so desire, assert a confidential business information (CBI) claim covering any or all the information furnished to the EPA in response to this letter. Every CBI claim must be made in a manner described in 40 C.F.R. § 2.203 and must be fully substantiated with documentary evidence which shows how the claim meets every criterion listed in 40 C.F.R. §§ 2.208 and 2.304. If no CBI claim

[1] The MSDH is the entity in the State of Mississippi with primary enforcement authority over the SDWA, pursuant to SDWA Section 1413, 42 U.S.C. § 300g-2. On February 28, 2020, MSDH sent a written request for EPA to assist in addressing the City of Jackson's SDWA noncompliance.

accompanies your information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. Further details, including how to make a business confidentiality claim, are included in Enclosure B.

This request for information is not subject to review by the Office of Management and Budget (OMB) under the Paper Reduction Act because it is not an "informal collection request" within the meaning of 44 U.S.C. §§ 3502(4), (11), 3507, 3512, and 3518. Furthermore, it is exempt from OMB review under the Paper Reduction Act because it is directed to fewer than 10 persons. *See* 44 U.S.C. § 3502(4), (11); 5 C.F.R. § 1320.5(a).

If you have any questions regarding this matter, please contact me at (404) 562-8975 or kemker.carol@epa.gov, or Ms. Mary Jo Bragan at (404) 617-6432 or bragan.maryjo@epa.gov. For legal inquiries, please have your attorneys contact Ms. Suzanne Armor, Associate Regional Counsel, at (404) 562-9701 or Armor.Suzanne@epa.gov.

Sincerely,

CAROL KEMKER

Digitally signed by CAROL KEMKER
Date: 2022.06.30 15:18:53 -04'00'

Carol L. Kemker
Director
Enforcement and Compliance Assurance Division

Enclosures

cc: Ms. Angelique C. Lee, Vice President
Jackson City Council

Dr. Safiya Omari, Chief of Staff
City of Jackson

Mr. Marlin KingDirector, Public Works Department, City of Jackson

Mr. Jim Craig
Director of Health Protection, Mississippi State Department of Health

ENCLOSURE A

INFORMATION REQUEST PURSUANT TO SECTION 1445(a)(1)(B) OF THE SAFE DRINKING WATER ACT

Instructions

1. Identify the person(s) responding to this Information Request.

2. Please provide a separate narrative response to each and every question and subpart of a question set forth in this Information Request.

3. Precede each answer with the text and the number of the question and its subpart to which the answer corresponds.

4. All documents submitted must contain a notation indicating the question and subpart of the question to which they are responsive.

5. In answering each Information Request question and subpart thereto, identify all documents and persons consulted, examined or referred to in the preparation of each response, and provide true and accurate copies of all such documents.

6. If information not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Should you find at any time after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA as soon as possible.

7. Where specific information has not been memorialized in a document, but is nonetheless responsive to a question, you must respond to the question with a written response.

8. If information responsive to this Information Request is not in your possession, custody or control, then identify the person from whom such information may be obtained.

9. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any question or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

10. The EPA requests that all documents provided in an electronic format be compatible with pdf.

11. The EPA requests that all spreadsheet information be in an electronic format and compatible with MS Excel.

12. You may submit the requested information using a shared online repository.

13. If any question relates to activities undertaken by entities other than the recipient of this Information Request, and to the extent that you have information pertaining to such activities, provide such information for each entity.

Definitions

1. All terms not defined herein shall have their ordinary meanings, unless such terms are defined in the Safe Drinking Water Act or its implementing regulations, in which case the statutory or regulatory definitions shall control.

2. Words in the masculine may be construed in the feminine if appropriate, and vice versa, and words in the singular may be construed in the plural if appropriate, and vice versa, in the context of a particular question or questions.

3. The terms "And" and "Or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed outside it scope.

4. The term "Jackson PWS" or "PWS" means the City of Jackson Public Water System, including the O.B. Curtis and J.H. Fewell WTPs.

5. "O.B. Curtis WTP" means the O.B. Curtis Water Treatment Plant, located at 100 O.B. Curtis Drive, Ridgeland, Mississippi 39157, and its appurtenant equipment and conveyances.

6. "J.H. Fewell WTP" means the J.H. Fewell Water Treatment Plant, located at 2302 Laurel Street, Jackson, Mississippi 39202, and its appurtenant equipment and conveyances.

7. The term "MSDH" means the Mississippi Department of Health.

8. The term "Administrative Compliance Order on Consent" or "AOC" means the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021, including the Comprehensive Equipment Repair Plan ("CERP"), attached thereto as Appendix A, as amended.

9. The term "Comprehensive Equipment Repair Plan" or "CERP" means the Attachment A to the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021.

Questions

1. Provide all communications regarding staffing, staffing shortages, and/or plans to fill open positions permanently and/or temporarily at the J.H. Fewell and O.B. Curtis WTPs, including, but not limited to, any notes of communications, email correspondence, meeting minutes, memoranda, budget information or any other directives commencing, from the effective date of the AOC to the date of the City's receipt of this letter. This includes any communications within and between the City's Finance Department, Public Works Department, the Mayor's Office and/or the City Council.

2. Identify whether any current positions at the J.H. Fewell and O.B. Curtis WTPs are being staffed or are planned to be staffed through use of a contractor. If a position is filled through use of a contractor, please provide a copy of the executed contract for that service and any City Council meeting minute(s) in which the contract was authorized.

3. Please identify and provide copies of any outstanding or unpaid invoices with respect to staffing support for the Jackson PWS.

4. Identify the total number of hours each week for the past four weeks that each operator of the O.B. Curtis and J.H. Fewell WTPs worked, including any overtime hours.

5. Provide a description of all currently open and/or vacant positions for the J.H. Fewell and O.B. Curtis WTPs.

6. Explain how the City intends to maintain adequate pressure in the System while the O.B. Curtis WTP High Service Line #2 is inoperable, and/or explain how the City intends to bring the O.B. Curtis WTP High Service Line #2 into fully-operational status, identifying interim timelines and milestones as appropriate.

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS

(40 C.F.R. Part 2)

Except for information which deals with the existence, absence, or level of contaminants in drinking water, you may, if you desire, assert a business confidentiality claim as to any or all of the information that the EPA is requesting from you. The EPA regulation relating to business confidentiality claims is found at 40 C.F.R. Part 2.

If you assert such a claim for the requested information, the EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, the EPA may make the information available to the public without any further notice to you.

40 C.F.R. § 2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to the EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to the EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by the EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

Message

From: Armor, Suzanne [Armor.Suzanne@epa.gov]
Sent: 7/11/2022 6:59:43 PM
To: Terry Williamson [twilliamson@city.jackson.ms.us]; cmartin@jacksonms.gov
CC: Wetherington, Michele [Wetherington.Michele@epa.gov]; Vinch, James [Vinch.James@epa.gov]
Subject: RE: Information Request Letter for City of Jackson Drinking Water

Dear Torri and Terry:

The City's response to the Information Request Letter was due on July 8. Making you are that, as of today, we have not received a response from the City.

Best regards,
Suzanne

From: Armor, Suzanne
Sent: Thursday, July 7, 2022 2:05 PM
To: Terry Williamson <twilliamson@city.jackson.ms.us>; cmartin@jacksonms.gov
Cc: Wetherington, Michele <Wetherington.Michele@epa.gov>; Vinch, James <Vinch.James@epa.gov>
Subject: FW: Information Request Letter for City of Jackson Drinking Water

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Best regards,
Suzanne

From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 4:08 PM
To: Chokwe A. Lumumba <calumumba@jacksonms.gov>; vlindsay@city.jackson.ms.us; Angelique C. Lee <angeliquel@jacksonms.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; mking@city.jackson.ms.us; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique C. Lee <angeliquel@jacksonms.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
Subject: Information Request Letter for City of Jackson Drinking Water

Dear Mayor Lumumba and Ms. Lindsay,

Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.

Respectfully,
Carol L. Kemker
Director

Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Message

From: Armor, Suzanne [Armor.Suzanne@epa.gov]
Sent: 7/11/2022 8:26:42 PM
To: Terry Williamson [twilliamson@city.jackson.ms.us]; Catoria P. Martin [cmartin@city.jackson.ms.us]
CC: Wetherington, Michele [Wetherington.Michele@epa.gov]; Vinch, James [Vinch.James@epa.gov]
Subject: RE: Information Request Letter for City of Jackson Drinking Water

Thank you for your email and voicemail, Terry. I received both, and am conferring with my clients as to the City's request. We will be in touch.

Best regards,
Suzanne

SUZANNE K. ARMOR | ATTORNEY-ADVISOR
United States Environmental Protection Agency
Office of Regional Counsel
Water Legal Office
61 Forsyth Street, S.W.
Atlanta, Georgia 30303
tel: 404.562.9701
fax: 404.562.8078
armor.suzanne@epa.gov
She/Her/Hers

CONFIDENTIALITY NOTICE: This message is being sent by or on behalf of an attorney. It is intended exclusively for the individual(s) or entity(ies) to whom or to which it is addressed. This communication may contain information that is proprietary, privileged, or confidential or otherwise legally exempt from disclosure. If you are not the named addressee, you are not authorized to read, print, retain, copy, or disseminate this message or any part of it. If you have received this message in error, please notify the sender immediately by email and delete all copies of the message.

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Monday, July 11, 2022 3:25 PM
To: Armor, Suzanne <Armor.Suzanne@epa.gov>; Catoria P. Martin <cmartin@city.jackson.ms.us>
Cc: Wetherington, Michele <Wetherington.Michele@epa.gov>; Vinch, James <Vinch.James@epa.gov>
Subject: Re: Information Request Letter for City of Jackson Drinking Water
Importance: High

Suzanne, I was under the impression that the response was due today, July 11. In any event, the City is diligently working to pull the requested information together. As I stated in my telephone message, the City is requesting an additional week from today to provide the requested information.

As you are aware, in addition to the Public Works Director, there is a Deputy Director and the City Engineer who have been involved in the matters about which information is requested. There are also persons in our Human Resources Department who were involved in these staffing issues. In addition to the Mayor, the Chief of Staff, the Chief Administrative Officer, and the Chief Financial Officer have been involved. Searching and reviewing communications that may be relevant takes time.

Please let me know if this extension is acceptable to your client. Please feel free to call me if there is anything we need to discuss.

Thank you,

OFFICE OF THE CITY ATTORNEY

Terry S. Williamson |Legal Counsel

City of Jackson, Mississippi

Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov

Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov

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This e-mail and any files transmitted with it are City of Jackson property, are confidential, and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email are strictly prohibited. If you have received this message in error, please notify the sender or the Office of the City Attorney at (601) 960-1799 immediately be telephone or by return email and double delete this message from your computer.

From: Armor, Suzanne <Armor.Suzanne@epa.gov>
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To: Terry Williamson <twilliamson@city.jackson.ms.us>; Catoria P. Martin <cmartin@city.jackson.ms.us>
Cc: Wetherington, Michele <Wetherington.Michele@epa.gov>; Vinch, James <Vinch.James@epa.gov>
Subject: RE: Information Request Letter for City of Jackson Drinking Water

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Best regards,
Suzanne

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To: Terry Williamson <twilliamson@city.jackson.ms.us>; cmartin@jacksonms.gov

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Subject: FW: Information Request Letter for City of Jackson Drinking Water

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Sent: Thursday, June 30, 2022 4:08 PM
To: Chokwe A. Lumumba <calumumba@jacksonms.gov>; vlindsay@city.jackson.ms.us; Angelique C. Lee <angeliquel@jacksonms.gov>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; mking@city.jackson.ms.us; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique C. Lee <angeliquel@jacksonms.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
Subject: Information Request Letter for City of Jackson Drinking Water

Dear Mayor Lumumba and Ms. Lindsay,

Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.

Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Appointment

From: Adcox-Green, Ashley [Ashley.Adcox-Green@msdh.ms.gov]
on behalf of Craig, Jim [Jim.Craig@msdh.ms.gov]
Sent: 7/11/2022 10:38:43 PM
To: Kemker, Carol [Kemker.Carol@epa.gov]

Subject: Accepted: City of Jackson Meeting Overview
Location: Microsoft Teams Meeting

Start: 7/18/2022 8:30:00 PM
End: 7/18/2022 9:00:00 PM
Show Time As: Busy

Recurrence: (none)

This message and all attachments are confidential and/or proprietary to the Mississippi State Department of Health, and may contain sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the intended recipient. The use, disclosure, copying or distribution by any means, to anyone other than the intended recipient without the prior written permission of the Mississippi State Department of Health, is strictly prohibited. Any such unauthorized disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance in the protection of confidential information.

Message

From: Armor, Suzanne [Armor.Suzanne@epa.gov]
Sent: 7/12/2022 8:25:54 PM
To: Terry Williamson [twilliamson@city.jackson.ms.us]
CC: Wetherington, Michele [Wetherington.Michele@epa.gov]; Vinch, James [Vinch.James@epa.gov]; cmartin@jacksonms.gov
Subject: FW: Information Request Letter for City of Jackson Drinking Water

Importance: High

Dear Terry:

Thank you for your email. The EPA respectfully notes that the information request letter, transmitted to the City on June 30, 2022, requested a full response to the questions posed therein no later than seven calendar days after the City's receipt of the request. The EPA therefore calculates that the City's response was due no later than July 8, 2022.

The City's full and timely response is not only required under the SDWA; it provides important information to assist the EPA in assessing the City's compliance with the SDWA and in determining appropriate responses to the City's compliance challenges. The EPA is therefore not granting the City's request for an extension of time to respond, and we trust that the City is making every effort to comply with the information request.

For your information, I will be out of the office beginning around 12:00 pm EST tomorrow, through Monday, July 25. Please copy Michele Wetherington on any correspondence to me during that time, as she will be your primary point of contact with EPA's Office of Regional Counsel during my leave.

Thank you,
Suzanne

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To: Armor, Suzanne <Armor.Suzanne@epa.gov>; Catoria P. Martin <cmartin@city.jackson.ms.us>
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Subject: Re: Information Request Letter for City of Jackson Drinking Water
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Thank you,

OFFICE OF THE CITY ATTORNEY

Terry S. Williamson |Legal Counsel

City of Jackson, Mississippi

Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov

Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov

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Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; mking@city.jackson.ms.us; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique C. Lee <angeliquel@jacksonms.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
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Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 7/20/2022 8:22:40 PM
To: Marlin King [mking@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: RE: Tasks under EPA/COJ 1414 AOC

Mr. King:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). As discussed on the July 14th call we only had a few edits to the Asset Management Plan Scope of Work. Could you please make the following edits and send us back the scope of work. Once we receive we will approve.

Task 2, Milestone 5) Team training on CMMS should be completed no later than 6 months from EPA approval of AMP SOW.
Task 4, Milestones 1) and 2) Development of Rating System and Assessment Criteria should be completed within 6 months of EPA approval of AMP SOW.

Additionally, EPA received your extension requests for Tasks 33 and 40 submitted June 24, 2022. After review we are prepared to grant the three month extension for Task 33 (b-f) and Task 40.C (c-f). The final deadline of Task 33.g and the final deadlines for the tasks associated with Task 40.C will remain the same. The new deadlines for each task are as follows:

33.a) 01/30/2022
33.b) 09/28/2022
33.c) 11/30/2022
33.d) 12/30/2022
33.e) 3/15/2023
33.f) 04/15/2023
33.g) 03/24/2024 (unchanged)

40.C.a) 02/01/2022
40.C.b) 09/28/2022
40.C.c) 12/30/2022
40.C.d) 2/15/2023
40.C.e) 04/15/2023
40.C.f) 06/02/2023

Completion dates for specific projects (unchanged):
40.C.1) 11/30/2023 - Chloramination and Ammonia Feed System and Automation Improvements
40.C.2) 02/30/2024 - Process Automation and Other Chemical Feed System Improvement
40.C.3) 03/31/2024 - Fluoridation Feed System

40.C.4) 04/30/2024 - Potassium Permanganate Feed System at Pearl River Intake (copper sulfate will be evaluated for algae control
40.C.5) 05/30/2024 - Automation System Startup and Operator Training

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Marlin King [mking@city.jackson.ms.us]
Sent: 7/21/2022 7:13:23 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: RE: Tasks under EPA/COJ 1414 AOC

Hi Mr. Myers,

We will make those edits and send it back to you.

Thanks

Marlin B. King Jr.
Director of Public Works
City of Jackson
e: mking@jacksonms.gov
p: 601.960.2419
m: 769.257.1579

THE CITY OF JACKSON MISSISSIPPI

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From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Wednesday, July 20, 2022 3:23 PM
To: Marlin King <mking@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert

<Burns.Robert@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
Subject: RE: Tasks under EPA/COJ 1414 AOC

Mr. King:

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). As discussed on the July 14th call we only had a few edits to the Asset Management Plan Scope of Work. Could you please make the following edits and send us back the scope of work. Once we receive we will approve.

Task 2, Milestone 5) Team training on CMMS should be completed no later than 6 months from EPA approval of AMP SOW.
Task 4, Milestones 1) and 2) Development of Rating System and Assessment Criteria should be completed within 6 months of EPA approval of AMP SOW.

Additionally, EPA received your extension requests for Tasks 33 and 40 submitted June 24, 2022. After review we are prepared to grant the three month extension for Task 33 (b-f) and Task 40.C (c-f). The final deadline of Task 33.g and the final deadlines for the tasks associated with Task 40.C will remain the same. The new deadlines for each task are as follows:

33.a) 01/30/2022
33.b) 09/28/2022
33.c) 11/30/2022
33.d) 12/30/2022
33.e) 3/15/2023
33.f) 04/15/2023
33.g) 03/24/2024 (unchanged)

40.C.a) 02/01/2022
40.C.b) 09/28/2022
40.C.c) 12/30/2022
40.C.d) 2/15/2023
40.C.e) 04/15/2023
40.C.f) 06/02/2023

Completion dates for specific projects (unchanged):
40.C.1) 11/30/2023 - Chloramination and Ammonia Feed System and Automation Improvements
40.C.2) 02/30/2024 - Process Automation and Other Chemical Feed System Improvement
40.C.3) 03/31/2024 - Fluoridation Feed System
40.C.4) 04/30/2024 - Potassium Permanganate Feed System at Pearl River Intake (copper sulfate will be evaluated for algae control
40.C.5) 05/30/2024 - Automation System Startup and Operator Training

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
Phone: 404-562-9603
Myers.Bryan@EPA.GOV
Pronouns: He, Him, His

Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 7/23/2022 3:15:36 AM
To: Bunch, Charlotte [Bunch.Charlotte@epa.gov]
CC: Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Chokwe A. Lumumba [calumumba@city.jackson.ms.us]; Safiya Omari [somari@city.jackson.ms.us]; Ashby Foote [ashby@vectormm.com]; Angelique Lee [angeliquel@city.jackson.ms.us]; Kemker, Carol [Kemker.Carol@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Catoria P. Martin [cmartin@city.jackson.ms.us]
Subject: July 1, 2022 Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act PWS ID # MS0250008 City of Jackson Public Water System

Dear Ms. Bunch,

The City is providing a partial response to the July 1, 2022 Request for Information (the "Request") at this time. The City will continue to work diligently and thoroughly to provide additional information responsive to the request, particularly in response to Question 1. of the Request.

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EPA Information Request

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The City submits the following responses to the six questions in the Request:

1. Provide all communications regarding staffing, staffing shortages, and/or plans to fill open positions permanently and/or temporarily at the J.H. Fewell and O.B. Curtis WTPs, including, but not limited to, any notes of communications, email correspondence, meeting minutes, memoranda, budget information or any other directives commencing, from the effective date of the AOC to the date of the City's receipt of this letter. This includes any communications within and between the City's Finance Department, Public Works Department, the Mayor's Office and/or the City Council.

The City is still engaged in the search and review of emails and other communications relevant to this request. The City anticipates being able to provide supplemental information by August 3.

Mary D. Carter provided the emails currently included.

2. Identify whether any current positions at the J.H. Fewell and O.B. Curtis WTPs are being staffed or are planned to be staffed through use of a contractor. If a position is filled through use of a contractor, please provide a copy of the executed contract for that service and any City Council meeting minute(s) in which the contract was authorized.

At O.B. Curtis, the City current fills an Operator II position with a contract employee, Holsey Jr. Nelson, III, a retired City employee who holds a Class A certification. O.B. Curtis also fills a maintenance work position with a contract employee. A copy of the staffing agreement with Staffmark Investment LLC is attached as "Question 2--O.B. Curtis Staffing Contract." A copy of the Order approved by the City Council and the agenda upon which the Order appeared is attached as "Question 2--Staffing Contract Minutes."

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Persons providing information for this response are Marlin King and Mary D. Carter.

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Attached as "Question 3--Staffmark Invoices" are outstanding invoices from March 25 through July 1, 2022 for two contract employees through Staffmark. Holsey Jr. Nelson, III is a retired operator with a Class A certification working at O.B. Curtis as an Operator. Alexander S. Clayborne is working in maintenance at O.B. Curtis.

The person providing this information was Mary D. Carter and Annette Hill

4. Identify the total number of hours each week for the past four weeks that each operator of the O.B. Curtis and J.H. Fewell WTPs worked, including any overtime hours.

Attached as "Question 4" are the timesheets for the operators at the City's water treatment plants for the period June 5 through July 2, 2022. Within the "Question 4" folder are two folders, "Question 4--JH Fewell Operators" and "Question 4--OB Curtis Operators", which group the operators according to the plant to which they are assigned.

In addition to these City employees, Holsey Jr. Nelson, III works as a contract operator at O.B. Curtis. His weekly hours, including overtime hours are as follow.

Week ending June 26, 2022 24 total hours
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J.H. Fewell employs four (4) contract operators. The hours worked will be supplemented as soon as obtained.

Due to the necessity of having a Class A certified operator working at all time at each plant, the following operators at each plant hold Class A certification:

O.B. Curtis--Vincent Thomas, Jr. (Operation Supervisor); Robert L. Lofton; and Holsey Jr. Nelson, III (contract labor)

J.H. Fewell--Terrence Byrd (Operations Supervisor); Christopher Ward; and James Jackson

This information was provided by Mary D. Carter, Chris Baxter, and the City of Jackson Human Resources Department.

5. Provide a description of all currently open and/or vacant positions for the J.H. Fewell and O.B. Curtis WTPs.

Attached as "Question 5--Job Descriptions" is the job descriptions for each Water Operator job classification. The City will supplement this with the job descriptions for maintenance and instrument technicians early next week.

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Please advise if there are any issue with accessing the shared files.

Sincerely,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson | Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207 | Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 | www.jacksonms.gov
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Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 7/23/2022 3:18:12 AM
To: Bunch, Charlotte [Bunch.Charlotte@epa.gov]
CC: Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Chokwe A. Lumumba [calumumba@city.jackson.ms.us]; Safiya Omari [somari@city.jackson.ms.us]; Ashby Foote [ashby@vectormm.com]; Angelique Lee [angeliquel@city.jackson.ms.us]; Kemker, Carol [Kemker.Carol@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Catoria P. Martin [cmartin@city.jackson.ms.us]
Subject: Re: July 1, 2022 Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act PWS ID # MS0250008 City of Jackson Public Water System

Because of concerns with your receipt of this email related to the link, I am resending with a delivery receipt.

My apologies,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson |Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov
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Sent: Friday, July 22, 2022 10:15 PM
To: Bunch, Charlotte <Bunch.Charlotte@epa.gov>
Cc: Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Safiya Omari <somari@city.jackson.ms.us>; Ashby Foote <ashby@vectormm.com>; Angelique Lee <angeliquel@city.jackson.ms.us>; Kemker, Carol <Kemker.Carol@epa.gov>; Suzanne Armor <armor.suzanne@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Catoria P. Martin <cmartin@city.jackson.ms.us>
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Subject: RE: July 1, 2022 Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act PWS ID # MS0250008 City of Jackson Public Water System

Mr. Williamson,

We have received your partial response to the July 1, 2022 Request for Information and will begin reviewing. We look forward to receiving the supplemental information anticipated by August 3, 2022.

Thank you,
Charlotte

Charlotte Bunch
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street SE | Atlanta, GA 30303-8960
Phone: 404 562 9304
bunch.charlotte@epa.gov

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Friday, July 22, 2022 11:16 PM
To: Bunch, Charlotte <Bunch.Charlotte@epa.gov>
Cc: Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Safiya Omari <somari@city.jackson.ms.us>; Ashby Foote <ashby@vectormm.com>; Angelique Lee <angeliquel@city.jackson.ms.us>; Kemker, Carol <Kemker.Carol@epa.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Catoria P. Martin <cmartin@city.jackson.ms.us>
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Dear Ms. Bunch,

The City is providing a partial response to the July 1, 2022 Request for Information (the "Request") at this time. The City will continue to work diligently and thoroughly to provide additional information responsive to the request, particularly in response to Question 1. of the Request.

Because this request is directed at determining the staffing levels at the City's two water treatment plants, J.H. Fewell and O.B. Curtis, the City also wanted to advise Region 4 of the City's recent, unsuccessful attempts to obtain assistance through its mutual aid agreement through the Mississippi Rural Water Association (MsRWA). The City is grateful for the efforts of the Mississippi Rural Water Association to obtain staffing assistance. However, those efforts have been very marginally successful up to this point.

First, MsRWA provided the City with an operations consultant from the Alabama Rural Water Association. This operations consultant, while licensed, had no experience with the operation of a plant using membrane filtration. Consequently, he was not able to provide any shift relief for the Class A operators at the O.B. Curtis plant. He did observe operations procedures and the City is hopeful that his efforts might provide suggestions for optimizing operations.

Just today, the City learned that after two weeks of telephone conferences and review of mutual aid agreements, the Orlando Utility Commission (OUC) decided that it could not provide assistance at this time, despite the City's willingness to pay the salaries of four (4) employees for a two-week period, room and board for the same period, and equipment usage rates. OUC expressed its own concerns about staffing, if it allowed these four (4) employees two weeks away at this critical time of the summer. The cost of this mutual aid to the City would have been in excess of $100,000.00 for the two-week period. Just last week, the City and OUC had a fruitful discussion about the work list prepared primarily for O.B. Curtis, but which also some electrical troubleshooting/repairs at J.H. Fewell. The team from OUC included a Class A Operator, who the Mississippi Bureau of Public Water Supply had agreed to allow a provisional Mississippi Class A certification. This would have provided the O.B. Curtis Class A operators much needed relief. The team of technicians, which included two electricians and a mechanic, were prepared to address lingering corrective maintenance at O.B. Curtis, which would have given the City maintenance employees a boost in addressing maintenance issue before they become critical.

The City will continue working with MsRWA to identify outside assistance, but the results to date have been discouraging. The City will continue its efforts at hiring permanent City employees to staff both water treatment plants. Nevertheless, the City asks that Region 4 EPA consider the current challenges in the labor market that appear related to COVID-19 and inflation. Jackson, Mississippi has not been immune to these labor market forces, which make hiring permanent employees challenging.

The following link provides shared access to all documents indicated as being attachments.

https://www.dropbox.com/sh/3vgjprnvdyz2mrk/AABDvtwGxRXMMmE-2yzx_ec6a?dl=0

EPA Information Request

Shared with Dropbox

www.dropbox.com

The City submits the following responses to the six questions in the Request:

1. Provide all communications regarding staffing, staffing shortages, and/or plans to fill open positions permanently and/or temporarily at the J.H. Fewell and O.B. Curtis WTPs, including, but not limited to, any notes of communications, email correspondence, meeting minutes, memoranda, budget information or any other directives commencing, from the effective date of the AOC to the date of the City's receipt of this letter.

This includes any communications within and between the City's Finance Department, Public Works Department, the Mayor's Office and/or the City Council.

The City is still engaged in the search and review of emails and other communications relevant to this request. The City anticipates being able to provide supplemental information by August 3.

Mary D. Carter provided the emails currently included.

2. Identify whether any current positions at the J.H. Fewell and O.B. Curtis WTPs are being staffed or are planned to be staffed through use of a contractor. If a position is filled through use of a contractor, please provide a copy of the executed contract for that service and any City Council meeting minute(s) in which the contract was authorized.

At O.B. Curtis, the City current fills an Operator II position with a contract employee, Holsey Jr. Nelson, III, a retired City employee who holds a Class A certification. O.B. Curtis also fills a maintenance work position with a contract employee. A copy of the staffing agreement with Staffmark Investment LLC is attached as "Question 2--O.B. Curtis Staffing Contract." A copy of the Order approved by the City Council and the agenda upon which the Order appeared is attached as "Question 2--Staffing Contract Minutes."

At J.H. Fewell, four (4) operators are filled by contract employees. The City will supplement the response to this question regarding staff at J.H. Fewell as soon as possible upon obtaining a copy of the applicable staffing contract and the minutes.

The City has contacted Jacobs Engineering about providing a maintenance staff augmentation contract. Jacobs Engineering declined to provide a contract limited to maintenance. The City previously contact ESG Operations, Inc. about providing operator staff augmentation. ESG declined to provide contract operators only. Most recently, ESG Operations, Inc. has been contacted about a maintenance contract, but have not responded. The City has also contacted its Wastewater Treatment Plant Contract Operator, Veolia, about providing a maintenance contract for the two water treatment plants. Veolia is currently reviewing documentation about the AOC and preparing a proposal to offer different types and levels of service to the City. The City has expressed to Veolia the urgency of its need for assistance with maintenance at both plants through a contract and anticipates receiving a proposal in the very near future.

Persons providing information for this response are Marlin King and Mary D. Carter.

3. Please identify and provide copies of any outstanding or unpaid invoices with respect to staffing support for the Jackson PWS.

Attached as "Question 3--Staffmark Invoices" are outstanding invoices from March 25 through July 1, 2022 for two contract employees through Staffmark. Holsey Jr. Nelson, III is a retired operator with a Class A certification working at O.B. Curtis as an Operator. Alexander S. Clayborne is working in maintenance at O.B. Curtis.

The person providing this information was Mary D. Carter and Annette Hill

4. Identify the total number of hours each week for the past four weeks that each operator of the O.B. Curtis and J.H. Fewell WTPs worked, including any overtime hours.

Attached as "Question 4" are the timesheets for the operators at the City's water treatment plants for the period June 5 through July 2, 2022. Within the "Question 4" folder are two folders, "Question 4--JH Fewell Operators" and "Question 4--OB Curtis Operators", which group the operators according to the plant to which they are assigned.

In addition to these City employees, Holsey Jr. Nelson, III works as a contract operator at O.B. Curtis. His weekly hours, including overtime hours are as follow.

Week ending June 26, 2022 24 total hours
Week ending June 19, 2022 43 total hours (including 3 hours overtime)
Week ending June 12, 2022 24 total hours
Week ending June 05, 2022 48 total hours (including 8 hours overtime)

J.H. Fewell employs four (4) contract operators. The hours worked will be supplemented as soon as obtained.

Due to the necessity of having a Class A certified operator working at all time at each plant, the following operators at each plant hold Class A certification:

O.B. Curtis--Vincent Thomas, Jr. (Operation Supervisor); Robert L. Lofton; and Holsey Jr. Nelson, III (contract labor)

J.H. Fewell--Terrence Byrd (Operations Supervisor); Christopher Ward; and James Jackson

This information was provided by Mary D. Carter, Chris Baxter, and the City of Jackson Human Resources Department.

5. Provide a description of all currently open and/or vacant positions for the J.H. Fewell and O.B. Curtis WTPs.

Attached as "Question 5--Job Descriptions" is the job descriptions for each Water Operator job classification. The City will supplement this with the job descriptions for maintenance and instrument technicians early next week.

This information was provided by the City of Jackson Human Resources Department.

6. Explain how the City intends to maintain adequate pressure in the System while the O.B. Curtis WTP High Service Line #2 is inoperable, and/or explain how the City intends to bring the O.B. Curtis WTP High Service Line #2 into fully-operational status, identifying interim timelines and milestones as appropriate.

Once the control panel was installed and High Service Line #2 brought back into operation, three of the five pumps were fully operational. This provides sufficient pumping capacity to maintain pressure in the system under normal operation conditions. After installation of the control panel, Pumps 7 and 8 were functional, but would not operate in automatic mode. The City began troubleshooting this issue beginning with investigating issues with the PLC. During the course of this investigation, the City determined that the issue was with wiring done by the contractor who installed the control panel. This week the contractor returned to correct the wiring and completed the work on Friday, July 22, 2022. At this time, High Service Line #2 is fully operational with all five (5) pumps working.

This information was provided by Mary D. Carter and Richard Harper.

Please advise if there are any issue with accessing the shared files.

Sincerely,

OFFICE OF THE CITY ATTORNEY

Terry S. Williamson |Legal Counsel

City of Jackson, Mississippi

Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov

Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov

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Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 7/25/2022 10:22:10 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: Tasks under EPA/COJ 1414 AOC

Bryan, I realized that I was forwarding this links to City Council meetings to Marlin to send to you, but he was not receiving my emails.

Embedded are links to City Council meetings for following approval of AOC Projects:

31. ORDER ACCEPTING THE BID OF HEMPHILL CONSTRUCTION COMPANY, INC. FOR CONSTRUCTION OF THE J.H. FEWELL WATER TREATMENT PLANT FILTERS 24 AND 26 REHABILITATION PROJECT, DWI L250008-03, AND AUTHORIZING THE MAYOR TO EXECUTE A CONTRACT WITH SAID COMPANY. (KING, LUMUMBA)

24. ORDER ACCEPTING THE BID OF HEMPHILL CONSTRUCTION COMPANY, INC. FOR THE JH FEWELL WATER TREATMENT PLANT CORROSION CONTROL CHEMICAL FEED SYSTEM PROJECT, DWI-L250008-03. (KING, LUMUMBA)

Please note that the link is to the entire meeting. You are able to scroll down to the agenda item number, click the agenda item, click play, and the player will play beginning at the bookmark for the particular agenda item.

Please let me know if you have any questions.

Thanks,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson |Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov
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Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 7/26/2022 12:27:53 PM
To: Terry Williamson [twilliamson@city.jackson.ms.us]; William Moody [william.moody@msdh.ms.gov]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: RE: Tasks under EPA/COJ 1414 AOC

Thank you Terry – Confirming receipt.

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Monday, July 25, 2022 6:22 PM
To: Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
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Please let me know if you have any questions.

Thanks,

OFFICE OF THE CITY ATTORNEY

Terry S. Williamson |Legal Counsel

City of Jackson, Mississippi

Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov

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Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 7/29/2022 3:02:19 PM
To: William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: Tasks under EPA/COJ 1414 AOC and follow up from yesterday's call

Good morning Mr. King

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). As a part of that review the following tasks are now appear to be complete:

1) Tasks 6.A.3, 6.A.4 and 6.A.5 related to Filters 24 and 26 at JH Fewell WTP.

We also talked about Task 40.C of Appendix A of the AOC. It is EPA's understanding that extension request was for the special projects that feed off the corrosion control project. Given that you are on schedule for the general corrosion control project, that there are no interim deadlines for the special automation projects, and that the final deadlines have not changed, EPA believes this extension is not necessary at this time. The interim deadlines for the general corrosion control project will remain as they were in Appendix A of the AOC.

Additionally, I wanted to remind you of several items we discussed yesterday and information we are awaiting from the City of Jackson.

1) Please provide information <u>today</u> on if the City of Jackson implemented a 2-year Term Bid Agreement with a licensed water distributor or grocery store as outlined in the Alternative Water Source Plan?
2) Please update the Asset Management Plan Scope of Work and submit for final approval.
3) Please provide the signed notice to proceed on the corrosion control project at Fewell that Keith Allen mentioned was signed on July 5th, 2022.
4) EPA looks forward to receiving the supplemental response to the July 1, 2022 Information Request early next week.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 7/29/2022 5:30:30 PM
To: William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: RE: Tasks under EPA/COJ 1414 AOC and follow up from yesterday's call
Attachments: Appendix A - Jackson CERP- Updated 7_29_2022.docx

Good afternoon again Mr. King.

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). As a part of that review the following tasks are now appear to be complete:

Tasks 40.C.c, 40.C.d, and 40.C.e – Tasks associated with the general corrosion control project.

Additionally, I wanted to supply you with an updated Comprehensive Equipment Repair Plan which takes into account extension requests, completed tasks, and new information since our last update in February 2022. Please review given the number of tasks and subtasks and let us know if you have any edits. As with the last CERP update in February, upon agreement, this CERP will amend the current Appendix A of the AOC. If you could let us know your comments prior to the next biweekly call we would appreciate it. Please let myself or Suzanne Armor know if you have any questions.

Finally, while preparing the amended CERP we noticed that in the email to Dr. Charles Williams on April 22, 2022, I inadvertently denied the extension request for Task 5.B. The correct task I was denying should have been for your request for Task 15 as discussed during the April 21, 2022, biweekly call. My apologies for any confusion.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

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Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

From: Myers, Bryan
Sent: Friday, July 29, 2022 11:02 AM
To: William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; Shultis, Charles <Charles.Shultis@msdh.ms.gov>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>; Burns, Robert <Burns.Robert@epa.gov>; Marlin King <mking@jacksonms.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
Subject: Tasks under EPA/COJ 1414 AOC and follow up from yesterday's call

Good morning Mr. King

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1) Tasks 6.A.3, 6.A.4 and 6.A.5 related to Filters 24 and 26 at JH Fewell WTP.

We also talked about Task 40.C of Appendix A of the AOC. It is EPA's understanding that extension request was for the special projects that feed off the corrosion control project. Given that you are on schedule for the general corrosion control project, that there are no interim deadlines for the special automation projects, and that the final deadlines have not changed, EPA believes this extension is not necessary at this time. The interim deadlines for the general corrosion control project will remain as they were in Appendix A of the AOC.

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3) Please provide the signed notice to proceed on the corrosion control project at Fewell that Keith Allen mentioned was signed on July 5th, 2022.
4) EPA looks forward to receiving the supplemental response to the July 1, 2022 Information Request early next week.

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Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
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U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

APPENDIX A
Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	**Plant and/or Category**	**Task**	**Deadline or Timeframe**	**Approved/Overdue**
General Tasks				
1	Operator/Staffing	City will hire an Instrument Technician for O.B. Curtis	October 1, 2021	Approved on 11/19/21.
2	Operator/Staffing	2. Provide documentation of completion or 2.A. Submit documentation of funding for an additional two (2) operators for O.B. Curtis. 2.B.City will hire 2 unlicensed operators for O.B. Curtis in FY2020-21.	2 - August 2, 2021* or 2.A and 2.B - January 3, 2022*	Overdue
3	Operator/Staffing	Both operations new hires should be eligible for licensure and must complete testing for Class A Waterworks	February 1, 2022	Due on 2/01/2022 - Overdue
Fewell				
4	Clari-Trac	Clari-Trac System shall be functioning and operational and repairs completed for all Basins including Butterfly Valves, Actuators, Drives, and Vacuum Hoses.4. Provide documentation of completion or 4.A. Contact Manufacturer and identify necessary work/schedule and submit Scope of Work* to EPA; 4.B. Clari-Trac system shall be fully functional and operational with all repairs completed	4 - August 2, 2021* or 4.A - August 2, 2021* 4.B - January 3, 2022*	4 – Approved on 8/20/2021
5	UV Reactors	UV Sensors - Functional and fully operational. 5. Provide documentation of completion or 5.A. Order parts identified on the parts list provided by the Technician report from the 1/19/2021 evaluation. Provide the Technician Report/parts list and date parts were ordered to EPA. 5.B. Return all UV Sensors to fully functional/operational status.	5 - August 2, 2021* or 5.A - August 2, 2021* 5.B - January 3, 2022*	5 – Approved on 8/20/2021
6		6.COJ will develop a Scope of Work* with timeframes for returning filters to fully operational and functional status. Upon EPA approval of Scope of Work/plan, the CERP will be updated to include the individual tasks and timeframes. Individual Tasks and Timeframes Task 6.A - Filters 24 & 26 rehab at JHF WTP 6.A.1) Within 2 months of execution of SRF Loan #3:Issue Notice to Proceed to Begin Engineering Design Process. SRF Loan #3 executed on 9/30/21. 6.A.2) Within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process: Submit plans to MSDH for review and approval.	August 30, 2021 Task 6.A. Due Dates 6.A.1) Due 11/30/21 6.A.2) Due 3/31/22 6.A.3) Due 3/7/2022 6.A.4) End Date 3/15/2022 6.A.5) Due 5/15/2022 6.A.6) Due 7/5/2022 6.A.7) TBD 6.A.8) TBD	6-Two SOWS Approved on 12/13/21. One for Filters 24/26 and one for general filters. Updated General Filter SOW approved 2/5/22 6.A.1 – approved 2/11/22 6.A.2 – approved 2/23/2022 6.A.3- approved on 6/3/2022 and 7/29/2022(Completed on 2/25/22) 6.A.4-Approved on

		6.A.3) Within 2 weeks of MSDH approval: Advertise for Construction Bids. 6.A.4) Within 6 weeks of Advertise for Construction Bids: Receive Construction Bids. 6.A.5) Within 2 months of closure to Receive Construction Bids: Award Construction Contract. 6.A.6) Within 6 weeks of awarding construction contract: Issue Notice to Proceed with Construction to the General Contractor. 6.A.7) Within 8 months of issuance of Notice to Proceed with Construction: Filters 24 & 26 at JHF WTP Rehabilitation Complete. 6.A.8) Within 1 month of Filter Rehabilitation Completion: J HF Filter Startup and training complete. Individual Tasks and Timeframes Task 6.B – General Filter Rehab 6.B.1) Within 8 months of execution of SRF Loan #3: Issue Notice Proceed to Begin Engineering Design Process. 6.B.2) Within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process: Submit plans to MSDH for review and approval. 6.B.3) Within 2 weeks of MSDH approval: Advertise for Construction Bids. 6.B.4) Within 6 weeks of Advertise for Construction Bids: Receive Construction Bids. 6.B.5) Within 2 months of closure to Receive Construction Bids: Award Construction Contract. 6.B.6) Upon completion of JHF Filters 24 & 26 (Task 6.A.7): Issue Notice to Proceed with Construction to the General Contractor 6.B.7) Within 40 months of issuance of Notice to Proceed with Construction: J.H. Fewell General Filter Rehabilitation Complete. 6.B.8) Within 1 month of Filter Rehabilitation Completion: J.H. Fewell Filter Startup and training complete.	Task 6.B. Due Dates 6.B.1) Due 5/30/22 6.B.2) Due 9/30/22 6.B.3) TBD 6.B.4) TBD 6.B.5) TBD 6.B.6) TBD 6.B.7) TBD 6.B.8) TBD	6/3/22 and 7/29/2022 6.A.5 Approved on 7/29/22 (completed 5/24/22) 6.B.1 Overdue
7	Monitoring Equip	7.A. Flow Measurement Devices - Research and assessment completed 7.B Flow Measurement Devices -will be functional and fully operational.	7.A - August 2, 2021* 7.B - January 3, 2022*	7.A - Approved on 8/27/2021 7.B – Approved on 11/19/22

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	**Plant and/or Category**	**Task**	**Deadline or Timeframe**	**Approved/Overdue**
8	Monitoring Equip	8. Provide documentation of completion or 8.A. Submit a status report for all turbidimeters, to include current status (operational or not) and what repairs/replacement is needed for each item. 8.B. Return all to fully operational status.	8 - August 2, 2021* or 8.A - August 2, 2021* 8.B - October 1, 2021	8 – Approved on 8/27/2021
9	Intake Structure	Pedestrian Bridge	January 3, 2022*	Approved on 11/19/21
10	Entire Plant	Corrosion Control report	August 2, 2021*	Approved on 8/13/2021
Curtis				
11	Conventional - Chlorine Room	Weight Indicator - 11.A Parts ordered 11.B Functional and fully operational.	11.A - August 2, 2021* 11.B - September 29, 2021	11.A - Approved on 8/13/2021 11.B – Approved on 11/19/21
12	Conventional - Chlorine Room	During the automation project, the original 24-inch mag meter will be replaced, and automation restored.	December 30, 2023	Language change approved on 12/13/21
13	Conventional - All Conventional Basins	Clari-Trac System shall be functioning and operational and repairs completed for all Basins including Butterfly Valves, Actuators, Drives, and Vacuum Hoses.	13 - May 31, 2022 (Approved language change on 12/10/21 and extension granted on 11/19/21)	Overdue
14	Conventional - Turbidimeters for Basis 1, 2, 3	14. Provide documentation of completion or 14.A. Submit a status report for all turbidimeters, to include current status (operational or not) and what repairs/replacement is needed for each item. 14.B. Return all to fully operational status.	14 - August 2, 2021* or 14.A - August 2, 2021* 14.B - October 1, 2021	14.A - Approved on 9/24/21 14.B – Approved on 11/19/21
15	Conventional - UV Filter Gallery	UV #5 - Operational and Fully functional	15 - To be completed within 4 months of issuance of Notice to Proceed with Construction on the general filter rehab at OBC outlined in Task 25. (Extension Request granted on 12/13/21)	
16	Membrane - HS#2	Chlorine analyzers - Operational and Fully functional. Provide documentation of replacement of one chlorine analyzer and installationof second chlorine analyzer	August 2, 2021*	16- Approved on 2/5/22
17	Membrane - Blower Room	Blower C - 17. Provide documentation of completion and fully operational.	17 - Completed within 9 months of issuance of Notice to Proceed with Construction of the OBC Automation Construction Contract to coincide with completion of Task 26. (Updated language and accepted extension request on 12/13/21.)	

