Message

From: Vaughn, Gloria [Vaughn.Gloria@epa.gov]
Sent: 3/2/2021 6:47:46 PM
To: Gray, David [gray.david@epa.gov]; citizensofstjohnparish [citizensofstjohnparish@gmail.com]
CC: Verhalen.Frances@epa.com; Mark.Cooper@la.gov; Matthew.Brock@la.gov; Joseph.Kanter@la.gov; Stephen.Russo@la.gov; Chuck.Brown@la.gov; herman.robinson@la.gov; McAtee, Jeffrey [McAtee.Jeffrey@epa.gov]; Ngo, Kim [Ngo.Kim@epa.gov]; Houston, Robert [Houston.Robert@epa.gov]; McDonald, James [McDonald.James@epa.gov]; McGuire, James [McGuire.James@epa.gov]; Garcia, David [Garcia.David@epa.gov]; Acosta, Gerardo [Acosta.Gerardo@epa.gov]
Subject: RE: Misuse of EPA Funds Awarded to LDEQ and LDH

Hello All,

I just wanted to follow up on David's email. Yes. Please contact me if you need additional assistance or if questions arise. You may also call me at 214-665-7535.

Gloria

From: Gray, David <gray.david@epa.gov>
Sent: Tuesday, March 2, 2021 11:25 AM
To: citizensofstjohnparish <citizensofstjohnparish@gmail.com>; Vaughn, Gloria <Vaughn.Gloria@epa.gov>
Cc: Verhalen.Frances@epa.com; Mark.Cooper@la.gov; Matthew.Brock@la.gov; Joseph.Kanter@la.gov; Stephen.Russo@la.gov; Chuck.Brown@la.gov; herman.robinson@la.gov; McAtee, Jeffrey <McAtee.Jeffrey@epa.gov>; Ngo, Kim <Ngo.Kim@epa.gov>; Houston, Robert <Houston.Robert@epa.gov>; McDonald, James <McDonald.James@epa.gov>; McGuire, James <McGuire.James@epa.gov>; Garcia, David <Garcia.David@epa.gov>
Subject: RE: Misuse of EPA Funds Awarded to LDEQ and LDH

Thank you for your email and letter. I have shared a copies with our legal and program departments for their review. We will get back with you as soon as they have completed their evaluation. Gloria Vaughn of the Region 6 Environmental Justice Office will serve as the EPA Region 6 point-of-contact. She is copied on this response (Vaughn.gloria@epa.gov) . Please do not hesitate to contact her if you need additional assistance or questions arise during our internal review.

Best,
David

From: citizensofstjohnparish <citizensofstjohnparish@gmail.com>
Sent: Sunday, February 28, 2021 12:32 PM
To: Gray, David <gray.david@epa.gov>
Cc: Verhalen.Frances@epa.com; Mark.Cooper@la.gov; Matthew.Brock@la.gov; Joseph.Kanter@la.gov; Stephen.Russo@la.gov; Chuck.Brown@la.gov; herman.robinson@la.gov
Subject: Misuse of EPA Funds Awarded to LDEQ and LDH

Sent from Mail for Windows 10
Dear Mr. Gray:

Please find attached a letter from Concerned Citizens of St. John Parish regarding misuse of EPA funds awarded to LDEQ and LDH for assessment of health risks from chloroprene exposure in St. John the Baptist Parish.

We look forward to hearing from you and would welcome the opportunity to discuss this matter further at your earliest convenience via conference call.

Sincerely,

Concerned Citizens of St. John the Baptist Parish

EJ Stakeholder's Call – August 25, 2020 – 10:00am
Dallas, TX

Event Memo

EJ Contact: Gloria Vaughn
x-7535

Call is **LIVE.**

Background on EJ Stakeholder Call
The RA periodically holds conference calls with EJ Stakeholders/Advocates to inform them of projects status, update them on new initiatives. He also gets to hear their concerns directly from them. The RA has held 3 calls with EJ Stakeholders/Advocates. The calls were held on August 20, 2019, December 2, 2019, and June17, 2020. The August 25th call is the RA's fourth call will EJ Stakeholders/Advocates.

Participants

- **YOU**
- Stephen Tatum, Chief of Staff, EPA Region 6
- Gloria Vaughn
- Arturo Blanco
- Gerardo Acosta
- DD's and Deputies
- EJ Staff
- Russel Honore, The Green Army
- Scharmel Roussel, Arkansas Interfaith Power and Light
- Bakeyah Nelson, Air Alliance
- Adrian Shelley, Public Citizen
- Neil Carmen, Lone Start Chapter of the Sierra Club
- Dr. Melissa Massey, Cleanup Garland
- Richard Guldi
- Loretta Sandoval