18	Conventional-Intake	Microscreens -18. Provide documentation of completion or 18.A. Submit status report for the microscreens, include current status and any needed repairs/replacement; 18.B. Complete any needed repairs/replacement	18 - August 2, 2021 or 18.A - August 2, 2021* 18.B - August 30, 2021	18 – Approved on 8/13/2021
19	Conventional-Intake	60-inch sluice gate - 19. Provide documentation of completion or 19.A. Submit status report, include current status and any needed repairs/replacement; 19.B. Complete any needed repairs/replacement	19 - August 2, 2021* or 19.A - August 2, 2021* 19.B - August 30, 2021	19 - Approved on 8/13/2021

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	Plant and/or Category	Task	Deadline or Timeframe	Approved/Overdue
20	Conventional-Intake	72-inch sluice gate - 20. Provide documentation of completion or 20.A. Submit status report, include current status and any needed repairs/replacement; 20.B. Complete any needed repairs/replacement	20 - August 2, 2021* or 20.A - August 2, 2021* 20.B - August 30, 2021	20 – Approved on 8/13/21
21	Both - Intake	Roof Repairs/Potassium Permanganate feeder	March 28, 2024 (Extension Request granted on 11/19/21)	
22	Membrane - Intake	Microscreens -22. Provide documentation of completion or 22.A. Submit status report for the microscreens, include current status and any needed repairs/replacement; 22.B. Complete any needed repairs/replacement	22 - August 2, 2021* or 22.A - August 2, 2021* 22.B - August 30, 2021	22 - Approved on 8/13/2021
23	Membrane - Intake	60-inch sluice gate - 23. Provide documentation of completion or 23.A. Submit status report, include current status and any needed repairs/replacement; 23.B. Complete any needed repairs/replacement	23 - August 2, 2021*. or 23.A - August 2, 2021* 23.B - August 30, 2021	23 - Approved on 8/13/2021
24	Membrane - Sludge Plant Handling Facility	Gravity Thickener #1 and #2 - Functional and Fully Operational	December 1, 2021	24- Approved on 11/19/21
25	Both - Filters	Filter Rehab - Submit detailed Scope of Work*. Upon approval of the Scope of Work, the tasks will be updated to include additional milestones and final completion of this task. Updated Milestones from SOW Individual Tasks and Timeframes Task 25.A – OBC General Filter Rehab 25.A.1) Within 2 months of execution of SRF Loan #3: Issue Notice Proceed to Begin Engineering Design Process. 25.A.2) Within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process: Submit plans to MSDH for review and approval. 25.A.3) Within 2 weeks of MSDH approval: Advertise for Construction Bids. 25.A.4) Within 6 weeks of Advertise for Construction Bids: Receive Construction Bids. 25.A.5) Within 2 months of closure to Receive Construction Bids: Award Construction Contract. 25.A.6) Within 6 weeks of awarding construction contract: Issue Notice to Proceed with Construction to the General Contractor. 25.A.7) Within 19 months of issuance of Notice to Proceed with Construction: OBC General Filter Rehabilitation Complete. 25.A.8) Within 1 month of Filter Rehabilitation Completion: OBC Filter Startup and training complete.	August 30, 2021 Task 25.A. Due Dates 25.A.1) Due 11/30/21 25.A.2) Due 3/31/22 25.A.3) TBD 25.A.4) TBD 25.A.5) TBD 25.A.6) TBD 25.A.7) TBD 25.A.8) TBD	25.A - SOW Approved on 12/13/21 25.A.1 – Approved on 2/11/22

26	Membrane - Trains #1-6	26.A. Submit a report on the current status and any needed repairs/replacement for each membrane train and its components including sluice gate, flocculator, centrifuge, reject valve, turbidimeter and rapid mixer. 26.B. Submit detailed Scope of Work* to address the identified concerns, including any sequencing. Upon approval of the Scope of Work, the tasks will be updated to include additional milestones and final completion of this task. Individual Tasks and Timeframes Task 26.A – Membrane Plant Pretreatment Rehab 26.A.1) Within 2 months of execution of SRF Loan #3: Issue Notice Proceed to Begin Engineering Design Process. 26.A.2) Within 4 months of Issuance of Notice to Proceed to Begin Engineering Design Process: Submit plans to MSDH for review and approval. 26.A.3) Within 2 weeks of MSDH approval: Advertise for Construction Bids. 26.A.4) Within 6 weeks of Advertise for Construction Bids: Receive Construction Bids. 26.A.5) Within 2 months of closure to Receive Construction Bids: Award Construction Contract. 26.A.6) Within 6 weeks of awarding construction contract: Issue Notice to Proceed with Construction to the General Contractor. 26.A.7) Within 9 months of issuance of Notice to Proceed with Construction OBC Membrane Rehabilitation Complete.	26.A - August 2, 2021* 26.B - August 30, 2021 Task 26.A. Due Dates 26.A.1) Due 11/30/21 26.A.2) Due 3/31/22 26.A.3) TBD 26.A.4) TBD 26.A.5) TBD 26.A.6) TBD 26.A.7) TBD	26.A - Approved on 9/24/2021 26.B – SOW Approved on 12/13/21 26.A.1 – Approved on 2/11/2022 Remaining tasks may be unnecessary as all work has almost been completed and City is awaiting contractor to address few remaining repairs before closing out.
27	Membrane - Cover	Complete Membrane Basin Building Structure Project.	August 31, 2022* (Extension request approved 4/22/22) April 1, 2022* (Extension Request approved on 12/10/21)	
28	Conventional - Soda Ash System	dilution system - - Functional and Fully Operational - Provide documentation of completion or repair the dry powder level indicators	August 2, 2021*	Approved on 8/20/2021
Groundwater System-Storage Tank				
29	Storage Tanks	Maddox Rd (Hwy 18) - Provide documentation that tank is fully functioning and operational.	August 2, 2021*	Approved on 10/18/2021
30	Storage Tanks	TV Rd Booster Station - Submit plan for bringing back into service.	January 3, 2022*	Submitted on 7/25/2022

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	**Plant and/or Category**	**Task**	**Deadline or Timeframe**	**Approved/Overdue**
31	Wells	31.A - Provide a status and plan for each of the wells, include a status of each well, identify any need repairs/replacement, and propose timeframe for addressing these repairs/replacement including any interim steps. 31.B – Completion of need repairs/replacement	31.B - April 14, 2022	31.A – Approved on 2/7/21 31.B Approved on 5/13/22
32	Well House	Well Houses - Submit Scope of Work* including proposed timeframes. Upon EPA approval of the Scope of Work, Appendix A will be updated to include those individual tasks and timeframes.	August 30, 2021	Approved on 10/18/2021
Dosing Automation				
33	Curtis	O.B. Curtis: Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation. a) Issue notice proceed to begin engineering design process. b) Submit plans to MSDH for review and approval. c) Advertise for construction bids. d) Receive construction bids. e) Award construction contract. f) Issue notice to proceed with construction to the General Contractor. g) Complete all construction upgrades for the automation project. **Completion dates of specific feeds are outlined in Tasks 34-37 and 39.**	August 30, 2021 Funding/Project Due dates: 33.a) 01/30/2022 33.b) 09/28/2022 33.c) 11/30/2022 33.d) 12/30/2022 33.e) 03/15/2023 33.f) 04/15/2023 33.g) 03/24/2024	SOW approved on 9/10/2021 33.a – approved on 2/11/22 Extension request received on 6/24/2022 Extension request granted for 33(b-f) on 7/20/2022
34	Curtis	Ammonia/Chlorine Feeds: All chlorinator and ammoniator equipment and appurtenances will be fully functional with automatic, flow-pacing capabilities in service and redundancy present. Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 11/28/2023	SOW approved on 9/10/2021

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	Plant and/or Category	Task	Deadline or Timeframe	Approved/Overdue
35	Curtis	ACH (Aluminum Chlorohydrate) (coagulant): The treatment system was installed by using the same method as the Alum/lime system that was previously being used and not tweaked for the new ACH coagulant. Studying the coagulation system to determine if CO2 treatment addition will be helpful in improving the treatment system for future automation. Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 12/30/2023	SOW approved on 9/10/2021
36	Curtis	O.B. Curtis: Potassium Permanganate Feeds: flow pacing or feed back loop. Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 03/28/2024	SOW approved on 9/10/2021
37	Curtis	O.B. Curtis: Fluoride - Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 02/30/2024	SOW approved on 10/18/2021
38	Curtis	pH control 38.A pH control will be investigated during the design phase of the OB Curtis automation project, including the potential use of CO2. 38.B Completion of pH control process project and pH meters working properly.	38.A June 28, 2022 38.B December 30, 2023 (New language and due dates approved 12/1/21)	

APPENDIX A Comprehensive Equipment Repair Plan (CERP) Schedule of Implementation				
Task#	Plant and/or Category	Task	Deadline or Timeframe	Approved/Overdue
39	Curtis	O.B Curtis: Raw Water Flow Meter - Conventionalplant (related to the Clari-Trac System): Not currently running automatically. Submit detailed Scope of Work*, that includes schedule of tasks and timeframes for completion of interim and final tasks. Upon approval of the Scope of Work, Appendix A will be amended to add additional tasks/timeframes for completion of automation.	August 30, 2021 Project Due Date: 05/31/2023	SOW approved on 10/18/2021
40	Fewell	The dosing equipment has always been run in manual for disinfection and pH at the Fewell plant. 40.A. Submit a plan to complete research/assessment; 40.B. Based on research,submit work proposal, which should include a proposed treatment plan; 40.C. Complete work.	Task 40.A will be due one month after approval of OCCT Study Findings Plan and Task 40.B will be due two months after approval. 40.A- Due 9/11/2021 40.B – Due 10/11/2021 Upon approval, Appendix A will be updated to includecompletion timeframe for Task40.C A proposed treatment plan shall include a scope of work, timeframes for completion of any necessary treatment modifications, and identify funding for implementation of the treatment plan.	40.A and 40.B - approved on 9/24/2021
		40.C a) Issue notice proceed to begin engineering design process. b) Submit plans to MSDH for review and approval. c) Advertise for construction bids. d) Receive construction bids. e) Award construction contract. f) Issue notice to proceed with construction to the General Contractor. Specific projects: 1) Chloramination and Ammonia Feed System and Automation Improvements 2) Process Automation and Other Chemical Feed System Improvement 3) Fluoridation Feed System 4) Potassium Permanganate Feed System at Pearl River Intake (copper sulfate will be evaluated for algae control 5) Automation System Startup and Operator Training	See below for approved timeframes on 40.C Completion dates: a) 02/01/2022 b) 06/28/2022 c) 09/30/2022 d) 11/15/2022 e) 01/15/2023 f) 03/02/2023 Completion dates for specific projects: 1) 11/30/2023 2) 02/30/2024 3) 03/31/2024 4) 04/30/2024 5) 05/30/2024	40.C.a 0 approved on 2/11/22 40.C.b – approved on 2/25/2022 40.C.c – approved on 7/29/2022 40.C.d – approved on 7/29/2022 40.C.e – approved on 7/29/2022

*The Scope of Work (SOW) submitted to the EPA must contain detailed descriptions of all work necessary to successfully complete the Task listed in this AOC. The SOW must include all interim steps, including completion dates and/or timeframes to complete each interim step. In addition to completion dates/timeframes for each interim step, the SOW must also contain the deadline (date) for the completion of the

entire Task. Scope of Works may be combined if tasks will all be a part of same project.

The EPA understands that the City may not be able to provide exact completion dates due to the complex nature of some Tasks included in the AOC. If the City is unable to project exact dates of completion for each interim step necessary to complete a Task, the City must, at a minimum, describe the interim steps necessary to complete each Task, along with timeframes that the City reasonably expects to be necessary for each interim step to be completed. For example, if the City has a requirement to submit and receive approval of a "Plans and Specs" document to the MSDH as an interim step, the SOW could include a statement similar to, "The City will submit "Plans and Specs" document for review and approval to the MSDH. Within two (2) weeks of MSDH approval of "Plans and Specs" document, the City will put the work out for bid."

This level of detail must be provided for each interim step necessary to complete each Task identified in the AOC. Without specific, detailed SOWs, including interim steps and completion dates or timeframes for completion, the EPA is unable to adequately review and approve the SOW proposed bythe City.

Message

From: Marlin King [mking@city.jackson.ms.us]
Sent: 7/29/2022 9:25:32 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: RE: Tasks under EPA/COJ 1414 AOC and follow up from yesterday's call
Attachments: ntp jh fewell.pdf

Hello Mr. Myers,

Please review the following answers at your earliest convenience.

1) Please provide information today on if the City of Jackson implemented a 2-year Term Bid Agreement with a licensed water distributor or grocery store as outlined in the Alternative Water Source Plan? We do not have one, since water has been donated in the past. Our new Constituency Services Manager is requesting bids to be presented to City Council for approval as required.
2) Please update the Asset Management Plan Scope of Work and submit for final approval. Cornerstone has submitted the plan to the City of Jackson for review and we will send it next week with the supplemental responses.
3) Please provide the signed notice to proceed on the corrosion control project at Fewell that Keith Allen mentioned was signed on July 5th, 2022. Please see the attached NTP
4) EPA looks forward to receiving the supplemental response to the July 1, 2022 Information Request early next week. This will be submitted next week with the updated Asset Management Plan Scope of Work

If you have any questions, please feel free to contact me. Have a great weekend!

Marlin B. King Jr.
Director of Public Works
City of Jackson
e: mking@jacksonms.gov
p: 601.960.2419
m: 769.257.1579

THE CITY OF JACKSON MISSISSIPPI

This e-mail and any files transmitted with it are City of Jackson property, are confidential, and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing, or copying of this email is strictly prohibited.

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Friday, July 29, 2022 10:02 AM
To: William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert <Burns.Robert@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
Subject: Tasks under EPA/COJ 1414 AOC and follow up from yesterday's call

Good morning Mr. King

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). As a part of that review the following tasks are now appear to be complete:

1) Tasks 6.A.3, 6.A.4 and 6.A.5 related to Filters 24 and 26 at JH Fewell WTP.

We also talked about Task 40.C of Appendix A of the AOC. It is EPA's understanding that extension request was for the special projects that feed off the corrosion control project. Given that you are on schedule for the general corrosion control project, that there are no interim deadlines for the special automation projects, and that the final deadlines have not changed, EPA believes this extension is not necessary at this time. The interim deadlines for the general corrosion control project will remain as they were in Appendix A of the AOC.

Additionally, I wanted to remind you of several items we discussed yesterday and information we are awaiting from the City of Jackson.

1) Please provide information <u>today</u> on if the City of Jackson implemented a 2-year Term Bid Agreement with a licensed water distributor or grocery store as outlined in the Alternative Water Source Plan?
2) Please update the Asset Management Plan Scope of Work and submit for final approval.
3) Please provide the signed notice to proceed on the corrosion control project at Fewell that Keith Allen mentioned was signed on July 5th, 2022.
4) EPA looks forward to receiving the supplemental response to the July 1, 2022 Information Request early next week.

This email is provided for informational purposes only. This email should not be construed as final determination of the City's compliance with the AOC, nor shall it be construed as a waiver of the EPA's ability pursuant to Section 1414 of the Safe Drinking Water Act (SDWA), 42 U.S.C. 300g-3, to enforce the AOC, the SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

THE CITY OF
JACKSON
MISSISSIPPI

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

June 27, 2022

Mr. Richard Rula
President
Hemphill Construction Company, Inc.
P.O. Box 879
Florence, Mississippi 39073

RE: **JH Fewell Water Treatment Plant Corrosion Control Chemical Feed System Improvement Project**
SRF Loan # DWI-L250008-03, (Notice to Proceed)

Dear Mr. Rula:

The City of Jackson awarded the above subject contract to your company on April 26, 2022. This award was based on your bid of $9,638,994.00 for the work specified in the contract documents prepared by Cornerstone Engineering, LLC.

In accordance with the provisions of the contract documents for the subject project Hemphill Construction Company, Inc. is directed by this Construction Work Order to begin work under this contract and to prosecute the work to successful completion. The construction time shall commence June 27, 2022. Substantial completion of the work shall be attained four hundred days (400) calendar days from the effective date of this Notice to Proceed. Liquidated damages in the amount of $500.00 per calendar day for each day the work has not achieved substantial completion will be assessed unless the Contract time is otherwise adjusted for due cause by change order to the Contract.

Please return this original NOTICE TO PROCEED and ACCEPTANCE OF NOTICE to the Engineering Division indicating your receipt of this document in the space provided below. Please retain a copy once signed for your records.

Sincerely,

Robert Lee

Robert Lee, P.E.
Acting City Engineer

Acknowledgement of Receipt of Notice to Proceed
SRF# DWI-L250008-03
By: [signature]
Title: President
Date: 7/5/2022

cc: Mauricka McKenzie, PE, Cornerstone Engineering, LLC

ED_013319_00000276-00001

Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 8/4/2022 3:29:43 AM
To: Bunch, Charlotte [Bunch.Charlotte@epa.gov]
CC: Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Chokwe A. Lumumba [calumumba@city.jackson.ms.us]; Safiya Omari [somari@city.jackson.ms.us]; Ashby Foote [ashby@vectormm.com]; Angelique Lee [angeliquel@city.jackson.ms.us]; Kemker, Carol [Kemker.Carol@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Catoria P. Martin [cmartin@city.jackson.ms.us]
Subject: Fw: July 1, 2022 Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act PWS ID # MS0250008 City of Jackson Public Water System

Dear Ms. Bunch,

Below is the supplemental response to Question 2. with the additional information highlighted in red and the deleted language stricken through.

The share fill also includes an additional folder labeled "Supplemental Responses--8-3-2022." The folder contains to subfolders with supplemental information responsive to Question 1. Also included in Supplemental Responses--8-3-2022 are two additional staffing contracts being used to provide contract employees at the J.H. Fewell Water Treatment Plant.

Please advise if you have any difficulties accessing the shared file and the supplemental information. At this time the City has provided all the information responsive to the Information Request. Of course, should any additional information be received, the City promptly provide this to the EPA.

Sincerely,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson |Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov
Follow COJ on Social Media: Facebook | Twitter | Instagram

THE CITY OF JACKSON MISSISSIPPI

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From: Terry Williamson
Sent: Friday, July 22, 2022 10:15 PM
To: Bunch, Charlotte <Bunch.Charlotte@epa.gov>

Cc: Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Safiya Omari <somari@city.jackson.ms.us>; Ashby Foote <ashby@vectormm.com>; Angelique Lee <angeliquel@city.jackson.ms.us>; Kemker, Carol <Kemker.Carol@epa.gov>; Suzanne Armor <armor.suzanne@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Catoria P. Martin <cmartin@city.jackson.ms.us>
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Just today, the City learned that after two weeks of telephone conferences and review of mutual aid agreements, the Orlando Utility Commission (OUC) decided that it could not provide assistance at this time, despite the City's willingness to pay the salaries of four (4) employees for a two-week period, room and board for the same period, and equipment usage rates. OUC expressed its own concerns about staffing, if it allowed these four (4) employees two weeks away at this critical time of the summer. The cost of this mutual aid to the City would have been in excess of $100,000.00 for the two-week period. Just last week, the City and OUC had a fruitful discussion about the work list prepared primarily for O.B. Curtis, but which also some electrical troubleshooting/repairs at J.H. Fewell. The team from OUC included a Class A Operator, who the Mississippi Bureau of Public Water Supply had agreed to allow a provisional Mississippi Class A certification. This would have provided the O.B. Curtis Class A operators much needed relief. The team of technicians, which included two electricians and a mechanic, were prepared to address lingering corrective maintenance at O.B. Curtis, which would have given the City maintenance employees a boost in addressing maintenance issue before they become critical.

The City will continue working with MsRWA to identify outside assistance, but the results to date have been discouraging. The City will continue its efforts at hiring permanent City employees to staff both water treatment plants. Nevertheless, the City asks that Region 4 EPA consider the current challenges in the labor market that appear related to COVID-19 and inflation. Jackson, Mississippi has not been immune to these labor market forces, which make hiring permanent employees challenging.

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https://www.dropbox.com/sh/3vgjprnvdyz2mrk/AABDvtwGxRXMMmE-2yzx_ec6a?dl=0

EPA Information Request

Shared with Dropbox

www.dropbox.com

The City submits the following responses to the six questions in the Request:

1. Provide all communications regarding staffing, staffing shortages, and/or plans to fill open positions permanently and/or temporarily at the J.H. Fewell and O.B. Curtis WTPs, including, but not limited to, any notes of communications, email correspondence, meeting minutes, memoranda, budget information or any other directives commencing, from the effective date of the AOC to the date of the City's receipt of this letter. This includes any communications within and between the City's Finance Department, Public Works Department, the Mayor's Office and/or the City Council.

The City is still engaged in the search and review of emails and other communications relevant to this request. The City anticipates being able to provide supplemental information by August 3.

Mary D. Carter provided the emails currently included.

2. Identify whether any current positions at the J.H. Fewell and O.B. Curtis WTPs are being staffed or are planned to be staffed through use of a contractor. If a position is filled through use of a contractor, please provide a copy of the executed contract for that service and any City Council meeting minute(s) in which the contract was authorized.

At O.B. Curtis, the City current fills an Operator II position with a contract employee, Holsey Jr. Nelson, III, a retired City employee who holds a Class A certification. O.B. Curtis also fills a maintenance work position with a contract employee. A copy of the staffing agreement with Staffmark Investment LLC is attached as "Question 2--O.B. Curtis Staffing Contract." A copy of the Order approved by the City Council and the agenda upon which the Order appeared is attached as "Question 2--Staffing Contract Minutes."

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about providing a maintenance contract for the two water treatment plants. Veolia is currently reviewing documentation about the AOC and preparing a proposal to offer different types and levels of service to the City. The City has expressed to Veolia the urgency of its need for assistance with maintenance at both plants through a contract and anticipates receiving a proposal in the very near future.

Persons providing information for this response are Terrence Byrd, Marlin King and Mary D. Carter.

3. Please identify and provide copies of any outstanding or unpaid invoices with respect to staffing support for the Jackson PWS.

Attached as "Question 3--Staffmark Invoices" are outstanding invoices from March 25 through July 1, 2022 for two contract employees through Staffmark. Holsey Jr. Nelson, III is a retired operator with a Class A certification working at O.B. Curtis as an Operator. Alexander S. Clayborne is working in maintenance at O.B. Curtis.

The person providing this information was Mary D. Carter and Annette Hill

4. Identify the total number of hours each week for the past four weeks that each operator of the O.B. Curtis and J.H. Fewell WTPs worked, including any overtime hours.

Attached as "Question 4" are the timesheets for the operators at the City's water treatment plants for the period June 5 through July 2, 2022. Within the "Question 4" folder are two folders, "Question 4--JH Fewell Operators" and "Question 4--OB Curtis Operators", which group the operators according to the plant to which they are assigned.

In addition to these City employees, Holsey Jr. Nelson, III works as a contract operator at O.B. Curtis. His weekly hours, including overtime hours are as follow.

Week ending June 26, 2022 24 total hours
Week ending June 19, 2022 43 total hours (including 3 hours overtime)
Week ending June 12, 2022 24 total hours
Week ending June 05, 2022 48 total hours (including 8 hours overtime)

J.H. Fewell employs four (4) contract operators. The hours worked will be supplemented as soon as obtained.

Due to the necessity of having a Class A certified operator working at all time at each plant, the following operators at each plant hold Class A certification:

O.B. Curtis--Vincent Thomas, Jr. (Operation Supervisor); Robert L. Lofton; and Holsey Jr. Nelson, III (contract labor)

J.H. Fewell--Terrence Byrd (Operations Supervisor); Christopher Ward; and James Jackson

This information was provided by Mary D. Carter, Chris Baxter, and the City of Jackson Human Resources Department.

5. Provide a description of all currently open and/or vacant positions for the J.H. Fewell and O.B. Curtis WTPs.

Attached as "Question 5--Job Descriptions" is the job descriptions for each Water Operator job classification. The City will supplement this with the job descriptions for maintenance and instrument technicians early next week.

This information was provided by the City of Jackson Human Resources Department.

6. Explain how the City intends to maintain adequate pressure in the System while the O.B. Curtis WTP High Service Line #2 is inoperable, and/or explain how the City intends to bring the O.B. Curtis WTP High Service Line #2 into fully-operational status, identifying interim timelines and milestones as appropriate.

Once the control panel was installed and High Service Line #2 brought back into operation, three of the five pumps were fully operational. This provides sufficient pumping capacity to maintain pressure in the system under normal operation conditions. After installation of the control panel, Pumps 7 and 8 were functional, but would not operate in automatic mode. The City began troubleshooting this issue beginning with investigating issues with the PLC. During the course of this investigation, the City determined that the issue was with wiring done by the contractor who installed the control panel. This week the contractor returned to correct the wiring and completed the work on Friday, July 22, 2022. At this time, High Service Line #2 is fully operational with all five (5) pumps working.

This information was provided by Mary D. Carter and Richard Harper.

Please advise if there are any issue with accessing the shared files.

Sincerely,

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson | Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207 | Email: twilliamson@jacksonms.gov
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THE CITY OF JACKSON MISSISSIPPI

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Message

From: Bunch, Charlotte [Bunch.Charlotte@epa.gov]
Sent: 8/4/2022 2:17:54 PM
To: Terry Williamson [twilliamson@city.jackson.ms.us]
CC: Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Chokwe A. Lumumba [calumumba@city.jackson.ms.us]; Safiya Omari [somari@city.jackson.ms.us]; Ashby Foote [ashby@vectormm.com]; Angelique Lee [angeliquel@city.jackson.ms.us]; Kemker, Carol [Kemker.Carol@epa.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Catoria P. Martin [cmartin@city.jackson.ms.us]; Myers, Bryan [Myers.Bryan@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]
Subject: RE: July 1, 2022 Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act PWS ID # MS0250008 City of Jackson Public Water System

Acknowledging receipt, thank you.

Charlotte Bunch
Drinking Water Enforcement Section
Enforcement & Compliance Assurance Division
U.S. Environmental Protection Agency, Region 4
61 Forsyth Street SE | Atlanta, GA 30303-8960
Phone: 404 562 9304
bunch.charlotte@epa.gov

From: Terry Williamson <twilliamson@city.jackson.ms.us>
Sent: Wednesday, August 3, 2022 11:30 PM
To: Bunch, Charlotte <Bunch.Charlotte@epa.gov>
Cc: Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Safiya Omari <somari@city.jackson.ms.us>; Ashby Foote <ashby@vectormm.com>; Angelique Lee <angeliquel@city.jackson.ms.us>; Kemker, Carol <Kemker.Carol@epa.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Catoria P. Martin <cmartin@city.jackson.ms.us>
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Sincerely,

OFFICE OF THE CITY ATTORNEY

Terry S. Williamson |Legal Counsel

City of Jackson, Mississippi

Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov

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Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 8/5/2022 10:11:48 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
CC: Marlin King [mking@city.jackson.ms.us]
Subject: Tasks under EPA/COJ 1414 AOC
Attachments: Lead Service Line Replacement Program (Proposed Final).docx

Brian, please find attached the proposed interim Lead Service Line Replacement Program for the City of Jackson. The City's intention is to use this interim program while the guidance under the revised LCR is being prepared.

Please let me know if you have any questions.

OFFICE OF THE CITY ATTORNEY
Terry S. Williamson |Legal Counsel
City of Jackson, Mississippi
Post Office Box 2779, Jackson, MS 39207|Email: twilliamson@jacksonms.gov
Office: 601.960.2287 | Mobile: 601.502.4662 |www.jacksonms.gov
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Lead Service Line Replacement Program
July 26, 2022

History of Lead Service Lines in the city of Jackson, MS

The City of Jackson is one of the oldest cities in the state of Mississippi. Due to the age of the water infrastructure and the type of water main pipelines within the distribution system, there is a potential for lead service lines. However, since the inception of the Lead and Copper Rule in 1986, the City has looked for lead service lines in the distribution system and is currently in the midst of a materials inventory search of each meter to determine if lead service lines exist on either side of the meter.

In 2016, upon the testing of samples from its 2015 routine LCR sampling, the City was found to have exceeded the ACL for lead under the Lead and Copper Rule regulations. As part of the Mississippi State Department of Health Compliance Order issued after the City's violation, the City was required to update its lead and copper site plan. In identifying suitable tier 1 sample sites, the Mississippi State Department of Health recommended that the City review its materials inventory survey. While the City as not able to locate a complete materials inventory from its original materials inventory survey conducted in the early 1990s as required by the Lead and Copper Rule, the City did locate documents indicating where it investigated older residential services. The documentation did not indicate whether lead services were located during these investigations. Subsequently, as a part of its ongoing efforts to ensure suitable tier 1 sample sites, the City performed a re-inspection of these older residential services indicated as being potential lead services. The inspection revealed that where a structure was still extant at these location, there were no lead services.

Lead Service Line Identification Plan

The City of Jackson takes seriously the risk of potentially exposing our most vulnerable citizens and water customers to lead in the drinking water. To minimize the health risks, the City of Jackson has completed work on the O B Curtis Water Treatment Plant and is constructing corrosion control improvements at J H Fewell Water Treatment plant to optimize corrosion control treatment techniques at both water plants. The City will continue to search for lead service lines during routine service line interaction as described above and during new construction and repair of existing City mains.

When available, the City will see to obtain technical assistance funding to identify any additional lead service lines that may still exist within the City water system.

Lead Service Line Mitigation Plan

The City of Jackson is in the process of completing a materials survey of each meter in its system of which it has a record to determine if lead service lines exist on either side of the meter in the distribution system. Once the City has completed this initial materials survey, it will perform further investigation to confirm the existence of lead on either side of the water meter.

1. City of Jackson will notify the Customer in writing of the suspected lead service line.

2. The City will offer to assist the Customer in the form of information on testing methods and mitigation efforts for individual plumbing applications.

3. In addition to determining the location of lead service lines in residential areas, the City will prioritize inspections of service lines servicing primary schools and daycares. If the City determines that there is a lead service on either side of the meter at any of these locations, the City will assist as legally allowed with testing for contamination of any building plumbing, and mitigation of the lead services and any contaminated building plumbing.

Note: This LSLR program will be revised/replaced if required under the recently instituted LCR revisions.

Message

From: Terry Williamson [twilliamson@city.jackson.ms.us]
Sent: 8/5/2022 11:32:13 PM
To: Smith, Brian [Smith.Brian@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
CC: Marlin King [mking@city.jackson.ms.us]
Subject: Re: Tasks under EPA/COJ 1414 AOC

Well thanks Brian. I guess we can get started on the final LSLRP.

Enjoy your weekend,

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From: Smith, Brian <Smith.Brian@epa.gov>
Sent: Friday, August 5, 2022 5:27 PM
To: Terry Williamson <twilliamson@city.jackson.ms.us>; Myers, Bryan <Myers.Bryan@epa.gov>; William Moody <william.moody@msdh.ms.gov>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>

Cc: Marlin King <mking@city.jackson.ms.us>
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Good afternoon Terry,

Attached is the LSL inventory guidance, which was just finalized yesterday. And copied below is EPA's first training outreach on the guidance, please see the registration link.

-Brian

Upcoming Webinar- On August 10, 2022, EPA will host a webinar: Getting the Lead Out: Guidance for Developing Service Line Inventories and Funding Information on BIL (2:00 PM – 3:00 PM EDT). This webinar will provide an overview of EPA's Guidance for Developing and Maintaining a Service Line Inventory and provide information on addressing lead with the Drinking Water State Revolving Fund (DWSRF) and the Bipartisan Infrastructure Law (BIL).

- Registration information available Here

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Brian, please find attached the proposed interim Lead Service Line Replacement Program for the City of Jackson. The City's intention is to use this interim program while the guidance under the revised LCR is being prepared.

Please let me know if you have any questions.

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Attachments: Inventory Guidance_Final.pdf

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United States
Environmental Protection
Agency

Guidance for Developing and Maintaining a Service Line Inventory

Office of Water (4606M)
EPA 816-B-22-001
August 2022

Disclaimer

This document provides recommendations to public water systems in developing and maintaining a service line inventory. The guidance within this document can be used to comply with the requirements under the Lead and Copper Rule Revisions (LCRR) that are in effect at the time of document publication. As described in the Environmental Protection Agency's (EPA's) *Federal Register* notice of December 17, 2021 ("Notification of conclusion of review"), EPA intends to publish a proposal to revise the LCRR and take final action on the proposal by October 16, 2024, but EPA does not expect to propose changes to the requirements for information to be submitted in the initial service line inventory. However, the rulemaking could include changes to the requirements for inventory updates (USEPA, 2021a). This guidance can also assist public water systems with financing applications for Bipartisan Infrastructure Law (BIL) (P.L. 117-58) funds and for implementation once funding is received. Note that the BIL is also known as the Infrastructure Investment and Jobs Act (IIJA). The BIL contains a historic $15 billion in dedicated funding through the Drinking Water State Revolving Fund (DWSRF) for lead service line (LSL) identification, planning, design, and replacement. LSL projects also may be funded using the General Supplemental DWSRF fund of $11.7 billion as well as annual base appropriations for the DWSRF. The BIL mandates that 49 percent of funds provided through the DWSRF General Supplemental Funding and DWSRF Lead Service Line Replacement Funding must be provided as grants and forgivable loans to disadvantaged communities. EPA encourages water systems to begin service line inventory and replacement efforts as soon as possible. EPA emphasizes that given the many benefits of lead service line replacement (LSLR), water systems should not wait until their inventory is complete to begin replacement efforts. In fact, conducting replacements while developing the inventory can have synergistic effects that enhance inventory development while accelerating and increasing the efficiency of replacement programs. The statutory provisions and EPA regulations described in this document contain legally binding requirements. This document is not a regulation itself, nor does it change or substitute for those provisions and regulations. Thus, it does not impose legally binding requirements on EPA, states, or the regulated community. This document does not confer legal rights or impose legal obligations upon any member of the public.

Although EPA has made every effort to ensure the accuracy of the discussion in this document, the legally binding requirements applicable to public water systems are determined by statutes and regulations. In the event of a conflict between the discussion in this document and any applicable statute or regulation, this document would not be controlling.

The information collections associated with the LCRR have been submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act. The recordkeeping and reporting requirements described in this draft guidance align with the existing regulations and this guidance also includes recommendations for voluntary expanded data collection and recordkeeping. An agency may not conduct or sponsor, and a person is not

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required to respond to a collection of information unless it displays a currently valid OMB control number. The OMB control number for the service line inventory is 2040-0297.

The recommendations provided here may not apply to a particular situation based upon the circumstances. Because they are recommendations, and not legally binding requirements, public water systems retain the discretion to follow the recommendations or adopt approaches that differ from those described in this document. In some cases, recommendations may reflect the existing custom and practices of some states.

Note that this document does not address lending requirements or state or local regulations related to service line inventories that may apply.

Mention of trade names or commercial products does not constitute endorsement or recommendation for their use.

This is a living document that EPA may revise periodically to reflect changes in regulatory requirements and research regarding service line material identification. EPA welcomes comment on this document at any time; please send comments to LCRR@epa.gov.

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Acronyms

µg/L	Micrograms per liter
ACHD	Allegheny County Health Department
ASDWA	Association of State Drinking Water Administrators
AWWA	American Water Works Association
BIL	Bipartisan Infrastructure Law
CBI	Curb Box Inspection
CCR	Consumer Confidence Report
CCTV	Closed-Circuit Television
CFR	Code of Federal Regulations
CMMS	Computerized Maintenance Management System
CWS	Community Water System
DWINSA	Drinking Water Infrastructure Needs Survey and Assessment
DWSRF	Drinking Water State Revolving Fund
EDF	Environmental Defense Fund
EGLE	Michigan Department of Environment, Great Lakes, and Energy
EPA	United States Environmental Protection Agency
FTP	File Transfer Protocol
GCWW	Greater Cincinnati Water Works
GIS	Geographic Information System
GPR	Ground Penetrating Radar
GPS	Global Positioning System
GRR	Galvanized Requiring Replacement
GRWS	Grand Rapids Water System
IIJA	Infrastructure Investment and Jobs Act
LCR	Lead and Copper Rule
LCRI	Lead and Copper Rule Improvements
LCRR	Lead and Copper Rule Revisions
LSL	Lead Service Line

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LSLR	Lead Service Line Replacement
LWC	Louisville Water Company
NPR	National Public Radio
NTNCWS	Non-Transient Non-Community Water System
OMB	Office of Management and Budget
ORP	Oxidation-Reduction Potential
PWS	Public Water System
PWSA	Pittsburgh Water & Sewer Authority
PWSID	Public Water System Identification Number
SDWA	Safe Drinking Water Act
SOP	Standard Operating Procedure
USEPA	United States Environmental Protection Agency
WIIN	Water Infrastructure Improvements for the Nation

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Glossary

Term	Definition[1]
Curb stop	An exterior valve located at or near the property line that is used to turn on and off water service to the building.[2]
Community water system	A public water system that serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents (40 CFR §141.2).
Full lead service line replacement	Replacement of a lead service line (as well as galvanized service lines requiring replacement) that results in the entire length of the service line, regardless of service line ownership, meeting the Safe Drinking Water Act (SDWA) Section 1417 definition of lead free[3] applicable at the time of the replacement. See 40 CFR §141.2 for the full regulatory definition.
Galvanized requiring replacement	A galvanized service line that is or was at any time downstream of a lead service line or is currently downstream of a lead status unknown service line. If the water system is unable to demonstrate that the galvanized service line was never downstream of a lead service line, it must presume there was an upstream lead service line (40 CFR §141.84(a)(4)(ii)).
Galvanized service line	Iron or steel piping that has been dipped in zinc to prevent corrosion and rusting (40 CFR §141.2).
Gooseneck, pigtail, or connector	A short section of piping, typically not exceeding two feet, which can be bent and used for connections between rigid service piping. For purposes of this subpart, lead goosenecks, pigtails, and connectors are not considered to be part of the lead service line but may be required to be replaced pursuant to §141.84(c)[4] (40 CFR §141.2).
Lead service line	A portion of pipe that is made of lead, which connects the water main to the building inlet. A lead service line may be owned by the water system, owned by the property owner, or both. For the purposes of this subpart, a galvanized service line is considered a lead service line if it ever was or is currently downstream of any lead service line or service line of unknown material. If the only lead piping serving the home is a lead gooseneck, pigtail, or connector, and it is not a galvanized service line that is considered a lead service line, the service line is not a lead service line (40 CFR §141.2).
Lead status unknown service line	A service line where the material is not known to be lead, galvanized requiring replacement, or a non-lead service line, such as where there is no documented evidence supporting material classification. It is not necessary to physically verify the material composition (*e.g.*,, copper or plastic) of a service line for its lead status to be identified (*e.g.*, records demonstrating the service line was installed after a municipal, state, or federal lead ban[3]) (40 CFR §141.2).
Non-lead	A service line that is determined through an evidence-based record, method, or technique not to be lead or galvanized requiring replacement (40 CFR § 141.84(a)(4)(iii)).

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Term	Definition[1]
Non-transient non-community water system	A public water system that is not a community water system and regularly serves at least 25 of the same persons over 6 months per year (40 CFR §141.2).
Service line	The pipe connecting the water main to the interior plumbing in a building.[2] The service line may be owned wholly by the water system or customer, or in some cases, ownership may be split between the water system and the customer.
State	State means the agency of the State or Tribal government that has jurisdiction over public water systems. During any period when a State or Tribal government does not have primary enforcement responsibility pursuant to Section 1413 of the Act, the term "State" means the Regional Administrator, U.S. Environmental Protection Agency (40 CFR §141.2).
Water main	A pipe that conveys water to a connector or customer's service line. In residential areas, it is usually located underground.[2]
Water meter	An instrument, mechanical or electronic, used for recording the quantity of water passing through a particular pipeline or outlet.[2]

Notes:

[1] Definitions without a regulatory citation are recommended definitions for use in this guidance document.

[2] Source: Seventh Drinking Water Infrastructure Needs Survey and Assessment: Lead Service Line Inventory for America's Water Infrastructure Act – State Survey Instruction (USEPA, 2021b).

[3] In 1986, Congress amended the Safe Drinking Water Act (SDWA), prohibiting the use of pipes, solder, or flux that were not "lead free" in public water systems or plumbing in facilities providing water for human consumption. See Appendix D: Summary of Lead Ban Provisions by State. At the time, "lead free" was defined as solder and flux with no more than 0.2 percent lead and pipes with no more than 8 percent. In 2011, Congress passed the Reduction of Lead in Drinking Water Act (RLDWA) that amended Section 1417 of SDWA and updated the definition for "lead free" as a weighted average of not more than 0.25 percent lead calculated across the wetted surfaces of a pipe, pipe fitting, plumbing fitting, and fixture and not containing more than 0.2 percent lead for solder and flux. On September 1, 2020, EPA published the final regulation "Use of Lead Free Pipes, Fittings, Fixtures, Solder, and Flux for Drinking Water" to make conforming changes to existing regulations based on the RLDWA. https://www.federalregister.gov/documents/2020/09/01/2020-16869/use-of-lead-free-pipes-fittings-fixtures-solder-and-flux-for-drinking-water

[4] Section 141.84(c) of the January 15, 2021 Lead and Copper Rule Revisions (LCRR) specifies the operating procedures for replacing lead goosenecks, pigtails, or connectors. The LCRR is under revision and all rule provisions except for the initial inventory requirements may be subject to change.

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Chapter 1: Introduction

This introductory chapter provides:

- The benefits of a comprehensive and accurate service line inventory (Section 1.1);
- The purpose of the guidance and its intended audience (Section 1.2);
- An overview of the inventory and related requirements of the January 15, 2021 Lead and Copper Rule Revisions (LCRR) and related requirements under the Lead and Copper Rule (LCR) (Section 1.3); and
- A brief discussion of how the remainder of the guidance is organized (Section 1.4).

1.1 The Benefits of a Comprehensive and Accurate Inventory

Service line inventories are the foundation from which water systems take action to address a significant source of lead in drinking water – lead service lines (LSLs). Establishing an inventory of service line materials and identifying the location of LSLs is a key step in getting them replaced and protecting public health. Lead service line replacement (LSLR) is not dependent on knowing the location of all LSLs; in fact, simultaneously developing an inventory while conducting LSLR can have many benefits. For example, systems can save costs by replacing LSLs when crews find them onsite during service line investigations. Systems can also leverage the opportunity for LSLR by seeking customer consent and private property access during service line investigation. Replacing LSLs in a safe and prompt manner while crews are in the field for inventory development provides an opportunity for public health benefits for consumers by more quickly eliminating this potential source of lead exposure from drinking water.

> Given the many benefits of LSLR, EPA encourages water systems to begin LSLR as soon as possible, regardless of the stage of their inventory development.

Congress recognized the importance of LSLR when it appropriated supplemental Drinking Water State Revolving Fund (DWSRF) funding as part of the 2021 Bipartisan Infrastructure Law (BIL) (P.L. 117-58). The BIL contains a historic $15 billion in dedicated funding through the DWSRF for LSL identification and replacement. This funding is being provided to states with no match requirement. The BIL also provided $11.7 billion over five years to enhance DWSRF base funding. EPA is collaborating with state DWSRF programs to share models, guidance, and build state capacity to assist local communities and ensure LSL funding is effectively and equitably deployed (USEPA, 2022). DWSRF BIL LSLR funding, DWSRF BIL General Supplemental funding, and base appropriations for the DWSRF can all be used for LSL identification, such as service line material classification and validation, and replacement. The new resources available under BIL, in particular, provide a tremendous opportunity to make rapid progress on permanently removing a significant source of lead in drinking water and achieving major improvements in public health.

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For the DWSRF, 49 percent of the DWSRF funding must be provided to disadvantaged communities. Other federal programs also have available funding available for LSLR and related technical assistance.[1]

A comprehensive and accurate inventory has many additional benefits beyond regulatory compliance. Inventorying service line material permits notification to consumers about potential lead risks affecting them, which can facilitate customer actions to reduce lead in drinking water, including flushing, use of filters certified to reduce lead, and customer-initiated LSLR. Inventories allow water systems to publicly track their progress on LSL identification and replacement, engaging the community and enhancing transparency. Inventories can also help water systems and consumers determine the source of high lead levels in drinking water at a home or building and the possible solutions for reducing exposure. Water systems with inventory information can also proactively mitigate lead exposure caused by disturbances of a lead or galvanized requiring replacement (GRR) service line, for example, during street construction. Inventories can also make LSLR programs more efficient. Even incomplete inventories may create cost-saving opportunities for water systems by better targeting locations served by LSLs, stretching the value of internal or external funding that water systems receive, such as from the BIL. In addition, service line inventories can help inform decisions for other drinking water rules and could inform future needs surveys and potential future costs.

1.2 Purpose and Audience

The purpose of this document is to guide water systems as they develop and maintain service line inventories and to provide states with needed information for oversight and reporting to EPA. The guidance contained in this document can also position water systems to begin replacing LSLs as soon as possible. Locating LSLs is the first and critical step to replacing them; however, water systems do not need to complete the entire inventory process before designing and implementing their LSLR programs.

This guidance covers the lifecycle of the inventory, including inventory creation, material investigations, system reporting, state review, public accessibility of service line information, and service line consumer notification. In addition, the guidance provides best practices, case studies, and templates related to topics such as the classification of unknowns, goosenecks, and galvanized plumbing; best practices for service line material investigations; inventory form and format; inventory accessibility; tools to support inventory development and data tracking; and ways to prioritize service line investigations.

[1] Additional information is available at https://www.epa.gov/ground-water-and-drinking-water/funding-lead-service-line-replacement.

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The practices surrounding service line material inventories are rapidly evolving as water systems create their inventories and improve them over time. Additionally, emerging research on service line identification methods is ongoing. Given the potential for new, relevant information to become available, EPA anticipates that future updates to the guidance are possible. In addition, although EPA anticipates this guidance will be useful for water systems of all sizes, EPA intends to develop an additional tailored guidance for small community water systems (CWSs) and non-transient non-community water systems (NTNCWSs).

1.3 Overview of Regulatory Requirements and LCRR Review

Section 1.3.1 provides an overview of the initial inventory requirements specified in the January 15, 2021 LCRR. Section 1.3.2 provides information on EPA's review of the LCRR and plans to develop the Lead and Copper Rule Improvements (LCRI). Section 1.3.3 discusses inventory-related regulatory requirements under the LCR.

1.3.1 Overview of the LCRR Inventory Requirements

EPA published the LCRR in the *Federal Register* on January 15, 2021 (USEPA, 2021c). It applies to all CWSs and NTNCWSs. The initial inventory requirements of the LCRR specify:

- Information that water systems must include in their service line inventory,
- When water systems must submit their initial inventories to their primacy agency[2],
- Requirements for water systems to make their information publicly accessible and to notify all persons served by the water system at the service connection with a lead, GRR, or lead status unknown service line, and
- Reporting requirements for states.

*Note that this guidance addresses **inventory** requirements of the LCRR only. All LCRR requirements aside from the initial inventory are subject to change under the LCRI. See Section 1.3.2 for discussion.*

Exhibit 1-1 provides a summary of these requirements with the relevant LCRR citations and the section(s) in this guidance with additional information. Note that Exhibit 1-1 includes only the LCRR initial inventory requirements that EPA stated would be retained for the LCRI. The LCRR contains additional requirements that may be subject to change under the LCRI and are therefore not included in the exhibit below.

[2] EPA delegates primacy, which is primary enforcement responsibility to implement SDWA's Public Water System Supervision Program, for public water systems to states, territories, and Indian tribes if they meet special requirements. Throughout this guidance, the terms "state" or "states" are used to refer to all types of primacy agencies including U.S. territories, Indian tribes, and EPA Regions.

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Exhibit 1-1: LCRR Inventory Requirements

Inventory Requirement	40 CFR Citation	Information Provided in:
WATER SYSTEM REQUIREMENTS		
Inventory Specifications		
Material Classification: Classify each service line or portion of the service line where ownership is split as lead, galvanized requiring replacement, non-lead, or lead status unknown.	§141.84(a)(4)	Section 2.1
All service lines and ownership: Prepare an inventory that includes the system- and customer-owned portions of all service lines in the system's distribution system.	§141.84(a), (a)(2)	Section 2.2
Information to Identify Material: Use previous materials evaluation, construction and plumbing codes/records, water system records, distribution system inspections and records, information obtained through normal operations, and state-specified information.	§141.84(a)(3), (a)(5)	Sections 3.4 & Chapter 4
Deadlines for Submission		
Initial Inventory: Submit an initial inventory or demonstrate the absence of LSLs by October 16, 2024.	§141.80(a)(3)[1]	Section 1.3.2 & Section 6.4
Updates to Primacy Agency: Submit updated inventories to the primacy agencies annually or triennially based on lead tap sampling frequency, but not more frequently than annually Water systems that have demonstrated the absence of LSLs by October 16, 2024 are not required to provide an update. However, if these systems subsequently find any LSL or galvanized requiring replacement service line, they have 30 days to notify the state and prepare an updated inventory on a schedule established by the state.	§141.90(e)(3), §141.90(e)(3)(ii)	Sections 6.3 & 6.6
Public Accessibility and Consumer Confidence Report		
Public Accessibility: Make the inventory publicly available and include a locational identifier for LSLs and galvanized requiring replacement. Water systems serving more than 50,000 people must provide inventories online.	§141.84(a)(8)	Section 2.3 & Chapter 7

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Inventory Requirement	40 CFR Citation	Information Provided in:
Consumer Confidence Report (applies to CWSs only): • **CWSs with LSLs**: Indicate how the public can access the service line inventory information. • **CWSs with only non-lead service lines:** Provide a statement there are no LSLs and how to access the service line inventory (or a statement in lieu of the publicly accessible inventory with a description of methods used to make this determination in 40 CFR §141.84(a)(9)).	§141.84(a)(9), §141.153(d)(4)(xi)	Section 7.4
Service Line Consumer Notification		
Provide notification to persons served by the water system at the service connection with an LSL, GRR, or lead status unknown service line. Materials must be in appropriate languages if the water system serves communities with a large proportion of non-English speaking consumers, as determined by the state. **Timing:** Notification within 30 days after completing of initial inventory and repeated annually until only non-lead remains. For new customers, water systems must also provide this notice at the time of service initiation. **Content:** Statement about service line material, lead health effects, and steps to minimize lead exposure in drinking water. If: • Confirmed LSL, must include opportunities to replace the LSL, any available financing programs, and statement that the system must replace its portion if property owners notify the system they are replacing their portion. • GRR, must also include opportunities for service line replacement. • Lead status unknown, must also include opportunities to verify the material of the service line. **Delivery:** By mail or by another method approved by the state. **Reporting to states:** Demonstrate that the water system delivered the notification and provide a copy of the notification and information materials to their states annually by July 1 for the previous calendar year.	§141.85(a)(1)(ii), §141.85(e) & §141.90(f)(4)	Section 6.5

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Inventory Requirement	40 CFR Citation	Information Provided in:
STATE REPORTING		
Reporting to EPA: For each water system, the number of lead, galvanized requiring replacement, and lead status unknown service lines in its distribution system, reported separately.	§142.15(c)(4)(iii)(D)	EPA will include additional details in the data entry instructions guidance for the LCRR.
Special Primacy: The LCRR specifies special primacy requirements for states to adopt in 40 CFR §142.16(d)(5) that include: (1) providing or requiring the review of any resource, information, or identification method for the development of the initial inventory or inventory updates, and (2) requiring water systems whose inventories contain only non-lead service lines and the water system subsequently finds an LSL to prepare an updated inventory on a schedule determined by the state.	§142.16(d)(5)	Chapters 4 – 6 EPA plans to include additional information in a separate state implementation guidance.

Notes:

[1] On June 16, 2021, EPA published a rule to extend the compliance date from January 16, 2024 to October 16, 2024 (40 CFR §141.90(e)(1), USEPA, 2021d).

Note that this guidance uses the terms "system-owned" and "customer-owned" because they are consistent with the LCRR language. EPA recognizes that states and systems may use other terms to describe ownership status such as "public" and "private" or other terms besides "ownership" to describe the division of responsibility between the water system and the customer. EPA recommends water systems using different terminology to provide clear explanations of those terms to the state and the public.

> *States may have laws or regulations for initial service line inventories that are* ***more stringent*** *than federal requirements. For the most accurate and up-to-date requirements, systems should reach out to their state primacy agencies.*

1.3.2 Outcome of EPA Review of the LCRR

On June 16, 2021, EPA published the agency's decision to delay the effective and compliance dates of the LCRR, published on January 15, 2021. The effective date was extended from March 16, 2021 to December 16, 2021, while the compliance date was extended from January 16, 2024 to October 16, 2024 to ensure drinking water systems and primacy states continued to have the full three years provided by the Safe Drinking Water Act to take actions needed for regulatory compliance. They delay allowed time for EPA to review the LCRR in accordance with Presidential

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directives issued on January 20, 2021, to the heads of federal agencies to review certain regulations and conduct important consultations with affected parties (USEPA, 2021d). The agency's review included a series of virtual public engagements to hear directly from a diverse set of stakeholders.

EPA published the outcome of its review on December 17, 2021. The review stated that EPA actions to protect the public from lead in drinking water should consider the following priority areas for improvements: replacing 100 percent of LSLs is an urgently needed action to protect all Americans from the most significant source of lead in drinking water systems; equitably improving public health protection for those who cannot afford to replace the customer-owned portions of their LSLs; improving the methods to identify LSLs and trigger action in communities that are most at risk of elevated drinking water lead levels; and exploring ways to reduce the complexity of the regulations. In the notice, EPA explained it would also consider changes to other areas of the rule to equitably improve health protections and improve implementation of the rule to ensure that it prevents adverse health effects of lead to the extent feasible (USEPA, 2021a). This could include changes to the requirements applicable to the inventory updates.

To achieve these policy objectives, EPA announced its decision to proceed with a proposed rule that would revise the LCRR while allowing the January 2021 rule to take effect. Through the LCRI, EPA stated that it does not expect to propose changes related to the initial service line inventory requirements because continued progress to identify LSLs is integral to lead reduction efforts regardless of potential revisions to the rule. The LCRR effective date is December 16, 2021, and the compliance date is October 16, 2024. In the review notice, EPA also highlighted non-regulatory actions that EPA and other federal agencies can take to reduce exposure to lead in drinking water.

1.3.3 Related Requirements under the LCR

As mentioned in the previous section, EPA reviewed the requirements in the LCRR and published its intent to revise the rule with the exception of the initial inventory requirements (USEPA, 2021a). Thus, this document focuses on guidance related to the LCRR initial inventory requirements, while also including general best practices applicable to the later stages of the inventory lifecycle.

This section describes existing LCR requirements that rely on service line inventory information and provides recommendations on how these requirements can be supported by initial inventory efforts. Water systems must comply with the requirements of the LCR (40 CFR §§141.80-141.91 as codified on July 1, 2020) between December 16, 2021 and October 16, 2024 (40 CFR §141.80(a)(3)).

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Inventory-Related Requirements in the Event of Action Level Exceedance

Under the LCR (40 CFR §141.84(b)), systems subject to LSLR requirements[3] must replace annually at least seven percent of the initial number of LSLs in their distribution system. The initial number of LSLs is the number of lead lines in place at the time the replacement program begins. Water systems must identify the initial number of LSLs in their distribution system under this requirement. EPA recommends that systems use information gathered for the initial inventory under the LCRR to help identify the required initial number of LSLs.

How the Inventory Relates to the Tap Monitoring Requirements

Required lead and copper tap monitoring under the LCR is based on a tiering system for prioritizing sample sites (40 CFR § 141.86(a)). Single family homes with LSLs are in the highest tier (*i.e.*, Tier 1), meaning systems should prioritize these locations for lead and copper tap monitoring. Systems may gather more information on the location of LSLs under their initial inventory efforts.

1.4 Document Organization

The remainder of this document is organized as follows:

- **Chapter 2: Elements of the Inventory** includes information that must be included in the service line inventory to meet LCRR requirements as well as additional information EPA recommends that water systems consider tracking in their inventory.
- **Chapter 3: Inventory Planning** includes approaches for developing an inventory, considerations for choosing an inventory format, procedures for collecting information during normal operation, and guidelines for developing partnerships with third parties.
- **Chapter 4: Historical Records Review** summarizes the rule requirements for reviewing historical records and provides additional recommendations on how the various types of historical records can be used and where to find them.
- **Chapter 5: Service Line Investigation Methods** summarizes and compares service line identification methods, including visual inspection, water quality sampling, excavation, statistical data analyses, and emerging methods.
- **Chapter 6: Developing and Updating the Inventory** provides recommendations for classifying service line materials, planning for proactive investigations, submitting the initial inventory, and inventory updates. It includes requirements and recommendations specific to systems with no LSLs and provides guidance to states related to inventory

[3] Under the LCR, systems that exceeded the lead action level of 15 µg/L based on their 90th percentile sample result after installing corrosion control and/or source water treatment (whichever sampling occurred later) are required to replace 7 percent of their LSLs annually until they no longer exceeded the lead action level for two consecutive monitoring periods (40 CFR §141.84(a)).

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review and reporting. This chapter also contains requirements and recommendations for notifying customers with LSLs, GRR, or unknown service lines.

- **Chapter 7: Public Accessibility** includes LCRR requirements for water systems to make their inventory publicly accessible and provides suggestions for inventory content and effective presentation, promoting public input, considerations for states, and Consumer Confidence Report inventory-related requirements.
- **Chapter 8: References** provides a full list of references that were used in the development of this document.

This guidance also includes key points to remember at the end of Chapters 1 through 7. In addition, these chapters are supported by the following appendices:

- **Appendix A** provides blank forms from EPA's Service Line Inventory Template, which is a companion tool to help water systems and states comply with the LCRR service line inventory requirements. The blank forms can be used for documenting inventory methods and an inventory summary. The appendix also contains a blank form for the state review checklist.
- **Appendix B** includes case studies for three water systems that have begun developing their service line inventories.
- **Appendix C** includes example instructions on how customers can identify their service line materials and example customer materials when the water system conducts the material service line verification of the customer-owned portion.
- **Appendix D** provides a summary of 1986 SDWA lead ban provisions by state.
- **Appendix E** includes Michigan's Minimum Service Line Verification Requirements.
- **Appendix F** includes examples of data quality disclaimers regarding the accuracy of the inventory provided to the public.

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Key Points to Remember

LCRR Requirements

- All CWSs and NTNCWSs must develop an inventory of service lines that meets the LCRR requirements, including service line materials classification, information sources, and public accessibility (40 CFR § 141.84(a)).
- Water systems must submit their initial inventories to their state by October 16, 2024 (40 CFR § 141.84(a)(1)) and 141.90(e)(1)).
- All CWSs and NTNCWSs must notify all persons served by the water system at the service connection with a lead, GRR, or lead status unknown service line within 30 days of completing their service line inventory (40 CFR § 141.85(e)).
- All LCRR requirements other than the initial inventory requirements are subject to change under the LCRI.

Recommendations (Not Required under the LCRR)

- Water systems should not wait until their inventories are complete to begin conducting LSLR. Replacing LSLs while developing the inventory may create synergies or introduce opportunities for cost-savings.
- This guidance covers the lifecycle of the inventory, including inventory creation, inventory updates, material investigations, system reporting, state review, and public accessibility of service line information. The inventory is based on the best available data and should improve over time with updated information.
- States may have passed laws or regulations for a service line inventory that are more stringent than the federal inventory requirements.
- For water systems, a comprehensive and accurate service line inventory will facilitate LCRR compliance, improve LSLR program efficiency, provide greater public health protection, potentially assist in obtaining external funds for inventory development and LSLR, and provide potential cost savings.
- For states, a robust inventory will provide information for oversight and reporting.

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Chapter 2: Elements of the Inventory

This chapter contains the required elements of the service line inventory based on the January 15, 2021 Lead and Copper Rule Revisions (LCRR) (USEPA, 2021c) and is organized as follows:

- Section 2.1 presents requirements and recommendations for materials classification for service lines and other related infrastructure,
- Section 2.2 presents requirements and recommendations for what to include in the inventory,
- Section 2.3 includes a discussion of location identifiers for service lines, and
- Section 2.4 provides other suggested service line information for inclusion in the inventory.

2.1 Inventory Materials Classifications

This section summarizes the required service line material classifications and presents additional classifications and subclassifications for states and water systems to consider.

2.1.1 Required Service Line Inventory Material Classifications

Under the LCRR, the inventory must use one of the following four material classifications to describe the entire service line, including separate material classifications for the water system-owned and customer-owned portions of each service line where ownership is split:

- Lead
- Galvanized requiring replacement (GRR)
- Non-lead (or the actual material, such as copper or plastic)
- Lead status unknown service lines (or unknown)[4]

Exhibit 2-1 provides the required criteria for assigning each of the four material classifications and additional information that may be helpful to states and water systems.

[4] This guidance document uses the term lead status unknown interchangeably with unknown.

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Exhibit 2-1: Required Inventory Materials Classifications

Material Classification	Use This Classification If:
Lead	The service line is made of lead (40 CFR §141.84(a)(4)(i)). ***Keep in Mind***: • The LCRR updates the definition of a lead service line (LSL) as "a portion of pipe that is made of lead, which connects the water main to the building inlet" (40 CFR §141.2). • If the only lead pipe serving the building is a lead gooseneck, pigtail, or connector[1], the service line is **not** considered an LSL under the initial inventory requirements of the LCRR. EPA recommends that the system track the material of all components that potentially contain lead, including connectors.[2]
Galvanized Requiring Replacement (GRR)	The galvanized service line is or ever was at any time downstream of an LSL or is currently downstream of a lead status unknown service line. If the water system is unable to demonstrate that the galvanized service line was never downstream of an LSL, it must presume there was an upstream LSL (40 CFR §141.84(a)(4)(ii)). ***Keep in Mind***: • Galvanized service lines that are or ever were downstream from an LSL can adsorb lead and contribute to lead in drinking water. • An example of a GRR service line is when the customer-owned portion from the meter to the building is galvanized, and the system-owned portion from the water main to the meter was previously lead but has been replaced. The customer-owned portion of the service line would be GRR. • Under the initial inventory requirements of the LCRR, a galvanized service line that was never downstream of an LSL but is downstream or previously downstream of a lead gooseneck, pigtail, or connector is not considered GRR. However, systems should check with their states if they have more stringent requirements.
Non-Lead	The service line is determined through an evidence-based record, method, or technique that it is not lead or GRR (40 CFR §141.84(a)(4)(iii)). ***Keep in Mind***: • If a system can demonstrate that a galvanized service line was never downstream of an LSL, it may be classified as non-lead. • The water system may classify the actual material of the service line (for example, galvanized, plastic, or copper) as an alternative to classifying it as non-lead. • The term "non-lead" refers to the service line material only and does not include other potential lead sources present in solder, connectors, and other plumbing materials.

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Material Classification	Use This Classification If:
Lead Status Unknown	The service line material is not known to be a lead, GRR, or non-LSL, such as where there is no documented evidence supporting material classification (40 CFR §141.84(a)(4)(iv)). ***Keep in Mind***: • Water systems have the option to use the terminology of unknown instead of lead status unknown service line (40 CFR §141.84(a)(4)(iv)). • Water systems may elect to provide more information regarding their unknown lines as long as the inventory clearly distinguishes unknown service lines from those where the material has been determined through records or inspections (40 CFR §141.84(a)(4)(iv)).

Note:

[1] A lead gooseneck, pigtail, or connector is defined as "a short section of piping, typically not exceeding two feet, which can be bent and used for connections between rigid service piping" (40 CFR §141.2).

[2] Some states include lead connectors in their definition of an LSL. In these instances, the state requirements are more stringent than the LCRR and water systems must follow these requirements.

Exhibit 2-2 is a diagram of a possible division in service line ownership (or responsibility) between the customer and water utility in which the system-owned portion of the service line is from the water main to the curb stop and the customer-owned portion is from the curb stop to the water meter. For some systems, the delineation may be different, (*e.g.*, the ownership or responsibility distinction is at the water meter or property line). In other instances, the water system may share ownership with customers, or the water system or customer may have sole ownership of the service line. Note that ownership of the property on which the service line is located does not always equate to ownership or responsibility of the service line.

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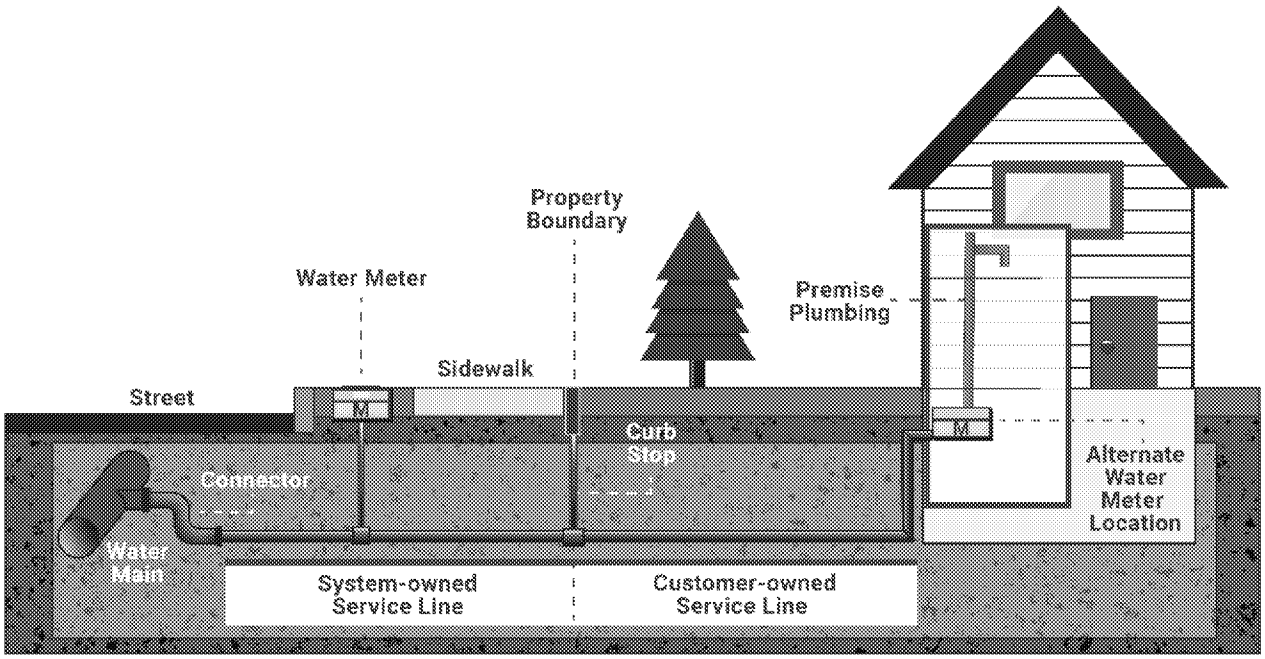
Exhibit 2-2: Example of Service Line Ownership Distinction between the Water System and Customer



While the LCRR requires the inventory to categorize each service line or portions of the service line where ownership is split, a single classification per service line is also needed to support various LCRR requirements, such as lead service line replacement (LSLR), tap sampling, and risk mitigation. Systems should follow these guidelines to comply with the LCRR requirements when classifying the entire service line when ownership is split:

- Service line is lead if either portion is a lead service line (LSL) (40 CFR §141.84(a)(4)(i)).
- Service line is GRR if the downstream portion is galvanized and the upstream portion is unknown or currently non-lead, but the system is unable to demonstrate that it was never previously lead (40 CFR §141.84(a)(4)(ii)).
- Service line is lead status unknown if both portions are unknown, or one portion is non-lead and one portion is unknown (40 CFR §141.84(a)(4)(iv)).
- Service line is non-lead only if both portions meet the definition of non-lead (40 CFR §141.84(a)(4)(ii)).

EPA recognizes that some segments of the system- or customer-owned service lines could be made of more than one material. EPA recommends that systems follow the guidelines above to classify the system-owned or customer-owned portion in these cases. Exhibit 2-3 provides

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examples for classifying the entire service line for various system-owned and customer-owned material combinations.

Exhibit 2-3: Classifying Service Line Materials When Ownership is Split According to the LCRR 40 CFR §141.84(a)(4)

System-Owned Portion	Customer-Owned Portion	Classification for Entire Service Line
Lead	Lead	Lead
Lead	Galvanized Requiring Replacement	Lead
Lead	Non-lead	Lead
Lead	Lead Status Unknown	Lead
Non-lead	Lead	Lead
Non-lead and never previously lead	Non-lead, specifically galvanized pipe material	Non-lead
Non-lead	Non-lead, material other than galvanized	Non-lead
Non-lead	Lead Status Unknown	Lead Status Unknown
Non-lead, but system is unable to demonstrate it was not previously Lead	Galvanized Requiring Replacement	Galvanized Requiring Replacement
Lead Status Unknown	Lead	Lead
Lead Status Unknown	Galvanized Requiring Replacement	Galvanized Requiring Replacement
Lead Status Unknown	Non-lead	Lead Status Unknown
Lead Status Unknown	Lead Status Unknown	Lead Status Unknown

If the only lead pipe serving a building is a lead gooseneck, pigtail, or other connector (*i.e.,* a non-LSL attached to a lead connector), then the line should not be designated as an LSL in the initial service line inventory required under the LCRR. The line may be required to be identified separately by the state. In addition, as will be discussed in more detail in Section 2.1.3, EPA recommends water systems identify the lines with only these components separately in their inventory. Also note that service material classifications can change over time as the system gathers more information and updates the inventory.

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2.1.2 Recommended Subclassifications and Additional Information (Not Required Under LCRR)

Water systems may also consider going beyond the requirements of the LCRR by subclassifying service line materials and tracking additional information. These subclassifications are discussed below and can provide additional information not only to help facilitate material classification, but also to inform the public about service lines in their homes and community.

Recommended Subclassifications

A Lead Status Unknown's "LSL Likelihood." Some water systems have incorporated additional information that indicates the probable material of an unknown service line, such as an "LSL Likelihood." For example, Flint, Michigan, categorized unknowns as low likelihood of lead, medium likelihood of lead, and high likelihood of lead (see their online map showing these subclassifications[5]). Systems using predictive models may also assign numerical probabilities to unknowns representing the probability they are LSLs.

Systems could rely on historical records described in Chapter 4, service line material investigations described in Chapter 5, and the methodology described in Section 6.1 to determine various subclassifications of unknown service lines. For example, if an individual service line material is unknown but was installed when lead was not commonly used in the system based on interviews with experienced system staff and plumbers, the system could consider subclassifying the service line as "Unknown- Unlikely Lead" or a similar designation. If the system has confirmed service line materials in a representative number of locations in a neighborhood to be lead, it could consider subclassifying the remaining unknown service lines in the neighborhood as "Unknown- Likely Lead" or a similar designation until its material can be investigated.

Although systems are not required to track this information or include it in their publicly accessible inventories or submittals to the state, internally tracking this information could help focus proactive inventory investigations and LSLR efforts. If subclassifications are made available to the public, EPA recommends that water systems clearly communicate this information to the public by providing easy-to-understand definitions for each subclassification and explaining how the subclassifications were determined.

GRR Known or Unknown to have been Downstream of an LSL. EPA recommends that systems that identify GRR service lines, as defined in Section 2.1.1, consider tracking and differentiating these lines into subclassifications to indicate if: 1) the galvanized pipe is known to be currently downstream of an LSL, 2) if the galvanized pipe was previously downstream of an LSL, or 3) the system is unable to demonstrate that the galvanized service line was never downstream of an LSL. This information could be used for many purposes, such as informing an LSLR prioritization

[5] https://flintpipemap.org/map. Accessed December 8, 2021.

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approach or serving as an input for a predictive model. The system could also consider subclassifying galvanized service lines that are or were downstream of a lead gooseneck, pigtail, or connector.

Lead-lined Galvanized Pipes. EPA is aware of the existence of lead-lined galvanized service lines but found limited information indicating their prevalence[6]. A lead-lined galvanized service line is consistent with the definition of an LSL under the LCRR ("a portion of pipe that is made of lead, which connects the water main to the building inlet") (40 CFR §141.2) and must therefore be classified in the inventory as an LSL. These lines would be subject to the same LCRR requirements as other LSLs in the inventory, such as LSLR, public education, tap sample tiering, and risk mitigation. Inventorying these types of lines will be more straightforward where water systems have records of their known or likely use. Given that these pipes may appear to be non-lead on the exterior, attempts to identify their material by visual observation or excavation may not reveal an interior lead lining. EPA recommends that water systems consider any available information that indicates where (if ever) lead-lined galvanized pipes were used in the system, along with approaches such as service line sampling, to populate the inventory with these types of connections.

Actual Material for Non-lead. The LCRR states that water systems may classify the actual material of the service line (*e.g.*, galvanized, plastic, or copper) as an alternative to classifying it as non-lead (40 CFR §141.84(a)(4)(iii)). If states and systems wish to classify these lines as non-lead, EPA encourages water systems to track the actual materials as additional information internally and/or as part of the publicly accessible inventory. Including these classifications could improve system asset management and better inform a statistical model, if used.

2.1.3 Recommendations for Other Drinking Water Infrastructure

EPA encourages water systems to include information on lead-containing infrastructure in their inventories, including:

- **Goosenecks, Pigtails, and Connectors**: EPA encourages water systems to identify the location and material of goosenecks and pigtails (connectors) and to include this information in their inventories. This would allow water systems to track and manage this potential source of lead, improve asset management, and increase transparency with customers. This could also help water systems identify where lead connectors are or were previously upstream of galvanized pipe and to manage this additional potential source of lead in their system. As previously discussed, lead from an upstream source can adsorb onto the galvanized pipe over time. The LCRR requires that when lead connectors

[6] http://sedimentaryores.net/Pipe%20Scales/Fe%20scales/Galvanized_lead-lined.html. Accessed December 6, 2021.

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are encountered, they be removed or disconnected.[7] In addition, funding sources, such as the Drinking Water State Revolving Fund (DWSRF), Bipartisan Infrastructure Law (BIL), and Water Infrastructure Improvements for Nations Act (WIIN), can be used to pay for lead connector removal and replacement.

Note that systems must follow any state requirements that are more stringent than the LCRR for these materials. For example, Michigan includes lead connectors in their definition of an LSL (Michigan EGLE, 2018). California requires water systems to include in their inventory lead fittings on a non-lead pipe, lead fittings on a lead pipe, and fittings of unknown material (ASDWA, 2019).

- **Lead Solder:** EPA recommends that water systems track the presence of lead solder in the service line or premise plumbing, such as after encountering information indicating their presence in records or if seen during system inspections or maintenance. Tracking the presence of lead solder in the service line improves system asset management and can inform future actions for reduction of lead sources in drinking water. In addition, knowing locations with lead solder in premise plumbing can help identify tap monitoring locations under the Lead and Copper Rule (LCR) and LCRR.
- **Fittings and Equipment Connected to the Service Line:** Devices such as curb stops and meters may be made of older brass that pre-date the effective date for the Reduction of Lead in Drinking Water Act (January 4, 2014). These devices may not meet the revised lowered lead-free standard[8] and could contribute to lead exposure (Sandvig et al., 2008). EPA recommends water systems consider tracking these devices if information is available.

2.2 Include All Service Lines Regardless of Ownership Status and Intended Use

2.2.1 Required under the LCRR

All community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) must prepare an inventory of **all service lines** connected to the public water distribution system, regardless of ownership status (40 CFR §141.84(a)(2)). This means that any service line connected to the public water system, even where the water system owns no portion of the service line, must be included in the inventory. In those instances where ownership is split, the inventory must include both the system-owned and customer-owned portions of the service line. Water systems must internally track address locations of each service line and their

[7] The LCRR is under revision and all rule provisions except for the initial inventory requirements may be subject to change.

[8] In 2011, Congress passed the Reduction of Lead in Drinking Water Act that amended Section 1417 of the Safe Drinking Water Act (SDWA) and established an updated definition for "lead free" as a weighted average of not more than 0.25 percent lead calculated across the wetted surfaces of a pipe, pipe fitting, plumbing fitting, and fixture and not containing more than 0.2 percent lead for solder and flux.

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respective material classification (40 CFR §141.84(a)). Where a single service line serves multiple units in the same building, the water system may choose to exclude unit numbers from the address. Note that unit numbers may be required to comply with other LCRR requirements, such as the notification requirements of 40 CFR §141.84(d) and 40 CFR §141.85(e). Because LSLs were generally not constructed with an interior diameter over two inches, they will typically be connected to single family homes or buildings with a limited number of units.

Note that some CWSs and NTNCWSs may not have an extensive distribution system, such as those with a direct connection from a well to a single building. Systems must report the material from the well to the building inlet for their inventory. EPA intends to develop a separate guidance that is tailored to small CWSs and NTNCWSs.

Systems must include all service lines (40 CFR 141.84(a)(2)), regardless of the actual or intended use. These include, for example, service lines with non-potable applications such as fire suppression or those designated for emergency. These service lines could be repurposed in the future for a potable or non-emergency use. Water systems must include in their inventory service lines connected to vacant or abandoned buildings, even if they are unoccupied and the water service is turned off.

2.2.2 Recommendations (Not Required under the LCRR)

Documentation that Describes System and Customer Responsibility or Ownership

As a best practice, where service line ownership or responsibility is divided between the customer and the system, water systems may want to include with their inventory relevant information that describes how ownership or responsibility is divided. Examples could include local ordinances or local water utility tariff agreements or state laws or regulations. This information may be helpful to provide to customers who have questions about how the responsibility for the service line is divided as well as the utility's authority to access and maintain the portion of the service line that is located on the customer's property.

> ***Remember:*** *States and systems may use other terms to describe ownership status such as "public" and "private" or other terms besides "ownership" to describe the division of responsibility between the water system and the customer. Systems should include clear definitions in their publicly accessible inventory.*

Recommended Procedures for Service Lines of Vacant or Abandoned Buildings

Water systems could have service lines that connect to vacant or abandoned homes or buildings that must be included in their inventory even if they are unoccupied and the water service is

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turned off. EPA recommends water systems have procedures in place for managing the service lines for these structures. For example, water systems could consider:

- Prioritizing occupied homes for service material investigation or replacement to achieve a greater lead exposure reduction from their overall program, provided that the water is turned off at the vacant or unoccupied structure.
- Investigating these structures' service lines if they are doing maintenance or construction work in the area.
- Identifying service material before service is restored, or not reconnecting LSLs on previously vacant homes or buildings (or new construction built after demolition).
- Using the transfer of property as an opportunity for service line identification or LSLR.

2.3 Location Identifiers

This section describes the LCRR requirements for providing location identifiers for LSLs and GRRs in the publicly available inventory as well as suggested identifier information.

2.3.1 Required under the LCRR

Water systems must make a service line inventory publicly available (40 CFR §141.84(a)(8)) that includes a location identifier for any lead or GRR service lines, such as a street address, intersection, or landmark (40 CFR §141.84(a)(8)(i)). The LCRR does not require water systems to make an inventory with the exact street addresses publicly available. Some local or state privacy laws may prohibit the publication of address-level information. The water system has flexibility to determine which location identifier best meets the needs of its own community. If the street address is not used, systems must use a meaningful location identifier. The location identifier could be, for example, a block, intersection, landmark, GPS coordinates, emergency 911 address for systems in rural areas, or an alternate indicator (such as water meter location). Regardless of which identifier the water system chooses, it must not be so overly broad (*e.g.*, census tract or zip code) that the public could not adequately track general LSL locations or where the system is making progress in replacing LSLs.

2.3.2 Recommendations (Not Required under the LCRR)

Include a Location Identifier for All Service Line Materials. Water systems are not required to make a location identifier for lead status unknown service lines or non-lead service lines publicly available. However, EPA suggests, as a best practice, systems publish locations of all service lines for the greatest transparency and relevant information for its customers.

Consider Publishing Street Addresses. Although EPA determined in the LCRR that a federal requirement for a publicly accessible inventory that uses specific addresses is not necessary, EPA encourages states and water systems to consider including specific addresses in their publicly

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accessible inventory. Relevant factors states and water systems might consider include: underlying data quality, transparency and consumer awareness, simplification of inventory development and public communication, availability, impacts on replacement program participation, environmental justice concerns, state or local privacy laws or constitutional protections, and potential property value impacts (both positive and negative). EPA also suggests that systems that serve multiple municipalities include the city or town with the street address.

Include Additional Location Descriptors When Multiple Service Lines Serve the Same Address. Sometimes multiple service lines serve the same address (*e.g.*, hospital or apartment building). Water systems should consider adding additional descriptors that would allow each service line to be uniquely identified.

2.4 Other Recommended Service Line Characteristics

EPA recommends that water systems consider tracking additional service line characteristics, such as the information source(s) used to identify material for each service line, pipe diameter, and installation date. ***These are not LCRR requirements***, but tracking this information could benefit the water system, as discussed below.

Source(s) of information for each service line. This includes recording the source(s) of information used to identify the material of each service line. Refer to Chapter 4 and Chapter 5 for a description of possible sources. Tracking this information is valuable for systems to assess their confidence in the accuracy of an individual service line's material classification, evaluate the reliability of certain records or identification methods as a whole, and facilitate updates to the inventory in the future. This information can also assist states in reviewing the inventory.

Pipe diameter. As explained in Chapters 4 and 6 of this guidance, pipe diameter can be an important input to determining service material classification, considering that LSLs are often 2 inches or smaller in diameter. Tracking pipe diameter is important for asset management and can be useful for other information collection efforts such as the Drinking Water Infrastructure Needs Survey and Assessment (DWINSA). States may have their own requirements. For example, Wisconsin requires material reporting to their public service commission by diameter.[9]

Installation or replacement date. As detailed in Chapter 4 and Chapter 6, the date of service line construction or replacement can be an important input in screening for potential LSLs. This information should also be tracked for general asset management purposes. Where precise dates are not available, the year (*e.g.*, 1985) or estimated date range (1950-1960) of installation or replacement can be provided.

[9] See https://blogs.edf.org/health/2020/04/16/latest-wisconsin-data-on-water-service-lines-provides-important-insights-reveals-over-150000-lead-pipes/.

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Key Points to Remember

LCRR Requirements

- The inventory must include all service lines connected to the public water distribution system regardless of intended use (40 CFR §141.84(a)(2)). Lead connectors, gooseneck, and pigtails are not required to be included unless required by the state.
- The inventory must include information on both the system- and customer-owned portions where ownership is split (40 CFR §141.84(a)(4)).
- Service lines must be classified as lead, GRR, non-lead (or the actual material), or lead status unknown service lines (or unknown) (40 CFR §141.84(a)(4)).
- A classification of non-lead must be supported by evidence-based records, methods, or techniques to prove it is not lead or GRR (40 CFR §141.84(a)(4)(iii)).
- The water system must create and maintain an inventory that includes the exact address associated with each service line connected to the public water system. (40 CFR §141.84(a)).
- An inventory of lead and GRR service lines must be made publicly available, but the LCRR does not require the publicly available inventory to include the specific address of each lead and GRR service line. Systems may use a location identifier for any lead and GRR service lines (40 CFR §141.84(a)(8)(ii)).

Recommendations (Not Required under the LCRR)

- EPA encourages water systems to consider including street addresses, when available, as their location identifier for all service lines in its public-facing inventory. Identifiers should be significantly detailed to allow the identification of a specific service line.
- EPA encourages water systems to expand their inventories to include service line subclassifications, other plumbing components such as lead connectors, and other details such as source of information, pipe diameter, and installation date.

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Chapter 3: Inventory Planning

This chapter addresses planning steps that systems should consider when developing their inventory. This information is intended to be helpful for all systems, regardless of where they are in their inventory process. The chapter is organized as follows:

- Section 3.1 provides an introduction to the inventory development process,
- Section 3.2 includes considerations when identifying staff and resources needed for inventory development,
- Section 3.3 includes options and considerations for water systems in the selection of an inventory format,
- Section 3.4 provides recommendations for developing procedures for the collection of service line information, and
- Section 3.5 suggests partnering with third parties for assistance in obtaining information on service line materials.

3.1 Inventory Development Approach

As stated in Chapter 1, this guidance covers the lifecycle of the inventory, including inventory creation, material investigations, system reporting, state review, and public accessibility of service line information. As noted previously, water systems should not wait to replace lead service lines (LSLs) until they have identified the materials of all service lines. In fact, verification of service line materials during lead service line replacement (LSLR) could be part of a water system's strategy to continuously improve its inventory over time. Exhibit 3-1 provides a schematic of this inventory lifecycle.

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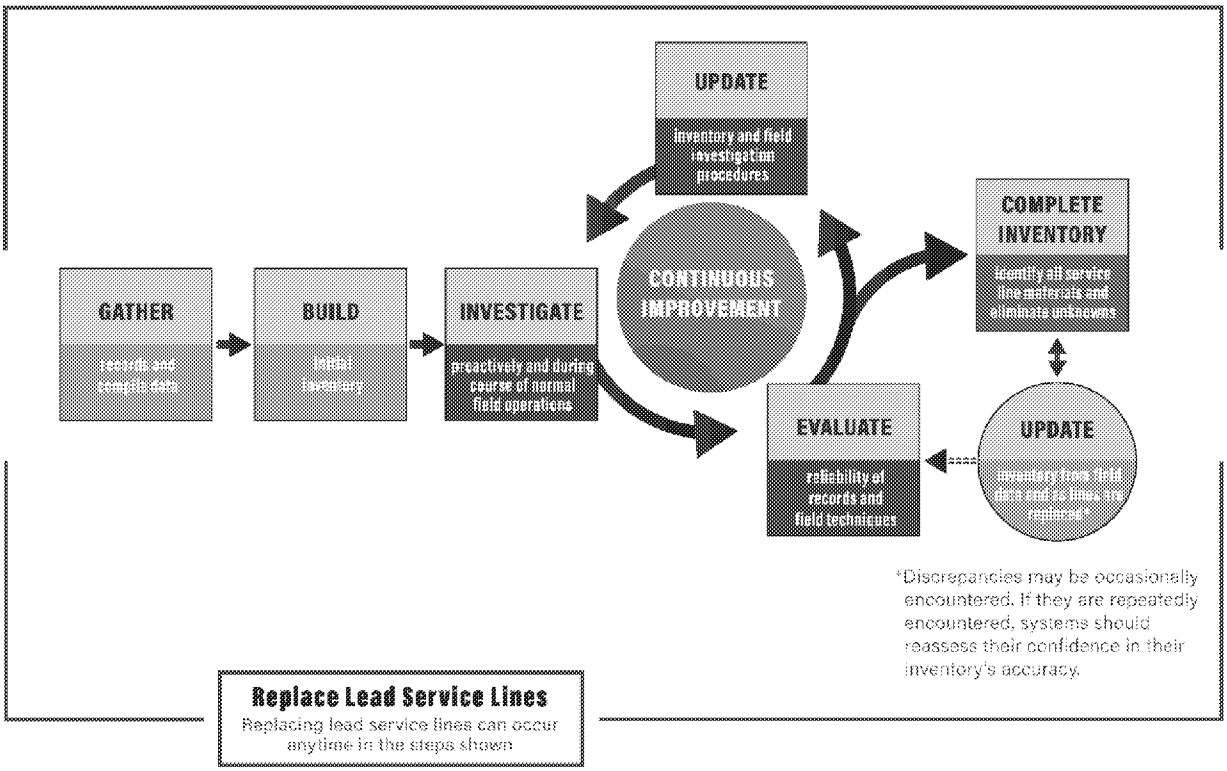
Exhibit 3-1: Inventory Lifecycle



Other best practice approaches for developing an inventory are available in the literature (Liggett et al., 2022; LSLR Collaborative, 2021; Hensley et al., 2021). No matter the specific approach and steps used, water systems should treat the inventory as a ***living dataset*** that is continuously improved over time as the inventory is updated. The number of unknowns in the inventory should decrease as systems gather new information through normal operation and any proactive material identification activities in which the water system is engaged. The water system should also gain confidence over time in the accuracy of the inventory as records or material identification methods are assessed. As a reminder, water systems should review state regulations and follow required steps that are more stringent than the Lead and Copper Rule Revisions (LCRR) when developing the initial inventory.

3.2 Identifying Staff and Resources

The level of effort needed to prepare an initial inventory is highly dependent on the size of the system, the availability of historical records, the format and condition of those records, LSL investigation methods chosen by the water system, and methods required and/or approved by the state (Liggett, 2021; Hensley et al., 2021; Liggett et al., 2022).

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When records are in paper format, large systems have hired temporary staff (*e.g.*, interns) to digitize the data. Liggett et al. (2022) notes that "staff requirements ranged from 2-3 full time employees working 6 days a week for 2 months to several employees working continuously from the start of their lead reduction program" based on a survey of 10 large water systems serving approximately 100,000 to 1.5 million people. All surveyed systems indicated that a significant allotment of staff was needed for at least an initial period. Where customers were engaged in the inventory process, water systems staff were needed to assist customers, gather information from customers, and in some cases verify the information (Liggett et al., 2022).

Interviews with experienced system staff and plumbers can be used to focus the inventory effort and verify utility practices (LSLR Collaborative, 2021; Bukhari et al., 2020). Experienced staff may also know where relevant historical records are located. Classifications of service line materials based on interviews, however, should not be used as a sole source of information for the initial inventory. Systems may also consider interviewing their neighboring water systems to inquire about regional practices (California Water Board, 2020).

3.3 Selecting an Inventory Format

EPA does not require a specific format for the service line inventory. In some states currently requiring submission of inventory information, systems have submitted spreadsheets, geospatial maps, lists, and handwritten notations. ASDWA (2022) notes that states that have required inventory information prefer an electronic submittal over paper or PDF submissions that only provide "a snapshot in time." The subsections below discuss lists, spreadsheets, databases, and maps. Systems should check with their states for any specific requirements.

When water systems consider the inventory format, they should consider that the service line inventory will change over time as new information is added, records evaluations and investigations are conducted, and LSLs are replaced. The format should be flexible enough to accommodate updates, be easily transmittable to the state, include location identifiers, and be in a format that can be made publicly accessible. Water systems should also consider whether a format will be easy-to-use and understand for consumers, community-based organizations, and other organizations that may be interested in using this information, for example to identify whether a consumer is served by an LSL, support community outreach, or develop additional research or data tools for consumers.

Systems may also wish to internally track additional information that is not required but is recommended as best practices in Chapter 2. For central internal data tracking of required and additional inventory elements, EPA recommends that systems consider how they will use their internal data system to generate regulatory state submittals and the publicly accessible inventory.

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3.3.1 List, Spreadsheet, or Database

Systems may be able to create a simple list of all addresses with a service line material designation for each. While a location identifier is sufficient for a publicly accessible inventory, some states may require systems to include the source of information used to classify each line to ensure the requirements in 40 CFR §141.84(a)(3) are met. See Section 2.4 for other recommended inventory elements to include.

Electronic spreadsheets and databases have an added advantage over lists for tracking additional information fields. Spreadsheets and databases can be organized in a way that information can be searched, filtered, sorted, and updated. They can be configured to include photos of service line material. The ability to store and communicate a large amount of information in one central location makes electronic spreadsheets and databases a useful inventory method, particularly for systems with large numbers of LSLs. General recommendations for preparing a spreadsheet inventory from a white paper by the Association of State Drinking Water Administrators (ASDWA) and BlueConduit (2020) include the following:

- Each home/service line is a row in the spreadsheet.
- Each column refers to different data points available for each service line (*e.g.*, address, installation date, service line materials classification, and source of information).
- System-owned and customer-owned portions, if applicable, are tracked separately.
- Information regarding goosenecks, pigtails, and connectors is tracked separately.
- Labeling is consistent across the data, and the spreadsheet has a data dictionary to define the column headers.
- Previous information is not lost when new information is found, which will help the utility evaluate the accuracy of historical records.

EPA developed a spreadsheet template that systems may consider using to organize their inventory. The template contains color-coded worksheets for documenting system information, inventory methods, and how the system is making the inventory publicly accessible. The template also includes a detailed worksheet that systems can use to track the materials and other relevant information for each individual service line. This detailed inventory worksheet is designed for users to enter information on one service line, including the system-owned and customer-owned portions where ownership is split, in a single row. It includes columns for required and recommended elements and dropdown menus for some columns to expedite data entry and analysis. The detailed inventory worksheet is customizable; systems can add or delete columns to fit their needs.

A description of each inventory template worksheet is provided in Exhibit 3-2. Some cells in the spreadsheet are linked, (*i.e.*, the system's name and Public Water System Identification Number (PWSID) entered on the public water system (PWS) information sheet carry over to the heading of

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the other worksheets). The inventory summary includes a formula that will auto-calculate the total numbers of each of the four service line materials classifications based on the detailed inventory. In addition to the electronic version, fillable forms for several worksheets (PWS information, Inventory Methods, Inventory Summary, Public Accessibility Documentation, and State Checklist) are in Appendix A. The detailed inventory template is available electronically at https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule. Water systems can save a copy of the template to their network or computer and submit the entire file to their state.

Exhibit 3-2: Organization of EPA Inventory Template

Worksheet Type	Worksheet Name	Description
Background	**Template Instructions_System**	Contains detailed instructions for systems.
	Template Instructions_States	Contains detailed instructions for states.
	Classifying SLs	Summarizes requirements for classifying the entire service line when ownership is split (*i.e.* , when the system owns a portion and the customer owns a portion).
Templates for Water Systems	**PWS Information**	For systems to document basic system information.
	Inventory Methods	For systems to document the methods and resources they used to develop and update their inventory.
	Inventory Summary	For systems to provide a summary of their service line inventory, including information on ownership, inventory format, and the number of service lines for each of the four required materials classifications. Systems can enter the totals into this worksheet or automatically generate totals based on information in the **Detailed Inventory** worksheet.
	Detailed Inventory	Provides a customizable format water systems can use to track materials for each service line in their distribution system. Each row equals one service line connecting the water main to the customer's plumbing. Separate columns track location information, the system-owned portion, the customer-owned portion, other possible sources of lead, information for assigning a tap sample tiering classification, and information for lead service line replacement (LSLR). Systems can customize the worksheet by adding or deleting columns.
	Public Accessibility Doc.	For systems to provide documentation to states on how they met the public accessibility requirements of the LCRR.
Templates for States	**State Checklist**	Provides a checklist that states can use to determine and document if water systems met all of the January 15, 2021 LCRR requirements for their Initial Inventory including timely submission, required elements, use of information sources, public accessibility, and public notification of service line materials.

Source: EPA Inventory Template (https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule).

Other spreadsheet templates are available for download. For example, ASDWA's website (https://www.asdwa.org/lead-and-copper-rule-lcr/) provides a link to their separate inventory

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template spreadsheets for community water systems (CWSs) and non-transient non-community water systems (NTNCWSs). Another example is the template developed by Kansas Department of Environmental Health.[10] In addition to the information needed to track material classifications including GRR for system- and customer-side portions of the service line, their template includes columns for additional elements. For example, it includes water main material, connector material and replacement, installation dates, sources of information used for service line identification, and other data needed to assign a lead tap sampling tier to the service line. In addition, Kansas' template includes color-coded instructions to highlight cells in which data must be typed and columns containing drop-down menus or auto-calculation. Systems should check with their states to determine if they have developed an electronic template that they should or must use to organize and/or report their detailed inventory.

3.3.2 Maps

Many water systems have developed simple or interactive web-based maps to present their service line inventory, share information with the public, and inform their LSLR program. These maps provide systems with an easily updatable platform for storing inventory data while also having the ability to instantaneously share that data in an intuitive, easy-to-use format with anyone with internet access. Moreover, geospatial databases supporting online maps can store attribute information. For example, systems with high-level mapping capabilities can link image files of historical tap cards with LSL locations (Liggett, 2021). Additional benefits of mapping may include the ability to more easily plan LSLRs along with planned capital improvement projects or to identify LSLR priority locations using existing environmental justice map tools (such as EPA's EJSCREEN[11]) along with a system's map. Also, maps can be augmented over time to include additional information, such as important infrastructure (*e.g.*, water mains and water towers), to improve a system's asset management. See Section 7.2.2 for additional information on web-based map applications, including best practices from recent publications by Hiltner et al. (2019) and Woods and Webb (2021).

Two examples of water system maps are DC Water and Greater Cincinnati Water Works, which are described in Appendix B. Note that these maps were developed prior to the LCRR and do not include GRR. EPA recommends that water systems maps also include a color scheme for GRR.

3.4 Develop Procedures for Collecting Service Line Information

Under the LCRR, systems must identify and track information on service line material as they are encountered in the course of normal operations (40 CFR §141.84(a)(5)). This information could be based on visual inspection – see Section 5.1 for guidance on visually identifying service line material.

[10] The template is available at https://www.kdhe.ks.gov/547/Lead-Copper-Rule.
[11] https://www.epa.gov/ejscreen.

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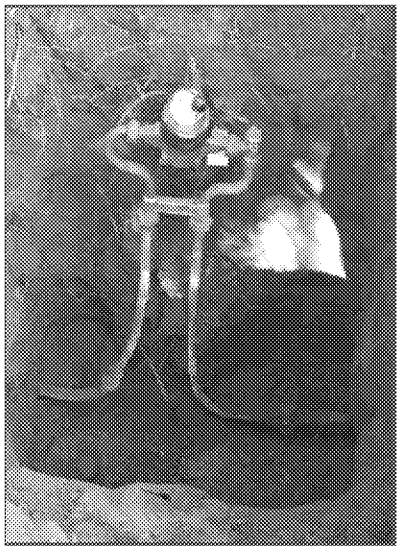
Information collection by water system staff and contractors, who typically have relevant experience and/or training regarding lead in drinking water, enhances quality control of the information they collect (LSLR Collaborative, 2021). Opportunities for data collection under normal operation include but are not limited to:

- Water meter reading
- Water meter repair or replacement (see picture of an excavated meter with service line material exposed)
- Service line repair or replacement
- Water main repair or replacement
- Backflow prevention inspections
- Other street repair or capital projects with open cut excavations



Example of Meter Pit
Source: LSLR Collaborative 2018

Inventory activities should be considered as something that can be worked into the day-to-day activities of the system rather than treated as an independent effort. Systems should consider developing ***standard operating procedures*** (SOPs) or modifying existing SOPs to document how their staff and contractors will collect this information and use it to update their inventory. SOPs can help ensure that a consistent method of tracking, updating, and reporting is used for staff and contractors of all experience levels. Written SOPs can also provide a way for water systems to document how they met the requirement to collect information during normal operations. SOPs can be brief, but the key is to disseminate them to appropriate staff and contractors, use them to conduct training, and ensure that they are incorporated into normal operations. Water systems should consider incorporating quality assurance reviews into their SOPs and procedures that ensure accountability before a project is completed.

Example: Custom app for information collection

The Pittsburgh Water and Sewer Authority (PWSA) developed specific service line and meter replacement work orders in the tablet-based application used by utility workers and plumbers, allowing them to update service line material observations and record information on replacements in the field.

One way to facilitate information collection and inventory updates is the use of electronic field capture records.

Water systems should consider developing procedures for customer service representatives and other staff or contractors that have interactions with customers. Any one-on-one interaction is an opportunity to educate customers about the importance of the service line inventory and to obtain permission for water system personnel to access the home for service line material investigation, or an interaction can be used to provide information to the customer on how to self-identify the material for their portion of the

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service line and submit it to the system. See Section 5.1.1 for additional guidance on customer self-identification and Appendix C for examples of customer service line material instructions from water systems.

3.5 Establish Partnerships with Third Parties

EPA encourages water systems to reach out and partner with plumbers, plumber trade organizations, local plumber union organizations, and other third parties to obtain as much information as possible on service line materials and coordinate LSLR where possible. There are many potential third parties that could be included, such as homeowner associations, community-based organizations, building agencies, building inspectors, social services, landlords or realtors, public health departments, departments of education, universities, Tribal Consortia, religious organizations, and technical assistance providers.

There are different ways that third parties can help systems obtain this information:

- The third party may be able to determine service line material as part of their normal field procedures (*e.g.*, plumbing modifications, building inspections, etc.).
- The third party may be able to facilitate outreach and engagement with specific communities, encouraging residents to conduct self-identification of service line and plumbing materials and to report this information to the water system.

Coordination and training should take place early in the process to ensure third parties are aware of the purpose, schedule, and procedures for the inventory and the importance of notifying the water system with any information on service line materials.

Real world examples of successful partnerships include:

- The Pittsburgh Water and Sewer Authority (PWSA), Pennsylvania, partners with their local health department to obtain information during plumbing inspections. PWSA works with their local health department to add service line inspection and reporting to plumbing inspection forms. PWSA automatically receives information by email whenever a plumbing inspection report contains customer-side service line information (Duffy and Pickering, 2021). See the PWSA case study in Appendix B for more information.
- Denver Water, Colorado, partners with community organizations to remove barriers. Denver Water's Ambassador Program focuses on developing partnerships with trusted community organizations to help eliminate possible barriers that could prevent communities from understanding and participating in their Lead Reduction Program. The Ambassadorship Program works in a neighborhood-by-neighborhood basis to share information about the Lead Reduction Program in multiple languages, so everyone receives the same information and resources, regardless of their background. One goal of

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this program is to encourage homeowners to confirm if they have an LSL and to sign a consent form allowing Denver Water to replace it at no direct charge to customers.[12]

- The City of Newark, New Jersey, partnered with Clean Water Action, local residents, and retired utility workers as volunteers and trusted messengers to talk to residents. The City of Newark used door hangers and lawn signs to reach renters, who make up approximately 74 percent of residents. An interactive website was key to providing information to customers regarding their service line material (LSLR Collaborative, 2020).
- Grand Rapids Water System (GRWS), Michigan, partners with rental property owners. In Grand Rapids, many LSLs serve rental properties. Because only property owners can sign the agreements for LSLR in Grand Rapids, GRWS met with rental property owner associations to encourage participation in their LSLR program. The water system met well in advance of scheduled replacements to present information about the LSLR program and answer questions that property owners might have (USEPA, 2021e).

Real estate transactions may also provide additional opportunities for educating residents, engaging them to identify service line material, and ultimately facilitate LSLR. McCormick et al. (2017) noted that four states (Connecticut, Delaware, New York, and Pennsylvania) required mandatory disclosure of lead pipes or fixtures. Six additional states (Illinois, Michigan, New Mexico, North Carolina, South Carolina, and Wisconsin) and the District of Columbia required mandatory disclosure of pipe material; however, lead was either not specifically addressed or was only included if the seller identified conditions as unsafe (McCormick et al., 2017). Lu et al. (2019) found that when homebuyers have access to a seller's disclosure, indicating the presence of an LSL, the sellers were willing to negotiate to replace it or provide compensation for the replacement cost. Water systems can work with real-estate agents and home inspectors to support disclosures of identified service line materials (ideally through an online inventory) and provide procedures for customer service line self-identification or verification by trained personnel. See Chapter 7 for recommendations related to inventory accessibility and Section 5.1.1 and Appendix C for customer self-identification guidance.

[12] (https://www.denverwater.org/your-water/water-quality/lead/events-outreach). Accessed November 2, 2021.

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Key Points to Remember

LCRR Requirements

- Systems must identify and track information on service line material as they are encountered in the course of normal operations (40 CFR §141.84(a)(5)).

Recommendations (Not Required under the LCRR)

- EPA recommends systems consider a continuous improvement approach for inventory development.
- The inventory is a living dataset that is continually improved over time with new and better information including when LSLs are replaced.
- Interviews with experienced staff and plumbers can help focus the inventory effort and locate system records.
- Water systems should consider interviewing neighboring water systems about regional construction practices.
- Systems can use a variety of formats for the inventory; however, an electronic format is recommended over paper or PDF formats.
- Water systems should consider developing or modifying SOPs to document how they will collect service line information during normal operations and update their inventories.
- Inventory activities should be considered as something that can be worked into the day-to-day activities of the system rather than treated as an independent effort.
- EPA encourages water systems to partner with plumbers and other third parties to obtain information on service line materials.

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Chapter 4: Historical Records Review

The Lead and Copper Rule Revisions (LCRR) specifies the types of historical records that water systems must review to develop their initial service line inventory. Sections 4.1 through 4.4 provide guidance on how the required types of historical records can be used and where to find them.

EPA recognizes that service line configuration and existing records may vary widely. For example, water systems will have different numbers of lead service lines (LSLs) and unknowns, varying ownership delineations, and access to historical records of varying accuracy. In addition, systems will have different avenues of information gathering and priorities that are tailored to their specific community.

Systems should document the records they reviewed as a best practice. Templates are available in an electronic form, "Inventory Methods" from EPA's template available at EPA's website, https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule or the hard copy form in Appendix A to document each type of record reviewed and when it was reviewed. Systems should also consider tracking and including the records used to identify the material of each portion of the service line (*e.g.*, plumbing code or water system record) in their inventory.

Water systems should continue to gather information on service line materials after they have been classified and assess the accuracy of historical records. As the Association of State Drinking Water Administrators (ASDWA) states in their white paper about using data science for inventory development (ASDWA, 2019), "the process of learning just how accurate (or otherwise) a system's records are is a powerfully informative piece of this data-driven approach." ASDWA points out that some types of records will be more accurate than others, given each community's unique historical development patterns. For example, more recent records resulting from confirmation during road construction may be more reliable than decades-old tap cards. EPA recommends evaluation of the accuracy of historical records and that, if a specific record source proves to be inaccurate, systems consider reclassifying service line materials that rely solely on that record source as "unknown" until additional information can be gathered.

Exhibit 4-1 lists required records systems must use to identify service line materials for the initial inventory under the LCRR (40 CFR §141.84(a)(3)). The last column of the exhibit includes how the records can be used to develop the initial inventory.