Agenda

CONFERENCE NUMBER: 202-991-0477
CONFERENCE ID: 782 171 035#

EPA REGION 6
RA'S CONFERENCE CALL WITH EJ STAKEHOLDERS/ADVOCATES
AUGUST 25, 2020
10:00 AM – 11:30 AM CST

Please use *6 to mute and unmute your lines

AGENDA

10:00 am to 10:05 am	**Welcome** **Introductions** **RA McQueen** **Purpose**

Discussion Items

10:35 am to 10:45am	What is the status of air monitoring in St John, St James, Grant (Colfax) Parishes? - General Russel Honore', Green Army **Prospects for growth of electric vehicles** - Scharmel Roussel • Does the EPA see an explosion in the EV industry? • What does the EPA think need to happen with a network of EV charging stations throughout the USA? • Will the EPA offer incentives for installation of EV charging stations? Ethylene oxide concerns (Air Alliance letter dated April 8, 2020) Bakeyah Nelson - Air Alliance **Houston Ship Channel Expansion Channel Improvement Project**- Adrian Shelley, Public Citizen The Port of Houston is undergoing a major expansion project and their environmental impact statements and strategic plan are silent on environmental justice. What can the EPA do to ensure protection of the health and quality of life of neighbors of the Houston Ship Channel? **Environmental Concerns in the City of Garland** Neil Carmen- Lone Star Chapter of the Sierra Club Dr. Melissa Massey- Cleanup Garland Richard Guldi Concerned that the City of Garland has records of toxic materials in the community but citizens as well as regulatory agencies have not been informed. What is the EPA doing to clean up lead contaminated sites in Garland, TX?

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	Superfund Sites in the Dallas Area Richard Guldi What is the EPA doing to prevent future Shingle Mountains, Lane Plating Superfund sites, and Lead Smelters? **Soil and water contamination in Dixon, New Mexico** Loretta Sandoval Concern that residue from organo silene coming from artificial snow making DRIFT used by a local ski resort maybe causing crop degradation, loss of bees, loss of insects (especially when they eat the plants) in about 300-500 acres in Rio Arriba County with different owners.
10:45 am to 11:20 am	**Open Dialogue - All**
11:20 am to 11:30 am	**Wrap-Up /Next steps**
11:30 am	**Adjourn**

Announcements:

NEJAC Meeting in Houston

Due to the uncertainties surrounding COVID-19, the timeline for the NEJAC meeting in Houston is being push back to February 2021. EPA will keep you informed as things progress.

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Responses to EJ Stakeholder Questions:

Stakeholder: Russel Honore
Organization: The Green Army
State: LA
EPA Program Office: Air and ECAD

Q: What is the status of air monitoring in St John, St James, Grant (Colfax) Parishes?

A: DENKA AMBIENT AIR MONITORING
Community Ambient Air Monitoring Program

- In December 2015, the 2011 National Air Toxics Assessment (NATA) was released.
- NATA is based on modeling and indicated that chloroprene levels were high in St. John the Baptist Parish.
- In 2016, EPA placed an air monitoring network in the community to gather information and confirm the assessment.
- In 2017, LDEQ ordered Denka to install pollution controls to reduce chloroprene emissions by 85%; Denka completed installation in March 2018
- EPA continued air monitoring to confirm the pollution controls reduced chloroprene in the community.
- EPA collects a sample every six days.
- In May 2020, LDEQ confirmed Denka reduced emissions by 85%.
- From 2016 to 2020, EPA collected over 2,500 samples to monitor the concentrations of chloroprene in the ambient air.
- EPA air monitoring network showed significant reductions of chloroprene in the community. The annual average ambient air concentrations of chloroprene near the Denka facility in 2019 (after Denka's implementation of chloroprene emission control measures) was 0.5-2.3 $\mu g/m^3$, depending upon the location of the monitor.
- EPA projects that the annual average would be lower but for occasional elevated concentrations known as 'spikes.'
- EPA developed a new continuous air monitoring network to measure 'spikes'.
- Chloroprene data through July 16, 2020 is posted publicly at: [HYPERLINK "https://www.epa.gov/la/denka-air-monitoring-data-summary" \h].

SPod Air Monitoring Program

- In February 2020, Region 6 attended a community meeting in LaPlace and discussed plans to launch a new continuous air monitoring network, using an SPod system, to better understand the magnitude and frequency of occasional elevated chloroprene concentrations, or spikes, in the community.
- The new continuous monitoring system operates 24 hours a day, 7 days a week and will replace the every-six-day community monitoring network.
- In March 2020, Region 6 held a community workshop to demonstrate instruments used in the new continuous air monitoring network in LaPlace, Louisiana.
- In March 2020, EPA began installing the continuous air monitoring network at the same locations as the previous every-six-day community air monitoring stations.
- Today, the new continuous air monitoring system has been tested for five months and is operational.
- The existing community every-six-day air monitoring network will continue to collect samples until September 26, 2020, and then be removed.
- The continuous monitoring network will hopefully provide important additional information to help identify ways to further reduce chloroprene emissions.
- The continuous air monitoring network is expected to continue until December 2020.
- Chloroprene data will continue to be posted publicly at: [HYPERLINK "https://www.epa.gov/la/denka-air-monitoring-data-summary"].

EJ Stakeholder: Scharmel Roussel
Organization: Arkansas Interfaith Power and Light
State: Arkansas
EPA Program Office: Air
Diesel Emission Reduction Act (A1) and Taimur Shaikh's (A2) Input

Q: Does the EPA see an explosion in the EV industry?

A1: EPA doesn't have a policy statement on these questions. Here are some applicable resources.