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Exhibit 4-1: Requirements for Historical Records Review for Initial Inventory Development under the LCRR

Type of Historical Records	Regulatory Requirement (citation)	Primary Uses for Inventory Development (Including but not limited to)
Previous Materials Evaluation	Water systems must use the information on lead and galvanized iron or steel that it identified under 40 CFR § 141.42(d)[1] when conducting the inventory of service lines in its distribution system for the initial inventory (40 CFR §141.84(a)(3)).	• Reporting construction materials present in their distribution systems. • Identifying LSL material for subset of sites that were used for lead and copper tap monitoring.
Construction and Plumbing Codes and Records	Systems must review all construction and plumbing codes, permits, and existing records or other documentation which indicates the service line materials used to connect structures to the distribution system to identify service line materials for the initial inventory (40 CFR §141.84(a)(3)(i)).	• Identify when LSLs were allowed/specified or banned from use. • Identify service areas most likely to have LSLs by home/building construction date and service line size. • Review construction and plumbing permits for identification of service line (customer and/or system-owned) and plumbing materials.
Water System Records	Systems must review all water system records, including distribution system maps and drawings, historical records on each service connection, meter installation records, historical capital improvement or master plans, and standard operating procedures, to identify service line materials for the initial inventory (40 CFR §141.84(a)(3)(ii)).	• Identify service line material for system-owned and customer-owned sides.
Distribution System Inspections and Records	Systems must review all inspections and records of the distribution system that indicate material composition of the service connections that connect a structure to the distribution system to identify service line materials for the initial inventory (40 CFR §141.84(a)(3)(iii)).	• Identify service line material for system- and customer-owned portions. • Verify construction and water system records.

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Type of Historical Records	Regulatory Requirement (citation)	Primary Uses for Inventory Development (Including but not limited to)
State Requirements	Systems must review any resource, information, or identification method provided or required by the state to assess service line materials, to identify service line materials for the initial inventory (40 CFR §141.84(a)(3)(iv)).	• Identify service line material for system- and customer-owned portions.

Note:

[1] Under 40 CFR §141.42, water systems were required to identify and report to their state if certain construction materials were present in their distribution system in the early 1980s (USEPA, 1980). Under the 1991 Lead and Copper Rule (USEPA, 1991a), water systems were required to use this evaluation to identify a pool of targeted sampling sites that meet the tiering criteria for lead and copper tap monitoring and was sufficiently large enough to meet the required number of lead and copper tap samples.

4.1 Previous Materials Evaluation

Under 40 CFR §141.42(d), or special monitoring for corrosivity characteristics, water systems were required to identify if certain construction materials were present in their distribution system that included:

- Lead from piping, solder, caulking, interior lining of distribution mains, alloys, and home plumbing;
- Copper from piping and alloys, service lines, and home plumbing;
- Galvanized piping, service lines, and home plumbing;
- Ferrous piping materials such as cast iron and steel; and
- Asbestos cement pipe.

In addition, there may be additional state requirements for the identification and reporting of other materials. EPA requires systems to use the information they identified on lead and galvanized iron or steel under 40 CFR §141.42(d) when preparing their initial inventory.

In addition to the previous materials evaluation described above, other previous material evaluations can be useful in developing the inventory. Under the 1991 Lead and Copper Rule (LCR) (USEPA, 1991a), water systems were required to complete a materials evaluation of their distribution systems to identify a pool of targeted sampling sites that met the sample site requirements and was sufficiently large to meet the required number of lead and copper tap samples (40 CFR §141.86(a) of the LCR). The LCR also required in 40 CFR §141.86(b) that water systems review:

- Information collected under the pre-LCR materials evaluation under 40 CFR §141.42(d);

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- All plumbing codes, permits, and records in the files of the building department(s) that document the plumbing materials installed within publicly- and privately-owned structures connected to the distribution system;
- All inspections and records of the distribution system that indicate the material composition of the service connections that connect a structure to the distribution system; and
- All existing water quality information that includes the results of all prior analyses of the system or individual structures connected to the system, indicating locations that may be particularly susceptible to high lead or copper concentrations.

Also under the LCR, systems subject to lead service line replacement (LSLR) requirements[13] were required to identify the initial number of LSLs in their distribution system, including the portion(s) owned by the system, based on the prior materials evaluations (40 CFR §141.84(b)).

In addition to previous materials evaluations described above, EPA recognizes that systems may have previously reviewed historical records proactively for asset management, pre-LCRR inventory efforts, and LSLR activities. It is important to note that records already reviewed for service line material information need not be reviewed again. EPA recommends that water systems document previous reviews as part of their initial inventory effort, including the date and scope of the reviews.

4.2 Construction and Plumbing Codes and Records

Systems must review all construction and plumbing codes, permits, and existing records or other documentation that indicate the service line materials used to connect structures to the distribution system (40 CFR §141.84(a)(3)(i)). Each of these record types is described below.

Construction and Plumbing Codes

Municipal construction codes (also known as "building codes") and plumbing codes may indicate when the use of lead or lead-containing pipes for potable use applications were prohibited by the code. This information, combined with distribution system and building records, can identify structures that were built after lead bans became effective and would not have LSLs.

The 1986 Safe Drinking Water Act (SDWA) amendments prohibited the use of pipe, solder, and flux that were not "lead free" as defined in 1986 in new installations and repairs[14] and directed

[13] Refer to footnote 3.

[14] In 1986, Congress amended the Safe Drinking Water Act (SDWA) to prohibit the use of pipes, solder, or flux that were not "lead free" in the installation or repair of public water systems or plumbing in residential and non-residential facilities providing water for human consumption. At the time, "lead free" was defined as solder and flux with no more than 0.2 percent lead and pipes with no more than 8 percent. This is often referred to as the 1986 SDWA lead ban.

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states, as a condition of receiving grants for the Public Water System Supervision program, to enforce the provision effective 24 months after June 19, 1986, through state or local plumbing codes or other means (42 U.S. Code §300g-6(b)). Some states adopted their own laws before the federal requirement. Thus, water systems should check with their state to determine the appropriate date. See Appendix D for a summary of lead ban provisions by state (USEPA, 1991b).

In addition to information on when LSLs were allowed and banned, municipal construction and plumbing codes can also indicate a maximum diameter of LSLs. Most LSLs are ***2 inches or less*** in diameter and serve primarily single-family homes or small multi-family residences. Larger apartment complexes and commercial and industrial building are typically served by larger diameter service lines. There have been very few cases of installed LSLs as large as 3 inches (LSLR Collaborative, 2021). The service line material verification requirements in Michigan exclude service lines that are 4 inches or more in diameter (Michigan EGLE, 2018).

Most Lead Service Lines are Old!

LSLs were primarily installed from the late 1800s to the 1940s (Hensley et al., 2021). Some communities, however, continued to install them through the 1980s until they were banned at the federal level.

Systems should also review any local ordinances relevant to LSLs. For example, systems may be aware of an ordinance which prohibits reburial of exposed lead pipe in their community. Water systems could compare the ordinance effective date with records of construction projects subject to the ordinance requirements to determine if service line material can be inferred.

Possible locations for construction and plumbing codes include (Liggett, 2021; LSLR Collaborative, 2021):

- Municipal building permit/code enforcement department
- Agency overseeing state plumbing code
- Local governing body (*e.g.*, city or town council)

Other possible locations include city archives, which are often in city public libraries. Additionally, online databases have many historical city codes and reports available online.

States and municipalities often adopt into state or local law national or international building or plumbing codes written by trade organizations. The codes may be adopted into law as written or, they may be modified. In addition to checking with the state on the date they enforced the 1986 lead ban as recommended above, systems may also check with their state or local government for any additional requirements related to adoption of codes. Exhibit 4-2 provides examples of municipal code language and its meaning from Hensley et al., 2021.

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Exhibit 4-2: Illustrative excerpts from municipal codes, specifying that lead was allowed or required as pipe material for service lines

TABLE 1 Illustrative excerpts from municipal codes, specifying that lead was allowed or required as pipe material for service lines (Miguel Del Toral, personal communication, July 2018)

Municipal code language	What the code language meant
Water Service...Sec. 23. All water pipes laid underground whether outside or inside the building and of a diameter less than 2 inch. shall be "extra strong" lead pipe	The entire service line was required to be made of lead
Pipe Material. Sec. 17. All service pipe, from the point of union with the main to the service stop inside of curb line shall be of lead, known and designated as "Extra Strong," weighing as follows per lineal foot:	Lead pipe was only required between the water main and the property line
Sec. 14. Pipe, Kind Used, Water Commissioner to Purchase.--Either lead, galvanized or enameled iron service pipes may be used at the option of the applicant. All lead and iron pipes must have sufficient strength to sustain a pressure of not less than 200 pounds to the square inch, and at the point of connection with the street main between the corporation cock and the coupling in the iron service pipe there must be at least 18 inch. of lead pipe to retain rigidity of the iron pipe	The service line could be lead pipe, galvanized iron pipe, or enameled iron pipe. However, a short lead pipe at least 18 inch. long (commonly called a 'lead gooseneck') was required at the connection with the water main
Section 995. Water Connections for Buildings: All pipes leaving the curb cock and used for connecting buildings with the City water system, shall be laid under ground, and at least 18 inch. below the established grade, and shall be of lead or galvanized wrought iron or steel	Lead was not required but was one of the types of pipes allowed
Section 660 A. Materials of Water Pipe and Fittings. All water service and distribution pipes shall be of lead, galvanized wrought iron, galvanized steel, brass, copper, or cast iron with brass, copper, galvanized iron or galvanized or malleable iron fittings	Lead was not required but was one of the types of pipes allowed

Source: Hensley et al., 2021.

Permits

Water system, local government, or local plumbing codes may require plumbers to obtain permits to install or replace service lines. These permits should include the location and the date of installation or replacement and may include information on service line materials. In addition, there may be an inspection record that accompanies the permit.

If permits do not specify service line material, systems may be able to cross-reference the permit with construction practices at the time of replacement. Systems may be able to find these permits at their municipal building department, code enforcement department, or municipal water system (LSLR Collaborative, 2021).

Other relevant permits may include those for general renovation or other plumbing-related building activities. Many jurisdictions require permits and inspections when plumbing is modified for remodeling for renovations or additions.

Other Existing Records and Documentation

In addition to construction and plumbing codes and permits, other records may exist that indicate the service line materials used to connect structures to the distribution system. For example, municipal tax records typically contain the date of building construction, which when cross-

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referenced with construction practice information from other sources, could help identify service line materials. Also, the date of building construction can be compared to water main installation records. A newer tap installation date for an older home could mean the service line was partially replaced on the system side. The reverse could also be true – a newer building construction date compared to tap installation date could indicate a partial service line replacement on the customer side. These records may be found at the municipal tax assessor's office or the centralized municipal government geographic information system (GIS) office (LSLR Collaborative, 2021).

Community planning documents and maps may also contain information on the date of construction, which can be useful to identify potential locations of LSLs. These documents may be found at municipal planning departments, regional planning agencies, the public library, or the local historical society (LSLR Collaborative, 2021). Property appraisal records might include the year a structure was built and when it was modified. County or city council meeting minutes may also contain additional relevant records.

4.3 Water System Records

Water system records are a key source of information and are one of the many sources that systems must review to identify service line materials and develop the initial inventory. Systems can use any relevant water system records they may have to develop their inventory, but at minimum must review the water system records listed in 40 CFR §141.84(a)(3)(ii).

Exhibit 4-3 lists the type of water system record that must be reviewed, what the record may contain, and the possible formats of the records. Other possible water system records that could be used to develop the initial inventory include historical water system standard operation procedures (SOPs), water main replacement records, water loss studies, and annual reports. Additional discussion of a key type of record, service line installation records or "tap cards", follows the exhibit.

Note when reviewing historical SOPs, systems should review past procedures for connecting a new building and if they allowed connection to an old service line. If allowed, this could indicate that some newer construction could be potentially connected to an LSL.

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Exhibit 4-3: Water System Record Examples and Uses

Type of Water System Record Required under the LCRR[1]	Relative information	Possible Formats
Distribution system map and drawings	Date of construction of different parts of the distribution system may help inform when and where LSLs were used.	Hard copy maps, digital maps, or web-based map applications
Historical records on each service connection	Detailed information on service line material, location, and size.	Ledgers, cards (*e.g.*, tap cards or drill records), or databases
Meter installation records	May contain the service line material. Meter size and/or type can indicate service line size or building usage.	Water system files and records
Historical capital improvement or master plans	Historical installation patterns may help inform when LSLs were used.	Archived report or electronic document
Standard operating procedures	Allowable materials for construction of service lines and for service line repairs.	Specifications and standards used by the water system

Notes:

[1]Each type of water system record must be reviewed to develop the initial inventory (40 CFR §141.84(a)(3)).

Historical records on service connection installation may be in the form of ***tap cards*** (also called ***drill records***), which are recorded when a service line is tapped into the water main and connected to an individual home or building. They are often handwritten index cards that contain the installation date, pipe diameter, and pipe material. Exhibit 4-4 provides examples of tap cards specifying lead pipe material. The LSLR Collaborative (LSLR Collaborative, 2021) recommends digitally categorizing tap cards as one of the first steps in building an inventory.

Example: Scanning tap cards as a starting point

In 2017, the Pittsburgh Water and Sewer Authority (PWSA) scanned almost 130,000 paper service record folders and 3,000 microfiche records and created an initial database with the results. PWSA found that many of these records, however, were inaccurate because of maintenance conducted since they were initially installed (Duffy and Pickering, 2021). See Appendix B for the PWSA case study.

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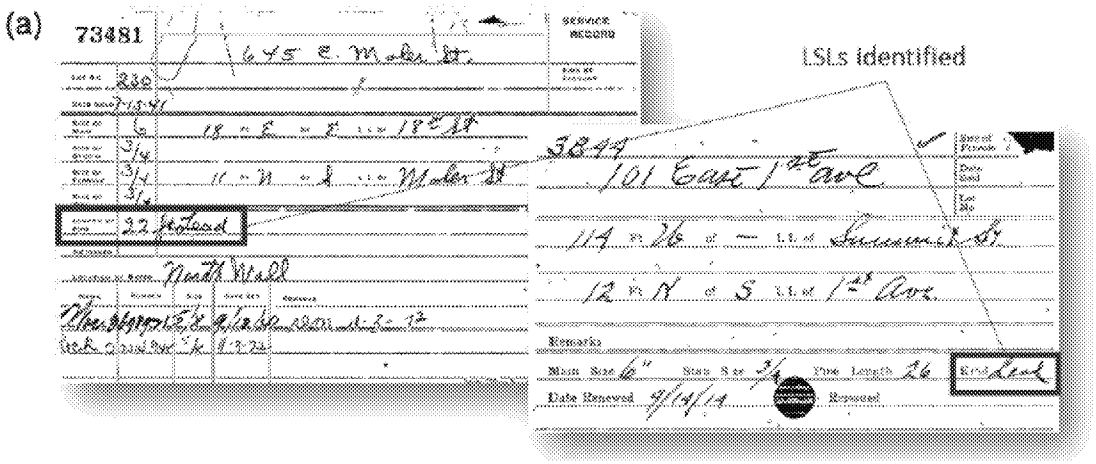
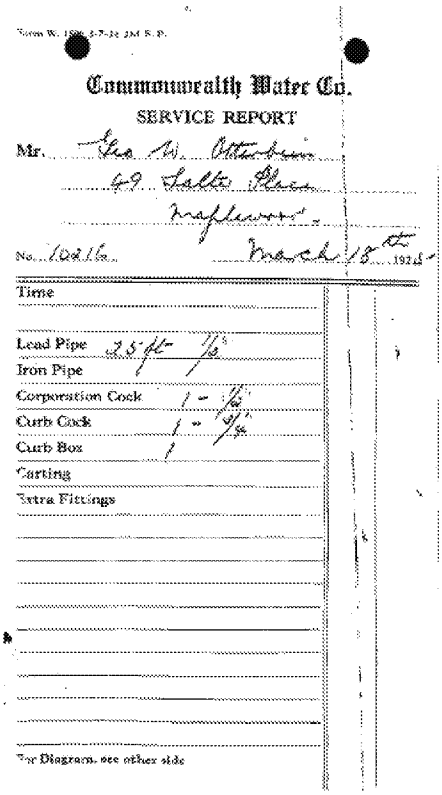
Exhibit 4-4: Examples of Tap Cards with Lead Listed as Service Line Material



Source: Hensley et al., 2021



Source: Bukhari et al., 2020, Figure 3-1 from American Water, 2019.

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Bukhari et al. (2020) notes that "using tap cards alone can be challenging since information can be inconsistent, unreliable, or altogether absent. For example, there may be situations where a line was repaired or replaced, but the location-specific tap card was never updated." Moreover, tap cards may only contain information on the system-owned portion of the service line (Duffy and Pickering, 2021). It is important to supplement tap card information with service line replacement or repair data; water main installation, rehabilitation, or replacement records; meter installation records; and other field data and investigations.

Example: Meter Installation as an Information Source

The City of Evanston, Illinois, replaced approximately one-third of their meters in 2018. They documented the service material type and inputted the information into their computerized maintenance management system (CMMS) (AWWA, 2021).

4.4 Inspections and Records of the Distribution System

Historical records of inspections might indicate service line materials. Sources of information include responses to customer complaints, inspections to locate leaks, or inspections to investigate meter issues. Cross connection inspections may also provide information on service line material. Systems may store this information electronically, for example, using a computerized maintenance management system (CMMS) (Liggett, 2021).

Water systems have opportunities to directly view the service line materials during a variety of maintenance activities. See Section 3.4 for recommendations for collecting service line material information during normal operations.

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Key Points to Remember

LCRR Requirements

- Water systems must use any information on lead and galvanized iron or steel that it has identified pursuant to 40 CFR §141.42(d); review the records explicitly identified in the LCRR; as well as use any additional resource, information, or identification method required by the state to develop the initial inventory (§141.84(a)(3)).

Recommendations (Not Required under the LCRR)

- Water systems should document the records they reviewed as a best practice and include the source of material classification in their inventory.
- Water systems should continue to gather information on service line materials after they have been classified and assess the accuracy of historical records.
- If systems find certain historical records to be unreliable, they should consider reclassifying service line materials that rely solely on those records as "unknown" until additional information can be gathered.
- Water systems should incorporate previous reviews (as required by the LCRR and other reviews done to comply with LCR or other proactive activities) into their initial inventory and document the date and scope of the reviews. Records already reviewed for service line material information do not need to be reviewed again.
- Tap cards are often handwritten index cards that contain the installation date, pipe diameter, and pipe material. The LSLR Collaborative recommends digitizing tap cards as one of the first steps in building an inventory.

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Chapter 5: Service Line Investigation Methods

This chapter provides a description of the service line investigation methods that water systems have used to verify historical records and gather information when service line material is unknown. These methods are not required under the Lead and Copper Rule Revisions (LCRR), but rather provide examples for systems to consider. The methods included here are:

- Visual inspection of service line material (Section 5.1)
- Water quality sampling (Section 5.2)
- Excavation (Section 5.3)
- Predictive modeling (Section 5.5)
- Emerging methods (Section 5.6)

Section 5.4 provides a comparison of methods from the literature.

Some of these methods require state approval before use for service line classification, such as water quality sampling, predictive modeling, and emerging methods. Water systems should consider the method(s) that are best suited to their particular distribution system and community, considering state approval, cost, labor skill requirements, disruption to consumers, overall time, and accuracy. Water systems should be aware of identification methods provided or required by their state under the LCRR (40 CFR §141.84(a)(3)(iv)). If a water system chooses an investigation method not specified by the state under 40 CFR §141.84(a)(3)(iv), state approval is required (40 CFR §141.84(a)(3)). States may want to consider identifying approved methods that can be used by any system in their state to classify service lines. States could approve different methods for classifying lead, galvanized requiring replacement (GRR), and non-lead. This chapter provides states with information they can use to make their approval decisions. Note that service line investigation methods are evolving; states may wish to revisit approval decisions in the future based on new research or other information.

As noted previously in this guidance, EPA recommends that systems consider including the sources of the material classification (*e.g.*, excavation or visual inspection by customer) in their inventory. In some cases, systems may replace lead service lines (LSLs) when they find them in the field during investigations. EPA recommends systems document where there was an LSL, as recording lead service line replacement (LSLR) activities may be useful for systems to track and demonstrate the LSLR rate achieved.

5.1 Visual Inspection of Service Line Material

The material composition of a service line can be identified through visual inspection. Exhibit 5-1 provides a comparison of common service line materials:

- Plastic is a smooth pipe of various colors (*e.g.*, white, blue, black, and green).

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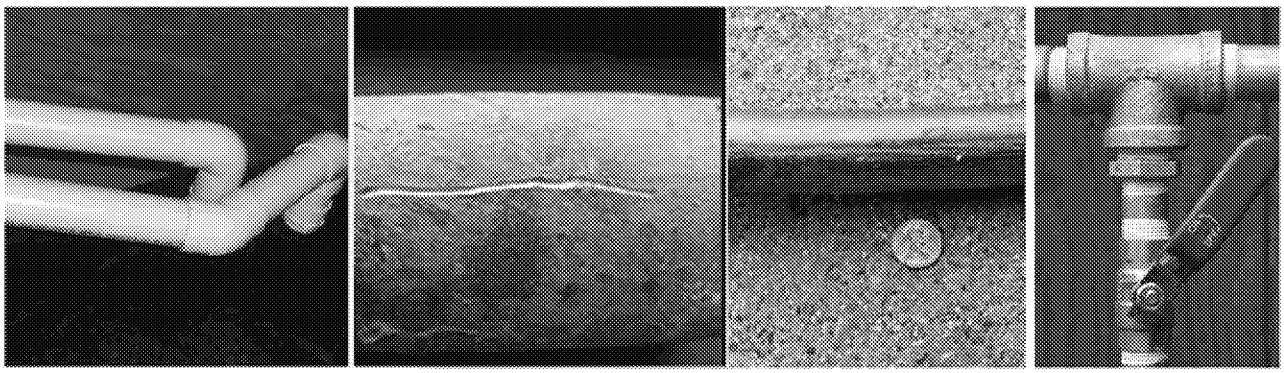
- Lead is a soft metal that is a dull, silver-gray color. It is easily scratched with a coin or key, and the scratched areas will be shiny. It is non-magnetic, meaning a magnet will not stick to it. Lead pipe is commonly attached to other pipe with a "wiped" joint.
- Copper is the color of a penny.
- Galvanized is a dull, silver-gray color that is difficult to scratch. It is magnetic, meaning a magnet will stick to it.

Exhibit 5-1: Examples of Commonly Found Pipe Materials



Plastic | Scratched Lead | Copper | Galvanized Steel & valve

Source: https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead-0.

Lead can also be distinguished from other materials by a "wiped" joint, which is a rounded ball of lead that connects the lead pipe to other materials. See Exhibit 5-2 for a picture of a wipe joint on an LSL.

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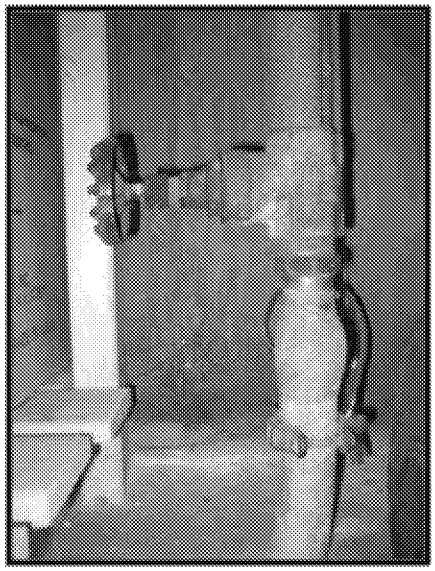
Exhibit 5-2: Example of Wiped Lead Joint



Source: https://www.skokie.org/766/Lead-Water-Line-Information

The remainder of this section describes service line materials identification approaches through visual inspection without excavation. See Section 5.3 for a description of excavation techniques.

5.1.1 Visual Inspection of Service Line by Customers

Many utilities have enlisted the public's help to identify the material of the customer-owned portion of the service line. The service line may be visible where it comes into the building, such as in the basement where it connects to the water meter and/or premise plumbing. Exhibit 5-3 shows the possible location of the visible portion of the line connected to the water meter. Note that incoming service lines may have different configurations, which can make it difficult for customers to locate the service line entering the home. DC Water has created a video to assist customers, advising them to locate the meter pit in the yard to estimate where the service line enters the building.[15] Systems may wish to provide guidance on typical configurations to assist customers in finding their water service lines.

[15] https://www.dcwater.com/do-you-have-lead-pipes-let-us-help-you-find-out.

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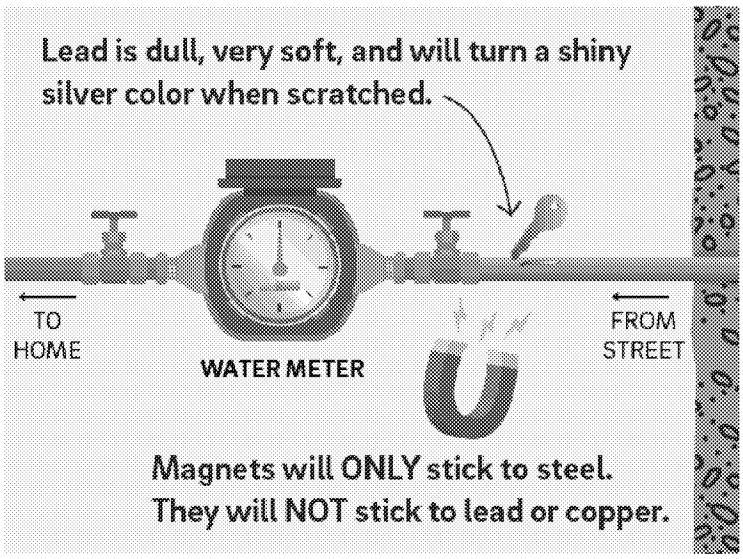
Exhibit 5-3: Example of Location of Exposed Service Line in Basement



Source: Philadelphia Water System. https://water.phila.gov/pool/files/how-to-check-your-service-line-for-lead.pdf. Accessed December 20, 2021. Right edge of image represents basement wall in contact with soil.

After locating the service line, the customer can visually inspect the pipe. A common approach to determine pipe material is a ***scratch and magnet test***. If the pipe is a silver metallic color, the customer can carefully scratch the pipe with a key or coin. It is important to not use a sharp object that could puncture the pipe. If the pipe is soft, scratches easily, and reveals a shiny silver color, the pipe is likely lead. The customer can use a magnet to confirm the material since magnets will only react to steel and will not stick to lead (Hensley et al., 2021). Customers can also look for a wiped joint as shown in Exhibit 5-2 that can be an indicator of an LSL. Systems may want to suggest that customers wear gloves when performing a scratch test and cleaning up debris.

In addition to the scratch and magnet test, lead paint test kits can be used to test the pipe for lead (Hensley et al., 2021; LSLR Collaborative, 2021). Surface swab kits approved by EPA for lead paint will change color after coming in contact with a lead surface. A list of approved test kits are available on EPA's website (https://www.epa.gov/lead/lead-test-kits). Care should be taken in interpreting results because the kits can react to lead paint if the pipe is painted.

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EPA developed the online step-by-step guide "Protect Your Tap: A Quick Check for Lead" [16] to help people identify LSLs in their homes. It also provides tips on actions to reduce lead exposure in drinking water, information on certified laboratories for water testing, and other resources. The guide is for everyone, and EPA has provided Protect Your Tap outreach toolkits for community groups, government and health organizations, and water utilities. The guide is also available in Spanish. To access this information and the online guide, refer to EPA's website at https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead.

Examples of instructions for identifying service line materials prepared by the Philadelphia Water Department; Rockford, Illinois; and Newark, New Jersey, are provided in Appendix C. The independent, non-profit media organization National Public Radio (NPR) has also developed an interactive tool available on their website[17] that instructs customers on how to determine if their service line is lead. Other innovative examples of systems that enlist the customer to self-identify their portion of the service line include:

- **Greater Cincinnati Water Works (GCWW), Ohio,** provides instructions for the scratch test on their website[18], along with a fillable form asking for name, email, return phone number, and property address. Customers can select copper, lead, or other from a dropdown menu to specify their service line material. The website asks users to "please upload a picture of your meter setting that we can use to help identify the pipe material."
- **The City of Grand Rapids, Michigan,** has used free video conferencing software to guide homeowners through the verification process. This approach worked especially well during the COVID pandemic, when customers were reluctant to let others into their homes and could be replicated for harder-to-reach customers who are more comfortable with a video call than letting system personnel enter their homes (USEPA, 2021e).
- **Madison, Wisconsin,** distributed customer surveys to residents in 2000, asking them to perform scratch tests on their exposed portion of service lines in their homes (Bukhari et al., 2020). During that time, the City of Madison held meetings to teach customers how to perform scratch tests. Madison Water Utility still provides instructions on how to

[16] https://www.epa.gov/ground-water-and-drinking-water/protect-your-tap-quick-check-lead#:~:text=Protect%20Your%20Tap%20Outreach%20Toolkits%20%20%20,Article%20%28Utilities%29%20%28docx%29%20%206%20more%20rows%20. Accessed December 17, 2021.

[17] https://apps.npr.org/find-lead-pipes-in-your-home/. Accessed December 15, 2021.

[18] https://la.mygcww.org/do-i-have-a-lead-service-line/. Accessed December 8, 2021.

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perform scratch tests on their website[19], along with a number and email to contact if an LSL is discovered.

Water systems can also use community surveys to enlist residences to self-identify service line material (see above for Madison, Wisconsin). Outreach and education can improve the quality of the survey results (Hensley et al., 2021). Systems can also offer financial assistance for customer-side LSLR as an incentive to inspect their service line. The Association of State Drinking Water Administrators (ASDWA) (2022) recommends that systems consider providing incentives for service line identification such as credits on water bills or gift cards.

EPA recommends that systems ask customers to ***submit a photograph*** of their service line entering the home to the utility to increase confidence in the customer's response and additional visual verification by the water system. Hensley et al. (2021) notes that even with outreach and education, service line material information from residents may be inaccurate and a water system's confidence could be increased with an additional verification step (such as reviewing a customer-submitted photograph of the service line) by the water system staff, a licensed plumber, or other trained personnel. Note that the system's data management structure may need to be revised in order to accept and organize uploaded photos. Partnerships with plumbers and other third parties, such as building inspectors, can facilitate visual inspection and service material identification (see Section 3.5 for recommendations on establishing partnerships).

Note that some water systems elicit customer assistance by requesting access to the customer's home for verification rather than asking the customer to perform visual inspection themselves. For example, the City of Menasha Utilities Electric & Water in Wisconsin sends postcards to residents where the customer-owned portion of the service line material has not been verified. The postcard includes water system contact information to schedule a free service line material inspection by the water system. Those accepting the system's offer receive follow-up information on what the customer can expect during the inspection process, and reminders (see Appendix C for a copy of the postcard and water service inspection information). Inspection by the system or other trained personnel, or asking the customer to submit a photo along with their identification, can increase the degree of confidence the system has in the service line's material classification. Water systems could also determine if existing ordinances already give them access rights to the inside of the home for inspections and/or maintenance, including inspection of the service line material.

[19] https://www.cityofmadison.com/water/water-quality/lead-service-replacement-program/lead-in-water-what-you-should-know. Accessed December 20, 2021.

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5.1.2 CCTV Inspection by the Water System

This section describes visual inspection using closed-circuit television (CCTV). Note that visual inspection by the water system during normal operations is discussed in Section 3.4.

CCTV has been used widely by the wastewater industry to inspect the interior of gravity sewer lines. Recently, probe or insertion style CCTV cameras have been used by water utilities to visually inspect service line material. CCTV inspections usually fall into one of two categories: 1) inspection of the interior of the service pipe of the service line or 2) inspection of the exterior (Bukhari et al., 2020).

External CCTV Inspection

External inspections involve inserting the CCTV camera into the curb box to view the outside of the pipe on either side of the shutoff valve. As previously shown in Exhibit 2-2, a curb stop could be flanked with the system-owned portion and customer-owned portion on either side. Bukhari et al. (2020) notes the following about curb box configurations:

> "There are a variety of curb box styles on the market, but in cold climates, they usually consist of a telescoping pipe that extends vertically from the ground surface down to the shut-off valve, which is typically situated 3 to 5 feet below grade. In warmer climates, curb stop boxes may be larger plastic or fiberglass enclosures buried at shallower depths. The bottom of the curb box is frequently arched, so the service line passes through the arch without the valve box resting on the line itself."

Exhibit 5-4 shows an example schematic of a curb or stop box with a telescoping pipe from Des Moines Water Works.

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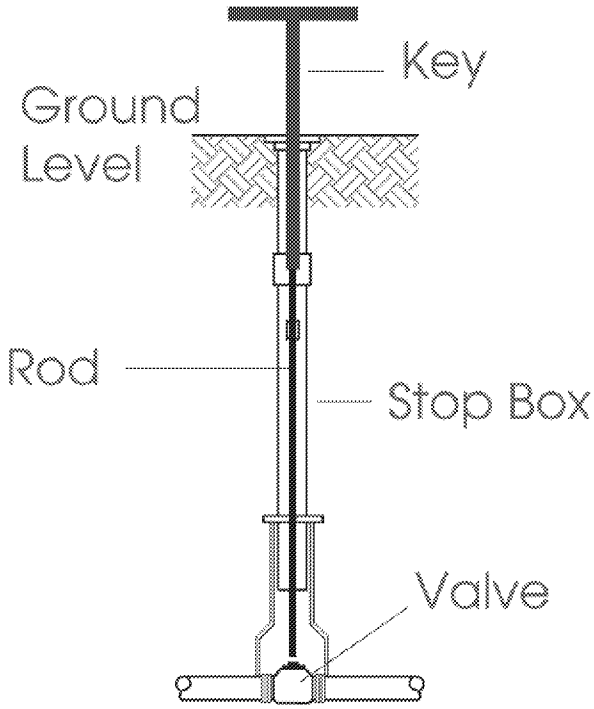
Exhibit 5-4: Example Stop Box Schematic from Des Moines Water Works, Iowa



Source: Des Moines Water Works, IA (https://www.dmww.com/water_service/service_lines/index.php). Accessed December 20, 2021.

A small diameter CCTV camera can be inserted into the curb box to visually inspect the exterior of the service line connected at each side of the valve. A bulb-shaped "wiped joint" connection to the curb stop indicates an LSL. It is often necessary to first vacuum soil and debris out of the curb box before inspection (Bukhari et al., 2020). Exhibit 5-5 shows a picture of a lead pipe that was excavated and previously connected to a curb stop (LSLR Collaborative, 2021). Exhibit 5-6 shows example pictures from CCTV inspection in Pittsburgh, Pennsylvania, showing an LSL, a non-LSL, and a service line that is not identifiable. Water systems using this method should use it first on known LSLs and other service lines of known materials to determine the visual elements that allow them to differentiate among the pipe materials.

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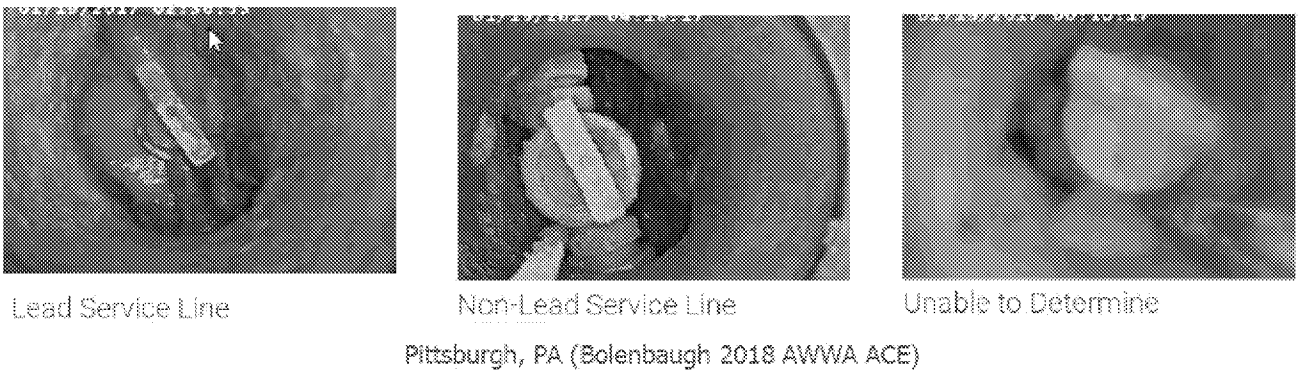
Exhibit 5-5: Lead Pipe at a Curb Stop

Source: LSLR Collaborative, 2021 from Philadelphia Water Department, PA

Exhibit 5-6: Examples CCTV Camera Pictures for LSL, non-LSL, and Unable to Determine



Source: Baribeau, 2021

In 2018, the Pittsburgh Water and Sewer Authority (PWSA), Pennsylvania, implemented a curb box inspection program and inspected approximately 45,000 locations. They found that there were no usable data for approximately 75 percent of the locations for the following reasons (Duffy and Pickering, 2021):

- Problems with locating the curb box,
- An inability to access the curb box because the box was damaged or misaligned,
- Degradation of the line, and/or
- Lack of clarity of the photograph.

Results were very accurate when an LSL was identified (PWSA confirmed 97 percent of LSLs identified through curb box inspections via excavation). However, lead was found at approximately 35 percent of locations where the curb box inspection indicated a non-LSL. Duffy and Pickering (2021) explain that, in some locations, this happened because the curb box and a

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small portion of the service line were replaced but the remainder of the service line was still lead (see PWSA case study in Appendix B for more information). For these reasons, PWSA no longer uses curb box inspections "to verify the presence of non-lead" (Bolenbaugh, 2022, personal communication). EPA recommends that water systems using this method consider conducting a pilot study at a subset of sites to determine its accuracy, possibly supplementing determinations of non-LSLs with additional evidence prior to expanding its use to the entire distribution system.

Internal CCTV Inspection

Some water systems have used high-resolution cameras equipped with a flexible, fiber optic scope and a light source to inspect the service line material from inside the pipe (Bukhari et al., 2020). Tucson Water, Arizona, and Green Bay, Wisconsin, used internal CCTV inspections after shutting off water service and disconnecting the water meter located inside the curb box. A benefit of this technology is that a greater length of the service line can be visually inspected. However, the drawbacks are that the method is ineffective when the line is coated with corrosion scale and the method itself can cause disturbance to the pipe (Bukhari et al., 2020; Hensley et al., 2021). Hensley et al. (2021) recommend measures be taken to reduce scale disturbances and lead release when using this method. For example, the LSLR Collaborative has guidance on alerting customers to potential disturbances of LSLs.[20] The LSLR Collaborative also has guidance on actions customers can take to reduce lead exposure after a replacement or disturbance.[21] Systems could also consider immediately replacing service lines identified as LSLs where possible.

5.2 Water Quality Sampling

Water quality sampling protocols have been used by water systems to detect the presence of LSLs. Three sampling protocols are described in Hensley et al. (2021), each with varying degrees of cost, complexity, accuracy, and customer cooperation required:

- **Targeted service line sampling** involves flushing out the volume of water in the premise plumbing and collecting and analyzing a sample from the service line. The volume of water from the tap to the service line can be estimated based on pipe diameters and lengths. Cartier et al., 2012 (as cited in Hensley et al., 2021) found that based on typical premise plumbing volumes in Montreal, Quebec, a lead concentration threshold of 3 micrograms per liter (µg/L) in the second liter after 15 minutes of stagnation was indicative of an LSL.
- **Flushed sampling** involves collecting a sample from the customer's tap after a set flushing time. For example, flushing for five minutes could result in a sufficient difference in lead levels to distinguish LSL sites from non-LSL sites (Cartier et al., 2012; Deshommes et al., 2016). This method is simple and can be done as an initial screening.

[20] https://www.lslr-collaborative.org/disturbing-lead-service-lines.html.
[21] https://www.lslr-collaborative.org/techniques-to-control-lead-exposure-from-lsl-replacement.html.

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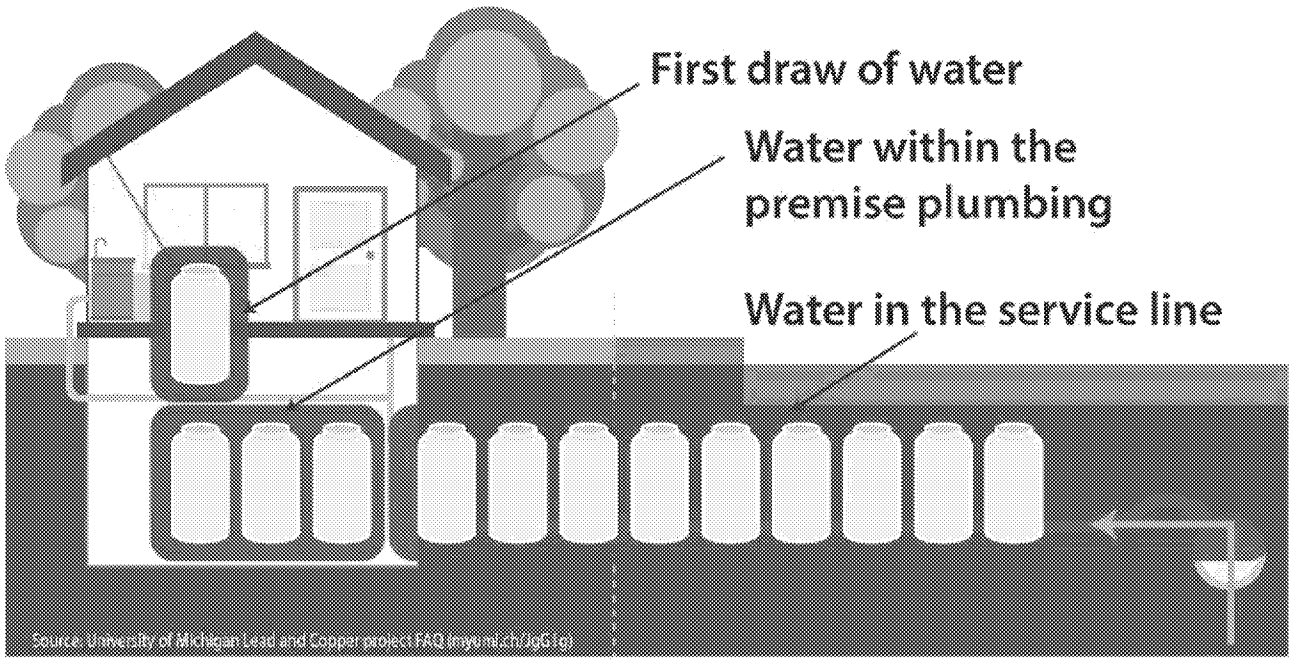
- **Sequential sampling** uses series of consecutive samples (typically 500 mL to 1 L) collected from an interior tap after a stagnation period (typically 6 hours or more). The number of samples needed depends on the length and diameter of the plumbing from the tap through the length of the premise plumbing and service line, but it is commonly between 8 and 15 liters (Hensley et al., 2021). See Exhibit 5-7 for an example of sequential sampling. Although sequential sampling can be a sensitive tool for identifying LSLs, it is relatively invasive to the resident and more complex than other water quality sampling methods (Schock et al., 2021; Hensley et al., 2021).

Exhibit 5-7: Example of Sequential Sampling



Note: The number of bottles for each part of the plumbing system and service line is site-specific.

It is important to note that water quality sampling is a more appropriate screen for the presence of LSLs since low and non-detect lead levels may not reliably detect the absence of LSLs (Hensley et al., 2021). The key to using water quality sampling for identifying LSLs is establishing a ***community-specific threshold*** above an indicator for the possible presence of an LSL. Examples of water systems using water sampling protocols and thresholds to screen for LSLs include:

- **Denver Water** (Denver, CO), which uses pH adjustment for corrosion control, uses a subset of three samples to assess if a location has an LSL: a first draw, a second draw after a 30-second flush, and a third draw after another 30-second flush. If the average lead concentration is 5 µg/L or greater, they consider it an LSL (Denver Water, 2019, cited in Hensley et al., 2021).

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- **DC Water** (Washington, DC), which uses orthophosphate for corrosion control, conducts sequential sampling and uses a screening value of 5 µg total lead mass in ten 1-liter sequential samples (Schmelling, 2019, cited in Hensley et al., 2021; Bukhari et al., 2020).
- **Three Canadian utilities** (Montreal, Quebec; Guelph, Ontario; and Ottawa, Ontario) use either targeted service line sampling or flushed sampling protocols and thresholds of 1 to 5 µg/L to screen for LSLs (Schock et al., 2021).

A study by Schock et al. (2021) investigated the reliability of using the flushed sampling protocol and the sequential sampling protocol at two communities with varying levels of corrosion control. They were able to establish community-specific threshold levels to identify LSL sites based on the maximum flushed sample lead concentration and the weighted average sequential profile lead concentration. The authors recommend a four-step sampling approach for identifying LSLs as follows:

(1) Establish baseline threshold lead concentrations for fully flushed and sequential samples from homes that have never had LSLs.

(2) Collect fully flushed and sequential samples from homes with LSLs.

(3) Collect fully flushed samples from homes with unknown service line materials suspected to be lead (*i.e.*, unknown, likely lead).

(4) Collect sequential samples from the same homes in step 3 if fully flushed samples do not clearly indicate the presence of an LSL.

Researchers found this combination of sampling to be robust in predicting the presence of LSLs under different corrosion control and household plumbing scenarios (Schock et al., 2021).

5.3 Excavation

If a service line is not accessible for visual inspection, the water system may need to excavate soil, and potentially remove portions of the road, sidewalk, or other obstacles to determine service line materials. Excavation methods require different levels of disturbance, time investment, and cost as well as coordination with the property owner. This section discusses two approaches: mechanical excavation and vacuum excavation, which are described in Sections 5.3.1 and 5.3.2, respectively.

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5.3.1 Mechanical Excavation

Example of a Mechanical Excavation
Source: Duffy and Pickering, 2021

Mechanical excavation involves using a backhoe or other mechanical excavator to dig a "pothole" or test pit to expose the service line (Hensley et al. 2021). This is typically done at the curb box or shutoff valve. A full trench can also be dug, exposing the entire length of the service line. Digging a full trench can have a higher accuracy than methods that only expose sections of the service line because it typically exposes a longer length of the service line, up to 10 feet in some situations (Weaver, 2018). However, it is labor- and time-intensive, and it is more likely to result in disturbance or damage to the yard, service lines, and nearby infrastructure (Katerndahl & Bizal, 2003; Lewis et al., 2017 (as cited in Hensley et al., 2021)). Disturbances to LSLs can cause elevated lead levels in drinking water (Del Toral et al., 2013). If an LSL is found during trench excavation which unearths the entire service line, EPA recommends replacing it right away given the efficiency gained by conducting an LSLR under such circumstances. If an LSL or GRR is disturbed during the excavation, EPA recommends alerting the customer that such disturbance can potentially cause temporarily elevated lead levels in drinking water and providing them with information about how to reduce lead levels, such as flushing.

This risk may be mitigated by using a handheld shovel in combination with machinery for delicate work. Further, this method of identification can be costly for utilities and residents as some non-LSLs may be dug up and reburied and the site restored (*e.g.*, paving and landscape restoration). See the PWSA case study in Appendix B.

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5.3.2 Vacuum Excavation

Example of Vacuum Excavation.
Source: Hensley et al., 2021

Vacuum excavation[22] involves using a water jet or compressed air to loosen soil, which is vacuumed up resulting in a small hole to access the service line. This method is faster, less intrusive, less likely to disrupt or damage the service line or other buried utilities, and cheaper than mechanical excavation (Abernethy et al., 2018; Feick, 2018; Kuhl, 2018; Oswald, 2018; Zahra, 2019, as cited in Hensley et al., 2021; Bukhari et al., 2020).

Excavation can be done at the curb box to access sections of the customer-owned and system-owned portions of the service line and might be within the water system's authority to conduct without customer approval, though EPA encourages prior notification to the resident. However, due to the size of the inspection hole, there is a risk of missing an LSL segment in a service line, such as when a service line is partially replaced (Kuhl, 2018, as cited in Hensley et al., 2019; Bukhari et al., 2020). This can be mitigated by conducting vacuum excavation at multiple points along the service line or by combining vacuum excavation with another identification method, such as visual inspection where the service line enters a building. If an LSL or GRR is disturbed during the excavation, EPA recommends alerting the customer that such disturbance can potentially cause temporarily elevated lead levels in drinking water and providing them with information about how to reduce lead levels, such as flushing.

5.4 Pros and Cons of Field Investigation Methods (Hensley et al., 2021)

Hensley et al. (2021) provides a comparison table of service line investigation methods that is shown as Exhibit 5-8 and includes visual observation, water quality sampling, and excavation methods. This table can be used by systems to help select service line identification methods that are best suited to their particular distribution system and community. Note that the first row is community records review, which are required under the LCRR.

[22] This technique is also referred to as "hydro-excavation" when water is used instead of air (Bukhari et al., 2020).

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Rankings for each service line investigation method are based on cost, skill (labor and technical interpretation), disruption to the customer (water service interruption, property damage, and involvement), disturbance (service line and traffic flow), overall time, and accuracy.

Exhibit 5-8 was developed using feedback from three anonymous water utilities and is included as a guide. Experiences of other utilities may differ. Thus, the effectiveness of the approaches should be validated by the water system.

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Exhibit 5-8: Comparison of Service Line Identification Techniques (Hensley et al., 2021)

	Utility cost			Disturbance		Impact on resident			Utility skills required		Overall	
LSL ID method	**Financial**	**Onsite time**	**Pre-/ post-time**	**Service line**	**Traffic flow**	**Water service disruption**	**Property damage**	**Resident involvement (includes pre-/post-time)**	**Technical interpretation**	**Labor**	**Time**	**Accuracy**
Community records review	L or M (if digitized)	NA	M to H (L if digitized)	None	None	None	None	None	L to M	None	M	L to H
Basic/visual observations (on private side)	L	L	L to M	None	None	None	None	L	L	L	L	M to H
Water quality sampling—flushed	L	L	M to H	None	None	None	None	L	M	L	M	L to M
Water quality sampling—sequential	M	L	M to H	None	None	M	None	M to H	M	L to M	M	L to H
Water quality sampling—targeted	L	L	M to H	None	None	M	None	M to H	M	L to M	M	M
Excavation—mechanical	H	H	M to H	H	M to H	H	H	L	L to M	H	H	H
Excavation—vacuum	M to H	L to M	M to H	M	L to M	M to H	M to H	L	M	M to H	M	M to H

Source: Table 2: Relative pros and cons of lead service line identification methods using a ranking system of H: high, M: medium, and L: low (Hensley et al., 2021).

Note: This table does not include CCTV investigations in the evaluation of the basic/visual observation method.

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5.5 Predictive Modeling

Predictive models look for patterns in a dataset to develop rules or algorithms. Geostatistical models use attributes from known locations to make inferences about areas of unknown condition. Examples of model inputs may include water system or community data, such as the distribution of known materials, along with other factors, such as building age and location. These models are typically built using an initial dataset and can be continually "trained" or improved as more data are added (Muylwyk, 2020).

Geostatistical models have been used by water systems to estimate the probability that a service line is lead, prioritizing areas for service line investigations and expediting LSLR (Abernathy et al., 2018; Muylwyk, 2020; Bukhari et al., 2020; Hensley et al., 2021). These models can be enhanced by incorporating machine learning algorithms in which the model improves itself as new data are added. Information on sensitive subpopulations and socioeconomic factors can be added as layers to enhance planning and prioritization of LSLR (Muylwyk, 2020).

The literature provides successful examples of geostatistical and machine learning modeling in Flint, Michigan, and Denver, Colorado (Abernathy et al., 2018; Muylwyk 2020; Walker 2020). Detroit, Michigan, is also using these models to inform their service line investigation and LSLR programs.[23] A key factor in the success of predictive modeling is the use of representative data. Using a representative set of known data on service line material is important in maximizing accuracy and reliability and minimizing bias.

For more information and examples of how predictive modeling has been used in Flint, Michigan, and Denver, Colorado, systems and states can refer to the 2020 ASDWA webinar, "Predictive Tools for Lead Service Line Inventories" (ASDWA, 2020).

5.6 Emerging Methods

Service line material identification technology is the subject of ongoing research. A review of emerging methods is provided in Hensley et al. (2021) and Bukhari et al. (2020). A central theme of these techniques is identifying creative ways to isolate the service line material and location based on physical signatures of the pipe, largely by assessing how service line materials respond to stimuli such as electrical or wave energy and pairing that information with documented characteristics of potential service lines in the evaluation area. Many of these emerging methods apply the basic tenets of subsurface material identification from a different discipline. In many cases, general information about service line materials in the area is required to inform data collected in the field. For example, ground-penetrating radar (GPR) can accurately detect service line location and diameter; however, it lacks the ability to discern service line material. Local knowledge of lead pipe diameter versus diameters of other pipe materials allows GPR to

[23] Detroit will use predictive modeling to find its 80,000 lead service lines (detroitnews.com).

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potentially function as a service line inventory technique by linking the detected diameter of the pipe with the corresponding service line material for that diameter (Deb et al., 1995; Bukhari et al., 2020). Other examples of emerging technologies include electrical resistance testing and stress wave propagation.

Application of these emerging technologies can be limited by signal interferences, caused by the presence of other pipe materials and subsurface environments, and the development of signal processing algorithms. Hensley et al. (2021) notes that emerging methods have "technical basis but limited research or field implementation to demonstrate their effectiveness."

Key Points to Remember

LCRR Requirements

- Water systems should be aware of identification methods provided or required by their state under the LCRR (40 CFR §141.84(a)(3)(iv)).

Recommendations (Not Required under the LCRR)

- Service line investigation methods can be used to verify historical records and gather information when service line material is unknown.
- Investigative methods include visual observation, water quality sampling, and excavation.
- Many systems have enlisted the public's help in visually identifying service line material where the service line enters the building.
- Water quality sampling has been used to identify the presence of LSLs. There are several approaches in the literature – including to establish a system-specific threshold above which may indicate the presence of an LSL.
- Some water systems have found water quality sampling and CCTV to be reliable in positively identifying LSLs but not in confirming the absence of LSLs.
- Mechanical and vacuum excavation can be used to visually inspect service line material. Mechanical inspection can be more accurate than vacuum excavation if it exposes a larger length of service line but is often more expensive and likely to disturb or damage service lines and nearby infrastructure.
- Predictive models have been used to estimate the probability that a service line is lead, prioritize areas for service line investigations, and to expedite LSLR.
- Water systems should select the method(s) that are best suited to their particular distribution system and community, considering cost, labor skill requirements, disruption to homeowners, overall time, and accuracy.

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Chapter 6: Developing and Updating the Inventory

This chapter provides guidance on preparing the initial inventory under the Lead and Copper Rule Revisions (LCRR) and improving it over time. This section is organized as follows:

- Section 6.1 provides requirements and recommendations for developing the initial inventory.
- Section 6.2 provides recommendations for prioritizing service line investigations.
- Section 6.3 includes requirements and recommendations specific to systems with only non-lead service lines.
- Section 6.4 includes guidelines for submitting the initial inventory to the state.
- Section 6.5 presents requirements for notifying customer of known or potential lead sources in their service lines.
- Section 6.6 provides requirements and guidance for updating the inventory.
- Section 6.7 provides recommendations for state review of the initial inventory.

6.1 Developing the Initial Inventory

6.1.1 Required under the LCRR

Systems should review Chapters 1 through 4 for a complete listing of initial inventory requirements under the LCRR. Key requirements systems should keep in mind as they prepare an initial inventory include:

- The initial inventory must include all service lines regardless of ownership (40 CFR §141.84(a)(2)).
- The initial service line inventory must use historical records as described in Chapter 4 (40 CFR §141.84(a)(3)(i)-(iii)), information gathered during normal operations as described in Section 3.4, and any resource, information, or identification method provided by or required by the state (40 CFR §141.84(a)(3)(iv) and (a)(5)).
- Non-lead must be determined not to be lead or galvanized requiring replacement (GRR) through an evidence-based record, method, or technique (40 CFR §141.84(a)(4)(iii)).
- If the water system is unable to demonstrate that the galvanized service line was never downstream of a lead service line (LSL), it must presume there was an upstream LSL and classify it as GRR (40 CFR §141.84(a)(4)(ii)).

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6.1.2 Recommendations (Not Required under the LCRR)

EPA recommends that systems create an initial inventory that is as thorough as possible. Doing so would minimize the number of unknowns and benefit water systems and customers by:

- Potentially reducing the number of field investigations conducted by water systems to identify unknowns.
- Providing service line material information more quickly to customers, thereby allowing them to take steps to minimize their lead exposure, including replacing their LSLs and GRR.
- Facilitating access to the current funding available for lead service line replacement (LSLR) activities, allowing for systems to demonstrate the need and scope of LSLR projects.

> *EPA recommends that systems track the sources of the material classification (e.g., specific historical record, visual inspection, records and inspection) in their inventory.*

EPA recommends that systems check their inventory for completeness by comparing the total number of service lines to the number of service connections in their system. Additional recommendations for reviewing historical records, demonstrating that a galvanized pipe is not GRR, and conducting service line investigations are discussed below.

Approaches to Historical Records Review

When starting their review of historical records, systems may want to refer to an approach from the literature. Remember that no matter the approach, systems must review all historical records as listed in the LCRR and laid out in detail in Chapter 4. Example approaches include:

- **Initial Screening Process (Liggett et al., 2022):** Exhibit 6-1 shows a possible approach from Liggett (2021) to screen service lines using historical records. The starting dataset at the top of the diagram represents all service lines. Non-lead service lines can be screened out based on lead ban and construction records (*i.e.*, service lines constructed after the 1986 Safe Drinking Water Act lead ban became effective are unlikely to have an LSL). That dataset is then further reduced by screening out non-lead lines based on size, such as a maximum diameter of lead pipe that was manufactured or installed. The dataset in black represents the remaining number of service lines that could potentially be lead or GRR. See Chapter 4 for information and guidance on reviewing these types of historical records. EPA recommends that systems track pipe diameter and installation date in their inventories and document the municipal and plumbing codes and construction records used to make determinations under this approach.

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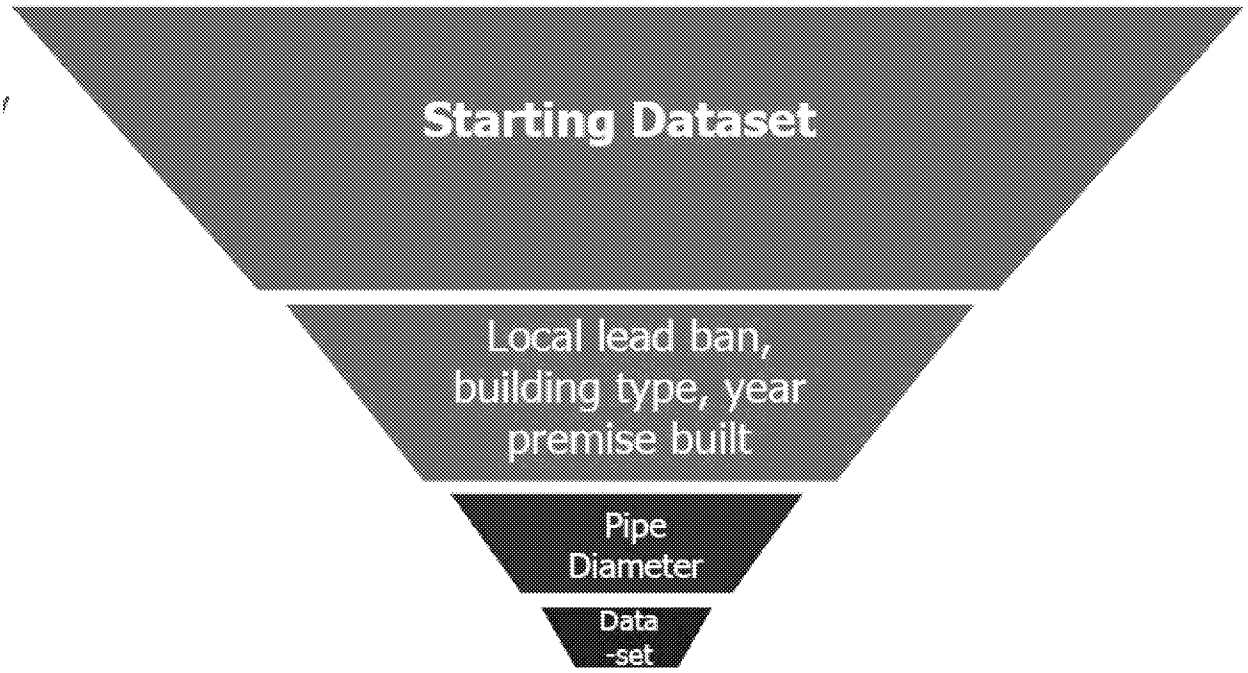
Exhibit 6-1: Service Material Screening Process Based on Records



Source: Liggett, 2021 (April 2021 webinar slides)

- **Asking Key Questions (LSLR Collaborative, 2022):** The Lead Service Line Replacement (LSLR) Collaborative provides a flowchart with key questions on their website titled, "Preparing an Inventory: Where Do We Start?" The flowchart is included here as Exhibit 6-2. It outlines key questions to ask when starting the process of preparing an initial inventory and points the reader to available sources. Liggett et al. (2022) notes that several of the water systems interviewed for case studies found this resource to be a beneficial starting point. Similar to the initial screening approach above, EPA recommends that systems document the municipal and plumbing codes and construction records used to make their determinations under this approach.

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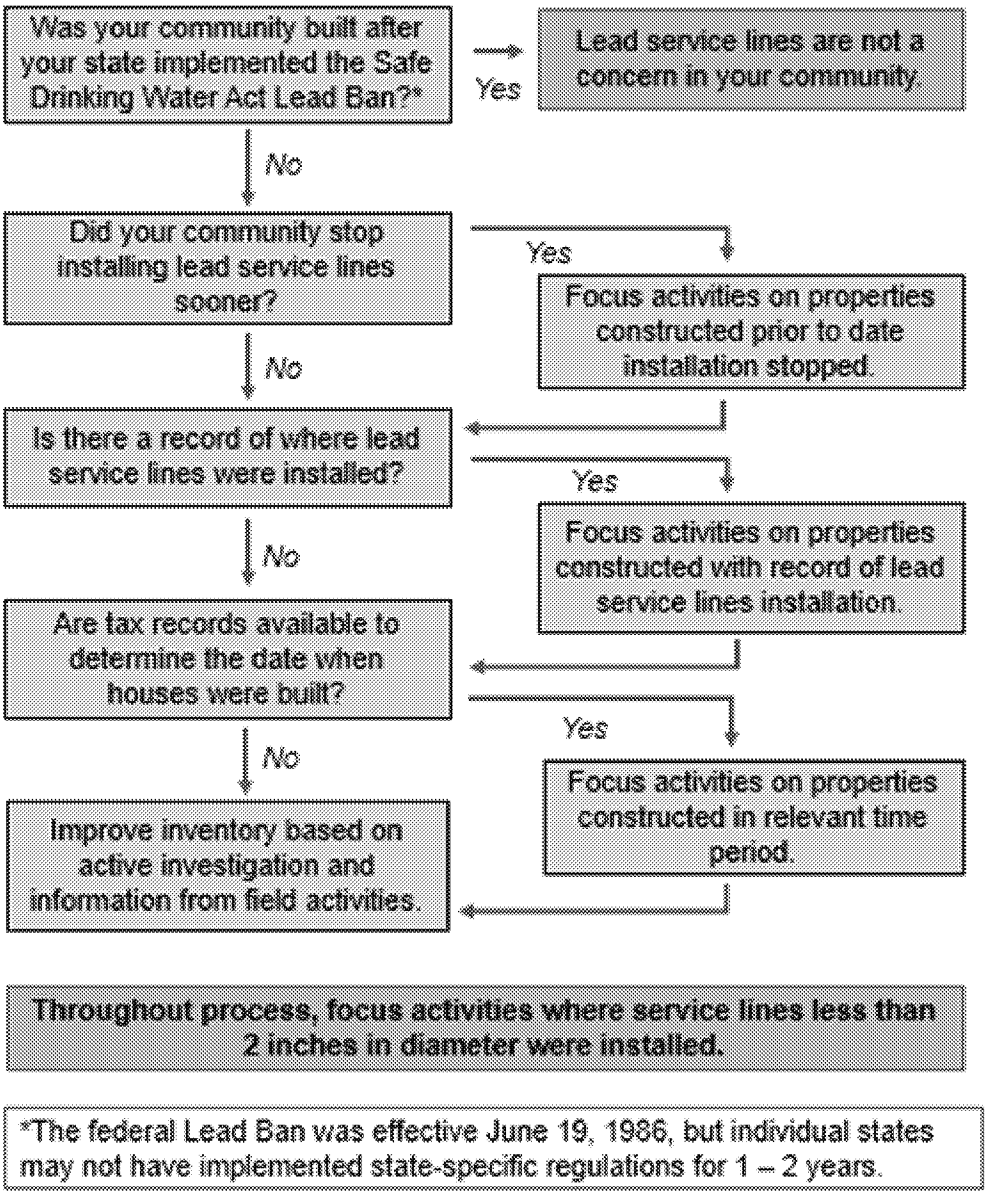
Exhibit 6-2: LSLR Collaborative Flow Chart



Source: LSLR Collaborative website: Preparing an Inventory: Where do we Start? - LSLR Collaborative (lslr-collaborative.org). Accessed April 25, 2022.

- **Weight-of-Evidence Approach:** DC Water uses a weight-of-evidence approach to evaluate multiple historical records and field information to classify service line materials (Schmelling, 2021). A weight-of-evidence approach involves compiling all data indicating an individual service line's material composition and assessing the system's confidence in each record and investigative technique in order to classify a service line's material for the inventory. Corroboration of historical records by another method makes a strong

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case for any service line classification. However, some water systems have reported finding conflicting records. EPA recommends using a conservative approach whereby service lines with unresolved conflicts in records and field information are assigned as unknown (or lead, where one or more data sources indicate that lead is present) until they can be resolved.

Demonstrating a Galvanized Service Line is Non-lead

Under the initial inventory requirements of the LCRR, if a system can demonstrate with an evidence-based record that a galvanized service line was never downstream of an LSL, it may be considered non-lead for inventory classification. Some examples of evidence to support a demonstration that a service line is not a GRR could include:

- An original tap card from installation showing the material is not lead.
- The date lead was banned or not used. Service lines installed after that date would be non-lead.
- Construction practices showing uniform pipe material was installed (*e.g.*, galvanized steel was used for the entire service line).
- Any other record showing lead was not used at a particular site.

See Chapter 4 for information on historical records related to those described here.

Conducting Service Line Investigations

Although water systems are not required to conduct on-site investigation of service lines under the LCRR for the initial inventory, if on-site investigations are performed and documented, they would be a required source of information for the inventory because they would be a water system record and a record of an inspection. In addition, they can be useful for verifying existing records and reducing the number of unknowns. Water systems should review the information in Chapter 5 to assist in identifying appropriate additional investigation methods for their situation. The literature suggests that multiple records and investigation techniques can increase confidence in a service line's material classification (Abernethy et al., 2018; Feick, 2018; Kuhl, 2018; Oswald, 2018; Zahra, 2019, as cited in Hensley et al., 2021). Water systems should be aware of identification methods provided or required by their state under the LCRR (40 CFR §141.84(a)(3)(iv)). For example, see Appendix E for the State of Michigan's requirements. Remember that if a water system chooses an investigation method not specified by the state under 40 CFR §141.84(a)(3)(iv), state approval is required (40 CFR §141.84(a)(3)).

Section 6.2 identifies possible approaches that water systems could consider for prioritizing locations for on-site investigations. Note that the Association of State Drinking Water Administrators (ASDWA) recommends that systems develop their own specific process of

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identifying unknowns and improving the inventory through service line investigations (ASDWA, 2022).

EPA expects initial inventories to have varying percentages of unknowns, depending on the condition of existing records and prior inventory development. EPA discourages systems from submitting inventories to states with all unknowns. EPA notes that as part of the LCRR initial inventory requirements, systems must identify and track service line materials as they are encountered during normal operations, such as when performing maintenance activities (40 CFR §141.84(a)(5)). EPA recommends that water systems also begin engaging customers and conducting proactive, on-site investigations before the compliance date.

Systems should continue to gather information on service line materials after service lines have been designated non-lead and assess the accuracy of records and investigative techniques in accordance with the continuous improvement framework recommended in Chapter 3. If water systems later find a certain information source to be unreliable, they should consider reclassifying service line materials that rely solely on that method as unknown until additional information is gathered. ***Remember, water systems must update their inventory as better information becomes available*** (40 CFR §141.84(a)(6)).

6.2 Prioritizing Field Investigations

EPA recommends that systems conduct on-site investigations to reduce the number of unknowns in the system as quickly as possible. The extent of proactive service line investigations should be based on the following:

- The completeness of historical records (*e.g.*, how many of the total service lines are included, and how much of the distribution service area is covered)
- Confidence in the accuracy of historical records (*e.g.*, based on cross-checking with other records and field investigations)
- The extent the system will already be in the field doing work, such as meter replacement and LSLR
- Previous service line investigations
- Number of unknowns

There are many ways to prioritize locations for service line investigations. Examples are described below and are not necessarily listed in order of importance. EPA recommends that systems consider using multiple prioritization criteria in planning for investigations.

Consider vulnerable or environmental justice populations when targeting areas for investigations. For example, a water system may want to consider prioritizing investigations at locations served by unknown service lines where children are present, such as schools or child care facilities. In some cases, smaller child care facilities operated out of single family residences

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could be more likely to be served by an LSL based on the diameter of the service line. Water systems could consider prioritizing other factors as well, such as populations that have been disproportionately exposed to lead from all sources or face additional disparities that may make it more difficult to cope with the impacts of lead exposure. Systems could also consider income-based prioritization, conducting investigations at sites serving customers who qualify for reduced rates. Systems could also consider referencing requirements of external LSLR funding they have received. For example, if the customer eligibility for LSLR funding is based on income, water systems could consider prioritizing investigations of unknowns based on the same criteria to facilitate use of the LSLR funding.

Target areas with the most unknowns. Systems with many unknowns may want to consider targeting proactive investigations in areas where there are many unknowns to improve efficiency.

Prioritize investigations by the likelihood of finding LSLs. Prioritizing investigations of service lines that are unknown-likely lead and replacing them if found can lower costs and save time related to access agreements, traffic control, and field crew mobilization. This approach may also reduce the costs associated with false negatives (*i.e.*, digging up a suspected lead line and finding that it is non-lead). This prioritization approach can benefit from predictive modeling by indicating the probability that a service line is lead. EPA also recommends replacing lead and GRR service lines when found to expedite LSLR and improve public health.

Prioritize investigation in areas undergoing LSLR. Systems with existing LSLR programs could prioritize proactive investigations in areas undergoing LSLR projects to save time and cut costs related to access, traffic, and crew mobilization.

Use field investigations to verify historical records. Systems can use field investigations to verify the accuracy of historical records. One possible approach is as follows:

(1) Select a random set of addresses where service line material has been assigned based on historical records.

(2) Use one or more of the investigation methods described in Chapter 5 (*e.g.*, visual observation, excavation) to identify the service line material for the system- and customer-owned portions.

(3) Compare field results to historical records.

An example is the approach required by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). Michigan requires a minimum number of service line investigations with the goal of reaching a 95 percent confidence level in the accuracy of historical records. See Appendix E for minimum service line materials verification requirements in the state of Michigan.

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6.3 Requirements and Recommendations for Systems with Only Non-Lead Service Lines

6.3.1 LCRR Requirements

Systems may be able to demonstrate through evidence-based records, methods, or techniques that ***all*** service lines in their system (both system- and customer-owned) are non-lead. Water systems with only non-lead service lines are subject to the following requirements under the LCRR:

- Develop an initial inventory that complies with the requirements to use and review certain information as described in 40 CFR §141.84(a)(3). Submit the initial inventory by ***October 16, 2024*** (40 CFR §141.90(e)(1), USEPA, 2021d). Remember that all systems, even those with initial inventories that identify all service connections as non-lead service lines, are required to create and submit their initial inventory to the state (40 CFR §141.80(a)(3)).
- Systems whose initial inventory contain only non-lead service lines may provide a written statement that the system has no LSLs or GRRs and a general description of methods used to make the determination to meet inventory public accessibility requirements of the LCRR (40 CFR §141.84(a)(9)).
- Include language in their annual Consumer Confidence Report (CCR) explaining how customers can access the inventory or provide a statement with the description of methods used to make the determination (40 CFR §141.153(d)(4)(xi)). Note that this requirement applies to community water systems (CWSs) only.
- Notify the state within 30 days and prepare an updated inventory on a schedule established by the state if the system subsequently finds an LSL or GRR service line (40 CFR §141.90(e)(3)(ii)).

6.3.2 Recommendations (Not Required under the LCRR)

Recommended Approaches and Documentation for Demonstrating all Service Lines are Non-Lead. Water systems can use different approaches to demonstrate that all service lines are non-lead. Some may be able to use municipal codes and construction dates to show that all service lines were constructed after lead was banned in the system (*i.e.*, the system never had LSLs). Others may be able to positively identify non-lead materials (*e.g.*, copper or PVC) for all service lines through historical records, field investigations, or both. Other water systems may be able to demonstrate that they have no LSLs or GRRs because they have replaced both the system- and customer-owned portions everywhere in the system. Water systems can use a combination of evidence-based records, methods, or techniques; for example, when a portion of their distribution system was constructed after the lead ban, and the remainder is verified as non-lead based on historical records and verification. Exhibit 6-3 recommended documentation for different types of systems with all non-lead service lines depending on their basis of determination.

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Exhibit 6-3: Recommended Documentation for Systems with all Non-Lead Service Lines

Scenario	Basis of Determination[1]	Recommended Documentation[2]
Never had LSLs	Municipal codes and construction dates (*e.g.*, all service lines were installed after lead was banned)	• Relevant municipal code language and dates and references/web links to materials that are available online. • Dates when service lines were constructed, and a list of service line materials used instead of lead. • Confirmation that no LSLs have ever been found in the system.
	Detailed historical records on service line material, location, and size indicating that all service lines are a material other than lead (*e.g.*, copper or PVC)	• Description of historical records including format of the records and condition. • Specific standard operating procedures (SOPs) or policies regarding LSL installation. • Description of how the system verified the accuracy of historical records including the method(s) and number of verified service lines records compared to the total. • Confirmation that no LSLs have ever been found in the system.
	Field investigations	• Description of methods including how the system inspected the material of the system-owned and customer-owned portion, if applicable. • The number of service lines that were investigated using each method. • Confirmation that no LSLs have ever been found in the system.
Replaced all LSLs and GRR	Detailed historical records of non-lead lines and records showing when each LSL and GRR service line was replaced	• Description of historical records documenting non-lead service line material along with description of how the system verified the accuracy of non-lead records. • Specific SOPs or policies regarding LSL installation. • Detailed list of where and when each LSL and GRR was replaced.

Notes:

[1] Basis of determination for systems that have all non-lead service lines can be a combination of the information shown. Systems should include all relevant documentation for all their bases of determination.

[2] Should include records for both the system-owned and customer-owned portions where ownership is split.

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Submitting the Initial Inventory to the State. Systems with all non-lead service lines must still submit an initial inventory to their state by October 16, 2024. The inventory should have all service lines categorized as non-lead or a non-lead subclassification (*e.g.*, copper or plastic) and zero service lines categorized as lead, GRR, or unknown. EPA developed an inventory template to support systems as they prepare and submit their inventory. The template materials are described in Section 3.3.1 with the electronic version available at EPA's website[24] as well as blank forms in Appendix A. EPA recommends that systems check with their primacy agency if they have specified a mechanism or format for their inventory submission. States may require additional information be submitted as well.

Discovery of LSLs or GRRs after submission of initial inventory with no LSLs, GRRs, or Unknowns. EPA recognizes that even when systems' inventory and LSLR efforts have progressed such that all service lines have been classified as non-lead, it is possible that an LSL or GRR may subsequently be found. Systems should work closely with their state if they discover an LSL, notifying the state as soon as possible (within 30 days as stated above in Section 6.3.1). The system must prepare an updated inventory in accordance with 40 CFR §141.84(a) on a schedule established by the state (40 CFR §141.84(a)(6)(i)). Although not required, EPA recommends systems strive to replace the LSL as soon as practicable as well as investigate the circumstances of LSLs (*e.g.*, when was it installed and who installed it).

EPA recommends that states consider whether the LSL discovery was an isolated event that is unlikely to occur again or a potential indicator of additional LSLs in the distribution system. If the state determines that the discovery of an LSL is an indicator of other potential LSLs in the system, EPA suggests that the state work with the water system to determine which service lines should be reclassified as unknown and develop a plan for field investigations.

6.4 Submitting the Initial Service Line Inventory

Systems must submit their initial inventory of service lines in accordance with 40 CFR §141.84(a) to their state by **October 16, 2024** (40 CFR §141.90(e)(1); USEPA, 2021d). The initial inventory must include the system- and customer-owned portions of all service lines in the system's distribution system (40 CFR §141.84(a)(2)) and each service line or portion of the service line must be classified as lead, GRR, non-lead, or lead status unknown (40 CFR §141.84(a)(4)).

The LCRR does not require a specific format for the inventory; however, states may have additional requirements or recommendations regarding inventory format. See Section 3.3 for a discussion of possible inventory formats. As noted in Section 3.3.1, EPA developed a multi-worksheet template to assist water systems and states in developing their service line inventory. An electronic version of the template is available at https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule, and blank forms for each template worksheet are

[24] https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule.

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also provided in Appendix A. The template includes an "Inventory Methodology" worksheet to document the methods and resources used to develop the inventory. The "Inventory Summary" worksheet supports documenting service line ownership and reporting the total number of service lines by the four material classifications. These templates are presented as a possible tool; there is no requirement that a system or state use these templates.

6.5 Notification of Known or Potential Service Line Containing Lead

Water systems with LSL, GRR, or lead status unknown services lines must provide notification to people served by these lines within 30 days after completing the initial inventory. For new customers, the notice must be provided at the time of service initiation. The notification must be repeated annually until the entire service line is no longer a lead, GRR, or lead status unknown service line (40 CFR §141.85(e)). Delivery must by mail or another state-approved method (40 CFR §141.85(e)(4)).

All notifications must include the following:

(1) A statement that the service line material is lead, GRR, or lead status unknown

(2) Information on the health effects of lead. Details on required health effects language are available in 40 CFR §141.85(a)(1)(ii)[25]

(3) Steps to minimize exposure in drinking water

Additional content is required based on service line material classification as follows for:

- **Confirmed LSLs**, the notification must also include information about opportunities to replace the LSL, any available financing programs, and statement that the system must replace its portion if the property owners notify the system that they are replacing their portion.
- **GRR,** the notification must also include information about opportunities for service line replacement.
- **Lead status unknown**, the notification must also include a statement that the service line is unknown but may be lead and information about opportunities to verify the material of the service line.

Water systems serving communities with a large proportion of non-English speaking consumers, as determined by the state, must provide public education materials, including those in 40 CFR §141.85(e), in the appropriate language(s) regarding the importance of the notice or contain a telephone number or address where persons served may contact the water system to obtain a translated copy of the public education materials or to request assistance in the appropriate language. Water systems must demonstrate that they delivered the notification and provide a

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copy of the notification and information materials to their states annually by July 1 for the previous calendar year (40 CFR §141.90(f)(4)).

Recommendations (Not Required under the LCRR)

While not required by the LCRR, EPA recommends that water systems develop notifications that are easy-to-use and understand for consumers and adhere to best practices that are most likely to prompt consumers to take action to protect their households from lead exposure.

- Water systems should use simple, plain language and short sentences that can be easily understood by the members of the public. Notices should avoid long paragraphs or legalistic language.
- Notices should be designed to convey the urgency of the information, differentiate the notice from other mail that a household receives, and draw consumers' attention to key information. For example, notices can use colored envelopes, large-sized envelopes, or text on the external envelope to make the notice stand out compared to other mail. Notices can also use bold design practices to draw consumers' attention to key information, including large, bold, underlined, or colored font, bullet points or numbered points, or boxes around key information.
- Notices should be action-oriented, emphasizing the key steps consumers can take and providing specific instruction on how to do so. Water systems should consult their local health department on resources that consumers can be directed to, including water filters and blood lead level testing.

6.6 Inventory Updates

EPA anticipates that water systems will improve and update their inventory over time, decreasing the number of unknowns and confirming service line material classifications. The LCRR includes requirements for systems to update their inventory based on all applicable sources described in 40 CFR §141.84(a)(3) and (5) and any LSLRs or service line material inspections that may have been conducted. As with the initial inventory, the water system may use other sources of information if approved by the state and must use other sources of information provided or required by the state. The LCRR also requires submission of the updated version of the inventory on the same schedule as a system's tap sampling monitoring, but no more frequently as annually (40 CFR 141.90(e)(3)); however, EPA may revise the inventory requirements under the Lead and Copper Rule Improvements (LCRI). Until any change in the regulation, systems must comply with the LCRR inventory requirements, including the update requirement.

As will be discussed in Chapter 7, EPA suggests that systems consider updating their publicly accessible inventory in real-time. Systems should also follow any state requirements for updates and submittals.

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6.7 State Review and Reporting

6.7.1 State Review of the Initial Inventory

Required under the LCRR

State review of each water system's initial inventory for compliance with LCRR requirements:

- The inventory must include all service lines connected to the public water distribution system regardless of ownership status (40 CFR §141.84(a)(2)).
- The system must use and review the sources of information listed in 40 CFR §141.84(a)(3) and other sources of information if approved by the state. In addition, water systems must identify and track service line materials as encountered in the course of normal operations (40 CFR §141.84(a)(5)).
- Service lines, or portion of the service line where ownership is split, must be categorized as lead, GRR, non-lead, or lead status unknown (40 CFR §141.84(a)(4)).
- A publicly accessible inventory must include location identifiers for each lead and GRR service line (40 CFR §141.84(a)(8)(i)).
- Water systems with lead, GRR, or lead status unknown services lines in their inventory must inform all persons served by the water system at the service connection within 30 days of completion of the initial inventory and repeat the notification on an annual basis until the service connection is no longer a lead, GRR, or lead status unknown line (40 CFR §141.85(e)(1) and (2)). The notification must comply with the content requirement in 40 CFR §141.85(e)(3) and delivery requirements in 40 CFR §141.85(e)(4). In addition, water systems must demonstrate that they delivered the notification and provide a copy of the notification and information materials to their states annually by July 1 for the previous calendar year (40 CFR §141.90(f)(4)). Refer to Section 6.5 for additional detail.

Recommended (Not Required Under the LCRR)

EPA has developed a checklist for the initial inventory submittal with recommended considerations for states to use in their review. States can refer to a fillable copy of the state checklist in Appendix A or the electronic version in the EPA Inventory Template, available at EPA's website, https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule. The checklist has sections for reviewing timely submission, required elements, information sources, public accessibility, and customer notification of service line material.

The ASDWA State Implementation Framework (2022) provides additional recommendations for states to consider in their review of the initial inventory. They note that states may want water systems to submit the evidence used and attest to the non-lead areas of the distribution system.

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States may also want to perform a cursory review of historical lead sampling data. Lead tap monitoring results could reinforce non-lead service line classifications or indicate that more documentation from the water system is needed (ASDWA, 2022).

For systems with all non-lead service lines, ASDWA's framework includes a suggestion for states to consider requiring verification from the water system that there is no lead and a description of the evidence the system used to make this determination. The state could consider tap monitoring results when evaluating the initial inventory for non-lead systems. ASDWA (2022) notes that "a state should feel more comfortable accepting a non-lead certification if there are no lead detections and the records show distribution installation after the state's effective date of the June 19, 1986, Lead Ban."

6.7.2 State Reporting Requirements

The LCRR requires that states report separately the number of lead, GRR, and lead status unknown service lines for each water system. EPA is potentially revising reporting requirements for inventory updates under the LCRI.

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Key Points to Remember

LCRR Requirements

- All systems, including systems with all non-lead service lines, must create and submit their initial inventory of service lines to their state by **October 16, 2024** (40 CFR §141.90(e)(1), USEPA, 2021d). Water systems must begin tracking materials as they are encountered during normal operations before the rule compliance date (40 CFR §141.84(a)(5)).
- Non-lead service lines must be determined through an evidence-based record, method, or technique not to be lead or GRR (40 CFR §141.84(a)(4)(iii)).

Recommendations (Not Required under the LCRR)

- Water systems should begin engaging customers and conducting proactive, on-site service line material investigations as soon as possible to improve their inventory, verify existing records, and reduce the number of unknowns. Water systems should capture as much information as possible for unknowns and consider assigning a likelihood that they are lead.
- Non-lead classification could be based on when LSLs were banned and service lines were installed, along with pipe diameter (most LSLs are less than 2 inches).
- When systems have conflicting records of service line materials, they should consider classifying the line as unknown (or lead if one or more information sources suggest lead is present) until the conflict is resolved.
- EPA discourages water systems from submitting an initial inventory with all unknowns.
- The inventory is a living document that should be continually improved over time.

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Chapter 7: Public Accessibility

Under the Lead and Copper Rule Revisions (LCRR), community water systems (CWSs) and non-transient non-community water systems (NTNCWSs) must make a portion of their inventory publicly available (40 CFR §141.84(a)(8)). This chapter describes those requirements and provides recommendations for implementation of the public accessibility requirement.

In addition to the public accessibility requirements, the LCRR also requires all systems to inform all persons served by the service connection with a lead service line (LSL), galvanized requiring replacement (GRR), or unknown service line of their service line material within 30 days following completion of the initial inventory[26] (40 CFR §141.85(e)). See Section 6.5 for additional detail.

Informed customers are better equipped to take actions to limit exposure to lead in drinking water, make decisions regarding replacement of their portion of a lead or GRR service line, and understand the prevalence of lead sources in drinking water systemwide.

Chapter 7 includes:

- Inventory information water systems must make publicly accessible and other useful information to consider in Section 7.1.
- Suggestions on how to make the inventory information publicly accessible and real-world examples in Section 7.2.
- Recommendations for states to review and facilitate public accessibility of inventory information in Section 7.3.
- A discussion of the Consumer Confidence Report (CCR) inventory-related requirements for CWSs in Section 7.4.

7.1 What Information to Include

7.1.1 Required under the LCRR

Under the LCRR, systems are **required** to provide the public with a location identifier, such as a street address, block, intersection, or landmark, associated with each service line classified as lead or GRR (40 CFR §141.84(a)(8)(i)). As described in Section 6.3, water systems that have demonstrated they have no lead, GRR, or lead status unknown service lines in their inventory (*i.e.*, have only non-lead service lines regardless of ownership) may, in lieu of publishing their inventory, provide a ***written statement*** that there are no LSLs along with a ***general description*** of the sources specified in the regulations used to make that determination (40 CFR §141.84(a)(9)).

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7.1.2 Recommendations (Not Required under the LCRR)

EPA encourages water systems to consider including other information in their publicly available inventory, including but not limited to:

- **Location identifier for all service lines, regardless of material.** The LCRR requires a system's publicly accessible inventory to include location identifiers for LSLs and GRRs. As discussed in Section 2.3.2, EPA recommends that systems include a location identifier for all service lines in their publicly accessible inventory. Doing so provides consumers with up-to-date information on their service line material and allows them to track progress on lead service line replacement (LSLR) in their entire community over time. This information could incentivize consumers to assist in the identification of their service line material and those with LSLs to participate in the LSLR program.
- **A street address as the location identifier.** As mentioned above, water systems are required to provide a location identifier in their publicly available inventory associated with each LSL and GRR. EPA recommends that water systems consider including street addresses (or emergency 911 addresses for rural areas) as their location identifiers. EPA also suggests that systems include the town with the street address if they serve several counties that have the same street address (*e.g.*, 100 Main Street). In addition, EPA also recommends when multiple service lines serve the same address, *e.g.*, hospital or apartment building, the water system should include additional descriptors that would allow each service line to be uniquely identified.

  A few examples of maps and databases that are searchable by street address or customer account number include the following:

  - DC Water, Washington D.C.[27], Greater Cincinnati Water Works, Ohio[28], and Tucson Water, Arizona[29] have an interactive map on their website that allows users to enter an address to learn if they might have an LSL.
  - Milwaukee, Wisconsin, provides lists of addresses with LSLs on their website extracted from their database as PDF files. The list includes house number range, street name, city, state, and zip code. Milwaukee Water Works advises residents to search their address to determine if they have an LSL. For more information, visit their website.[30]

[27] https://geo.dcwater.com/Lead/. Accessed December 16, 2021.
[28] https://gcww.maps.arcgis.com/apps/webappviewer/index.html?id=0a170c268c694e46a8a4e394630df0bd. Accessed December 8, 2021.
[29] https://cotgis.maps.arcgis.com/apps/webappviewer/index.html?id=8dd30cd29ad64d58bbf1d7ebe86d6abc. Accessed December 8, 2021.
[30] https://city.milwaukee.gov/water/WaterQuality/LeadandWater/Lead-Service-Line-Records. Accessed December 8, 2021.

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- Louisville Water Company (LWC), Kentucky, has a tool on their website[31] where customers can use their LWC account number to determine if the Louisville Water-owned lines are lead, but not the customer-owned lines. Note, to comply with the LCRR, customer-owned service lines will need to be included.

- **Actual material for non-lead**. The LCRR gives water systems the option to classify the actual material of the service line that is non-lead (*e.g.*, galvanized, plastic, or copper) as an alternative to classifying it as non-lead (40 CFR §141.84(a)(4)(iii)). EPA encourages water systems to consider providing the actual materials as part of the publicly accessible inventory for greater transparency.
- **A summary of the total number of LSLs, GRRs, unknowns, and non-lead.** Summary information allows the public to more easily track a system's overall progress in identifying service line materials and replacing LSLs. For example, Denver Water, Colorado,[32] and the City of Newark, New Jersey, publish the number of LSLs replaced on their websites[33] to communicate their progress.
- **Clear disclaimer language.** A disclaimer will help water systems communicate any uncertainty inherent in their inventory, such as the varying reliabilities of some data sources. The inventory represents the best data the water system has at a certain point in time. Some water systems include disclaimer language about the quality of the information and require users to accept the disclaimer before they have access to the inventory information. Appendix F includes a few examples of disclaimer language.
- **Instructions on how to read and interpret the inventory.** These instructions will depend on the inventory format selected by the water systems. For example, a spreadsheet could provide a definition of material classifications and any sub-classifications, include a data element dictionary, and provide clear labeling of column headings. Additional recommendations for communicating information using maps is provided in Section 7.2.2.
- **Information on steps that consumers served by LSLs can take to protect themselves.** Because some consumers may learn for the first time through the inventory that their home is served by an LSL, water utilities should provide links or references to information on steps that consumers can take to reduce lead or protect themselves from lead exposure. For example, water utilities may consider sharing information from EPA[34] or their local health department.
- **Statements that other lead sources may exist in drinking water plumbing or the building.** Systems should raise customer awareness that even when LSLs or GRRs are not

[31] https://www.louisvillewater.com/servicelinelookup. Accessed December 8, 2021.
[32] https://www.denverwater.org/your-water/water-quality/lead/dashboard. Accessed April 21, 2022.
[33] https://www.newarkleadserviceline.com/replacement. Accessed December 8, 2021.
[34] See, *e.g.*, https://www.epa.gov/sites/default/files/2017-08/documents/epa_lead_in_drinking_water_final_8.21.17.pdf

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present, other lead sources may remain. Examples include materials inside the home or building, such as copper pipes with solder installed prior to the state's lead ban,[35] some faucets purchased prior to January 4, 2014,[36] and lead paint in homes that pre-date 1978[37]. In addition, lead can be present in dust and soil. EPA's website[38] includes information prepared by EPA and other agencies about different sources of lead and how consumers can protect themselves. Water systems could include a statement about the possible presence of these lead sources, *e.g.*, on their website, in materials distributed to their customers in hard copy or electronically, or in their CCR.

- **A schedule for investigating unknowns.** This could include the date that specific neighborhoods or other areas of the town or city have been scheduled for investigation.
- **Information on the water systems' actions to reduce lead.** This could include actions on how the water system is reducing lead and opportunities for customers to participate in the inventory and LSLR efforts (USEPA, 2017).
- **Information about tap sampling.** The system may inform customers about ways they can test their water for lead, such as if the system has a lead testing program, or directing customers to certified laboratories that can provide testing services.
- **System contact information.** Systems could direct customers to different departments depending on the request, such as general inquiries about lead in drinking water or how to submit inventory information (such as customer-owned service line material identification). This could also include links to the information in other languages, other information about the LSLR program, and instructions on how customers can identify their service line materials. See Appendix B, the City of Newark, for an example.

EPA recommends that systems weigh the benefits of making additional and/or detailed inventory information publicly accessible with the drawback of compromising a user's ability to find the most relevant information. Water systems could consider indicating what other inventory

[35] In 1986, Congress amended the Safe Drinking Water Act (SDWA), prohibiting the use of pipes, solder, or flux that were not "lead free" in public water systems or plumbing in facilities providing water for human consumption. At the time, "lead free" was defined as solder and flux with no more than 0.2 percent lead and pipes with no more than 8 percent lead. See Appendix D for a summary of lead ban provisions by state.

[36] The Reduction of Lead in Drinking Water Act, which became effective on January 4, 2014, revised the definition of lead-free as a weighted average of not more than 0.25 percent lead calculated across the wetted surfaces of pipe, pipe fitting, plumbing fitting, and fixtures and not containing more than 0.2 percent lead for solder and flux. It also prohibited the use or sale of such items that did not meet the revised lead-free definition.

[37] In 1978, the Consumer Products Safety Commission banned consumer uses of lead-based paint, but some states banned it even earlier.

[38] https://www.epa.gov/lead/protect-your-family-sources-lead#older. Accessed April 26, 2022.

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information is available on request, and systems providing the data electronically could include links to the information.

7.2 How to Make the Data Publicly Available

Required under the LCRR

Water systems must make the inventory publicly accessible, including a location identifier for each LSL and GRR. The LCRR requires water systems that serve more than 50,000 people to provide their inventory online (40 CFR §141.84(a)(8)).

Recommendations (Not Required under the LCRR)

There are many factors to consider in determining how to best reach the target audience. When first considering the best method for sharing inventory data with the public, a water utility may consider the following questions:

- Do our customers have internet access?
- Does our water system currently have a website? If not, do we have the resources to create one?
- Does our water system have someone that understands how to create maps using geographic information system (GIS) tools?
- What format of information would be easiest to use for the public?

As mentioned above, only water systems serving more than 50,000 people must post their inventory online. Water systems serving 50,000 or fewer people are not required to post their inventories online, as long as they are publicly accessible in some fashion. This may include availability by mail or in-person at the water system's office. EPA encourages all water systems to consider providing online inventory access. This approach could decrease water system burden by eliminating costs to print and mail inventories on request as well as eliminating staff time to process additional customer transactions. For smaller water systems that do not currently have a website, providing their inventory online could be as simple as uploading a list, spreadsheet, or a simple map to a free filesharing service or publicly viewable social media account for the system. NTNCWSs that do not have a website could consider using email, posting the information in frequented locations (*e.g.,* breakroom or notice board), or include the information in a newsletter. In addition, systems that do not have a website can check if their state has an option to host the inventory.

7.2.1 Description of Available Web-Based Map Applications

An effective means for distributing service line inventory information is via an online map. Online inventory maps allow interested parties to view a water system's service line materials anywhere there is access to the internet. The primary advantages of making inventory data available via web

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maps are user accessibility, data transparency, and the system's ability to regularly update the data.

Systems that collect inventory data with GPS coordinates (latitude and longitude) can save those points with corresponding attribute information (*e.g.*, service line material, address, data inventoried, etc.) to one of various file types. Systems could also collect inventory data via GPS devices, such as smart phones that have a mapping app, and can upload GPS files directly from those devices (.gpx). Once uploaded, the collected point locations can be overlaid with base maps and the point symbology (*e.g.*, point locations represented by dots versus "X" symbols) and the legend information and symbology can be customized to the inventory dataset. Alternatively, street addresses can be converted to point locations using a process called geocoding. Geocoding assigns a latitude and longitude to a location using text information to make the determination, such as address or place name. For example, a dataset of street addresses with service line information can be converted to point locations that could then be easily displayed in a map application.

7.2.2 Web-Based Map Application Best Practices

Web-based map applications are one of the most effective methods for conveying service line inventory information to the public. As Hiltner et al. (2019) explained, interactive online maps can be a more powerful tool for disseminating location-based LSL information than static maps and tabular databases. Key components of effective interactive maps include the deliberate use of data, thoughtful selection of colors and symbology, and awareness of inclusivity. Exhibit 7-1 shows how the Greater Cincinnati Water Works, Ohio uses colors to denote materials information for service lines by property.

Fundamental to an inventory map is a layer of locational data that displays the service line material, such as points or polygon boundaries. The locational data should be the primary data displayed on the map. A best practice for map development is to only display informative data to the users. For example, while utilities may have access to geospatial railway data, adding this layer to the map is not critical to the user and distracts from the intention of the map. Layer attributes in online maps can be displayed using pop-up tables, color-coding, or map symbology to display attributes. Of particular note is the use of service line symbology to denote the service line material on the customer-owned side versus the system-owned side of the service line, as demonstrated in Exhibit 7-1.

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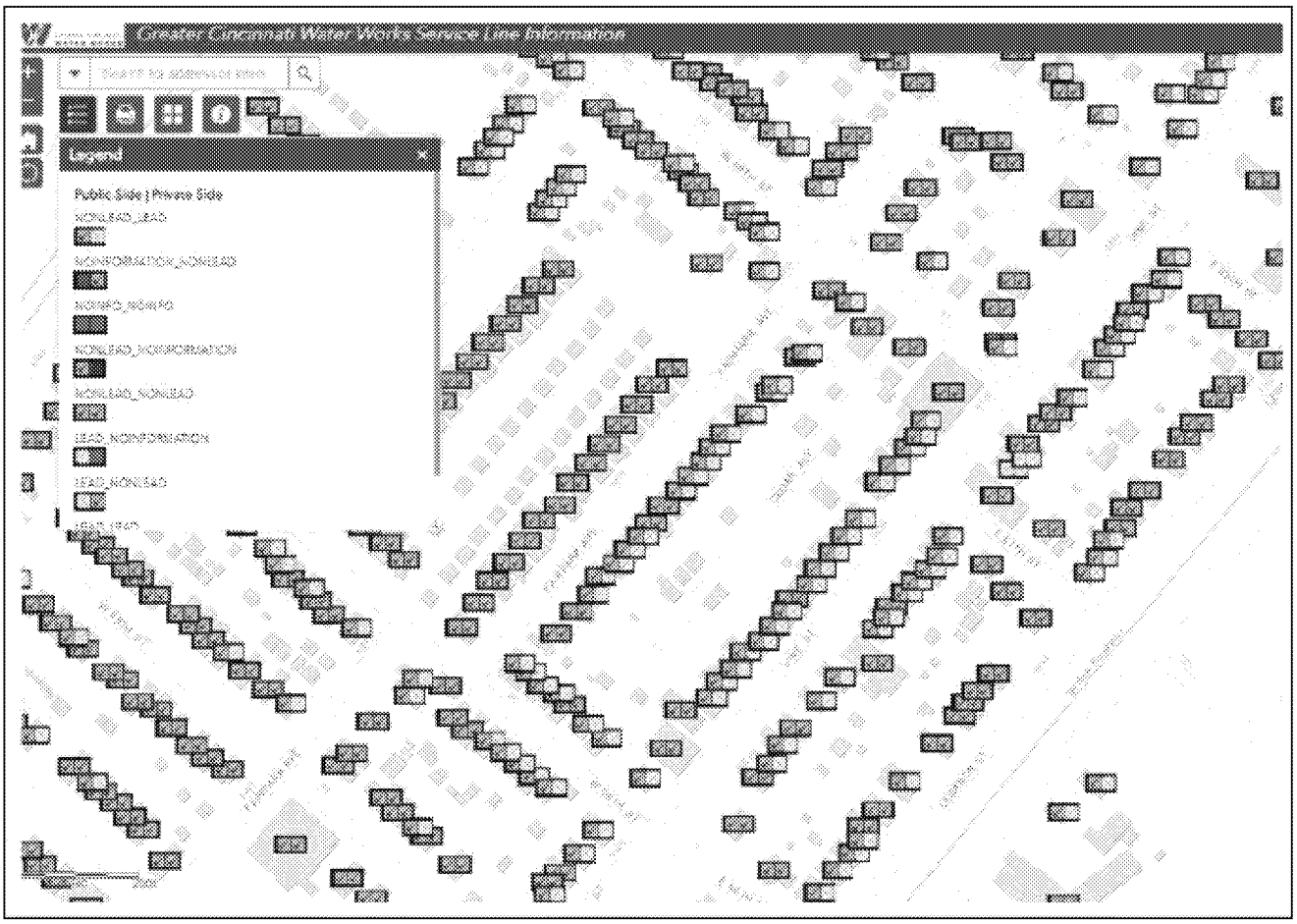
Exhibit 7-1: Greater Cincinnati Water Works Service Line Information Map



Source: Greater Cincinnati Water Works Service Line Information map. https://gcww.maps.arcgis.com/apps/webappviewer/index.html?id=0a170c268c694e46a8a4e394630df0bd. Accessed December 16, 2021.