Last fall, EPA organized a webinar on electric vehicle trends and projections. You can find the recording, slides, and a transcript here: [HYPERLINK "https://www.epa.gov/statelocalenergy/webinar-electric-vehicle-trends-and-projections"]
Another resource is DOE's Argonne National Laboratory. ANL publishes an overview of monthly and cumulative electric & plug-in hybrid electric sales in the U.S., see: [HYPERLINK "https://gcc01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.anl.gov%2Fes%2Flight-duty-electric-drive-vehicles-monthly-sales-updates&data=02%7C01%7Cverhalen.frances%40epa.gov%7C23f71abe87bf4fe1354b08d83ef78bd7%7C88b378b367484867acf976aacbeca6a7%7C0%7C0%7C637328580215976763&sdata=sDJXmC0jqxs0OtLO%2FTfBkdkt1vCPb8cU5oGWxNPwwYY%3D&reserved=0"]

A2: EPA has not taken a policy position on this question.

According to BloombergNEF, the global electric vehicle (EV) market share of new car sales this year stands at 2.7%. In 2025, EV sales are estimated to hit 10% and 28% by 2030. A ten-fold increase in market share in 10 years might constitute an explosion. The US estimates are expected to follow a similar trajectory as global market. US EV market share is at approximately 2.0% for the year and is expected to hit 5% by 2025 and 20% by 2030. It should be mentioned that there are a considerable number of variables that affect projected sales and adjustments are to be expected.

For example, one such variable is hydrogen fuel cell electric vehicles (FCEVs). FCEVs are a complimentary technology. Current cumulative FCEV sales in the United States stand at 8,734 since 2014 and sales in the month of July 2020 stand at 64 which seems paltry in comparison to July battery electric vehicle sales of 22,488. However, from a refueling and infrastructure standpoint FCEV have some possible advantages and could impact battery electric vehicle's increasing market share.

References:
- [HYPERLINK "https://about.bnef.com/electric-vehicle-outlook/"]
- [HYPERLINK "https://www.anl.gov/es/light-duty-electric-drive-vehicles-monthly-sales-updates"]
- [HYPERLINK "https://www.nrel.gov/hydrogen/hydrogen-infrastructure-analysis.html"]

Q: What does the EPA think needs to happen with a network of EV charging stations throughout the USA?

A1: Some studies and analytical tools that could be helpful--DOE's National Renewable Energy Laboratory analyzed how much charging infrastructure may be needed in the U.S. to support electric and plug-in hybrid electric vehicles (see the national analysis here: [HYPERLINK "https://gcc01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fwww.nrel.gov%2Fdocs%2Ffy17osti%2F69031.pdf&data=02%7C01%7Cverhalen.frances%40epa.gov%7C23f71abe87bf4fe1354b08d83ef78bd7%7C88b378b367484867acf976aacbeca6a7%7C0%7C0%7C637328580215976763&sdata=%2

F3c8DkqH4IpeTjM8SUFK6h%2FJPXgqnbfOBFgh0intyqw%3D&reserved=0"]). NREL also provides a tool to estimate infrastructure needs at the city- and state-level: [HYPERLINK "https://gcc01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fafdc.energy.gov%2Fevi-pro-lite&data=02%7C01%7Cverhalen.frances%40epa.gov%7C23f71abe87bf4fe1354b08d83ef78bd7%7C88b378b367484867acf976aacbeca6a7%7C0%7C0%7C637328580215986753&sdata=WzFCu4XudKVKhgjckrQA1rpBJodg9tPPl6jpF1B%2B%2BDE%3D&reserved=0"]

A2: EPA has not taken a policy position on this question.

If EVs are to continue to increase in market share and utilization nationally, an expanded network of rapid charging stations is a high priority. However, just as important is reducing the charging time involved which is essential to long range travel. As published late last year, new developments in charging optimization through, for example temperature profiling and storage enhancements, provide possible roadmaps to safe, accelerated charging. Additionally, new research suggests possible fast charging through a novel kinetic pathway in lithium titanate polyhedra. Another priority is advancing home and public charging availability and capacity. Waste recovery and efficiency increases may also be leveraged to enhance EV charging.

References:
- [HYPERLINK "https://www.sciencedirect.com/science/article/pii/S2542435119304817"]
- [HYPERLINK "https://science.sciencemag.org/content/367/6481/1030"]

Q: Will the EPA offer incentives for installation of EV charging stations?

A1: We are not aware of current EPA funding available for EV infrastructure. There are EV infrastructure funds available to states through the VW settlement. Here is a list of federal laws and incentives related to electricity (compiled by DOE): [HYPERLINK "https://gcc01.safelinks.protection.outlook.com/?url=https%3A%2F%2Fafdc.energy.gov%2Ffuels%2Flaws%2FELEC%3Fstate%3DUS&data=02%7C01%7Cverhalen.frances%40epa.gov%7C23f71abe87bf4fe1354b08d83ef78bd7%7C88b378b367484867acf976aacbeca6a7%7C0%7C0%7C637328580215986753&sdata=wNY6XH9XH7b9iW3gV9mt1BzASOS9o6OuMTieStcTfNo%3D&reserved=0"]

In general, the national competitive DERA grants may allow for retrofitting or replacement of vehicle engines with electric engines. The grant allowances change from year to year, so careful reading of the eligible diesel emissions reduction solutions requirements in the request for applications is necessary.

A2: At the current time, we are not aware of the Agency considering any incentives regarding EV charging stations. Such incentives would normally originate from congressional budget action. Additionally, the Department of Energy's Office of Energy Efficiency and Renewable Energy may be better equipped to address such incentives. Any incentives from EPA to be administered jointly with DOE.