Accessibility and inclusivity considerations should be made throughout the map development process (Woods and Webb, 2021). These include:

- Using a color-blind safe color scheme,
- Using simple terminology and defining acronyms, and
- Offering text in multiple languages, where appropriate.

Color-blind sensitive map color schemes are simple to create using free online tools. Alternatively, map interfaces could include a check box to allow users to select their preferred color scheme from a list of options. Another important component of map accessibility is terminology. The inventory process involves acronyms and terms generally unfamiliar to the intended public audience. Map text should be carefully reviewed for these types of language and edited accordingly. Lastly, the map interface should be made available in multiple languages, as appropriate, depending on the population served by the system. For example, to serve the

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Spanish-speaking population of the Tucson, Arizona, the service line map[39] displays all map text both in English and Spanish. Water systems may also want to consider providing alternate text for maps that can be read aloud using software for the visually impaired.

7.2.3 Public Data Sharing Alternatives

Some systems may not have the capacity for online GIS map applications. In these cases, there may be other online data sharing methods that better fit the needs of systems and their users. Important first steps are to determine what established online data sharing capabilities and protocols are already in place and what types of inventory information are going to be shared (*e.g.*, tabular data versus narrative information).

Many systems may have a website where a new webpage or subsection could be added for hosting inventory document downloads and updates. Depending on the website structure and server limitations, this option may only be available for small-sized documents. Some systems may have a File Transfer Protocol (FTP) site where the data could be hosted and linked to for download. Utilizing an FTP server may be optimal for some systems because FTP sites are better suited for transferring large data files. If systems do not have the capacity to provide downloads via their own servers, there are many options for cloud-based server storage that can easily be shared and downloaded. See Exhibit 7-2 for a summary of online data sharing alternatives.

Exhibit 7-2: Examples of Online Data Sharing Alternatives

File Sharing Method	Description
Online Cloud-based Data Sharing	Cloud-based storage and data sharing allows access to files from any computer, hosted by a third-party vendor; base storage plans may be free.
Online Spreadsheet	Cloud-based spreadsheets, some of which can be accessed online without any product licensure or installation requirements; this may be a good option for systems with little data infrastructure.
FTP/SFTP Server	Standard file sharing protocol for transferring files from a server to another computer (client); water systems may already have FTP functionality they can use.
System Website	Data may be hosted on a system's website as text or image or can be made available in a downloadable format.

The best platform for online data sharing will vary by system. Another key part of that decision-making process is the data format and complexity. For example, a system without their own online data sharing platform (server) and a simple spreadsheet-based inventory may elect to use

[39] https://cotgis.maps.arcgis.com/apps/Cascade/index.html?appid=13b3899bb7374156a031414de36007fe. Accessed December 8, 2021.

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an online spreadsheet. Users could then access the inventory spreadsheet via a weblink on the system's website. Systems wanting to share high-resolution PDF maps, however, may consider a data sharing option optimized for large file sizes. This may be a good option if the system already has an FTP server for public file sharing. If not, a cloud-based file sharing option could be a good solution.

The circumstances of some systems and users may not allow for web-based data sharing of any kind. In these cases, systems will need to develop a plan for effectively distributing inventory information without the use of electronic data sharing. Potential data sharing options include:

- Printed service line maps
- Printed tabular data
- Information in water utility mailings or newsletters
- Information available at the water system's office

7.2.4 Public Input and Updates

Active community participation in the inventory process helps cultivate a more robust inventory dataset and engage the community on public health issues potentially affecting them. LSL data can be strengthened by asking for public feedback on existing inventory data or possible updates to information on LSLs or GRRs not already reflected in the inventory. Given this participatory process, there is also a higher likelihood of continued and widespread engagement with the inventory and LSLR efforts throughout a system's distribution network.

Public feedback can take many forms. For example, the system can provide contact information on the system's website for individuals to submit corrections and updates via email or phone. Another example can be a user submission form where customers identify the service line material and include photographic evidence, providing an additional level of confidence to their classification. Inventories that are updated regularly based on public input should consider indicating the dataset version or the date of the last update in an obvious location.

Providing a platform for public input provides an opportunity for users to learn about their own service line and the presence of LSLs more broadly. An additional consideration for encouraging community awareness is offering an email subscription for regular updates on the service line inventory, such as Denver Water who offers a subscription opportunity within their service line inventory map (Exhibit 7-3).

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Exhibit 7-3: Denver Water's Lead Service Line Replacement Map

Source: https://dw.maps.arcgis.com/apps/View/index.html?appid=cb5d6630085b4e4b96ff7fd1adf39025. Accessed December 15, 2021.

EPA suggests updating the inventory in real-time (or as close as possible) to provide the public with the most up-to-date information. Externally facing updates to the inventory may require quality assurance and quality control or may be most efficiently processed in batches rather than updated continuously.

7.3 Considerations for States

States seeking to determine a system's compliance with the LCRR inventory requirements may use the checklist in Appendix A. One component of that review is determining a system's compliance with its public accessibility requirements. Appendix A includes a checklist that states can use to help document if systems meet these requirements. This form is also available electronically at EPA's website (https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule).

In their 2022 framework, the Association of State Drinking Water Administrators (ASDWA) recommends that states consider additional ways to make the relevant information available to the public, including hosting information on the state's website (ASDWA, 2022). For example, states could consider creating a portal or using another method to allow systems to upload their

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information directly. For a full list of additional considerations, refer to ASDWA's framework (ASDWA, 2022).

7.4 Consumer Confidence Report Inventory Requirements

The LCRR requires CWSs to include in their annual CCR a statement that they have prepared a service line inventory and instructions on how to access the inventory (40 CFR §141.84(a)(10) and §141.153(d)(4)(xi)). Systems with no lead, GRR, or lead status unknown service lines can instead provide a statement that they have no LSLs or GRRs with the description of methods used to make that determination (40 CFR §141.84(a)(9)). EPA may potentially revise these requirements under the Lead and Copper Rule Improvements (LCRI). Regardless of the final LCRI requirements, EPA recommends that systems provide inventory-related information in their CCRs.

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Key Points to Remember

LCRR Requirements

- Water systems must make an inventory of the lead and GRR service lines publicly accessible. The publicly accessible inventory must include a location identifier associated with each lead or GRR service line (40 CFR §141.84(a)(8)(i)). The identifier could be a specific address; however, this is not required under the LCRR.
- Water systems serving more than 50,000 people must provide their inventory online (40 CFR §141.84(a)(8)(ii)).
- Non-lead systems can fulfill the requirement to make the inventory publicly accessible by providing a statement they have no LSLs and including a general description of how they made that determination (40 CFR §141.84(a)(9)).
- CWSs must indicate in their CCR how to access service line inventory information. Non-lead CWSs must also include a statement they have no LSLs in their CCR (40 CFR §141.84(a)(10)).
- Within 30 days of completion of the initial inventory, systems must notify persons served by lead, GRR, and lead status unknown lines (40 CFR §141.85(e)).

Recommendations (Not Required under the LCRR)

- Water systems should consider their data sharing infrastructure, customer demographics, and staff limitations when selecting the best method for sharing data with the public.
- An interactive online mapping application can be an effective means for distributing service line inventory information and allows users to comprehensively evaluate a water system's service line materials anywhere there is access to a basic computer and internet.
- Accessibility and inclusivity considerations should be made throughout the map development process, *e.g.*, using a color-blind safe color scheme, providing alternate text that can be read aloud using software for the visually impaired, using simple or defined terminology, and offering text in multiple languages.
- Other online data sharing options are available for water systems, such as online cloud-based sharing, online spreadsheet, FTP/SFTP server, and website hosted download.
- Non-web-based data sharing options include printed service line or tabular data as well as information on water utility mailings or newsletters.
- Active community participation in the inventory process helps cultivate a more robust inventory dataset.
- EPA suggests water systems update their inventories in real-time or as close as possible.

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APPENDICES

- **Appendix A:** Blank Forms from the EPA Service Line Inventory Template
- **Appendix B:** Case Studies
- **Appendix C:** Instructions for Self-Identifying LSLs and Information When Water System Conducts Verification
- **Appendix D:** Summary of State Lead Ban Provisions by State
- **Appendix E:** Michigan Minimum Service Line Verification Requirements
- **Appendix F:** Examples of Data Quality Disclaimer Language

Appendix A: Blank Forms from the EPA Service Line Inventory Template

PWS Information

Inventory Methodology

Inventory Summary

Public Accessibility Documentation

State Checklist

See EPA's website at: https://www.epa.gov/ground-water-and-drinking-water/revised-lead-and-copper-rule for a downloadable, spreadsheet version of the template which contains the forms below as well as additional sheets for inventory tracking.

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PWS Information

Purpose of this worksheet: *For water systems to document basic system information.*

Facility Information			
Water System Name:			
PWSID:	Population Served (number of people):	Number of Service Connections:	PWS Type: ☐CWS ☐ NTNCWS
If you are a CWS, do multi-family residences comprise at least 20% of the structures you serve?			*Indicate "Yes" or "No"*
Mailing Address			
Street or P.O. Box:			
City or Town:		State:	Zip Code:
System Contact Person			
Name:		Title:	
Telephone:		Email:	
Person Who Prepared Inventory (if different from above)			
Name:		Title/Affiliation:	
Telephone:		Email:	

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Inventory Methodology

PWS Name: PWSID:
Enter Date Last Updated:

Purpose of this worksheet: *For water systems to document the methods and resources they used to develop and update their inventory.*

Part 1: Historical Records Review	
Type of Record	**Describe the Records Reviewed for Your Inventory and Indicate Your Level of Confidence (*e.g.*, Low, Medium, or High)**
1. Previous Materials Evaluation *Example: Locations of Tier 1 lead tap sampling locations that are served by a lead service line.*	
2. Construction Records and Plumbing Codes *Examples: Local ordinance adopting an international plumbing code. Permits for replacing lead service lines.*	
3. Water System Records *Examples: Capital improvement plans. Standard operating procedures. Engineering standards.*	
4. Distribution System Inspections and Records Examples: *Distribution system maps. Tap cards. Service line repair/replacement records. Inspection records. Meter installation records.*	
5. Additional Records Required by Your State	
6. Other Records	

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Inventory Methodology (Continued)

Part 2: Identifying Service Line Material During Normal Operations

1. During which normal operating activities are you collecting information on service line material? Check all

- ☐ Water meter reading
- ☐ Water meter repair or replacement
- ☐ Service line repair or replacement
- ☐ Water main repair or replacement
- ☐ Backflow prevention device
- ☐ Other

If "Other", please explain:

2. Did you develop or revise standard operating procedures to collect service line material information *Indicate "Yes" or "No"*

If "Yes", please describe:

Part 3: Service Line Investigations

1. Identify the service line investigation methods your system used to prepare the inventory (check all that apply). If a water system chooses an investigation method not specified by the state under 40 CFR §141.84(a)(3)(iv), state approval is required. ***Note that investigations are not required by the LCRR but can be used by systems to assess accuracy of historical records and gather information when service line material is unknown.***

- ☐ Visual Inspection at the Meter Pit
- ☐ Customer Self-Identification
- ☐ CCTV Inspection at Curb Box - External
- ☐ CCTV Inspection at Curb Box - Internal
- ☐ Water Quality Sampling - Targeted
- ☐ Water Quality Sampling - Flushed
- ☐ Water Quality sampling - Sequential
- ☐ Water Quality Sampling - Other
- ☐ Mechanical Excavation
- ☐ Vacuum Excavation
- ☐ Predictive Modeling
- ☐ Other

If "Other", please explain:

2. If "Predictive Modeling", please briefly describe the model and inputs used:

3. How did you prioritize locations for service line materials investigations? For example, did you consider environmental justice and/or sensitive populations, did you use predictive modeling, and/or did you target areas with high number of unknowns?

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Inventory Summary

PWS Name:	
PWSID:	
Enter Date Last Updated:	

Purpose of this worksheet: *For water systems to provide a summary of their service line inventory, including information on ownership, inventory format, and the number of service lines for each of the four required materials classifications.*

Part 1. General Information	
1. Is this the **Initial Inventory** or an **Inventory Update**?	
2a. Who **owns the service lines** in your system?	
2b. Is there documentation that defines service line ownership in your system, such as a local ordinance? *If yes, please describe below and explain where ownership is split (e.g., property line, curb stop).*	
3a. Describe when lead service lines were generally installed in your system.	
3b. When were lead service lines banned in your system? Reference the state or local ordinance that banned the use of lead in your system.	
4. Do you have lead goosenecks, pigtails or connectors in your system?	*Indicate "Yes", "No", or "Don't Know"*
5. What is your overall level of confidence in the inventory (*i.e.* , "Low", "Medium", or "High.") Please explain your rationale below.	

Part 2. Inventory Format
Describe your inventory format in the space provided below (*e.g.* , the **Detailed Inventory** worksheet, custom spreadsheet, GIS map). Provide the filename and/or web address if applicable. ***Note that the state may require you to submit your detailed inventory of each service line in your distribution system.***

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Inventory Summary (Continued)

Part 3. Inventory Summary Table [1]

Enter the number of service lines in the aqua-colored cells. ***Remember this is the classification for the entire service line.***

Service Line Material Classification	Definition	Total Number of Service Lines (REQUIRED to be reported under the LCRR)
Lead	Any portion of the service line is known to be made of lead.[2]	
Galvanized Requiring Replacement (GRR)	The service line is not made of lead, but a portion is galvanized and the system is unable to demonstrate that the galvanized line was never downstream of a lead service line.	
Non-Lead	All portions of the service line are known NOT to be lead or GRR through an evidence-based record, method, or technique.	
Lead Status Unknown	The service line material is not known to be lead or GRR. For the entire service line or a portion of it (in cases of split ownership), there is not enough evidence to support material classification.	
	TOTAL	

Notes

[1] This summary table is for reporting material for the entire service line connecting the water main to the customer's plumbing. See Section 2.1 for additional guidance on assigning a materials classification to the entire service line when ownership is split. Remember that systems must track the system-owned and customer-owned portions separately in their inventory.

[2] A lead-lined galvanized service line is consistent with the definition of an LSL under the LCRR ("a portion of pipe that is made of lead, which connects the water main to the building inlet") (40 CFR §141.2) and must therefore be classified in the inventory as an LSL. Do NOT, however, count non-lead service lines with a lead gooseneck or pigtail as lead service lines unless required by your state.

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Public Accessibility Documentation

PWS Name: PWSID:	
Enter Date Last Updated:	

Purpose of this worksheet: For systems to provide documentation to states on how they met the public accessibility requirements of the LCRR.

1. Select the location identifiers that you use for your service line inventory. Check all that apply.
   - ☐ Address
   - ☐ Street
   - ☐ Block
   - ☐ Intersection
   - ☐ Landmark
   - ☐ GPS Coordinates
   - ☐ Other

If "Other", please describe:

2. Does ***every service line*** have a location identifier? Indicate "Yes" or "No"
   If "No", explain. Remember that location identifiers are required for service lines that are lead and galvanized requiring replacement.

3. How are you making your inventory publicly accessible? Check all that apply. *Remember that if your system serves > 50,000 people, you* ***must*** *provide the inventory online.*
   - ☐ Interactive online map
   - ☐ Static online map
   - ☐ Online spreadsheet
   - ☐ Printed service line map
   - ☐ Printed tabular data
   - ☐ Information on water utility mailings or newsletter
   - ☐ Hard copy information available in water system office
   - ☐ Other

If "Other", please describe:

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State Checklist for Initial Inventory Submittal	
PWS Name: PWSID:	
Enter Date Last Updated:	

Purpose of this worksheet: *For states to determine and document if water systems met all of the January 15, 2021 Lead and Copper Rule (LCRR) requirements for their* **Initial Inventory** *including timely submission, required elements, use of information sources, public accessibility, and public notification of service line materials.*

Part 1: Person Completing This Checklist	
Name:	Title:
Telephone:	Email:

Part 2: Review for Timely Submission	
1. Was the initial inventory submitted by the deadline of October 16, 2024?	*Indicate "Yes" or "No"*
Consider post-mark or date sent via email or reported into a state data system.	

Part 3: Review for Required Elements	
1. Does the inventory include ***all*** service lines connected to the distribution system?	*Indicate "Yes" or "No"*
Consider if the total number of service lines in the ***Inventory Summary*** *worksheet, Part 3, matches sanitary survey and monitoring data in the state's database (e.g., SDWIS/State) based on population served, number of service connections (including those for non-potable use), number of accounts, census data, or other information.*	
2. Does the inventory include portions owned by the water system and the customer?	*Indicate "Yes" or "No"*
Check the service line ownership type selected in the ***Inventory Summary*** *worksheet, Part 1, Question 2a. If the system selected "Ownership is Split" check that their inventory includes information for both the system-owned and customer-owned portions.*	
3. Did the system classify all service lines as either Lead, Galvanized Requiring Replacement (GRR), Non-Lead, or Lead Status Unknown?	*Indicate "Yes" or "No"*
Consider if the system completed each row of the inventory summary table in the ***Inventory Summary*** *worksheet, Part 3. Some rows may be zero.*	
4. In the space below, provide additional comments/documentation related to required elements of the system's initial inventory.	

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State Checklist for Initial Inventory Submittal (Continued)

Part 4: Review for Information Sources	
1. Did the system use the following historical records to prepare their initial inventory: previous materials evaluation, construction and plumbing codes/records, water system records, distribution system inspections and records.	*Indicate "Yes" or "No"*
Consider if the system identified historical records in each row of the ***Inventory Methods*** *worksheet, Part 1, Rows 1 through 4. Consider if the system completed Row 5 if additional records are required in your state.*	
2. Is the system collecting service line material information during normal operations?	*Indicate "Yes" or "No"*
Consider if the system checked one or more normal operations activities in the ***Inventory Methods*** *worksheet, Part 2. Consider asking the systems to submit updated or new standard operating procedures documenting service line material information collection.*	
3. Has the system conducted investigations to verify service line material?	*Indicate "Yes" or "No"*
This is not required by the LCRR but recommended by EPA to verify historical records and gather information where records do not exist to reduce the number of unknowns in the system as quickly as possible. Consider: • *If the system checked one or more of the investigative methods on the* ***Inventory Methods*** *worksheet, Part 3.* • *If in their inventory, the system indicated that the materials classification was based on investigations.* • *The number of unknowns - EPA strongly discourages systems from submitting inventories with all unknowns. If all service line materials are lead status unknown, consider asking the water system to conduct investigations.*	
4. In the space below, provide additional comments related to information sources used to develop the system's initial inventory.	

Part 5: Review for Public Accessibility	
1. Does the inventory include location identifiers for each service line that is lead or galvanized requiring replacement?	*Indicate "Yes" or "No"*
Consider checking the inventory for location identifiers and reviewing the system's answers in the ***Public Accessibility Doc.*** *worksheet, Questions 1 and 2.*	
2. Did the system make its inventory publicly accessible?	*Indicate "Yes" or "No"*
Consider reviewing the method by which the water system is making its inventory publicly accessible as identified in the ***Public Accessibility Doc.*** *worksheet, Question 3. Check that systems serving more than 50,000 people have posted their service line inventories online.*	
3. In the space below, provide additional comments/documentation related to public accessibility of the system's initial inventory.	

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State Checklist for Initial Inventory Submittal (Continued)

Part 6: Review of Customer Notification of Service Line Material	
1. Does the water system's inventory consist of all Non-Lead Service lines? *If No, complete questions 2 through 5. If Yes, stop here.*	*Indicate "Yes" or "No"*
2. Did the water system deliver the notification to people served by a lead service line (LSL), GRR, or lead status unknown service line within 30 days of completing the initial inventory?	*Indicate "Yes" or "No"*
3. Did the water system demonstrate that they delivered the notification and provide a copy of the notification to the state by **July 1** for the previous calendar year?	*Indicate "Yes" or "No"*
4. Did the notification include the required content?	
a. For **confirmed LSLs,** does the notification include: • A statement that the service line material is lead, • Information on lead health effects including mandatory health effects language of 40 CFR §141.85(a)(ii), • Steps to minimize exposure to lead in drinking water, • Opportunities for service line replacement, • Available financing programs, and • A statement that the system must replace its portion if the they are replacing their portion?	*Indicate "Yes" or "No" or "N/A"*
b. For **GRRs,** does the notification include: • A statement that the service line material is GRR, • Information on lead health effects including mandatory health effects language of 40 CFR §141.85(a)(ii), • Steps to minimize exposure to lead in drinking water, and • Opportunities for service line replacement?	*Indicate "Yes" or "No" or "N/A"*
c. For **Unknowns,** does the notification include: • A statement that the service line material is lead status unknown, • Information on lead health effects including mandatory health I effects language of 40 CFR §141.85(a)(ii), • Steps to minimize exposure to lead in drinking water, and • Opportunities to verify the service line material?	*Indicate "Yes" or "No" or "N/A"*
5. If the water system serves communities with a large proportion of non-English speaking consumers, as determined by the state, did they provide public education materials, including those in 40 CFR §141.85(e), in the appropriate language(s)?	*Indicate "Yes" or "No"*
6. In the space below, provide additional comments/documentation related to customer notification for people served by an LSL, GRR, or lead status unknown service line.	

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Appendix B: Case Studies

DC Water

Greater Cincinnati Water Works

Pittsburgh Water and Sewer Authority

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DC Water

Key Topics

- Consider the Inventory as a Living Data System
- Water Quality Sampling to Identify LSLs
- Making Inventory Information Publicly Accessible

Background/Water Utility Description

DC Water provides approximately 92 million gallons of treated drinking water per day to about 700,000 residents of the District of Columbia. DC Water is a consecutive system, purchasing treated water from the Army Corp of Engineers. The Army Corp treats water from the Potomac River using conventional treatment with chlorine for primary disinfection and chloramines for secondary disinfection. Orthophosphate is added for corrosion control, along with pH adjustment. The DC Water distribution system is comprised of approximately 1,350 miles of water main. DC Water estimates that they have 28,000 lead or galvanized iron service lines with plans to replace them all by 2030 (DC Water, 2021a).

Consider the Inventory as a Living Data System

DC Water has a long history of identifying and replacing lead service lines (LSLs) in response to exceeding the lead action level in 2002 through 2004 (Deignan, 2021). Schmelling (2021) stressed that the inventory is not a one-time data extraction, but a living dataset that can be updated as new information is collected and records are improved over time. DC Water also records information on the integrity of the data, such as the data source.

DC Water uses many sources and methods to gather service line information, including (Schmelling, 2019, 2021):

- Research done to identify service line materials for the original Lead and Copper Rule (LCR) in 1991, *i.e.*, interviews with plumbers to determine when LSLs stopped being installed in Washington, DC (DC Water found this to be an excellent starting point for their inventory);
- Historical records, including tap cards, permits, and engineering documents;
- Construction records on when service lines were replaced in coordination with water main replacement or in response to service line leaks;
- Customers reporting that they replaced their service lines;
- Customer self-identification;

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- Water meter replacement; and
- Water quality sampling.

DC Water is also working with the Water Research Foundation to investigate non-invasive service line identification techniques, such as x-ray diffraction, stress wavers, and acoustic technology (Schmelling, 2021).

Water Quality Sampling to Identify LSLs

DC Water assessed the ability of 6-hour stagnation sequential samples to predict the presence of LSLs (Bukhari et al., 2020; Schmelling, 2019). Customers collected 10 sequential 1-liter samples, indicated the suspected service line material at the point of entry (*i.e.*, lead, copper, brass, galvanized iron, or not visible), and provided a supporting picture when possible. DC Water predicted that half of the 172 homes in the study had lead pipes based on the trend of lead concentrations in the 10-bottle set. They also determined that a total lead mass of at least 5 micrograms (µg) from all 10 samples was another factor supporting the presence of LSLs in their system. Subsequent service line work indicated that DC Water correctly predicted 26 of 30 homes to be lead and 2 of 4 to be non-lead. DC Water concluded that sequential sampling is a useful tool for predicting the presence of LSLs, but it cannot predict the absence of lead pipe due to factors that may impact the stagnation period prior to sampling (*e.g.*, leaks, water use, and dripping faucets). DC Water also notes the water sampling effort is time consuming considering sample distribution and customer communication; therefore, there is still a significant need for another non-invasive pipe material identification technology (DC Water, 2022).

Making Inventory Information Publicly Accessible

DC Water provides an interactive map with service line pipe material data for the public and private sides in their entire service area, which is available on their website (DC Water, 2021b). Each service address is indicated by a circle that contains two color-coded semi-circles for the service line type: one for the public space and another for the private side. Gray denotes lead, green indicates non-lead, and no shading indicates no information. A screenshot of the map is provided as Figure 1.

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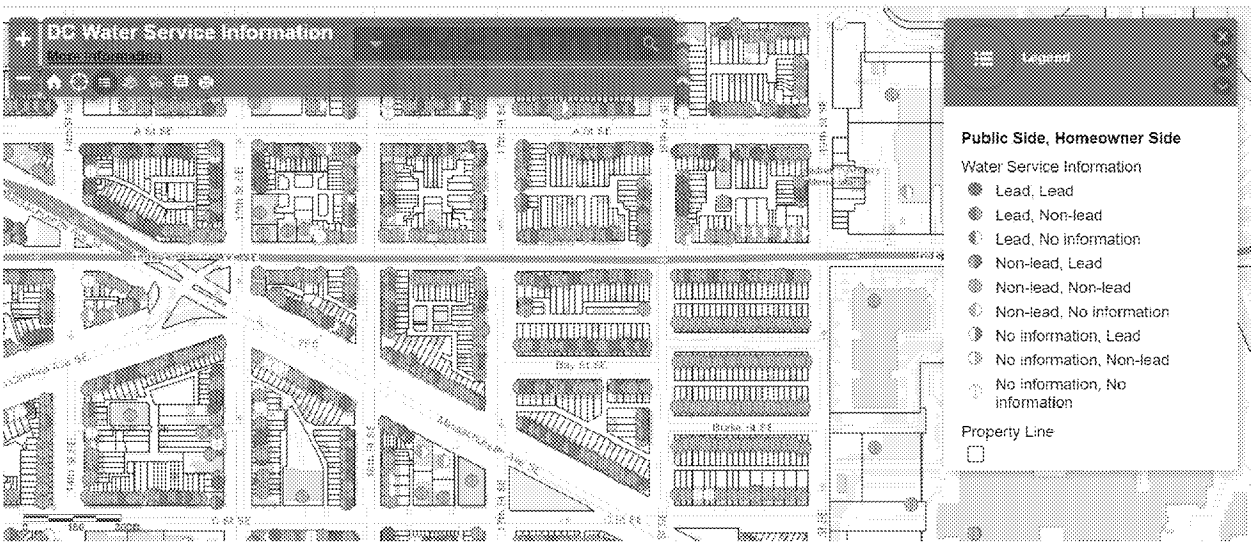

Figure 1: Screenshot of DC Water Interactive Service Line Map (DC Water, 2021b).

When a service address is selected, a pop-up box appears that includes the type and description for the public and private portions separately as well as a link to frequently asked questions and a fact sheet on how customers can identify their water service pipe material. The description field includes the source for the determination, *e.g.*, when the service line was replaced and if it was verified by test pit or visual observation (shown as "excavation"). An example of the pop-up box is shown as Figure 2.

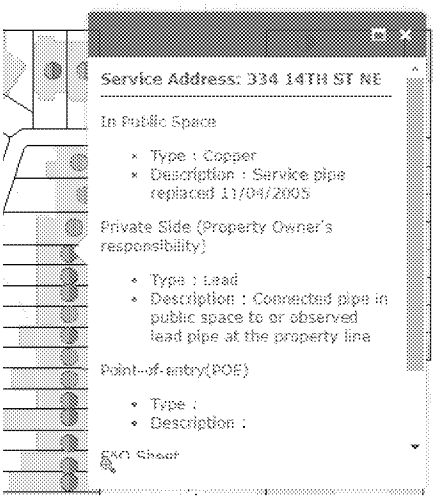

Figure 2: Screenshot of Description Field (DC Water, 2021b).

DC Water took several steps to clearly communicate service line information to the public. For example, they developed a standard process for translating internal documentation for their service line data system into plain language for the online publicly accessible map. An

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example is shown below in Figure 3 (Schmelling, 2021). DC Water also provides their inventory in list format as a downloadable CSV file (DC Water, 2021c).

dc water is life

Translating Data to Public Information

Data Source	Data Criteria	Pipe Material	Website description
Historical Data		Copper	Assess further for confirmation
Meter data	Meter size > 2"	Non-lead	Service line has 2" or greater diameter, therefore not lead
Inspection	Eyes on service line pipe	Brass	[insert date field] excavation revealed brass pipe
Research for 1991 LCR		Lead	Lead likely based on historic documentation
New Tap		Copper	New service installed
Water Quality Tests		Lead	Lead likely based on water test results
As-builts		Copper	Based on Engineering drawings
Permit Documents	> 1982	Non-Lead	Based on water service connection year

Figure 3: DC Water Translation of Data to Public Information (Schmelling, 2021).

DC Water worked with their legal department to develop disclaimer language, as shown below. Schmelling (2021) noted that disclaimer language is important because it recognizes that, although the inventory is based on the best available information at the time, the inventory is dynamic and there may be inaccuracies.

DC Water - Water Service Information

To see service line information, enter an address in the search box or zoom in on the map. Click the circle located within the property boundaries to view the property's service line information. The information provided through this map is limited to the best available data in DC Water's possession at this time. It may not be accurate.

Visit Service Lines - Fact Sheet, for more information.

DISCLAIMER: The maps provided by the District of Columbia Water and Sewer Authority ("D.C. Water") are based on historical data, information directly provided by customers, and in some cases, information acquired during physical inspections. DC Water does not guarantee the accuracy of these records and maps, which shall be used for the sole purpose of providing property owners and residents with DC Water's best available data regarding their private water services, and not for any commercial, legal or other use. These records will be updated constantly as D.C. Water gathers additional information. D.C. Water requests that customers provide to it records of any service line replacements performed by property owners. D.C. Water reserves the right to alter, amend or terminate at any time the display of these maps and records.

I understand

Figure 4. DC Water Disclaimer Language for Their Interactive Service Line Map (DC Water, 2021b).

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Summary of Main Points

- DC Water's service line inventory is a living dataset designed to add and revise data from multiple sources over time.
- DC Water has found sequential water sampling to be a useful tool for predicting the presence of LSLs, but it is not a good predictor of the absence of lead pipe due to factors that may impact the pre-sampling stagnation period.
- An interactive online map is a useful tool for communicating information on service line material to the public. It is important to translate technical data into public information and include clear disclaimer language to communicate the limitations of the service line inventory.

Resources

Bukhari, Z., Ge, S., Chiavari, S., and Keenan, P. 2020. Lead Service Line Identification Techniques. The Water Research Foundation. https://www.waterrf.org/system/files/resource/2020-06/DRPT-4693.pdf

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DC Water. 2021c. Service Line Materials Dashboard. https://www.dcwater.com/service-line-materials-dashboard. Accessed 1/25/2022.

DC Water. 2022. Personal communication between EPA staff and Maureen Schmelling, DC Water. April 19, 2022.

Deignan. John. 2021. DC Water's LSR Program Journey from Mandated to Planned [Webinar]. AWWA Virtual Summit: Lead & Water Quality, April 7-8, 2021. https://www.awwa.org/Events-Education/AWWA-Virtual-Summits/Lead-Water-Quality-Summit#11394909-event-faqs

Schmelling, M. 2019. Lead service line identification and replacement webinars. Retrieved from USEPA website https://www.epa.gov/dwreginfo/lead-service-line-identification-and-replacementwebinars.

Schmelling, M. 2021. DC Water's Service Line Inventory and Display Maps [Webinar]. ASDWA Annual Conference: 2021. Lead Service Line Inventories. October 18 & 19, 2021. Available at: https://www.youtube.com/watch?v=IaZEbnXnQpQ. Accessed 1/19/22.

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Greater Cincinnati Water Works

Key Topics

- Building and Updating Service Line Inventory
- Interactive Public Inventory Map

Background/Water Utility Description

Greater Cincinnati Water Works (GCWW) provides water services to Cincinnati, Ohio and several surrounding counties. GCWW treats around 132 million gallons of water daily. They use high consistent oxidation-reduction potential (ORP) (free chlorine at approximately 1.3 mg/L) and pH promoting lead (IV) scales to control corrosion (Liggett et al., 2022). GCWW serves over 1.1 million customers through 3,180 miles of water mains (GCWW, 2021a).

In 1927, the City of Cincinnati stopped installing lead service lines (LSLs), yet some of those LSLs still remain. GCWW estimates they have a total of 39,165 service lines that are part or all lead, including 25,980 private, 13,085 full, and 100 public LSLs in their service area (GCWW, 2022).

Following EPA's 1991 Lead and Copper Rule, GCWW launched a lead reduction program (Arnette, 2020). For years, GCWW has replaced LSLs and used corrosion control treatment. In 2016, GCWW launched their Enhanced Lead Program, a two-tiered strategy that focused on consumer education and outreach (Tier 1) and removal of all LSLs (Tier 2) (GCWW, 2021b, Burlingame et al., 2018).

Building and Updating the Service Line Inventory

In 2000, GCWW began their effort to populate an inventory of public-side materials in GIS using billing system information, the branch or service line number, and water main project inspection reports (Arnette, 2020). Later, to develop an inventory of customer-side materials, GCWW created a new attribute in GIS for the customer-side material type (Arnette, 2020). To populate customer-side data, GCWW used the following sources of information (Arnette, 2020; Liggett et al., 2022; GCWW, 2016):

- Historical records and asset management records.
- Maintenance, repair, and replacement work.
- Work orders.
- Water main replacement inspections.
- Water main and service line records.

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- Customer-initiated replacement inspection reports.
- Visual inspections.

Following the effort in 2000, GCWW found that at branch number 101808, the public service line materials transitioned from lead to copper. For the private side, GCWW also designated the service line as lead or copper based on their branch numbers as follows:

- Branch numbers 102000 or higher and diameter of 2 inches or less as copper.
- Branch numbers below 102000 as lead except if GCWW had evidence that the customer renewed the line, then designated as copper.

In 2016, GCWW created an electronic tool to collect information from their water main project inspections, update their inventory, and allow the information to be available to the public the next day (Arnette, 2020). This is accomplished using an electronic form on inspectors' phones created using Microsoft Power Apps. The information is sent directly to GIS Editors. A snapshot of this app is provided as Figure 1.

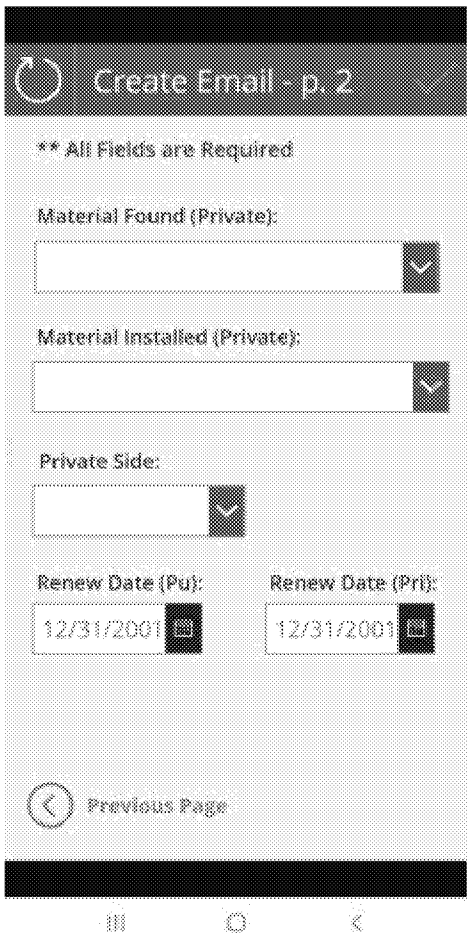

Figure 1: Screenshot of Water Main Project Inspection App (Arnette, 2020).

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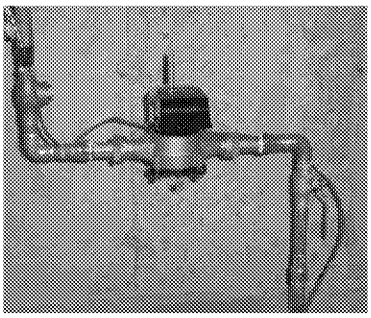
The inventory is continuously updated as GCWW retrieves more data, including information provided by customers who verify the service line material on their property using a scratch test and an online form on the GCWW website. Step-by-step instructions, along with contact information, are provided on GCWW's website (GCWW, 2021c). Figure 2 below shows a screenshot of the online form with instructions for customers to upload a picture of their meter setting to help identify the pipe material.

Please complete the form and select the material that the private portion of you service line is made from. Please upload a picture of your meter setting that we could use to help identify the pipe material. An example of a meter setting is shown below



Acceptable file formats for the optional file are: .jpeg, .jpg, .png, .gif, .bmp, .tiff

NAME

EMAIL

RETURN PHONE NUMBER

PROPERTY ADDRESS

Choose File No file chosen

SEND

Figure 2: Screenshot of Instructions and Online Form from GCWW's website (GCWW, 2021c).

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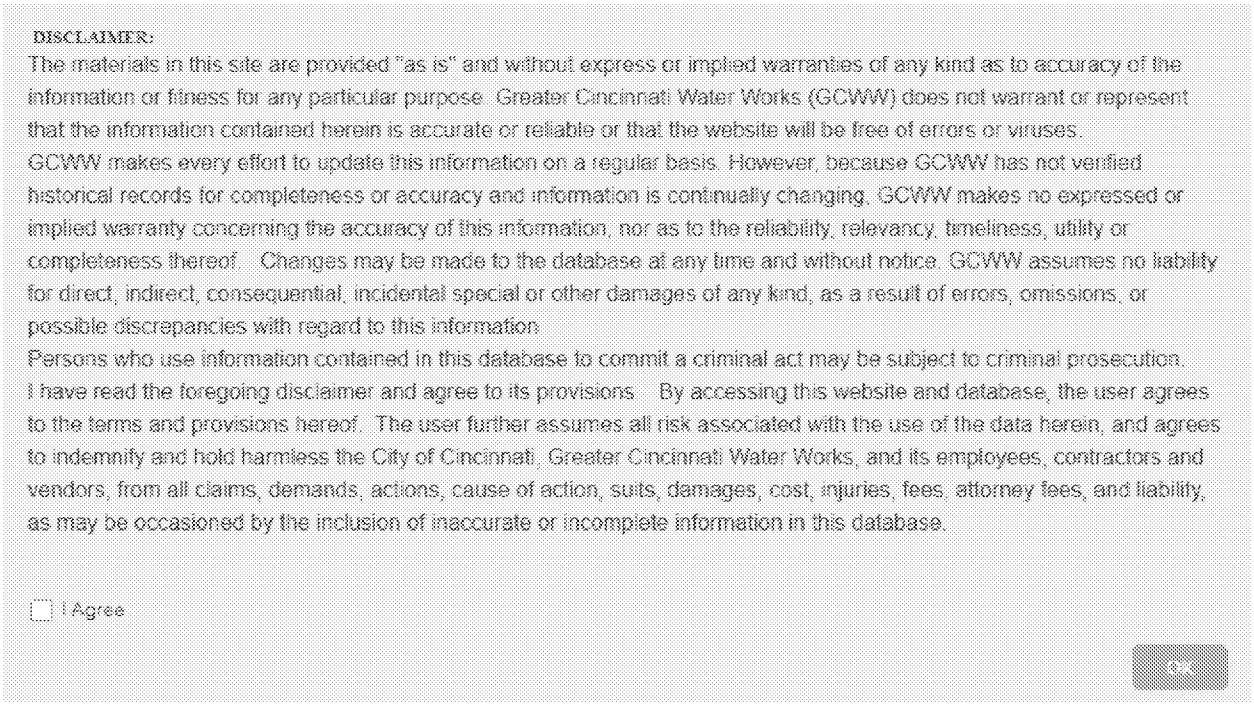
Interactive Public Inventory Map

GCWW developed the interactive Lead Look-up Map to provide the public with easy access to information from their service line inventory (GCWW, 2021d). After reading and accepting a disclaimer regarding the accuracy and use of the data (see Figure 3), users can search their address to view a map of their service lines and materials. The map includes a legend that identifies materials on the public and private side, shown as a divided rectangle (left side is public side and right side is private side). The map uses a combination of colors and symbology. A green checked box denotes non-lead, yellow and an X is lead, and gray and no symbol indicates no information. GCWW updates their map regularly as they retrieve more data. A snapshot of the map is provided in Figure 4.



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I Agree

Ok

Figure 3: Screenshot of GCWW Disclaimer Language (GCWW, 2021d).

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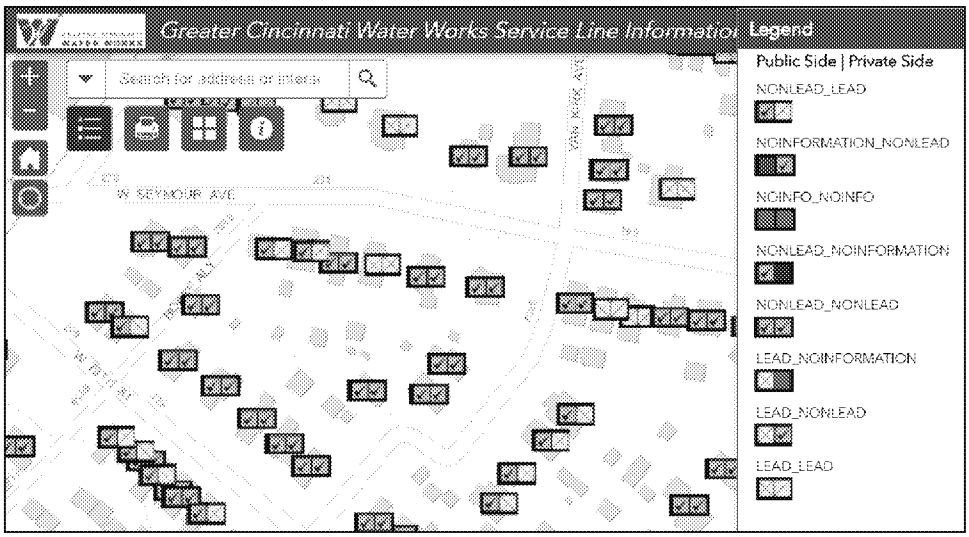

Figure 4: Snapshot of the GCWW Lead Look-up Map (GCWW, 2021d).

Summary of Main Points

- **Use Multiple Information Sources to Develop the Inventory.** GCWW used a variety of records to initially build the inventory and then verified and improved accuracy using a custom-built app as well as information provided by customers.
- **Develop User-friendly Tools.** It is important to ensure that public-facing tools are understandable by a range of users. Hiltner et al. (2019) found the GCWW map very comprehensible, especially in comparison to other similar tools. A visual, with clear legends can aid users' understanding. Providing property-specific LSL information, distinguishing private- and public-side information, being clear about what is not known, and choosing legend colors and icons carefully, are all factors that can improve the usability and understandability of a tool.

Resources

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GCWW. 2021b. Enhanced Lead Program. https://la.mygcww.org/enhanced-lead-program/. Accessed December 14, 2021.

GCWW. 2021c. Identify Your Service Line. https://la.mygcww.org/do-i-have-a-lead-service-line/. Accessed December 14, 2021.

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Pittsburgh Water and Sewer Authority

Key Topics

- Dealing with Uncertain Historical Records
- Experience with Field Techniques
- Statistical (Predictive) Data Analysis
- Innovative Field Data Forms
- Example of the Continuous Improvement Approach

Background/Water Utility Description

The Pittsburgh Water and Sewer Authority (PWSA) provides water to 520,000 people in the Pittsburgh area (USEPA, 2021). Publicly owned and operated, the system produces a daily average of 69.6 million gallons of finished water (PWSA, 2021a). Approximately 965 miles of water lines and 11 tanks comprise the distribution system (PWSA, 2021b). Water is treated using a clarifier pretreatment system and rapid sand filtration system (PWSA, 2021c). In the spring of 2019, PWSA also optimized their corrosion control treatment by switching to orthophosphate, resulting in consistently lower lead levels (PWSA, 2021d). The initial water distribution system was put into service in 1828 and expanded over time through the early half of the 1900s (PWSA, 2021c). In November of 2020, PWSA estimated that in their system, there are 10,995 public and 28,171 private lead service lines (LSLs), and 14,440 public and 4,997 private service lines of unknown material (Liggett et al., 2022).

Inventory Approach

Unless otherwise noted, the source of information for the inventory approach is the 2021 Journal AWWA Article Developing and Verifying a Water Service Line Inventory. Duffy, D. and Pickering, W. (2021).

Overview

PWSA began updating their inventory of service line materials in 2016. To organize and publicize their service line inventory, PWSA launched an online Lead Map on their website (Figure 1). They update the map monthly as they gather more data. Users can search their unique address on the map to display the results for their service line materials on the public- and private-side, as well as to display the source of that data (Figure 2). Data sources include historical records, verification by excavation, replacement information, and curb box inspection (CBI) results.

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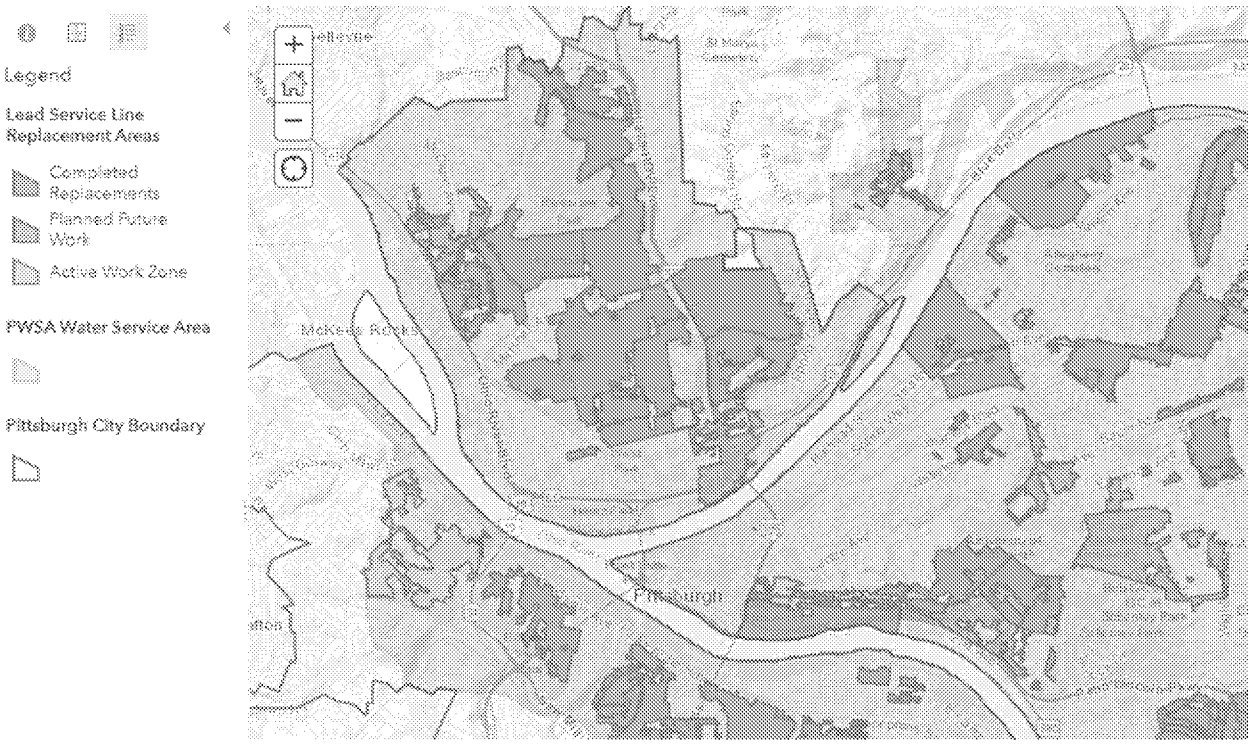

Figure 1: Snapshot of PWSA Lead Map (PWSA, 2021e).

Figure 2: Snapshot of a neighborhood in Pittsburgh, PA, as viewed on the PWSA Lead Map (PWSA, 2021e).

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Dealing with Uncertain Historical Records

To begin their service line inventory update, PWSA reviewed historical drill records of water main tapping and material identification endeavors, and historical private-side service line inspections. PWSA digitized over 130,000 hard copies of these records and published them to their Lead Map.

Because many service lines had been maintained and repaired since being installed, PWSA found that only 63 percent of their historical records were accurate. Further, prior to 1984, water main tapping and material identification were only done on the public-side. Private-side service line inspection records had not been consistently updated or prepared at every drill record site. As such, PWSA has a disclaimer on their online Lead Map (PWSA, 2021e), cautioning that some of the historical records are inaccurate and that PWSA will update as more information becomes available. PWSA began gathering data through alternative approaches, including through the field techniques described below.

Experience with Field Techniques

PWSA began excavating curb stops where the location either had no historical record or had a record of lead. PWSA requires a minimum of 24 inches be excavated on each side of the curb stop because in many instances they found that the curb stop and small part of the service line had been replaced with non-lead materials but tied back into lead. PWSA used an ArcGIS Collector app to add a photo of each curb stop and log the type of service line materials. Although effective, this excavation process was slow, less efficient due to the larger required excavation size, and very costly to PWSA. In 2018 and 2019, PWSA spent $5 million excavating sites that they found to not contain LSLs.

To evaluate a more efficient service line identification approach, PWSA began doing CBIs using small cameras sent down into the curb stop where the public and private service lines were visible to identify the material. After inspecting approximately 15,000 locations in 2018, PWSA found that about 25 percent of the data was usable. Often, they were either unable to locate a curb box, reach the curb stop, or identify the service line material because of its degradation or the photo quality. When CBI identified lead, results were very accurate (97 percent of locations were verified as LSLs. However, lead was later discovered at 35 percent of locations identified by CBI as non-lead. Duffy and Pickering (2021) explain that this is because in some locations, the curb box and a small length of the service line was replaced but not the entire service line. PWSA began considering other ways to gather information on service line material, as described below.

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Statistical (Predictive) Data Analysis

The University of Pittsburgh helped PWSA develop a model to predict service line materials at locations across their system. The model used data from various sources, including property assessments, tap sampling water results, and service line records, to predict what houses might also have lead levels in their water above 15 micrograms per liter (Hajiseyedjavadi et al., 2020). With an accuracy of 73 percent, the model was ultimately only slightly more accurate than the historical records. Thus, PWSA decided not to use the model to estimate service line materials but is using the model to prioritize LSL replacement areas.