EJ Stakeholder: Bakeyah Nelson
Organization: Air Alliance
State: Texas
EPA Program Office: Air

Q: Bakeyah would like to discuss issues related to ethylene oxide outline in her April 8, 2020 letter to Administrator Wheeler. Bakeyah's letter (EO-OIG-Final-04-08-2020) is attached.

We need to know from David Gray what updates can the region provide to Air Alliance that are from the Administrator on ethylene oxide?

A: EPA continues its pursuit of a two-pronged strategy to address ethylene oxide emissions.

- We are reviewing regulations for facilities that emit ethylene oxide.
  - In May 2020, we issued the final risk and technology review for the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Organic Chemical Manufacturing, which will significantly reduce ethylene oxide and other hazardous air pollutants from covered processes and equipment at chemical plants. The final rule was published in the Federal Register on August 12, 2020.
  - Later this year, we anticipate issuing proposed amendments to the NESHAP for ethylene oxide commercial sterilizers.
- We are providing support to our state and local partners as they get more information about emissions from facilities in areas where our National Air Toxics Assessment (NATA)1 identified potentially elevated risk from ethylene oxide.
- EPA Region 6 is continuing to work with our State partners and is providing them support on their efforts in developing information on ethylene oxide.
- While EPA is not conducting facility-focused monitoring at this time. Our monitoring experts have made and will continue to make themselves available to provide technical assistance for agencies and organizations wishing to monitor ethylene oxide in their communities.

EJ Stakeholder: Adrian Shelley
Organization: Public Citizen
State: Texas
EPA Program Office: ORAC

Q: The Port of Houston is undergoing a major expansion project right now. Their environmental impact statements and their strategic plan are silent on environmental justice. What can the EPA do to ensure protection of the health and quality of life of neighbors of the Houston Ship Channel?

A: The EPA NEPA Program is charged with reviewing environmental impact statements of other federal agencies and to comment on the adequacy and the acceptability of the environmental impacts of the proposed action. In December 2019, the U.S. Army Corps of Engineers drafted the FIFR/EIS. The FIFR/EIS provided an analysis of Environmental Justice. The proposed action of either the National Economic Development Plan or Recommended Plan is not expected to have any disproportionately high or adverse effect on low-income or minority population groups.

Project Description: The FIFR/EIS examined the feasibility of improving navigation on the Houston Ship Channel. The FIFR/EIS focused on the Bay Reach for possible anchorage, passing lanes, side channels, Bayport Ship Channel and Barbours Cut Channel. Additionally, the study focused on the upper reach of the Houston Ship Channel between Boggy Bayou and the Main Turning Basin.

FIFR/EIS Status: R6 provided a Final FIFR/EIS response letter on March 6, 2020.

1 NATA is a screening tool, designed to tell EPA and state and local air agencies where they may wish to look closer at potential risks. Because NATA is a screen, additional work often is necessary to more fully understand the risks that NATA identifies as being potentially elevated.

EJ Stakeholder: Neil Carmen
Organization: Lone Start Chapter of the Sierra Club
State: Texas
EPA Program Office: Superfund

Q: My concern is that the DFW region's municipalities and various regulatory agencies have for decades allowed too many toxic hotspots in EJ neighborhoods all around the Dallas-Fort Worth metroplex.

It's clear that Dallas County itself has EJ neighborhoods suffering today in and adjacent to toxic hotspots.

The City of Garland, for example, appears to be home to existing and closed toxic manufacturing sites and neighborhood impacts with toxic hotspots, including the Globe-Union Lead Battery plant, Valspar, Sherwin-Williams, and others.

Having visited the Garland area throughout the 1970s-80s, it was obvious that it was home to multiple toxic manufacturing facilities as bad as others in the DFW area. The area in South Garland reminded me of driving through the Housing Projects in the West Dallas neighborhoods when the old lead smelter was still present right next door to the projects.

My concern is that the City of Garland has been working to conceal its toxic hotspots and toxic industries from the citizens in Garland and from regulatory agencies.

As a former state TCEQ field investigator from 1980-1992, it's hard for me to find credible statements and evidence of compliance from Garland City officials who are currently not doing enough to help local residents deal with the proposed Pegasus Concrete Batch Mix Plant at South Garland Road and the proposed LBJ 635 Freeway expansion.

A: EPA Region 6 Superfund has been in communication with members of the Meadowlark-Williams Neighborhood Association since February 2018. The Meadowlark-Williams neighborhood is in southwest Garland, TX and was developed in the late 1950's through the mid-1960's. Three main concerns were presented to EPA Region 6 Superfund by members of the neighborhood association. These concerns were, 1) historical wastewater discharges from the former Globe-Union plant; 2) air emissions from the Sherwin-Williams facility; and 3) alleged over-application of herbicides on U.S. Foods property. State and local agencies with regulatory jurisdiction over the Sherwin-Williams and the U.S. Foods facilities were notified of the citizen concerns. An investigation conducted by the State into air emissions by Sherwin-Williams, including air sampling was completed. No violations of facility air permits were identified, and no constituents of concern were found to be above any of the State's health-based screening levels. An investigation conducted by the City of Garland noted the U.S. Foods facility does not use herbicides at their plant. However, the investigation did identify an illicit connection to the City's stormwater system which included the discharge of degreaser compounds and oils. Subsequently, the illicit connection was terminated, and the facility was fined. EPA Region 6 has initiated and continues to investigate the concerns associated with the former Globe-Union plant.

Since being contacted by members of the Meadowlark-Williams Neighborhood Association, EPA Region 6 Superfund has provided information and assistance by researching its records, conducting investigations, and connecting the community members to agencies like the Texas Commission on Environmental Quality (TCEQ), Texas Department of State Health Services (TDSHS), and the City of Garland. EPA Region 6 Superfund continues to communicate and work with the Meadowlark-Williams Neighborhood Association during its further assessment and potential remediation of areas impacted by operations conducted by the former Globe-Union plant.

TIMELINE

Below is a summary of our interactions with the community since first contacted in early 2018.

- Mr. Phillips from the Meadowlark-Williams Neighborhood Association first contacted the Superfund Site Assessment Program in February 2018. Mr. Phillips expressed concerns about past and current environmental impacts to the community due to the industrial corridor located next to the neighborhood and the potential health effects. Mr. Phillips requested information on sites located in Garland where EPA Superfund had conducted activities.

- Research determined that EPA had conducted activities at 25 sites located within Garland. A list of the 25 sites was developed, including the site name, site address, and type of action completed as well as the date the action was completed. This list was provided to Mr. Phillips.

- Mr. Phillips reviewed the list of sites and requested additional information on 10 of the sites. EPA retrieved and reviewed the Superfund files for each of the 10 sites identified by Mr. Phillips. Electronic copies of key documents for each site were transmitted to Mr. Phillips.

- Mr. Phillips also requested information on two additional sites not on Superfund's list of 25 sites. Research discovered that these two sites were being addressed under the State's Voluntary Cleanup Program. Information regarding these two sites and the State Project Managers' contact information was provided to Mr. Phillips.

- The Texas Department of State Health Services completed an "Assessment of the Occurrence of Cancer" report on June 19, 2018. The study area for this report included the Meadowlark-Williams neighborhood. The report concluded that the cancer rates within the study area was within the range of what is expected based on cancer rates in Texas.

- Mr. Phillips contacted the Superfund Site Assessment Program again in October 2018. Mr. Phillips again expressed concerns about past and current environmental impacts due to the industrial corridor located next to the neighborhood. EPA contacted the Texas Commission on Environmental Quality (TCEQ) and shared the information received from Mr. Phillips. The TCEQ began reviewing information on facilities regulated under their authorities.

- In November 2018, EPA requested that Mr. Phillips and other members of the Meadowlark-Williams Neighborhood Association identify the three (3) areas that represent their greatest environmental concerns.

- In early December 2018, members of the Meadowlark-Williams Neighborhood Association met with City of Garland. As a result of this meeting, the City of Garland committed to providing the citizens group with $5,000 to be used for the collection and analysis of environmental samples.

- Mr. Phillips contacted the Superfund Site Assessment Program again in late January 2019. Mr. Phillips provided the following list as the Meadowlark-Williams Neighborhood Association's three (3) areas that represent their greatest environmental concerns:
    1. Former Globe-Union plant and historical wastewater discharges;
    2. Sherwin-Williams facility and its aerial emissions; and
    3. U.S. Foods and the alleged over-application of herbicides in the area that boarders the neighborhood.

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- EPA met with the TCEQ in early February 2019 to discuss the three areas of greatest concern provided by Mr. Phillips. The following decisions were made:
    1. EPA Superfund would conduct a new Preliminary Assessment on the former Globe-Union site;
    2. TCEQ would review permits and records associated with the Sherwin-Williams facility. It would also conduct an investigation into the most recent complaint received regarding the air emissions from the facility (TCEQ contact: Alyssa Taylor, Regional Director); and
    3. Concerns about the over-application of herbicides would be referred to the City of Garland for investigation. The City of Garland has a Phase I Municipal Separate Storm Sewer System (MS4) permit, and this concern falls under their jurisdiction (City of Garland contact: Jason Chessher, Director of Health).

- These decisions were relayed to Mr. Phillips in mid-February 2019. A conference call with members of the Meadowlark-Williams Neighborhood Association and TCEQ was held in March 2019.

- A site visit associated with the new Preliminary Assessment at the Globe-Union site was conducted in early April 2019.

- In August 2019, EPA received a request from members of the Meadowlark-Williams Neighborhood Association for assistance with developing a sampling plan and for sampling procedures. EPA responded by providing links to appropriate guidance documents associated with the development of sampling plans and standard operating procedures (SOPs) for soil sampling.

- The new Preliminary Assessment report was completed on September 11, 2019.

- On September 17, 2019, the EPA decided that more information was needed to before a final decision could be made regarding the Globe-Union site. Therefore, a Site Inspection would be performed at the site to gather the additional information needed.

- In early October 2019, the analytical results for soil samples collected by members of the Meadowlark-Williams Neighborhood Association was shared with EPA. Analytical results indicated that soil samples were collected from 10 locations and were analyzed for metals. One location exhibited elevated levels of lead.

- EPA met with members of the Meadowlark-Williams Neighborhood Association in early November 2019 to discuss the Preliminary Assessment and the future Site Inspection.