Innovative Field Data Forms

PWSA developed specific service line and meter replacement work orders in the tablet-based application used by its utility workers and plumbers. Utility workers and plumbers update service line material observations and record data for any replacements they conduct. In addition, the Allegheny County Health Department (ACHD) uses an app for their plumbing inspectors to record data about the private-side service line inspections they complete. ACHD's app sends PWSA an email with the information logged during each inspection that helps PWSA update the private-side of their service line material inventory.

Example of the Continuous Improvement Approach

PWSA's approach to developing an inventory fits into the EPA-recommended **Continuous Improvement** framework to build and update the inventory using new and better data as follows:

- Upon identifying the action level exceedance in 2016, PWSA began updating their inventory of residential service line materials by reviewing historical records.
- PWSA began reviewing historical drill records and private-side service line inspections.
- Upon review, PWSA realized there were too many gaps, inaccuracies, and inconsistencies to solely rely on the historical records. The data were only 63 percent accurate.
- PWSA began exploring alternative approaches that would be more cost effective and increase accuracy.

They modified their approach for conducting excavations at the curb box to use cameras to try to reduce costs and improve the likelihood of finding LSLs. Although less invasive and reliable for identifying LSLs, CBIs were less reliable for confirming that no LSLs were present. Then PWSA experimented with predictive modeling but found that the model was only slightly more accurate than historical records. Thus, PWSA decided not to use predictive modeling to estimate service line materials but instead uses it to prioritize LSL replacements.

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PWSA has found that no one method is superior to all others and that a combination of methods works best (see Lessons Learned).

Lessons Learned

Duffy and Pickering (2021) provided a summary of lessons learned from their efforts to build a service line inventory:

- **Use Multiple Data Collection Methods.** Although PWSA could not solely depend on historical records and CBI to update the service line inventory, these methods added value to the inventory and ultimately helped refine PWSA's approach. Further, although the predictive data analysis could not be used to estimate service line materials, PWSA is using that analysis to prioritize lead service line replacement areas.
- **Understand Your Historical Data and Limitations.** Upon further evaluation, PWSA discovered that water main replacements before the 1970s only replaced a few feet of service line. Thus, they could not classify all water main replacements as non-lead.
- **Use Electronic Forms and Apps.** PWSA developed multiple apps and tools along the way, including their Lead Map and ArcGIS Collector app. The map is user-friendly and consistently updated. The app eases the service line material reporting process for workers. In short, the tools meet the needs of both the back-end and front-end users.

Resources

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Hajiseyedjavadi, S., Blackhurst, M., and Karimi, H. (2020). A Machine Learning Approach to Identity Houses with High Lead Tap Water Concentrations. Association for the Advancement of Artificial Intelligence, 13300-13305. https://ojs.aaai.org/index.php/AAAI/article/view/7040

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Appendix C: Instructions for Self-Identifying LSLs and Information When Water System Conducts Verification

Examples of Customer Service Line Material Identification Instructions

- Philadelphia Water System
- Rockford, Illinois
- Newark, New Jersey
- Washington, DC

Water Service Verification Materials from Menasha, WI

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Philadelphia Water System Customer Instructions for Self-Identifying LSLs

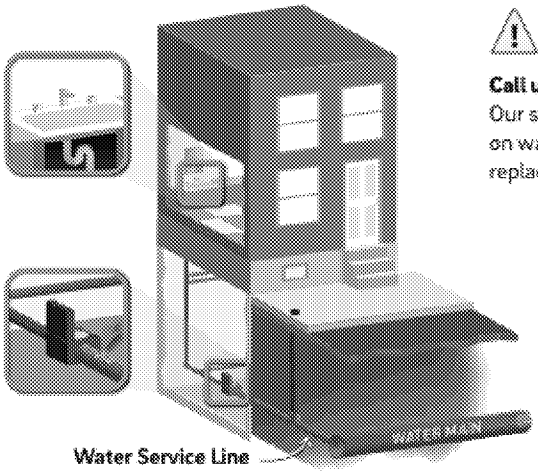
PHILADELPHIA WATER DEPARTMENT

How to check your water service line material

The City's water mains are not made of lead. However, the water service line running from the water main to your home may be made of lead or steel.

Lead can also be found in older brass fixtures and valves and in old solder or epoxy, where pipes are joined.

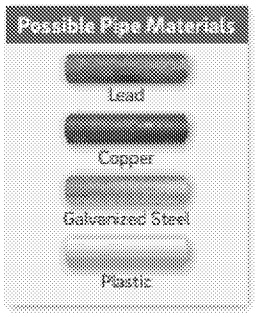
You can test the water service line where it connects to the water meter in the basement.



Water Service Line
May be made of lead, copper, galvanized steel or plastic.

For any questions about lead in your water:

Call us at (215) 685.6300.
Our staff will provide information on water testing, safety tips and replacement options.



Follow these steps:

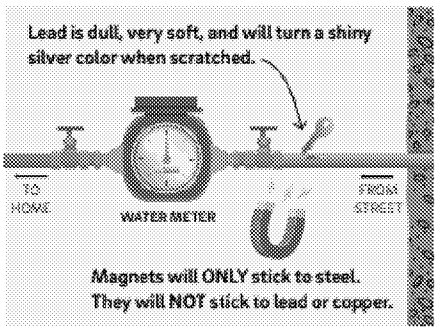
You will need:

- Key or a coin
- Strong refrigerator magnet

1. Find the water meter in your basement. Look at the pipe that comes through the outside wall of your home and connects to your meter.

2. Carefully scratch the pipe (like you would a lottery ticket) with a key or a coin. Do not use a knife or other sharp tool. Take care not to make a hole in the pipe. If the scratch turns a shiny silver color, it could be lead or steel. NOTE: If pipe is painted, use sandpaper to expose the metal first.

3. Place the magnet on the pipe. If a magnet sticks, it is a steel pipe.



Other ways you can check for lead:

- **Purchase a lead test kit at a hardware or home improvement store.** These kits test what the pipe is made from—not the water inside. Look for an EPA recognized kit.
- **A licensed and insured plumber can inspect your pipes and other plumbing for lead or steel. Replacing an older brass faucet or valve might reduce the lead in water.**

Source: https://www.phila.gov/media/20211208161245/HowToCheckYourServiceLineForLead-21.12.07.pdf.

Rockford, IL System Customer Instructions for Self-Identifying LSLs

Pipe Identification Procedures

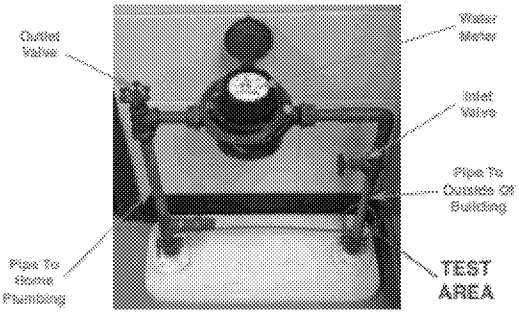
How To Identify A Lead Water Service Pipe

Tools Needed:

Flathead Screwdriver, Refrigerator Magnet & A Penny (or other coin)

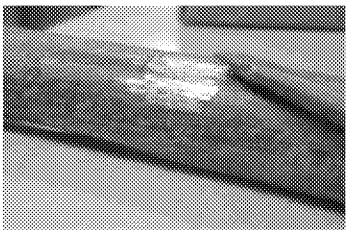
Step 1:
Locate the water service line coming into the building.
This is typically found in the basement. An "inlet valve" and the water meter are installed on the pipe after the point of entry.

Identify a test area on the pipe between the point where it comes into the building and the inlet valve. If the pipe is covered or wrapped, expose a small area of metal.



Step 2:
Scratch the surface of the pipe.
Use the flat edge of a screwdriver or other tool to scratch through any corrosion that may have built up on the outside of the pipe.

Step 3:
Compare your pipe to the chart below.
Each type of pipe will produce a different type of scratch, react to the magnet differently and produce a unique sound when tapped with a metal coin.

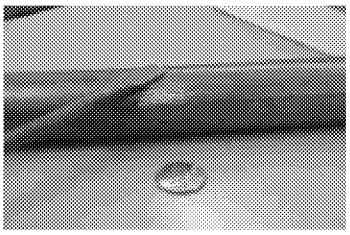


Lead Pipes

The Scratch Test
If the scraped area is shiny and silver, your service line is lead.

The Magnet Test
A magnet will not stick to a lead pipe.

The Tapping Test
Tapping a lead pipe with a coin will produce a dull noise.

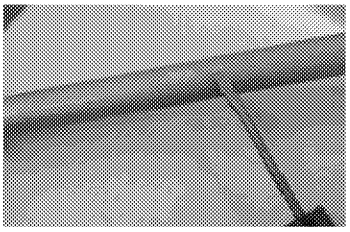


Copper Pipes

The Scratch Test
If the scraped area is copper in color, like a penny, your service line is copper.

The Magnet Test
A magnet will not stick to a copper pipe.

The Tapping Test
Tapping a copper pipe with a coin will produce a metallic ringing noise.



Galvanized Pipes

The Scratch Test
If the scraped area remains a dull gray, your service line is galvanized steel.

The Magnet Test
A magnet sticks to a galvanized pipe.

The Tapping Test
Tapping a galvanized pipe with a coin will produce a metallic ringing noise.

THE CITY OF ROCKFORD ILLINOIS USA

Source: https://rockfordil.gov/city-departments/public-works/water-division/lead-and-drinking-water/. Accessed November 2, 2021.

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Newark, NJ Customer Instructions for Self-Identifying LSLs

HOW DO I CHECK MY SERVICE LINE'S MATERIAL?

To find out if you have a copper, lead or galvanized steel service on your property, you (or your landlord) can perform a Materials Verification Test on the water service line where it connects to the water meter to determine the material of the water service line on your property.

Please follow the steps below, and then send the results of the test along with your address to info@newarkleadserviceline.com. The City of Newark will include your results in their water service line inventory records.

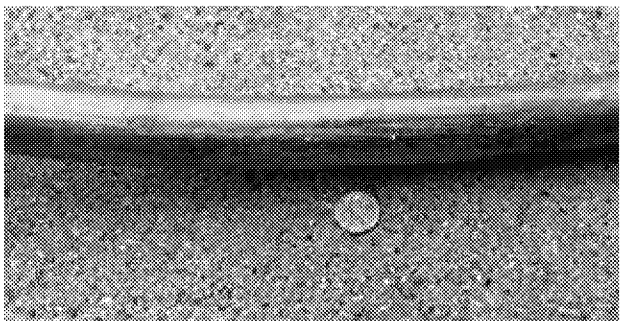
What You Need

- A house key or coin
- A strong refrigerator magnet

Steps to Check Your Service Line

1. Find the water meter on your property.
2. Look for the pipe that comes through the outside wall of your home and connects to your meter.
3. Use a key or coin to gently scratch the pipe (like you would scratch a lottery ticket). If the pipe is painted, use sandpaper to expose the metal first.
4. Place the magnet on the pipe to see if it sticks to the pipe.
5. Determine your pipe material and send your results and address to info@newarkleadserviceline.com

Your Test Results



If your pipe is **copper**:
The pipe may appear dull brown on the outside but will be the color of a bright penny if gently scratched. A magnet won't stick to a copper pipe.

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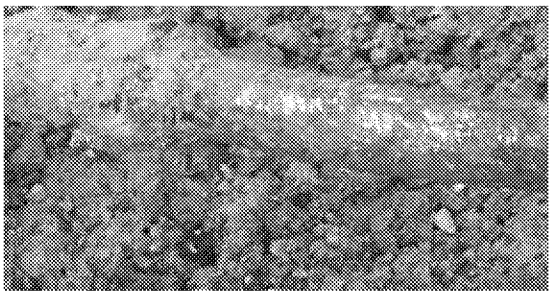
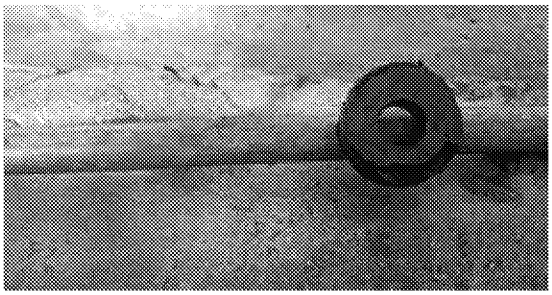
Newark, NJ Customer Instructions for Self-Identifying LSLs (continued)



If your pipe is **lead**:
The pipe will appear dull and soft but will turn a shiny silver color when scratched. A magnet won't stick to a lead pipe.



If your pipe is **galvanized steel**:
The scratched area will remain a dull gray, and a magnet will stick to the surface. If you have a galvanized steel pipe, you may still have a lead gooseneck on your service line.

Please send your results and address to info@newarkleadserviceline.com

I PERFORMED A VISUAL INSPECTION OF MY LEAD SERVICE LINE. WHAT IF I AM STILL NOT SURE ABOUT MY LEAD SERVICE LINE MATERIAL?

If you tested your water service line, and are still unsure of your lead service line material, the City will visit your home to inspect your service line at no cost to you. To schedule an inspection, contact the Lead Service Line Replacement Team at (973) 733-6303 or email waterandsewer@ci.newark.nj.us

ARE THERE OTHER WAYS I CAN CHECK TO SEE IF I HAVE A LEAD SERVICE LINE?

For more information on identifying a lead service line, including NPR's interactive tool for lead pipe identification, visit https://www.lslr-collaborative.org/identifying-service-line-material.html

Lead test kits to test the pipe can be purchased at your local hardware store. Look for an EPA recognized kit. You can purchase an EPA-approved lead test kit at https://www.epa.gov/lead/lead-test-kits or https://www.amazon.com/dp/b008bk15pu

For questions about lead in water or testing your water service line, contact the Lead Service Line Replacement Team at (973) 733-6303 or email waterandsewer@ci.newark.nj.us

Source: https://www.newarkleadserviceline.com/check-your-line. Accessed December 21, 2021.

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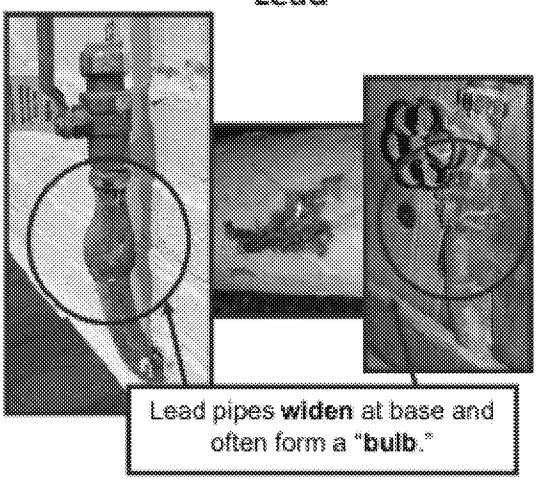
DC Water Customer Instructions for Self-Identifying LSLs

dc water is life

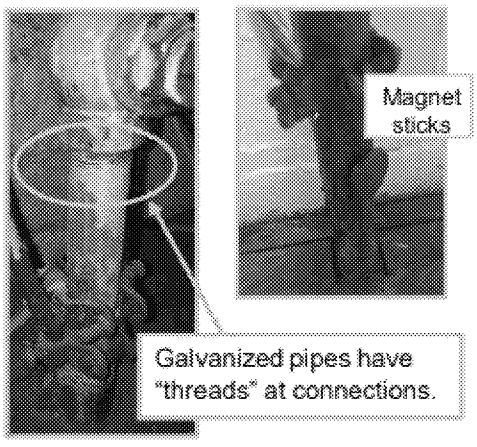
Water Service Pipe Material Identification

	Lead	Galvanized Iron	Copper	Brass
Outer Appearance	Dull gray, bendable; Often curves between wall/floor and valve	Dark gray or black; Straight rigid pipe	Brown; Can have green corrosion spots	Brown; Can have green corrosion spots
Threads at connections	None	Yes	None	Yes
Scratch Test (coin or key)	Shiny silver	Hard to scratch, remains gray	Copper, like a penny	Gold color
Magnet Test	Does not stick	Magnet WILL stick	Does not stick	Does not stick

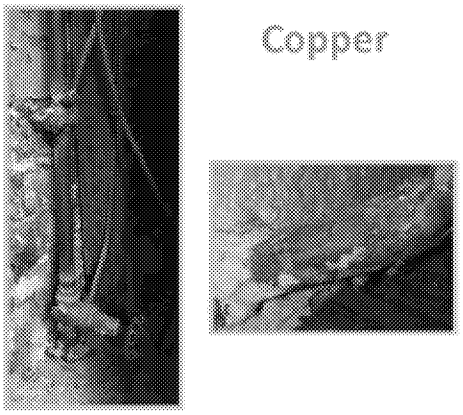
Lead



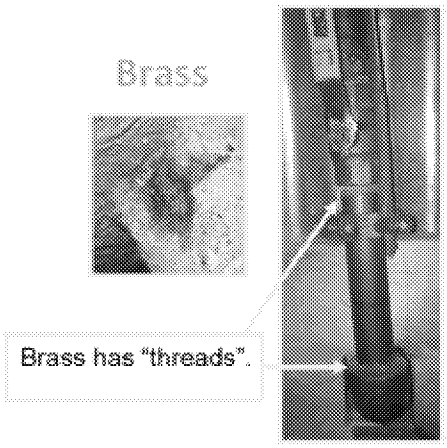
Galvanized Iron



Copper



Brass



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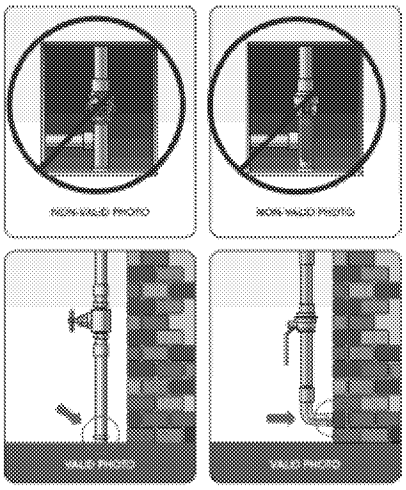
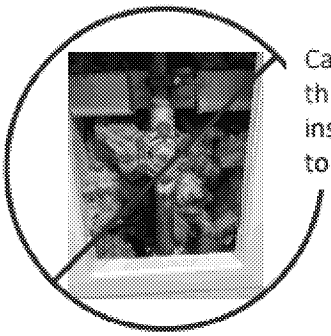
DC Water Customer Instructions for Self-Identifying LSLs (continued)

Step 1
Locate the water service line entering the building. You need to see the pipe where it comes through the floor or wall. In the basement or lowest floor, or whole-house water shut-off valve nearby.



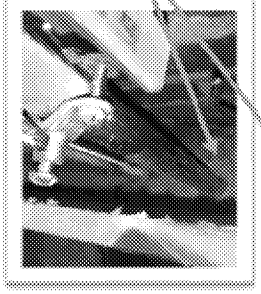


Cannot see where pipe comes through - try to pull back insulation and use phone camera to view pipe at breakthrough.

Step 2
Use Pipe Material Identification Sheet

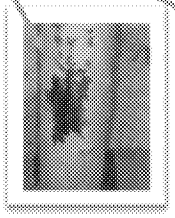
- Look for threads at connections.
- Scratch pipe with a coin or key to reveal the metal. You may need to scratch through corrosion or paint. Lead is soft and scratches easily.
- See if a kitchen magnet sticks to the pipe. A magnet will not stick to a lead pipe.

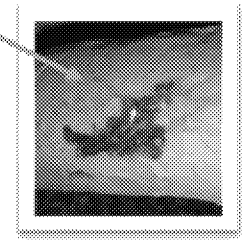
Pipe coming through floor



Step 3
Take three (3) photos.

1. Pipe coming through wall or floor.
2. Closer view of pipe with scratch.
3. Further view of pipe that includes shut off valve.





Step 4
Send photos to leadtest@dcwater.com.

Source: https://www.dcwater.com/sites/default/files/Lead-Testing/DCWPipeMaterialIdentificationGuide_2021.pdf.

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Customer Information When System Verifies Customer Service Line Material – Menasha Utilities Postcard

Menasha Utilities
THE POWER OF COMMUNITY

Place your stamp here

Menasha Utilities
P.O. Box 340
Menasha WI 54952

Action Required

Dear Menasha Utilities Customer:

Menasha Utilities Water Department does not have record of your water service pipe material

We are updating our records and working toward a lead free water supply for our customers. We would like to verify and confirm the type of water service coming from the water main in the street to your home. The appointment will take approximately five minutes and we will need to access your water meter usually located in your basement.

Please call the Water Distribution Department at **920-967-3431** to schedule an appointment between the hours of 7:00 a.m. and 3:00 p.m. Monday thru Friday.

For more information visit our website: www.menashautilities.com/water-department.

Thank you in advance for your cooperation.

[Insert Contact information]

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Customer Information When System Verifies Customer Service Line Material – Menasha Utilities Information When Appointment is Scheduled

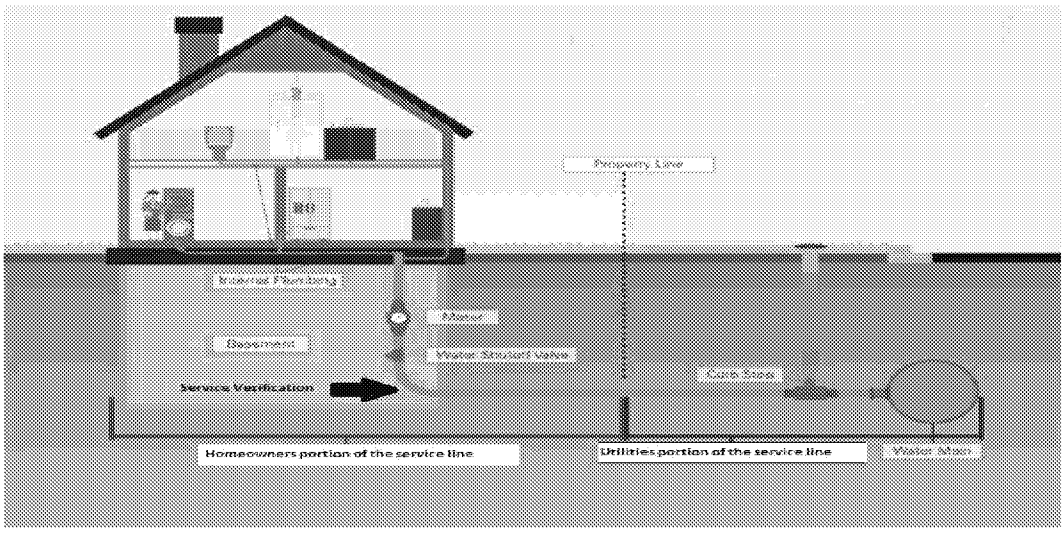
Water Service Verification

Appointment Expectations

Water service lines can be made of lead, copper, galvanized steel, or plastic. Without excavating the service line to expose the pipe, Menasha Utilities employees can determine the pipe material by locating the pipe that connects the water meter to the water main (usually in the basement). Once the pipe is located, employees will conduct a scratch test and find out if the pipe is magnetic to determine the service line material. Images of the different service line materials are shown below.

Reminders

- All Menasha Utility employees have photo identification. Please request to see credentials if they are not visible.
- Someone 18 years or older must be present for the entire appointment.
- Please secure and maintain control of pets.
- Menasha Utility employees will need a safe and clear path to access the water meter.



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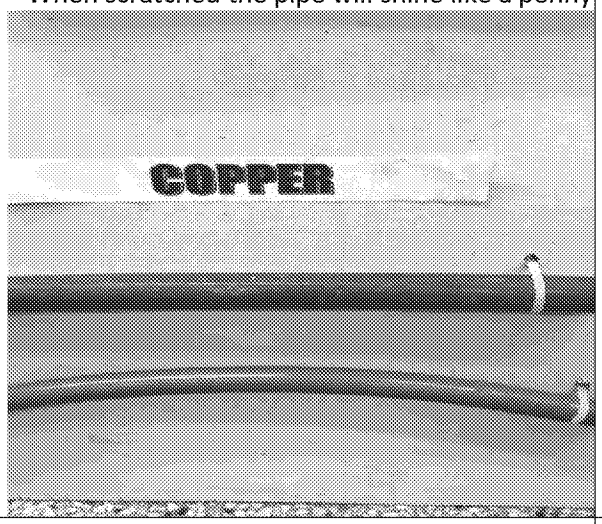
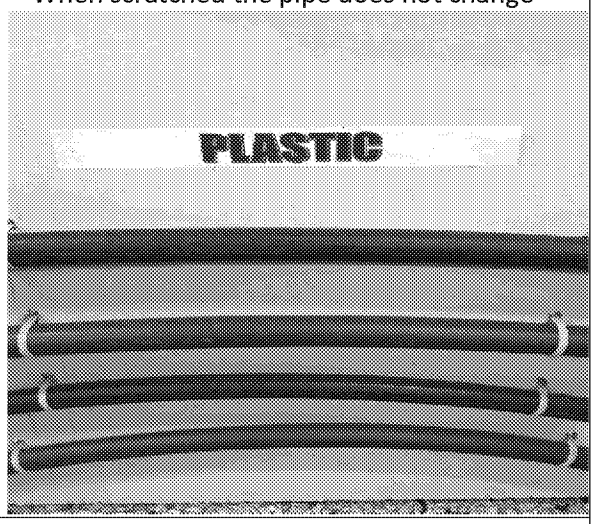
Menasha Utilities Information When Appointment is Scheduled (continued)

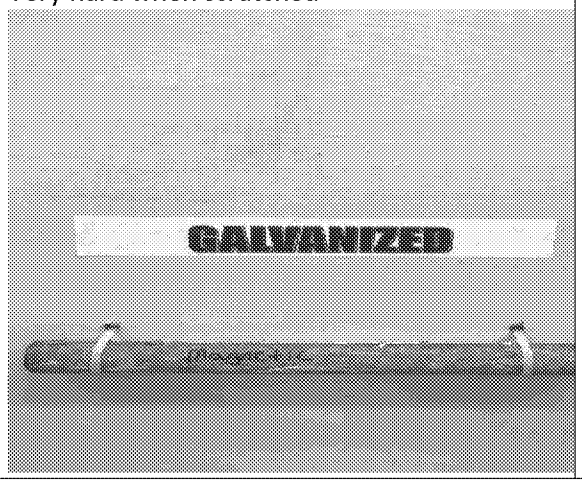
- Bronze to brown in color
- Not magnetic
- When scratched the pipe will shine like a penny



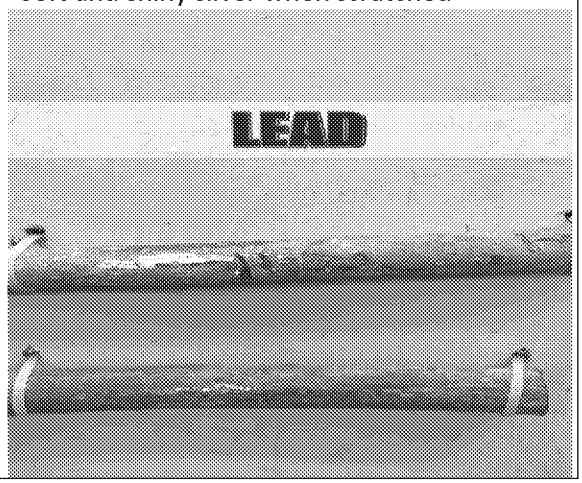
- Blue or black
- Not magnetic
- When scratched the pipe does not change



- Dull gray color
- Magnetic
- Very hard when scratched



- Dull gray color
- Not magnetic
- Soft and shiny silver when scratched



Source:
https://www.menashautilities.com/sites/menashautilities.com/files/Water%20Service%20Verifications%20webpage%20content%202019.pdf. Accessed November 29, 2021.

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Appendix D: Summary of Lead Ban Provisions by State

Below is a summary of the 1986 lead ban provisions by EPA Region and then by state. The tables have been recreated with some modification to the format from Table 3-1 of EPA's Lead and Copper Rule Guidance Manual. Volume I: Monitoring (USEPA, 1991b), but the content has not been updated. Thus, water systems should verify the lead ban effective dates with their states.

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region I	Connecticut	Yes	Public Act No. 66-192; Sec. 29-261 General Statutes; State Plumbing Code	12/31/88	Governor 03/29/89	X	X	X	Requires solder warning label
	Maine	Yes	Internal Plumbing Rules 10-144A CMR238; Chapter 9,8,10; Chapter 3, Table 3,5; and Chapter II.D.1	08/01/87	Commissioner, Dept. of Human Services 02/23/89	X	X	X	State purchased Pb solder test kits for inspectors, etc. to use in field testing.
	Massachusetts	Yes	State Plumbing Code, 2-18 CMR; Pg. 55, 201, 208, 207	01/01/86	Commissioner, Dept. of Env. Protection 03/08/89	X	X	X	
	New Hampshire	Yes	State Plumbing Code, Chapter ??? 700, Part ??? 701	08/01/87	Governor 03/28/89	X	X	X	Adopted BOCA
	Rhode Island	Yes	Regulation S.B.C.-3; Article 4, P402.3 and P402.4; and Article 5, P508.4 and P509.5	01/01/87	Governor 03/28/89	X	X	X	Adopted BOCA
	Vermont	Yes	VT Residential plumbing code, ABC Envir. Protection Rules for public buildings	12/28/88 09/10/82	Commissioner of Health, 03/27/89	X	X	X	New legislation eff. June 1989 consolidating plumbing codes and clarifying lead ban.

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region II	New Jersey	Yes	Uniform Construction Code, Plumbing Subcode 5:23-3,15	02/02/87	Governor 02/02/89	X	X	X	Pipe is covered under Bureau of SDWA Regulations
	New York	Yes	Executive Law, Section 905,5 of Titles 9 NYCRR	01/01/86	Commissioner of Health 01/11/89	X	X	X	Lead ban law; Load labeling law
	Puerto Rico	Yes	Planning Board Regulation #7 (Building Regulation) Article V- 8-10	06/19/88	Governor	X	X	X	
	Virgin Island	Yes	VI Interim Primary DW Standards Title 12, VI Rules & Regs. Chapter 51, Section 1303	02/06/89	Governor 02/06/89	X	X	X	

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region III	Delaware	Yes	State Plumbing Code, Section 119 Chapt. 79, Sec. 7906; Chapt. 1, Sec. 122e	06/17/88	Secy. Dept. Health & Social Services	X	X	X	Adopted BOCA
	D.C.	Yes	D.C. Plumbing Code Supplement of 1986, Article 5	08/19/88		X	X		Requires PN; bans>8% pipe, but not fittings
	Maryland	Yes	COMAR 09.20.05.02., 09.20.11.10E,0901.01.09/ 01.03	08/16/88	Secy. Environment 09/15/88	X	X	X	Effective 03/30/89 for pipes and fittings
	Pennsylvania	No	Plumbing System Lead Ban and Notification Act of 7/69	01/06/91		X	X	X	Act also bans the sale of materials that are not lead free
	Virginia	Yes	Uniform Statewide Plumbing code P-501.7.3, P-501.8.4 and P-210-1,4	04/01/86	Governor	X	X	X	Adopted BOCA 04/15/87

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
	West Virginia	Yes	Legislative Rules, Dept. of Health, Plumbing Requirements 64 CSR 57	06/19/88	Governor	X	X	X	Requires PN

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region IV	Alabama	Yes	State Lead Ban Act, ADEM Admin. Code R.335-7-11-05	05/10/88 01/89	Governor/ADEM Director	X	X	X	
	Florida	Yes	Florida Statues, Subsection 553.11 and 553.06	06/10/88 12/88	Governor/DER Secretary	X	X	X	Dept. of Community Affairs to adopt amended State Plumbing Codes
	Georgia	Yes	State Plumbing code, Section 402.1, Section 114.5, and Section 1109.1; State Regs.	07/87 01/89		X	X	X	
	Kentucky	Yes	State Plumbing Code, Section 17, PC-60-3	01/04/88	Commissioner of Bd. Of Housing Mgr. D.w. Branch	X	X	X	Formalization of enforcement procedures with the Div. of Plumbing with the next few months. (11/90)
	Mississippi	Yes	Board of Health, Envir. Regs. Division 300-Water Supply, Part 301 Section 301.5(c)	04/13/88 05/88	Exec. Secy. Bd. Of Health/Asst. Dir. Div. Water Supply	X	X	X	Requires PN
	North Carolina	Yes	State Plumbing Code Volume II, Section 602.4 (solder & flux) Section 1008 (solder, pipe, flux)	03/87	Comm. of Insurance/head Public Water Supply Branch	X	X	X	Requires PN

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
	South Carolina	Yes	State SDWA, 61-58.4 (1)	11/88	Chief Bureau DW Program	X	X	X	Requires PN; State Plumbing Codes expected to be amended during next legislative session.
	Tennessee	Yes	Tennessee Code Annotated, Title 88, Chapter 13, Part 7	03/18/88	Governor/Dir. Div. Water Supply	X	X	X	

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region V	Illinois	Yes	Illinois Administrative Code, Chapter 1, Section 890.620d	04/86	Dir. Of H. EPA & Dir. Of Dept. of Health, 09/13/88	X	X	X	
	Indiana	Yes	IN Plumbing Code, title 675, Sec 7 Subsec. 113g and Sec. 602, Subsec. d	03/01/87	NA	X	X	X	
	Michigan	Yes	Mi Construction Code Act	06/07/88	Governor 11/21/88	X	X	X	
	Minnesota	Yes	Minnesota Statues, Chapter 326, Section 326 371, MN Plumbing Code	06/01/85	Comm. Of Health 09/27/88	X	X	X	Sellers of lead solder must display warning sign.
	Ohio	Yes	OH Basic Building Code	09/12/88	OH EPA & Governor 9/26/88	X	X	X	
	Wisconsin	Yes	Wisconsin Administrative Code	1986	Governor 09/28/88	X	X	X	

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region VI	Arkansas	Yes	State Plumbing Code, 10.1.6 and 10.1.7	06/01/88	Governor Bill Clinton 06/16/88	X	X	X	
	Louisiana	Yes	State Sanitary Code, chapter XII (Water Supplies)	09/20/88	Dept. Asst. Secy. of Dept. of Health & Hospitals 09/12/88	X	X	X	Requires PN
	New Mexico	Yes	State Plumbing Regulations	04/01/87	Governor Garrey Carruthers 12/06/88	X	X	X	Requires PN
	Oklahoma	Yes	Rules and Regulations Governing Plumbers	05/06/87	Governor Henry Bellman	X	X	X	Adopted BOCA
	Texas	Yes	Rules and Regulations for Public Water Systems, 337.206(b)	07/01/88	Governor Clemenis 09/29/88	X	X	X	

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region VII	Iowa	Yes	IA Administrative Code, Chapters 40 and 41	09/14/88	Larry Wilson Exec. Fir. Of IDNR	X	X	X	Requires PN
	Kansas	Yes	KS Statutory Authority 65-1710 and 65-171R	04/19/88	Dr. Stanley C. Grant Secy. KDHE	X	X	X	Requires PN
	Missouri	Yes	10CSR 60-10.040 and 60-8.020; and MS Released Statues, Chapters 311.060	08/31/88	Dr. F. Brunner Dir. MDNR	X	X	X	Requires PN
	Nebraska	Yes	NB Safe Drinking Water Act, Title 179, Chapter 2, Sections 003, 004, 005	05/88	Greg Wright, Dir. Dept of Health	X	X	X	Requires PN

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region VIII	Colorado	Yes	CO Plumbing Code, Chapters 8 and 10	01/31/88	Governor 11/21/91	X	X	X	Adopted Uniform Plumbing Code
	Montana	Yes	Administrative Rules, 8.70.304, Plumbing Permits (4)	12/31/87	Chief, Water Quality Bureau, 10/11/88	X	X	X	
	North Dakota	Yes	State Plumbing Code, Sections 62-03--033,1-08(5), 63-03-04-02(4)	01/01/88	Governor 09/19/88	X	X	X	
	South Dakota	Yes	State Plumbing Code	09/03/87	Secy. Dept. of Water Resources	X	X	X	
	Utah	Yes	State Plumbing Code	04/24/89	Dir. Division of Env. Health 03/08/89	X	X	X	
	Wyoming	No	The Region is trying to implement a lead ban at the local level while pursuing the adoption of a state lead ban.						

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region IX	Arizona	Yes	AZ Revised Statues, 49-353.A2(k) and 49-353.B	08/18/87	Governor 08/28/88	X	X	X	Requires PN, Adopted uniform plumbing code.
	California	Yes	Health and Safety Code, SB164 Sections 300.6 and 300.7	07/01/86	Gov. George Daukmejian, 03/28/89	X	X	X	Effective 01/01/88 for pipes solder warning label
	Hawaii	Yes	HI Revised Statues, Chapter 340B	06/05/87	Dir. Dept. of Health 03/22/89	X	X	X	Requires PN; fines
	Nevada	Yes	NAC, Chapter 445,412, Revised Statues	01/89	State Health Officer 02/18/89	X	X	X	Requires PN
	American Samoa	Yes	AS D.W. Regs. Sec. 25.0431.1	01/89	Yes	X	X	X	
	N. Mariana Is.	Yes	CNMI Drinking Water Regs. Section 5.51	03/13/89	Gov. Pedro Tenorio 03/13/89	X	X	X	
	Guam	Yes	Revised Uniform Plumbing Code, 1988	03/01/88	Gov. Joseph p. Ada, 04/07/89	X	X	X	
	Rep. of Palau	NO							Trust Territory

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	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
EPA Region X	Alaska	Yes	Section 1, AS 18.60.705	06/05/88	Governor, 04/11/88	X	X	X	Covers all water systems as of 4/89
	Idaho	Yes	Idaho Code Chapter 26, Title 54	08/11/88	Governor, 03/30/89	X	X	X	Adopted Uniform Plumbing Code
	Oregon	Yes	Health Division Rules 333-61-020, 333-61-040 and 333.61.087	09/04/84	Governor, 03/10/89	X	X	X	Warning Labels; removal of lead service lines; public notification lead flux was banned in 1988
	Washington	Yes	State Building code, Chapter 551-16 WAC, Section 15-16 060	04/27/87 03/17/88	Governor, 03/30/89	X	X	X	

	State	Implemented Lead Ban	Method	Date Effective	Certification Signature	Requires Solder	Use of Flux	Lead Pipe	Notes
Total	All	Yes: 54 No: 3				56	56	55	

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Appendix E: Michigan Minimum Service Line Verification Requirements

In 2018, Michigan EGLE revised their regulations to require systems to prepare a complete distribution system materials inventory by January 1, 2025. One goal of the materials inventory is to " . . . Demonstrate through physical verification that the inventory is accurate." Michigan designed their verification process using the principles outlined in their "Minimum Service Line Verification Requirements (Michigan EGLE, 2021). These requirements in their entirety are provided as Appendix E.

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MICHIGAN DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY
DRINKING WATER AND ENVIRONMENTAL HEALTH DIVISION

EGLE

MINIMUM SERVICE LINE MATERIAL VERIFICATION REQUIREMENTS

A reliable inventory of potable water service line materials is important for service line replacement planning, effective asset management, and notification of citizens served by lead service lines. Reliability and completeness of service line records can vary both across and within water supplies; therefore, it is important that supplies take steps to verify service line materials and records. Water supplies are not expected to physically verify every service line, but rather a statistically sound subset. To effectively evaluate the accuracy of service line records and/or predict service line materials, a representative, uniformly random number of service lines must be physically verified.

Information gathered through random material verification processes provides:

- A verified estimate of the proportion of each service line material and material configuration across the distribution system, providing a sound basis for planning service line replacement and notification efforts.
- A basis for evaluating the reliability of existing service line material records and identifying areas where additional physical verification or information may be needed. For water supplies with high confidence in existing records, this may serve to demonstrate that records are, in fact, reliable.
- A baseline data set for predicting materials at other locations (in combination with other information).

This random material verification process does **NOT** provide:

- The service line material configuration of every building served; or
- The extent to which specific areas of the distribution system may differ from the system-wide average occurrence rate of each service line material.

Verification Exceptions:

- A water supply may avoid the material verification process if all potable water service lines within the water supply meet the strict definition of "known" described below.
- Water supplies may exclude from this verification service lines four inches or more in diameter. Guidance for addressing these service lines as part of the Complete Distribution System Materials Inventory (CDSMI) will be provided separately.

Timing of Verification:

It is recommended that water supplies conduct this verification early enough in the CDSMI process to allow sufficient time for additional work, as needed, before the CDSMI is due to the Michigan Department of Environment, Great Lakes, and Energy (EGLE) by January 1, 2025. Consider completing this verification by the end of 2022, thereby allowing an additional two years to undertake any additional activities that may be necessary to complete the inventory.

Random Material Verification Process

To evaluate the accuracy of potable water service line records and/or predict service line materials, a statistically sound, uniformly random number of service lines should be physically verified. Some supplies have already conducted recent physical verifications and/or have controls in place that dictate service line materials, resulting in a very high level of confidence in the materials of some

service lines. In recognition of this, the following protocol requires random verification of only those service lines of "unknown" material.

For the purpose of this verification, a **conservative** approach is used to determine when a service line's material can be characterized as "known" and be excluded from the verification process.

To be considered "known," and therefore excluded from the pool of sites from which a random sample will be drawn, a service line must meet criteria 1 or 2 below:

1. The service line was recently[1] physically verified and all of the following apply:
   - **ALL** points, as defined in Step 5 below, were recently physically verified;
   - The physical verification was **well documented** as to the material at each point; **AND**
   - The water supply has **not observed deviations** from these records during operations and maintenance.

OR

2. Ordinances or controls were in place and all of the following apply:
   - Ordinances[2] or other controls[3] were in place at the time the service line was installed specifying materials used in service line construction **AND**
   - The water supply has **not observed deviations** from these ordinance(s) or control(s) during operations and maintenance.

Any service line that does not meet one of the two criteria above is considered "unknown" for the purpose of this verification process and should be included in the list of locations from which a set of sites will be uniformly randomly selected for verification.

>>NOTE: Service lines four inches or more in diameter may be excluded from the verification process.

>> NOTE: This definition of "known" and the three- or four-point verification process described below in Step 5 **are specific to this baseline verification process** and may not apply to other aspects of the CDSMI. Further guidance on completing the rest of the CDSMI will be provided at a later date.

---

[1] "Recently" in this context is water supply-specific. Supplies must define recent to include a time after which its records have been demonstrated to be reliable. No records prior to 1989 may be considered recent for the purpose of this portion of the verification process. The use of lead service lines was officially prohibited in Michigan in 1988; therefore, the health risk due to unreliable records is higher before this date. This does not mean service line records prior to 1989 have no value. They may have great value in finalizing a system's CDSMI, but they cannot be used to exclude a location from the pool of sites from which random sites are selected for this verification.

[2] An ordinance is defined as: A law, statute, or regulation enacted by a municipal corporation. An ordinance is a law passed by a municipal government. A municipality, such as a city, town, village, or borough, is a political subdivision of a state within which a municipal corporation has been established to provide local government to a population in a defined area.

[3] A control, for the purposes of this guidance, is defined as: A general set of approved specifications or binding construction documentation that explicitly demonstrates that there were controls in place dictating the material usage in all public and private portions of a service line. Any controls must first have been explicitly adopted by the water system or directly defined for each blueprint used in construction.

Material Verification Process Steps

Step 1: Identify all potable water service lines of "unknown" material.

Identify all potable water service lines of "unknown" material (i.e., those not meeting the criteria of "known" provided above). Determine the total number of these "unknown" service lines. Service lines four or more inches in diameter may be excluded from this verification process.

Note: For the purpose of this verification process, assumed service line materials cannot be used to classify a service line as "known."

Step 2: Identify how many service lines should be physically verified.

- Water supplies with fewer than 1,500 "unknown" service lines must physically verify at least 20 percent of the total number of "unknown" lines.
- Water supplies with 1,500 or more "unknown" service lines must physically verify enough lines to reach a 95 percent confidence level. See **Appendix A** to determine the number of service lines requiring verification.

Step 3: Randomly select service lines for physical verification.

From the list of "unknown" service lines identified in Step 1, randomly select enough service lines to at least meet the number requiring physical verification as determined in Step 2. Selection must be uniformly random and not selected based on any specific criteria which can introduce bias. In other words, each "unknown" service line must have an equal chance of being chosen for verification.

See **Appendix B** for an easy way to generate a uniformly random set of locations for verification.

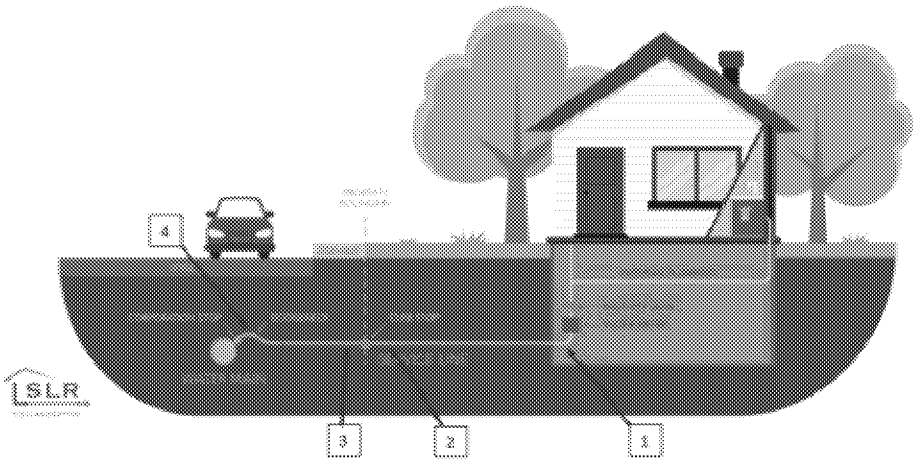
Note: It may be tempting to introduce a "logic" to the site selection process, such as selecting within periods of construction or targeting portions of town. However, doing so can unintentionally bias the data set. Be certain to use a truly random selection method such as the one described in Appendix B.

Step 4: Create a tool for tracking records and materials during verification.

Create a spreadsheet (or other tracking mechanism) containing the randomly selected locations identified in Step 3. Include columns or fields for tracking both existing records and results of the physical verification. In this step, enter currently available information about service line materials based on pre-verification records. See **Appendix C** for an example spreadsheet.

Step 5: Conduct three- or four- point physical verification.

Three or four points of physical verification are required for each service line. Physical verification methods may include potholing (by a variety of methods including hydro-vac, air-knifing, hand digging, etc.), trenching, televising, and in-home inspections. Always record the actual material observed for each point described below, even if the material was as expected. Do not use "non-lead" to describe the material.



Each service line requiring verification **must have the following three or four points physically verified** (numeric bullets refer to the numbered location in the illustration above):

1. **Interior portion** of the service line up to the first shutoff valve or 18 inches inside the building, whichever is shorter;
2. **Curb stop to building**, a minimum of 18 inches from the curb stop; and
3. **Main to curb stop**, a minimum of 18 inches from the curb stop.
4. **Lead connector (gooseneck/pigtail)**, if present. In this context, a gooseneck or pigtail is a short section of material, typically not exceeding two feet, which can be bent and used for connection between a rigid fitting (corporation stop) and the service line piping.
   If a lead connector is present, a water supply must **EITHER**:
   - Conduct a physical verification;

     OR

   - Have a control that was in place demonstrating they were never used;

     OR

   - Assume locations with galvanized service lines between the main and curb stop contain (or previously contained) a lead connector. If a water supply makes this assumption, they may skip physical verification of the gooseneck material.

   Note: Unless assuming the current or previous presence of a lead gooseneck, most water supplies with galvanized service lines between the main and curb stop must physically verify the connector material.

Step 6: Record results of physical verification in the spreadsheet created in Step 4.

In the spreadsheet or tracking tool created in Step 4, enter the service line material observed at each point of the service line during the physical verification conducted in Step 5. Always record the actual material observed, such as lead, copper, plastic, galvanized steel, or other. Do not use "non-lead."

Step 7: Evaluate results of physical verification.

This representative, uniformly random sample of service line materials should be, with a high probability, representative of service line materials from the portion(s) of the system from which the random set was selected. You can use this information to assess the reliability of your existing records and make sound assessments/decisions as you complete a system-wide inventory.

Assess Reliability of Existing Records:

Compare the historical records of your randomly selected sites with the new physically verified materials for those sites to evaluate the reliability of your water supply's historical records. For example, what percent of the time did the physical verification match the historical records? If historical records are found to be unreliable, additional physical verification may be necessary.

Predict Service Line Materials at Other Locations:

The results of this verification, in combination with other available information, can be used to predict service line materials at other sites. Water supplies may need assistance with this process. Additional information will be provided in a separate guidance document.

Retain Verification Records:

Create, compile, and retain documentation of your verification efforts. You may be asked by EGLE to produce or submit these records.

Beyond This Verification:

This is not the end of the CDSMI process. As noted in Step 7, additional verification may be necessary if records are found to be unreliable, additional work may be needed to build-out the inventory, notifications to residents may be necessary, reporting to EGLE will be required, etc. Additional guidance on these steps will be provided later.

Lead Service Line Notification Reminder:

Written notification must be provided to the owner and occupant(s) of any building with a service line known, or assumed, to contain lead in any portion.

This guidance was created in collaboration with the University of Michigan and with consideration of the ASDWA/BlueConduit white paper "Principles of Data Science for Lead Service Line Inventories and Replacement Programs" which can be found at: https://www.asdwa.org/2020/09/29/asdwa-blueconduit-release-white-paper-on-lsl-data-methods.

Appendix A: Minimum Number of Service Lines Requiring Physical Verification

Number of "Unknown" Service Lines*	Number to Physically Verify
Fewer than 1,500	20% of "unknown" lines
1,500	306
1,600	310
1,700	314
1,800	317
1,900	320
2,000	322
2,200	327
2,400	331
2,600	335
2,800	338
3,000	341
3,500	346
4,000	351
4,500	354
5,000	357
6,000	361
7,000	364
8,000	367
9,000	368
10,000	370
15,000	375
20,000	377
30,000	379
40,000	381
60,000	382
90,000	383
225,000 or more	384

* For the purposes of this verification process, this represents the number of service lines that do **NOT** meet the criteria for "known" service lines described at the beginning of this document. If the number of "unknowns" falls between two values on the chart, either interpolate or round up to the higher number.

Appendix B: Generating a Uniformly Random Set of Service Lines for Verification

You can use a spreadsheet (such as Microsoft Excel or Google Sheets) to generate a uniformly random set of "unknown" locations for verification using the following steps:

1. In the first column of a spreadsheet, list every unique service location of "unknown" material. They can be listed by address, service line ID, or other identification method.
2. In the second column, generate uniformly random numbers, so that each service line is associated with a randomly generated number, using the following steps:
    a. Enter the following formula in the second column: =RAND( )
    b. Put the '=RAND( )' formula next to each location.
    c. This generates a number between 0 and 1 for each location.
    d. Then select the column with the random values and use the spreadsheet's "Copy" feature..
    e. Then use the "Paste Special" option to "Paste Values Only" in the same column that you have already selected. This will ensure your random numbers remain static.
    f. Then use the "Sort" feature to list the randomly generated numbers from lowest to highest. If the "Sort Warning" appears, select "Expand the selection," then "Sort."
3. Select only the top N homes, where N is the number requiring verification. For example, if you need to verify 20 locations, select the first 20 locations on the list. These are the 20 uniformly random locations requiring verification.

Here is a short online tutorial for generating random samples in Microsoft Excel. The same formulas and method work for Google Sheets.

Appendix C: Example Field Verification Tracking Spreadsheet

Service Line ID & Location		Service Line Material Based on HISTORICAL RECORDS							Service Line Material Based on FIELD VERIFICATION					
Parcel ID/ Service Line ID	Address	Connector (gooseneck)	Historical Record Main-to-Curbstop	Historical Record Curbstop-to-Home	Interior (18" or 1" shutoff)	Date of Historical Record	Type of Record	Year Built	Connector (gooseneck)	Verified Material Main-to-Curbstop	Verified Material Curbstop-to-Home	Interior (18" or 1" shutoff)	Date Verified	Method
123456789	23 Main St	NA	Copper	Copper	Unknown			1958	NA	Copper	Copper	Copper	1/2/2020	Hydrovac
123456790	60 1st Ave	NA	Copper	Copper	Unknown	12/1/1996	Note card	1951	NA	Copper	Copper	Copper	12/6/2019	Hydrovac
123456794	12 Michigan Ave	Unknown	Unknown	Copper	Copper			1927	Lead	Galvanized	Lead	Lead	6/20/2020	Excavation
123456795	34 2nd Ave	Lead	Galvanized	Copper	Copper				NA	Copper	Copper	Copper	11/22/2020	Hydrovac
123456796	941 W Main St	NA	Copper	Copper	Copper	3/15/1986	Permit	1954	NA	Copper	Copper	Copper	11/13/2019	Hydrovac
123456798	24 North St	Lead	Galvanized	Copper	Copper			1935	Lead	Galvanized	Lead	Lead	10/25/2020	Excavation
123456800	26 Grand Ave	Unknown	Unknown	Copper	Unknown	8/15/1925	Note card	1926	NA	Copper	Lead	Copper	11/28/2019	Excavation
123456803	13 24th St	Lead	Galvanized	Copper	Unknown	1/11/1952	Note card	1871	NA	Lead	Galvanized	Galvanized	5/25/2020	Hydrovac

NOTE: This table is only an example. Water supplies must document the location, existing records (if available), and findings of the physical verification. Water supplies should consider adding any additional columns that will capture data useful to the verification process or completion of the CDSMI.

Appendix F: Examples of Data Quality Disclaimer Language

DC Water

Greater Cincinnati Water Works

Pittsburgh Water and Sewer Authority

ED_013319_00000283-00161

Below are just a few examples of disclaimer language from DC Water, Greater Cincinnati Water Works, and Pittsburgh Water and Sewer Authority's websites regarding the accuracy of the inventory information provided to the public. This information can be adapted for use.

DC Water

DC Water - Water Service Information

To see service line information, enter an address in the search box or zoom in on the map. Click the circle located within the property boundaries to view the property's service line information. The information provided through this map is limited to the best available data in DC Water's possession at this time. It may not be accurate.

Visit Service Lines - Fact Sheet for more information.

DISCLAIMER: The maps provided by the District of Columbia Water and Sewer Authority ("D.C. Water") are based on historical data, information directly provided by customers, and in some cases, information acquired during physical inspections. DC Water does not guarantee the accuracy of these records and maps, which shall be used for the sole purpose of providing property owners and residents with DC Water's best available data regarding their private water services, and not for any commercial, legal or other use. These records will be updated constantly as D.C. Water gathers additional information. D.C. Water requests that customers provide to it records of any service line replacements performed by property owners. D.C. Water reserves the right to alter, amend or terminate at any time the display of these maps and records.

I understand

Source: https://geo.dcwater.com/Lead/. Accessed December 21, 2021.

ED_013319_00000283-00162

Greater Cincinnati Water Works

DISCLAIMER:

The materials in this site are provided "as is" and without express or implied warranties of any kind as to accuracy of the information or fitness for any particular purpose. Greater Cincinnati Water Works (GCWW) does not warrant or represent that the information contained herein is accurate or reliable or that the website will be free of errors or viruses.

GCWW makes every effort to update this information on a regular basis. However, because GCWW has not verified historical records for completeness or accuracy and information is continually changing, GCWW makes no expressed or implied warranty concerning the accuracy of this information, nor as to the reliability, relevancy, timeliness, utility or completeness thereof. Changes may be made to the database at any time and without notice. GCWW assumes no liability for direct, indirect, consequential, incidental special or other damages of any kind, as a result of errors, omissions, or possible discrepancies with regard to this information.

Persons who use information contained in this database to commit a criminal act may be subject to criminal prosecution.

I have read the foregoing disclaimer and agree to its provisions. By accessing this website and database, the user agrees to the terms and provisions hereof. The user further assumes all risk associated with the use of the data herein, and agrees to indemnify and hold harmless the City of Cincinnati, Greater Cincinnati Water Works, and its employees, contractors and vendors, from all claims, demands, actions, cause of action, suits, damages, cost, injuries, fees, attorney fees, and liability, as may be occasioned by the inclusion of inaccurate or incomplete information in this database.

☐ I Agree

Source:
https://gcww.maps.arcgis.com/apps/webappviewer/index.html?id=0a170c268c694e46a8a4e394630df0bd
Accessed December 21, 2021.

ED_013319_00000283-00163

Pittsburgh Water and Sewer Authority

DISCLAIMER

The maps provided by the Pittsburgh Water and Sewer Authority (PWSA) are based on historical data, service line inspections or both. PWSA does not guarantee the accuracy of these records and maps, which shall be used for the sole purpose of providing property owners and residents with the best available data regarding lead service lines, and not for any commercial, legal or other use. These records will be updated as PWSA gathers additional information. PWSA reserves the right to alter, amend or terminate at any time the display of these maps and records.

Source: https://lead.pgh2o.com/your-water-service-line/planned-water-service-line-replacement-map/. Accessed December 21, 2021.

ED_013319_00000283-00164

Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 8/12/2022 4:22:37 PM
To: William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: Approval of CERP Task and information requested based on last biweekly call
Attachments: PUBLIC WORKS-STAFFING REPORT-4-6-22.xlsx

Good morning Mr. King

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SDWA, the National Primary Drinking Water Regulations, Mississippi Safe Drinking Water Act of 1997, Mississippi Primary Drinking Water Regulations, or any other federal or state law over which it exercises authority. This email does not relieve the City of its obligations under the AOC to provide compliance reporting to the EPA and/or a final report detailing actions taken under the AOC. Finally, if any of these completed Tasks should become open, such as but not limited to, operationally deemed equipment becoming inoperable, the City shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

Message

From: Moody, William "Bill" [William.Moody@msdh.ms.gov]
Sent: 8/13/2022 6:10:08 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
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BPWS-MSDH

Get Outlook for iOS

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Sent: Friday, August 12, 2022 11:22:37 AM
To: Moody, William "Bill" <William.Moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <burns.robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; Shultis, Charles <Charles.Shultis@msdh.ms.gov>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <Amy.McLeod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>; Burns, Robert <burns.robert@epa.gov>; Marlin King <mking@jacksonms.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
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U.S. EPA, Region 4
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Pronouns (He, His, Him)

This message and all attachments are confidential and/or proprietary to the Mississippi State Department of Health, and may contain sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the intended recipient. The use, disclosure, copying or distribution by any means, to anyone other than the intended recipient without the prior written permission of the Mississippi State Department of Health, is strictly prohibited. Any such unauthorized disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance in the protection of confidential information.

Message

From: Moody, William "Bill" [William.Moody@msdh.ms.gov]
Sent: 8/13/2022 6:13:59 PM
To: Myers, Bryan [Myers.Bryan@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: Re: Current BWN

Bad sample was at 884 Lakeland Drive.

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Get Outlook for iOS

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Sent: Saturday, August 13, 2022 1:10:08 PM
To: Myers, Bryan <Myers.Bryan@epa.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <burns.robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; Shultis, Charles <Charles.Shultis@msdh.ms.gov>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <Amy.McLeod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
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shall notify EPA within 7 days of learning of the need for additional work and provide information as to when repairs will be started and expected completion dates.

Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

This message and all attachments are confidential and/or proprietary to the Mississippi State Department of Health, and may contain sensitive information, including, but not limited to, protected health information as defined by the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The information contained in and attached to this message is intended for the exclusive use of the intended recipient. The use, disclosure, copying or distribution by any means, to anyone other than the intended recipient without the prior written permission of the Mississippi State Department of Health, is strictly prohibited. Any such unauthorized disclosure, copying or distribution may violate federal and/or state privacy laws, including, but not limited to HIPAA. If you have received this message or any attachments in error, please notify the sender by replying to the email or by phone, and delete this message from your computer without additional disclosure. Thank you for your assistance in the protection of confidential information.

Message

From: McLeod, Amy [Amy.McLeod@msdh.ms.gov]
Sent: 8/13/2022 6:17:31 PM
To: William Moody [william.moody@msdh.ms.gov]
CC: Myers, Bryan [Myers.Bryan@epa.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: Re: Current BWN

Samples need to be submitted to the lab by 1:00P on Sunday.

Amy L. McLeod, EI
MSDH - Bureau of Public Water Supply
amy.mcleod@msdh.ms.gov
(601) 573-8887

On Aug 13, 2022, at 1:14 PM, Moody, William Bill <William.Moody@msdh.ms.gov> wrote:

Bad sample was at 884 Lakeland Drive.

William Moody

Get Outlook for iOS

From: Moody, William "Bill" <William.Moody@msdh.ms.gov>
Sent: Saturday, August 13, 2022 1:10:08 PM
To: Myers, Bryan <Myers.Bryan@epa.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <burns.robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; Shultis, Charles <Charles.Shultis@msdh.ms.gov>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <Amy.McLeod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
Subject: Current BWN

To all,

Another bad sample was pulled from yesterday's run. Bad sample was in the same general location as before. It was close to Broadway again. City should continue sampling into tomorrow. All of todays sample maybe clear. We will ask the lab to remain ready to receive additional samples tomorrow.

William Moody
BPWS-MSDH

Get Outlook for iOS

From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Friday, August 12, 2022 11:22:37 AM
To: Moody, William "Bill" <William.Moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <burns.robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; Shultis, Charles <Charles.Shultis@msdh.ms.gov>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <Amy.McLeod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>; Burns, Robert <burns.robert@epa.gov>; Marlin King <mking@jacksonms.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
Subject: Approval of CERP Task and information requested based on last biweekly call

Good morning Mr. King

We continue to review materials submitted as deliverables as required under the Administrative Compliance Order on Consent, Docket No. SDWA-04-2020-2301 (AOC). As a part of that review the following task now appears to be complete:

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Thank you.

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

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Message

From: Myers, Bryan [Myers.Bryan@epa.gov]
Sent: 8/16/2022 9:31:20 PM
To: William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Marlin King [mking@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Marlin King [mking@jacksonms.gov]; Burns, Robert [Burns.Robert@epa.gov]; Marlin King [mking@jacksonms.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: RE: Approval of CERP Task and information requested based on last biweekly call

Good afternoon

Can I please get an update on the questions listed below as requested during our last biweekly call. Thank you

Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

From: Myers, Bryan
Sent: Friday, August 12, 2022 12:23 PM
To: William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; Shultis, Charles <Charles.Shultis@msdh.ms.gov>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>; Burns, Robert <Burns.Robert@epa.gov>; Marlin King <mking@jacksonms.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
Subject: Approval of CERP Task and information requested based on last biweekly call

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Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

Message

From: Marlin King [mking@city.jackson.ms.us]
Sent: 8/17/2022 10:24:45 AM
To: Myers, Bryan [Myers.Bryan@epa.gov]; William Moody [william.moody@msdh.ms.gov]; Terry Williamson [twilliamson@city.jackson.ms.us]; Mary D. Carter [mdcarter@city.jackson.ms.us]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Driskell, Amanda [Driskell.Amanda@epa.gov]; Quinones, Rebecca [quinones.rebecca@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Smith, Dominique [smith.dominique@epa.gov]; Smith, Brian [Smith.Brian@epa.gov]; Rausch, Heidi [Rausch.Heidi@epa.gov]; King, Carol [King.Carol@epa.gov]; Kemker, Carol [Kemker.Carol@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Walters, Karen [karen.walters@msdh.ms.gov]; Wetherington, Michele [Wetherington.Michele@epa.gov]; Estridge, Jeffrey [Jeffrey.Estridge@msdh.ms.gov]; charles.shultis [charles.shultis@msdh.ms.gov]; Holmes, Lenore [lenore.holmes@msdh.ms.gov]; McLeod, Amy [amy.mcleod@msdh.ms.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Burns, Robert [Burns.Robert@epa.gov]; Lehrer, Whitney [Lehrer.Whitney@epa.gov]
Subject: RE: Approval of CERP Task and information requested based on last biweekly call

Hello Mr. Myers,

We will provide the updates by close of business on Thursday.

Thanks

Marlin B. King Jr.
Director of Public Works
City of Jackson
e: mking@jacksonms.gov
p: 601.960.2419
m: 769.257.1579

THE CITY OF JACKSON MISSISSIPPI

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From: Myers, Bryan <Myers.Bryan@epa.gov>
Sent: Tuesday, August 16, 2022 4:31 PM
To: William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <karen.walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; charles.shultis <charles.shultis@msdh.ms.gov>; Holmes, Lenore <lenore.holmes@msdh.ms.gov>; amy.mcleod@msdh.ms.gov; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@city.jackson.ms.us>; Burns, Robert

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Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
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Pronouns (He, His, Him)

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Sent: Friday, August 12, 2022 12:23 PM
To: William Moody <william.moody@msdh.ms.gov>; Terry Williamson <twilliamson@city.jackson.ms.us>; Marlin King <mking@city.jackson.ms.us>; Mary D. Carter <mdcarter@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Driskell, Amanda <Driskell.Amanda@epa.gov>; Quinones, Rebecca <quinones.rebecca@epa.gov>; Burns, Robert <Burns.Robert@epa.gov>; Smith, Dominique <smith.dominique@epa.gov>; Smith, Brian <Smith.Brian@epa.gov>; Rausch, Heidi <Rausch.Heidi@epa.gov>; King, Carol <King.Carol@epa.gov>; Kemker, Carol <Kemker.Carol@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Walters, Karen <Karen.Walters@msdh.ms.gov>; Wetherington, Michele <Wetherington.Michele@epa.gov>; Estridge, Jeffrey <Jeffrey.Estridge@msdh.ms.gov>; Shultis, Charles <Charles.Shultis@msdh.ms.gov>; Holmes, Lenore <Lenore.Holmes@msdh.ms.gov>; McLeod, Amy <amy.mcleod@msdh.ms.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Marlin King <mking@jacksonms.gov>; Burns, Robert <Burns.Robert@epa.gov>; Marlin King <mking@jacksonms.gov>; Lehrer, Whitney <Lehrer.Whitney@epa.gov>
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Bryan M. Myers, Chief
Drinking Water Enforcement Section
Enforcement and Compliance Assurance Division
U.S. EPA, Region 4
(404) 562-9603
Pronouns (He, His, Him)

Message

From: Kemker, Carol [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=765AD99166DB4233BD15FEBF6E9917B3-KEMKER, CAROL]
Sent: 6/25/2022 2:07:16 PM
To: somari@city.jackson.ms.us
Subject: Scheduling a discussion re: Drinking Water Status

Dr. Omari,

I would like to schedule some time for us to discuss the City of Jackson's drinking water status. I can be reached this weekend at 404-538-2647 or can schedule some time on Monday morning. Please either call me directly or let me know your availability on Monday.

Thank you,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Message

From: Kemker, Carol [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=765AD99166DB4233BD15FEBF6E9917B3-KEMKER, CAROL]
Sent: 6/27/2022 3:17:32 PM
To: Safiya Omari [somari@city.jackson.ms.us]
Subject: RE: Scheduling a discussion re: Drinking Water Status

Dr. Omari,

Thanks for the note. I am available at 2:30 EDT and the at 4:00 EDT. If you need me to make additional time slots available, please let me know. I can work something out on my schedule to be able to speak with you.

Carol

From: Safiya Omari <somari@city.jackson.ms.us>
Sent: Sunday, June 26, 2022 4:03 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: Scheduling a discussion re: Drinking Water Status

Hi, Carol. I will contact you in the morning with my availability for Monday afternoon.

Sent from my iPhone

> On Jun 25, 2022, at 7:27 PM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:
>
> Dr. Omari,
>
> I would like to schedule some time for us to discuss the City of Jackson's drinking water status. I can be reached this weekend at 404-538-2647 or can schedule some time on Monday morning. Please either call me directly or let me know your availability on Monday.
>
> Thank you,
> *Carol L. Kemker*
> Director
> Enforcement and Compliance Assurance Division
> EPA Region 4
> 404-562-8975
> *Pronouns: she/her*

Message

From: Kemker, Carol [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=765AD99166DB4233BD15FEBF6E9917B3-KEMKER, CAROL]
Sent: 6/27/2022 7:28:15 PM
To: Safiya Omari [somari@city.jackson.ms.us]
Subject: RE: Scheduling a discussion re: Drinking Water Status

Thanks. I have not seen and invitation, yet. I will keep an eye out for one.

From: Safiya Omari <somari@city.jackson.ms.us>
Sent: Monday, June 27, 2022 1:21 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Subject: Re: Scheduling a discussion re: Drinking Water Status

Hi, Carol. I would like to meet at 4:00 EDT. I will have my assistant send a calendar invite. Thanks.

> On Jun 27, 2022, at 10:17 AM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:
>
> Dr. Omari,
>
> Thanks for the note. I am available at 2:30 EDT and the at 4:00 EDT. If you need me to make additional time slots available, please let me know. I can work something out on my schedule to be able to speak with you.
>
> Carol
>
> ---
>
> **From:** Safiya Omari <somari@city.jackson.ms.us>
> **Sent:** Sunday, June 26, 2022 4:03 PM
> **To:** Kemker, Carol <Kemker.Carol@epa.gov>
> **Subject:** Re: Scheduling a discussion re: Drinking Water Status
>
> Hi, Carol. I will contact you in the morning with my availability for Monday afternoon.
>
> Sent from my iPhone
>
>> On Jun 25, 2022, at 7:27 PM, Kemker, Carol <Kemker.Carol@epa.gov> wrote:
>>
>> Dr. Omari,
>>
>> I would like to schedule some time for us to discuss the City of Jackson's drinking water status. I can be reached this weekend at 404-538-2647 or can schedule some time on Monday morning. Please either call me directly or let me know your availability on Monday.
>>
>> Thank you,
>> *Carol L. Kemker*

Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Message

From: Kemker, Carol [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=765AD99166DB4233BD15FEBF6E9917B3-KEMKER, CAROL]
Sent: 6/30/2022 8:08:04 PM
To: Chokwe A. Lumumba [calumumba@jacksonms.gov]; vlindsay@city.jackson.ms.us; Angelique C. Lee [angeliquel@jacksonms.gov]
CC: Safiya Omari [somari@city.jackson.ms.us]; Craig, Jim [Jim.Craig@msdh.ms.gov]; mking@city.jackson.ms.us; William Moody [william.moody@msdh.ms.gov]; lester.herrington@msdh.ms; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]; Myers, Bryan [Myers.Bryan@epa.gov]; Bunch, Charlotte [Bunch.Charlotte@epa.gov]; Newman, Keriema [Newman.Keriema@epa.gov]; Lamberth, Larry [Lamberth.Larry@epa.gov]; Angelique C. Lee [angeliquel@jacksonms.gov]; Armor, Suzanne [Armor.Suzanne@epa.gov]; Rubini, Suzanne [Rubini.Suzanne@epa.gov]; Jenkins, Brandi [Jenkins.Brandi@epa.gov]; Nicholson, John [Nicholson.John@epa.gov]
Subject: Information Request Letter for City of Jackson Drinking Water
Attachments: Information Request SDWA 1445 Draft.6.29.22.pdf

Dear Mayor Lumumba and Ms. Lindsay,

Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.

Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

ELECTRONIC EMAIL
CONFIRMATION OF EMAIL RECEIPT REQUESTED

The Honorable Mayor Chokwe A. Lumumba
Mayor of the City of Jackson
219 South President Street
Jackson, Mississippi 39205
calumumba@jacksonms.gov

Ms. Virgi Lindsay
President
Jackson City Council
219 South President Street
Jackson, Mississippi 39205
vlindsay@city.jackson.ms.us

Re: Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act
PWS ID # MS0250008
City of Jackson Public Water System

Dear Mayor Lumumba and Ms. Lindsay:

The U.S. Environmental Protection Agency is responsible for assuring public water systems provide safe drinking water in accordance with the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f *et. seq.*, the National Primary Drinking Water Regulations (NPDWRs) promulgated thereunder at 40 C.F.R. Part 141; and the Mississippi Primary Drinking Water Regulations (MPDWRs), promulgated pursuant to the Mississippi Safe Drinking Water Act of 1997, Miss. Code Ann. § 41-26-1 *et seq.* Based on information contained in the Safe Drinking Water Information System, the City of Jackson Public Water System (Jackson PWS) serves 173,514 people, and pursuant to Section 1401(15) of the SDWA, 42 U.S.C. § 300f(15), is therefore a community water system. As a community water system, the Jackson PWS is subject to the requirements of the NPDWRs and the MPDWRs, including the requirement that a certified Class A operator be onsite whenever the PWS is in operation. *See* 40 C.F.R. § 141.70(c); Miss. Admin. Code § 15-20-72.2.2.1(5).

On April 2, 2020, the EPA issued an Emergency Administrative Order, Docket No. SDWA-04-2020-2300 (effective April 2, 2020) (Emergency Order) to the City, which, among other things, outlines requirements for the City to follow in the implementation of its Alternative Water Source Plan, reporting requirements for low pressure/loss of pressure events, and public notice. The EPA and the City subsequently entered into an Administrative Compliance Order on Consent, Docket No. SDWA-04-2300-2301, effective July 1, 2021 (AOC), which outlines a number of actions the City is required to take to bring the PWS into compliance with the SDWA, including those outlined in the Comprehensive Equipment Repair Plan (CERP), attached thereto as Appendix A, as amended.

On June 16, 2022, the O.B. Curtis Water Treatment Plant (O.B. Curtis WTP) experienced an ammonia leak, which caused treatment to be disrupted for more than two days. After reviewing weekly operating reports and discussing these reports with Mississippi Department of Health (MSDH)[1] staff, we noted that the Jackson PWS tank levels and finished water output were low. During a subsequent call between the EPA and the City of Jackson on June 18, 2022, the City attributed the low production levels from the O.B. Curtis WTP to several conventional filters being down, inconsistencies in membrane train operations, and the inoperable status of High Service Pump #2 at the O.B. Curtis WTP. Given low tank levels and ongoing severe hot weather, MSDH and the EPA recommended that the City issue a conserve water notice until the O.B. Curtis WTP could be restored to appropriate operations and tanks were allowed to fill. The City issued a Water Conservation Advisory on June 22, 2022. As of Friday, June 24, 2022, tank levels remained low and output pressure had dropped to 68 psi at O. B. Curtis WTP. This loss in pressure led the City to issue a City-Wide Boil Water Advisory on June 24, 2022.

Section 1445 of the SDWA, 42 U.S.C. § 300j-4, and 40 Code of Federal Regulations (C.F.R.) § 141.31 authorize the EPA to require the submittal of information so it can determine whether a public water system is in compliance with the NPDWRs and other applicable requirements, including MPDWRs and the AOC. See Section 1414(i) of the SDWA, 42 U.S.C. § 300g-3(i). Pursuant to Section 1445(a)(1)(B) of the SDWA, 42 U.S.C. §300j-4(a)(1)(B), and after consultation with MSDH, the EPA hereby requests that the City provide the information described in Enclosure A within seven calendar days of receipt of this letter

The EPA requests that this information be submitted in electronic format to Ms. Charlotte Bunch at Bunch.Charlotte@epa.gov. If portions are unavailable in electronic format, please notify Ms. Bunch in your electronic submission that additional information is being sent in hardcopy to:

Bryan Myers
Water Enforcement Branch
Enforcement and Compliance Assurance Division
US Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Please be advised that, under Section 1445(c) of the SDWA, 42 U.S.C. § 300j-4(c), as amended by 40 C.F.R. § 19.4, Table 2 (Adjustment of Civil Monetary Penalties for Inflation), failure to provide the information required by this letter may result in a civil penalty of up to $62,689. In addition, under SDWA Section 1414(g), 42 U.S.C. § 300g-3(g), failure to provide the information required by this letter may result in an order requiring compliance. Violation of such order may lead to sanctions under SDWA Section 1414, 42 U.S.C. § 300g-3(g)(3)(A) and 40 C.F.R. § 19.4, Table 2, which include penalties of up to $62,689 per day of violation. The information provided in response to this letter may be used by the United States in any enforcement proceeding related to this matter.

You may, if you so desire, assert a confidential business information (CBI) claim covering any or all the information furnished to the EPA in response to this letter. Every CBI claim must be made in a manner described in 40 C.F.R. § 2.203 and must be fully substantiated with documentary evidence which shows how the claim meets every criterion listed in 40 C.F.R. §§ 2.208 and 2.304. If no CBI claim

[1] The MSDH is the entity in the State of Mississippi with primary enforcement authority over the SDWA, pursuant to SDWA Section 1413, 42 U.S.C. § 300g-2. On February 28, 2020, MSDH sent a written request for EPA to assist in addressing the City of Jackson's SDWA noncompliance.

accompanies your information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. Further details, including how to make a business confidentiality claim, are included in Enclosure B.

This request for information is not subject to review by the Office of Management and Budget (OMB) under the Paper Reduction Act because it is not an "informal collection request" within the meaning of 44 U.S.C. §§ 3502(4), (11), 3507, 3512, and 3518. Furthermore, it is exempt from OMB review under the Paper Reduction Act because it is directed to fewer than 10 persons. *See* 44 U.S.C. § 3502(4), (11); 5 C.F.R. § 1320.5(a).

If you have any questions regarding this matter, please contact me at (404) 562-8975 or kemker.carol@epa.gov, or Ms. Mary Jo Bragan at (404) 617-6432 or bragan.maryjo@epa.gov. For legal inquiries, please have your attorneys contact Ms. Suzanne Armor, Associate Regional Counsel, at (404) 562-9701 or Armor.Suzanne@epa.gov.

Sincerely,

CAROL KEMKER

Digitally signed by CAROL KEMKER
Date: 2022.06.30 15:18:53 -04'00'

Carol L. Kemker
Director
Enforcement and Compliance Assurance Division

Enclosures

cc: Ms. Angelique C. Lee, Vice President
Jackson City Council

Dr. Safiya Omari, Chief of Staff
City of Jackson

Mr. Marlin KingDirector, Public Works Department, City of Jackson

Mr. Jim Craig
Director of Health Protection, Mississippi State Department of Health

ENCLOSURE A

INFORMATION REQUEST PURSUANT TO SECTION 1445(a)(1)(B) OF THE SAFE DRINKING WATER ACT

Instructions

1. Identify the person(s) responding to this Information Request.

2. Please provide a separate narrative response to each and every question and subpart of a question set forth in this Information Request.

3. Precede each answer with the text and the number of the question and its subpart to which the answer corresponds.

4. All documents submitted must contain a notation indicating the question and subpart of the question to which they are responsive.

5. In answering each Information Request question and subpart thereto, identify all documents and persons consulted, examined or referred to in the preparation of each response, and provide true and accurate copies of all such documents.

6. If information not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Should you find at any time after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA as soon as possible.

7. Where specific information has not been memorialized in a document, but is nonetheless responsive to a question, you must respond to the question with a written response.

8. If information responsive to this Information Request is not in your possession, custody or control, then identify the person from whom such information may be obtained.

9. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any question or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

10. The EPA requests that all documents provided in an electronic format be compatible with pdf.

11. The EPA requests that all spreadsheet information be in an electronic format and compatible with MS Excel.

12. You may submit the requested information using a shared online repository.

13. If any question relates to activities undertaken by entities other than the recipient of this Information Request, and to the extent that you have information pertaining to such activities, provide such information for each entity.

Definitions

1. All terms not defined herein shall have their ordinary meanings, unless such terms are defined in the Safe Drinking Water Act or its implementing regulations, in which case the statutory or regulatory definitions shall control.

2. Words in the masculine may be construed in the feminine if appropriate, and vice versa, and words in the singular may be construed in the plural if appropriate, and vice versa, in the context of a particular question or questions.

3. The terms "And" and "Or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed outside it scope.

4. The term "Jackson PWS" or "PWS" means the City of Jackson Public Water System, including the O.B. Curtis and J.H. Fewell WTPs.

5. "O.B. Curtis WTP" means the O.B. Curtis Water Treatment Plant, located at 100 O.B. Curtis Drive, Ridgeland, Mississippi 39157, and its appurtenant equipment and conveyances.

6. "J.H. Fewell WTP" means the J.H. Fewell Water Treatment Plant, located at 2302 Laurel Street, Jackson, Mississippi 39202, and its appurtenant equipment and conveyances.

7. The term "MSDH" means the Mississippi Department of Health.

8. The term "Administrative Compliance Order on Consent" or "AOC" means the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021, including the Comprehensive Equipment Repair Plan ("CERP"), attached thereto as Appendix A, as amended.

9. The term "Comprehensive Equipment Repair Plan" or "CERP" means the Attachment A to the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021.

Questions

1. Provide all communications regarding staffing, staffing shortages, and/or plans to fill open positions permanently and/or temporarily at the J.H. Fewell and O.B. Curtis WTPs, including, but not limited to, any notes of communications, email correspondence, meeting minutes, memoranda, budget information or any other directives commencing, from the effective date of the AOC to the date of the City's receipt of this letter. This includes any communications within and between the City's Finance Department, Public Works Department, the Mayor's Office and/or the City Council.

2. Identify whether any current positions at the J.H. Fewell and O.B. Curtis WTPs are being staffed or are planned to be staffed through use of a contractor. If a position is filled through use of a contractor, please provide a copy of the executed contract for that service and any City Council meeting minute(s) in which the contract was authorized.

3. Please identify and provide copies of any outstanding or unpaid invoices with respect to staffing support for the Jackson PWS.

4. Identify the total number of hours each week for the past four weeks that each operator of the O.B. Curtis and J.H. Fewell WTPs worked, including any overtime hours.

5. Provide a description of all currently open and/or vacant positions for the J.H. Fewell and O.B. Curtis WTPs.

6. Explain how the City intends to maintain adequate pressure in the System while the O.B. Curtis WTP High Service Line #2 is inoperable, and/or explain how the City intends to bring the O.B. Curtis WTP High Service Line #2 into fully-operational status, identifying interim timelines and milestones as appropriate.

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS

(40 C.F.R. Part 2)

Except for information which deals with the existence, absence, or level of contaminants in drinking water, you may, if you desire, assert a business confidentiality claim as to any or all of the information that the EPA is requesting from you. The EPA regulation relating to business confidentiality claims is found at 40 C.F.R. Part 2.

If you assert such a claim for the requested information, the EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, the EPA may make the information available to the public without any further notice to you.

40 C.F.R. § 2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to the EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to the EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by the EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

Message

From: Kemker, Carol [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=765AD99166DB4233BD15FEBF6E9917B3-KEMKER, CAROL]
Sent: 7/6/2022 4:47:25 PM
To: Virgi Lindsay [vlindsay@city.jackson.ms.us]
CC: Lamberth, Larry [Lamberth.Larry@epa.gov]; Bragan, Mary Jo [Bragan.Maryjo@epa.gov]
Subject: RE: Information Request Letter for City of Jackson Drinking Water

Hello Ms. Patterson,

Thanks for the information. Has the information request been forwarded to Council President Ashby Foote?

Regards,
Carol

From: Virgi Lindsay <vlindsay@city.jackson.ms.us>
Sent: Tuesday, July 5, 2022 4:49 PM
To: Kemker, Carol <Kemker.Carol@epa.gov>
Cc: Virgi Lindsay <vlindsay@city.jackson.ms.us>
Subject: Re: Information Request Letter for City of Jackson Drinking Water

Good afternoon, Ms. Kemker. Thanks so much for your email. Effective today, Councilwoman Lindsay is no longer President of the City Council. Ashby Foote was elected for the year of 2022-2023 as President. His contact information is afoote@city.jackson.ms.us.

Thank you and please let me know if you have questions.

Warm regards,
Alice

Alice Patterson, Assistant

On behalf of Councilwoman Virgi Lindsay

vlindsay@city.jackson.ms.us

601-960-1063

This e-mail and any files transmitted with it are City of Jackson property, are confidential and are intended solely for the use of the individual or entity to whom this email is addressed. If you are not one of the named recipient(s) or otherwise have reason to believe that you have received this message in error, please notify the sender and delete this message immediately from your computer. Any other uses, retention, dissemination, forwarding, printing or coping of this email is strictly prohibited.

From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 3:08 PM
To: Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Virgi Lindsay <vlindsay@city.jackson.ms.us>; Angelique Lee <angeliquel@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; Marlin King <mking@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms <lester.herrington@msdh.ms>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry <Lamberth.Larry@epa.gov>; Angelique Lee <angeliquel@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
Subject: Information Request Letter for City of Jackson Drinking Water

Dear Mayor Lumumba and Ms. Lindsay,

Please find attached a request for information regarding the City of Jackson drinking water systems. Please contact me if you have any questions.
Respectfully,
Carol L. Kemker
Director
Enforcement and Compliance Assurance Division
EPA Region 4
404-562-8975
Pronouns: she/her

Message

From: Kemker, Carol [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=765AD99166DB4233BD15FEBF6E9917B3-KEMKER, CAROL]
Sent: 7/7/2022 2:48:41 PM
To: Safiya Omari [somari@city.jackson.ms.us]
Subject: FW: Information Request Letter for City of Jackson Drinking Water
Attachments: Information Request SDWA 1445 Draft.6.29.22.pdf

FYI

From: Virgi Lindsay <vlindsay@city.jackson.ms.us>
Sent: Thursday, July 7, 2022 10:41 AM
To: Ashby Foote <afoote@jacksonms.gov>
Cc: Kemker, Carol <Kemker.Carol@epa.gov>; Virgi Lindsay <vlindsay@city.jackson.ms.us>
Subject: Fw: Information Request Letter for City of Jackson Drinking Water

Good morning. At the request of Ms. Kemker I'm forwarding this email to Mr. Foote in his capacity as Council President.

Many thanks and let me know if you have questions.

Kind regards,
Aice

Alice Patterson, Assistant

On behalf of Councilwoman Virgi Lindsay

vlindsay@city.jackson.ms.us

601-960-1063

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From: Kemker, Carol <Kemker.Carol@epa.gov>
Sent: Thursday, June 30, 2022 3:08 PM
To: Chokwe A. Lumumba <calumumba@city.jackson.ms.us>; Virgi Lindsay <vlindsay@city.jackson.ms.us>; Angelique Lee <angeliquel@city.jackson.ms.us>
Cc: Safiya Omari <somari@city.jackson.ms.us>; Craig, Jim <Jim.Craig@msdh.ms.gov>; Marlin King <mking@city.jackson.ms.us>; William Moody <william.moody@msdh.ms.gov>; lester.herrington@msdh.ms <lester.herrington@msdh.ms>; Bragan, Mary Jo <Bragan.Maryjo@epa.gov>; Myers, Bryan <Myers.Bryan@epa.gov>; Bunch, Charlotte <Bunch.Charlotte@epa.gov>; Newman, Keriema <Newman.Keriema@epa.gov>; Lamberth, Larry

<Lamberth.Larry@epa.gov>; Angelique Lee <angeliquel@city.jackson.ms.us>; Armor, Suzanne <Armor.Suzanne@epa.gov>; Rubini, Suzanne <Rubini.Suzanne@epa.gov>; Jenkins, Brandi <Jenkins.Brandi@epa.gov>; Nicholson, John <Nicholson.John@epa.gov>
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Director
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EPA Region 4
404-562-8975
Pronouns: she/her

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4
ATLANTA FEDERAL CENTER
61 FORSYTH STREET
ATLANTA, GEORGIA 30303-8960

ELECTRONIC EMAIL
CONFIRMATION OF EMAIL RECEIPT REQUESTED

The Honorable Mayor Chokwe A. Lumumba
Mayor of the City of Jackson
219 South President Street
Jackson, Mississippi 39205
calumumba@jacksonms.gov

Ms. Virgi Lindsay
President
Jackson City Council
219 South President Street
Jackson, Mississippi 39205
vlindsay@city.jackson.ms.us

Re: Request for Information Pursuant to Section 1445 of the Safe Drinking Water Act
PWS ID # MS0250008
City of Jackson Public Water System

Dear Mayor Lumumba and Ms. Lindsay:

The U.S. Environmental Protection Agency is responsible for assuring public water systems provide safe drinking water in accordance with the Safe Drinking Water Act (SDWA), 42 U.S.C. § 300f *et. seq.*, the National Primary Drinking Water Regulations (NPDWRs) promulgated thereunder at 40 C.F.R. Part 141; and the Mississippi Primary Drinking Water Regulations (MPDWRs), promulgated pursuant to the Mississippi Safe Drinking Water Act of 1997, Miss. Code Ann. § 41-26-1 *et seq.* Based on information contained in the Safe Drinking Water Information System, the City of Jackson Public Water System (Jackson PWS) serves 173,514 people, and pursuant to Section 1401(15) of the SDWA, 42 U.S.C. § 300f(15), is therefore a community water system. As a community water system, the Jackson PWS is subject to the requirements of the NPDWRs and the MPDWRs, including the requirement that a certified Class A operator be onsite whenever the PWS is in operation. *See* 40 C.F.R. § 141.70(c); Miss. Admin. Code § 15-20-72.2.2.1(5).

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The EPA requests that this information be submitted in electronic format to Ms. Charlotte Bunch at Bunch.Charlotte@epa.gov. If portions are unavailable in electronic format, please notify Ms. Bunch in your electronic submission that additional information is being sent in hardcopy to:

Bryan Myers
Water Enforcement Branch
Enforcement and Compliance Assurance Division
US Environmental Protection Agency, Region 4
61 Forsyth Street, SW
Atlanta, Georgia 30303

Please be advised that, under Section 1445(c) of the SDWA, 42 U.S.C. § 300j-4(c), as amended by 40 C.F.R. § 19.4, Table 2 (Adjustment of Civil Monetary Penalties for Inflation), failure to provide the information required by this letter may result in a civil penalty of up to $62,689. In addition, under SDWA Section 1414(g), 42 U.S.C. § 300g-3(g), failure to provide the information required by this letter may result in an order requiring compliance. Violation of such order may lead to sanctions under SDWA Section 1414, 42 U.S.C. § 300g-3(g)(3)(A) and 40 C.F.R. § 19.4, Table 2, which include penalties of up to $62,689 per day of violation. The information provided in response to this letter may be used by the United States in any enforcement proceeding related to this matter.

You may, if you so desire, assert a confidential business information (CBI) claim covering any or all the information furnished to the EPA in response to this letter. Every CBI claim must be made in a manner described in 40 C.F.R. § 2.203 and must be fully substantiated with documentary evidence which shows how the claim meets every criterion listed in 40 C.F.R. §§ 2.208 and 2.304. If no CBI claim

[1] The MSDH is the entity in the State of Mississippi with primary enforcement authority over the SDWA, pursuant to SDWA Section 1413, 42 U.S.C. § 300g-2. On February 28, 2020, MSDH sent a written request for EPA to assist in addressing the City of Jackson's SDWA noncompliance.

accompanies your information when it is received by the EPA, it may be made available to the public by the EPA without further notice to you. Further details, including how to make a business confidentiality claim, are included in Enclosure B.

This request for information is not subject to review by the Office of Management and Budget (OMB) under the Paper Reduction Act because it is not an "informal collection request" within the meaning of 44 U.S.C. §§ 3502(4), (11), 3507, 3512, and 3518. Furthermore, it is exempt from OMB review under the Paper Reduction Act because it is directed to fewer than 10 persons. *See* 44 U.S.C. § 3502(4), (11); 5 C.F.R. § 1320.5(a).

If you have any questions regarding this matter, please contact me at (404) 562-8975 or kemker.carol@epa.gov, or Ms. Mary Jo Bragan at (404) 617-6432 or bragan.maryjo@epa.gov. For legal inquiries, please have your attorneys contact Ms. Suzanne Armor, Associate Regional Counsel, at (404) 562-9701 or Armor.Suzanne@epa.gov.

Sincerely,

CAROL KEMKER

Digitally signed by CAROL KEMKER
Date: 2022.06.30 15:18:53 -04'00'

Carol L. Kemker
Director
Enforcement and Compliance Assurance Division

Enclosures

cc: Ms. Angelique C. Lee, Vice President
Jackson City Council

Dr. Safiya Omari, Chief of Staff
City of Jackson

Mr. Marlin KingDirector, Public Works Department, City of Jackson

Mr. Jim Craig
Director of Health Protection, Mississippi State Department of Health

ENCLOSURE A

INFORMATION REQUEST PURSUANT TO SECTION 1445(a)(1)(B) OF THE SAFE DRINKING WATER ACT

Instructions

1. Identify the person(s) responding to this Information Request.

2. Please provide a separate narrative response to each and every question and subpart of a question set forth in this Information Request.

3. Precede each answer with the text and the number of the question and its subpart to which the answer corresponds.

4. All documents submitted must contain a notation indicating the question and subpart of the question to which they are responsive.

5. In answering each Information Request question and subpart thereto, identify all documents and persons consulted, examined or referred to in the preparation of each response, and provide true and accurate copies of all such documents.

6. If information not known or not available to you as of the date of submission of a response to this Information Request should later become known or available to you, you must supplement your response to the EPA. Should you find at any time after the submission of your response that any portion of the submitted information is false or misrepresents the truth, you must notify the EPA as soon as possible.

7. Where specific information has not been memorialized in a document, but is nonetheless responsive to a question, you must respond to the question with a written response.

8. If information responsive to this Information Request is not in your possession, custody or control, then identify the person from whom such information may be obtained.

9. If you have reason to believe that there may be persons able to provide a more detailed or complete response to any question or who may be able to provide additional responsive documents, identify such persons and the additional information or documents that they may have.

10. The EPA requests that all documents provided in an electronic format be compatible with pdf.

11. The EPA requests that all spreadsheet information be in an electronic format and compatible with MS Excel.

12. You may submit the requested information using a shared online repository.

13. If any question relates to activities undertaken by entities other than the recipient of this Information Request, and to the extent that you have information pertaining to such activities, provide such information for each entity.

Definitions

1. All terms not defined herein shall have their ordinary meanings, unless such terms are defined in the Safe Drinking Water Act or its implementing regulations, in which case the statutory or regulatory definitions shall control.

2. Words in the masculine may be construed in the feminine if appropriate, and vice versa, and words in the singular may be construed in the plural if appropriate, and vice versa, in the context of a particular question or questions.

3. The terms "And" and "Or" shall be construed either disjunctively or conjunctively as necessary to bring within the scope of this Information Request any information which might otherwise be construed outside it scope.

4. The term "Jackson PWS" or "PWS" means the City of Jackson Public Water System, including the O.B. Curtis and J.H. Fewell WTPs.

5. "O.B. Curtis WTP" means the O.B. Curtis Water Treatment Plant, located at 100 O.B. Curtis Drive, Ridgeland, Mississippi 39157, and its appurtenant equipment and conveyances.

6. "J.H. Fewell WTP" means the J.H. Fewell Water Treatment Plant, located at 2302 Laurel Street, Jackson, Mississippi 39202, and its appurtenant equipment and conveyances.

7. The term "MSDH" means the Mississippi Department of Health.

8. The term "Administrative Compliance Order on Consent" or "AOC" means the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021, including the Comprehensive Equipment Repair Plan ("CERP"), attached thereto as Appendix A, as amended.

9. The term "Comprehensive Equipment Repair Plan" or "CERP" means the Attachment A to the Administrative Compliance Order on Consent between the EPA and the City of Jackson, Mississippi, Docket No. SDWA-04-2300-2301, effective July 1, 2021.

Questions

1. Provide all communications regarding staffing, staffing shortages, and/or plans to fill open positions permanently and/or temporarily at the J.H. Fewell and O.B. Curtis WTPs, including, but not limited to, any notes of communications, email correspondence, meeting minutes, memoranda, budget information or any other directives commencing, from the effective date of the AOC to the date of the City's receipt of this letter. This includes any communications within and between the City's Finance Department, Public Works Department, the Mayor's Office and/or the City Council.

2. Identify whether any current positions at the J.H. Fewell and O.B. Curtis WTPs are being staffed or are planned to be staffed through use of a contractor. If a position is filled through use of a contractor, please provide a copy of the executed contract for that service and any City Council meeting minute(s) in which the contract was authorized.

3. Please identify and provide copies of any outstanding or unpaid invoices with respect to staffing support for the Jackson PWS.

4. Identify the total number of hours each week for the past four weeks that each operator of the O.B. Curtis and J.H. Fewell WTPs worked, including any overtime hours.

5. Provide a description of all currently open and/or vacant positions for the J.H. Fewell and O.B. Curtis WTPs.

6. Explain how the City intends to maintain adequate pressure in the System while the O.B. Curtis WTP High Service Line #2 is inoperable, and/or explain how the City intends to bring the O.B. Curtis WTP High Service Line #2 into fully-operational status, identifying interim timelines and milestones as appropriate.

ENCLOSURE B

RIGHT TO ASSERT BUSINESS CONFIDENTIALITY CLAIMS

(40 C.F.R. Part 2)

Except for information which deals with the existence, absence, or level of contaminants in drinking water, you may, if you desire, assert a business confidentiality claim as to any or all of the information that the EPA is requesting from you. The EPA regulation relating to business confidentiality claims is found at 40 C.F.R. Part 2.

If you assert such a claim for the requested information, the EPA will only disclose the information to the extent and under the procedures set out in the cited regulations. If no business confidentiality claim accompanies the information, the EPA may make the information available to the public without any further notice to you.

40 C.F.R. § 2.203(b). **Method and time of asserting business confidentiality claim.** A business which is submitting information to the EPA may assert a business confidentiality claim covering the information by placing on (or attaching to) the information, at the time it is submitted to the EPA, a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as "trade secret," "proprietary," or "company confidential." Allegedly confidential portions of otherwise non-confidential documents should be clearly identified by the business, and may be submitted separately to facilitate identification and handling by the EPA. If the business desires confidential treatment only until a certain date or until the occurrence of a certain event, the notice should so state.

Agenda
Mississippi Department of Health and R4 ECAD Annual Enforcement Meeting
July 20, 2022

John Nicholson, Chief of Staff

1. Introduction & General Overview of the State Calls

John Nicholson and Jim Craig, Office of Health Protection Senior Deputy and Director

2. Check in on State Partnership

Carol Kemker, ECAD Director to open discussion on following topics

3. Jackson Next Steps & Prep for meeting with Mayor
4. Brief Review Staff Updates/Recent Policy/Guidance
    a. Staff Update
    b. Partnership Memo
    c. Drinking Water National Compliance Initiative Process
    d. Supplemental Environmental Projects
    e. Climate Change
    f. Environmental Justice
    g. PFAS Strategy
5. Overview of R4 ECAD Inspection Targeting and Enforcement
    a. Safe Drinking Water Act
        i. NCI - Reducing Noncompliance with Drinking Water Standards at Community Water Systems
        ii. Sanitary Survey Program
        iii. FY22 Finalized Enforcement Actions
6. Open Judicial/Administrative Cases and Referrals
7. Crosscutting Joint Strategic Discussion
    a. State Assists & Joint Inspection Follow-up – Ongoing, Requests and Needs
    b. Program Oversight Inspections
    c. Training Opportunities & Needs
    d. Updated EPA/State Contact Information (handout only)
    e. Tips & Complaints (handout only unless questions)

Mississippi FY22 Tips & Complaints Analysis Report

- Tips and complaints received from Oct 1, 2021 – July 10, 2022

State	# Tips/Complaints	2021 Population Est. (U.S Census Bureau)	Tips/Complaints per capita of population
Mississippi	**135**	**2.95 million**	**4.58 complaints per 100,000 people**
Alabama	235	5.04 million	4.66 complaints per 100, 000 people
Florida	900	21.78 million	4.13 complaints per 100, 000 people
Georgia	449	10.79 million	4.16 complaints per 100,000 people
Kentucky	233	4.51 million	5.17 complaints per 100,000 people
North Carolina	488	10.55 million	4.62 complaints per 100,000 people
South Carolina	765	5.19 million	14.74 complaints per 100, 000 people
Tennessee	421	6.97 million	6.04 complaints per 100, 000 people
Region 4 Total	**3626**		

- Mississippi Totals by Media

Media	# Tips/Complaints	Tips/Complaints per capita of population
RCRA	29	0.98 complaints per 100,000 people
CWA	48	1.63 complaints per 100,000 people
CAA	29	0.98 complaints per 100,000 people
CERCLA	0	0.00 complaints per 100,000 people
FIFRA	4	0.13 complaints per 100,000 people
TSCA	1	0.03 complaints per 100,000 people
SDWA	**6**	**0.20 complaints per 100,000 people**
Investigations/Other	18	0.61 complaints per 100,000 people

EPA/MSDH Communication Contacts

EPA/State Communication - SDWA		
Activity	**Frequency**	**Points of Contact**
EPA/State Grant Workplan and Coordination Call	As needed	EPA: Bryan Myers State: Bill Moody
Quarterly ETT Calls	Quarterly	EPA: Amanda Driskell State: Bill Moody
EPA Lead Inspections	At least 7 days in advance	EPA: As assigned State: Bill Moody
Citizen Complaints	As needed	EPA: Pamela Riley State: Bill Moody
EPA Lead Compliance and Enforcement	As needed	EPA: As assigned State: Bill Moody

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