- Field work associated with the Site Inspection was conducted in mid-February 2020. This field work included the collection of soil and sediment samples in the surface water pathway down gradient from the Globe-Union site.

- The Site Inspection report was completed on May 26, 2020.

- It was determined that based on the analytical results from the Site Inspection, the Globe-Union site is not eligible for placement on the federal National Priorities List (NPL), because it did not score the minimum 28.5 using the Hazard Ranking System due to insufficient receptors along the Surface Water Pathway. However, because lead detected in soil samples above the EPA Regional Screening Levels (RSLs), the Globe-Union site was referred to Superfund's Emergency Management Branch for evaluation.

- On June 1, 2020, EPA Superfund conducted conference calls with the following organizations to discuss the results of the Site Inspection and future follow-up activities planned by EPA:
    1. Meadowlark-Williams Neighborhood Association
    2. City of Garland
    3. Garland Independent School District

- Superfund's Emergency Management Branch has established a dedicated Web site for the Globe-Union site. On the site is information about the site; links to the Preliminary Assessment report, Site Inspection Work Plan, and Site Inspection report; and Q&A developed based on questions received regarding the site and EPA's future planned activities.

EJ Stakeholder: Dr. Melissa Massey
Organization: Cleanup Garland
State: Texas
EPA Program Office: Superfund

Q: Concerned that the City of Garland has records of toxic materials in our community but citizens as well as regulatory agencies have not been informed.

A: See previous response to City of Garland question.

EJ Stakeholder: Richard Guldi
Organization: Dallas Area
State: Texas
EPA Program Office: Superfund

Q: What is the EPA doing to prevent future Shingle Mountains, Lane Plating Superfund sites, and Lead Smelters?

A: EPA programs cannot adequately respond to the concept of "preventing" issues such as the Shingle Mountains, Superfund sites, or the citing of industry. Local zoning allows certain industries to build/operate. If necessary, media permits are issued, in coordination with the state, to protect air, land and water by implementing regulations/laws, with the hope that any activity/industry would be good environmental stewards and neighbors. EPA tends to step in when something goes wrong, if within our jurisdiction. The EPA and the states take action when industries fail to comply with environmental permits to provide technical assistance or orders for compliance with permits and laws. In addition, the Superfund program is specifically designed to address abandoned hazardous waste sites. Over the years, EPA has also identified illegal dumping and improper disposal of wastes with the help of citizens contacting its hotline.

EJ Stakeholder: Loretta Sandoval
Organization:
State: New Mexico
EPA Program Office: ECAD

Q: Ms. Sandoval notes that there are about 300-500 acres in Rio Arriba County with different land owners that are experiencing crop degradation, loss of bees, loss of insects especially when they eat the plants. She indicated roots are amber color rather than white as they should be. She indicated some

farmers in Taos County is experiencing the same issues of vegetation which appears that is looks frozen when there has not been any cold temps. She has had initial conservation with USDA and NMED. She indicated there is a grey lines in the waters as well as suds in the water in several acequias, La Puebla River, Embudo River, and Rio Grande. Loretta along with Mary Campbell, analytical chemist, retired Phd from LANL, believe the material is residue from organo silene coming from artificial snow making Drift used by the local ski resort Sipapu ski resort. The Forestry Service confirmed the use of Drift at the ski resort.

Among other things, she would like to know what the regulations are for that material if that a permit that NMED of Forest Service would have issued.

A: In short, NMED conducted a site visit the week of July 20, took some water quality samples (in the ditch and at various points along the river), talked with the complainant, and provided the complainant with contact information for the Forest Service – the FS is responsible for permitting the snowmaking activities. NMED also contacted the Forest Service to discuss the snowmaking activities. NMED's understanding is that "Silwet-77" and "DRIFT" are product names for a snow-making additive. The Sipapu Ski Area used Silwet-77 in the past but is currently using DRIFT. Application rate, according to the FS, is consistent with product requirements.

NMED water quality results are pending, but staff indicated they observed insects and other aquatic life in the river and in the complainant's fields. NMED provided the complainant contact information for the NMSU Plant Diagnostics Center (plant pathologist) and NRCS to help her identify what might be weakening/killing her crops.

EJ Stakeholder:
Organization:
State: Oklahoma
EPA Program Contact: Air

- The U.S. Environmental Protection Agency (EPA) recently awarded the state of Oklahoma a grant of $162,000 for air toxics programs. The grant will fund the Oklahoma Department of Environmental Quality's (ODEQ) efforts in supporting EPA's National Air Toxics Assessment (NATA) to study and characterize toxic air pollutants.
- ODEQ will use the grant for its National Air Toxics Trends Stations (NATTS), which monitor ambient levels of toxic air pollutants. These pollutants, also called air toxics, are known or suspected to cause serious health effects such as cancer or birth defects. Oklahoma's NATTS project supports the NATA program's efforts to use monitoring data to identify areas of concern, characterize risk and track progress in improving air quality. The new monitor will be located Tulsa, OK.

ED_012929_00000784-00012

Message

From: Spina, Providence [Spina.Providence@epa.gov]
Sent: 8/17/2021 3:15:56 AM
To: echeuse@earthjustice.org
CC: Belser, Evan [Belser.Evan@epa.gov]; Lannen, Justin [Lannen.Justin@epa.gov]; dtumeh@earthjustice.org; mjordan@lawyerscommittee.org
Subject: CAA Section 114 Information Requests to Denka
Attachments: 12754954.pdf; Denka Clean Air Act Information Request - 6 8 2021.pdf; Denka Clean Air Act Information Request - 4 5 2021.pdf

Emma,

Many thanks to you, your colleagues, and especially the representatives of CCSJ and the St. John the Baptist Parish community for participating in today's call. As we discussed, I am providing three Clean Air Act Section 114 information requests issued by OECA/Air Enforcement Division to Denka since April. Two of the requests seek information related to elevated chloroprene concentrations in SPod air canister samples. Component 2 of the third request, issued by OAR and OECA on June 15, 2021, requires Denka to implement Method 325 monitoring at the facility.

Thank you again for today's call. Please let us know if you have any questions.

Regards,

Providence Spina, Attorney-Advisor
U.S. Environmental Protection Agency
Office of Civil Enforcement, Air Enforcement Division
Ph: 202-564-2722

Mailing Address for USPS:
1200 Pennsylvania Avenue, N.W.
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Clinton Federal Building (South) Room 2109A
Washington, D.C. 20004

Summary Report
U.S. Environmental Protection Agency (EPA) and
Louisiana Department of Environmental Quality (LDEQ)
Air Monitoring for Chloroprene Concentrations
near the Denka Performance Elastomer LLC (DPE) Facility
in LaPlace, Louisiana
May 25, 2016 through July 16, 2020
September 2020

SUMMARY REPORT
Air Monitoring for Chloroprene Concentrations in LaPlace, LA from May 25, 2016 through July 16, 2020

EXECUTIVE SUMMARY

The U.S. Environmental Protection Agency (EPA) and the Louisiana Department of Environmental Quality (LDEQ) began ambient air monitoring in the LaPlace, LA, community surrounding the Denka Performance Elastomer, LLC (DPE) facility in March 2016. Since March 2018, following the implementation of emission controls being installed by DPE, chloroprene stack emissions have been reduced by 85% and EPA air monitoring data have shown corresponding significant reductions of chloroprene concentrations in the community.

The air monitoring program was implemented in response to the 2011 National Air Toxics Assessment (which was released in late December 2015) to determine if modeled concentrations of chloroprene in the air were present at levels of concern. EPA established six monitoring locations in LaPlace in May 2016 and began sampling each location to monitor and analyze concentrations of chloroprene in the air near the DPE facility.

Chloroprene is one of the 187 pollutants that Congress classified as "hazardous air pollutants," also called air toxics. The Clean Air Act instructs EPA to regulate air toxics by setting limits on the amount of air pollution that industrial sources can *emit* to the air, rather than by setting *ambient standards*, which are limits on the amount of a pollutant that is allowed in outdoor air.

Air monitoring of chloroprene has allowed EPA and LDEQ to document the reductions in chloroprene levels in the community due to emission reductions at the facility. EPA noted that the post-control data collected between March 2018 to July 2020 indicated that annual averages in the community would be lower except for occasional elevated measurements, or "spikes," that contribute to the averages. In order to understand the magnitude and frequency of these occasional, but recurring, elevated chloroprene measurements or "spikes," EPA began a Continuous Air Monitoring Program in March 2020.

The Continuous Air Monitoring Program is designed to measure short-term concentrations of chloroprene and provide important additional information to help identify potential opportunities to further reduce chloroprene emissions. The Continuous Air Monitoring Program, barring unforeseen circumstances, will operate until December 2020.

In addition to EPA's Continuous Air Monitoring Program, DPE has conducted their own air monitoring for chloroprene at six locations in LaPlace. Based on our analysis, DPE's air monitoring data results have generally tracked well when compared to EPA's monitoring data. DPE has committed to continue their air monitoring efforts in the community through calendar year 2021.

BACKGROUND

The U.S. Environmental Protection Agency's (EPA) National Air Toxics Assessment (NATA), released on December 17, 2015 using the 2011 national emissions inventory, is a nationwide screening-level computer modeling assessment. The model estimated high levels of chloroprene in the community of LaPlace, LA.

At the time of the NATA release, these levels of chloroprene were predicted by the model, but not confirmed by air monitoring results to actually be present in the community. To determine if the chloroprene levels of concern were present in the ambient air, EPA and the Louisiana Department of Environmental Quality (LDEQ) conducted preliminary air monitoring in the community.

LDEQ conducted an initial air monitoring survey on six days between March 1 through March 10, 2016. LDEQ collected 25 short-term grab samples from different locations in the community of LaPlace. The sampling results detected chloroprene and indicated a need to determine if chloroprene was in the ambient air over longer periods of time.

During the same period, EPA collected a total of 20 samples, up to 24-hours in duration, from five different locations within the community of LaPlace. EPA's sampling results confirmed LDEQ's findings and the need for additional air monitoring in the community.

EPA began monitoring for chloroprene in the neighborhoods near the Denka Performance Elastomers (DPE) Pontchartrain Facility (formerly the DuPont Neoprene Facility, Pontchartrain Works) in May 2016. The purpose of the monitoring was to collect air samples to assist in EPA's assessment of the presence of chloroprene in the community. To communicate information to the community during the monitoring period, EPA provided individual sample results at each site throughout the monitoring period at the following website: https://www.epa.gov/la/denka-air-monitoring-data-summary. The monitoring data summarized in this report covered the period from May 25, 2016 to July 16, 2020 and are included as an attachment to this document.

Beginning on May 25, 2016, EPA collected samples every third day at six monitoring sites. Beginning on March 1, 2019, the sample collection frequency became every sixth day. The sample collection duration is 24 consecutive hours. For data quality purposes, EPA collected one additional, collocated sample at one of the six monitoring sites. The collocated sample location was selected on the day of sampling based on the predicted direction of the winds for that day of sampling. A map of the EPA community air monitoring locations is below.

Figure 1. EPA Community Ambient Air Monitoring Locations, LaPlace, LA

DATA SUMMARY

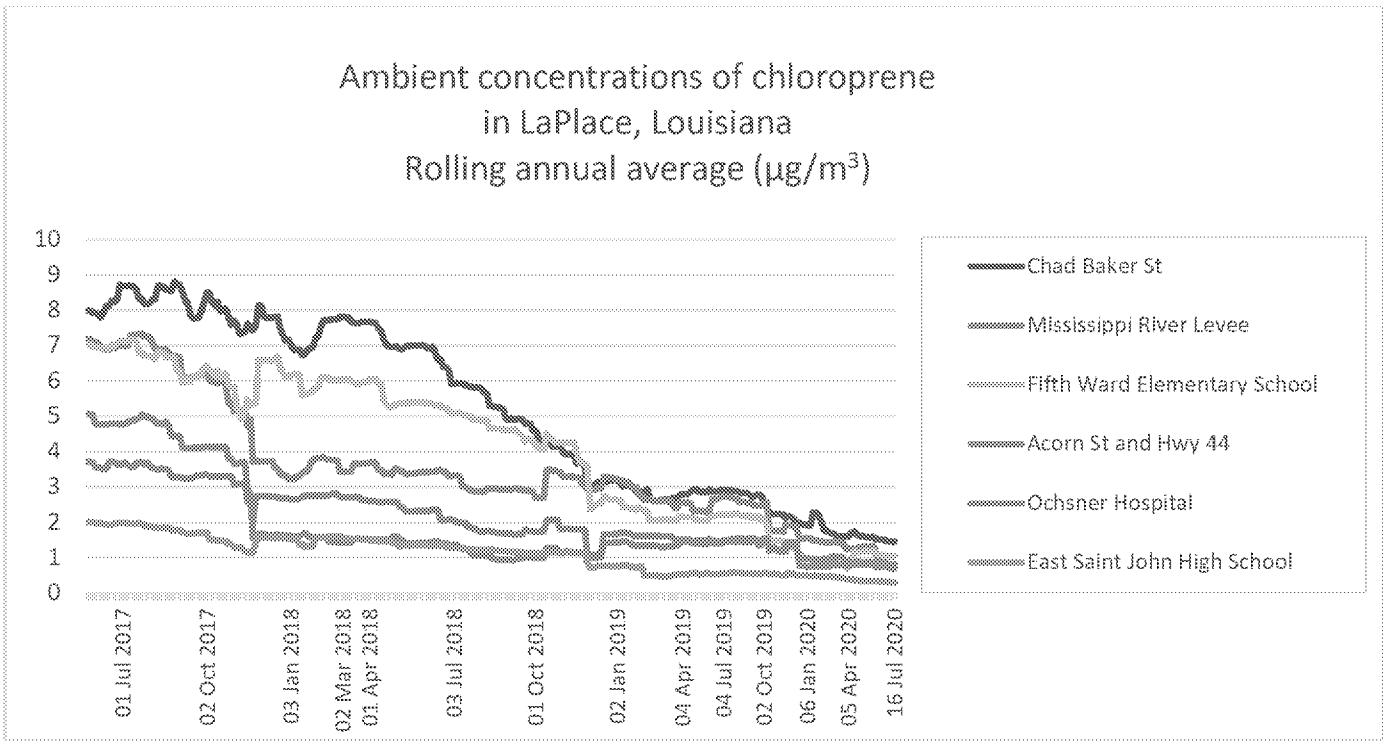
LDEQ has been actively working with EPA and officials from DPE to address the chloroprene issues in LaPlace, Louisiana. LDEQ staff met with DPE officials and requested that the company develop and implement a monitoring plan and develop actions to reduce emissions.

LDEQ's Agreed Order on Consent issued to DPE resulted in the facility completing four major construction projects by December 2017 to control chloroprene emissions. This included the installation of a regenerative thermal oxidizer (RTO), two condensers, and equipment upgrades and controls for vents and fugitive emissions to reduce emissions of chloroprene. All of these chloroprene emission control measures became fully operational by March 2018.

From May 2016 to March 2018, the daily chloroprene levels at each of the monitors were higher than daily levels after March 2018, when the new chloroprene emission controls at the facility were fully implemented, indicating that the emission controls were effective in reducing the facility's chloroprene emissions.

The chart below shows a "rolling annual average" at each monitoring site. A "rolling annual average" takes the sample results for the 12 months before a sampling day, averages them, and places that value as a data point on the chart. With every next sampling day, those 12 months "roll" or move forward, to capture the 12 months before that day, the results are averaged, and this value is shown as the next data point.

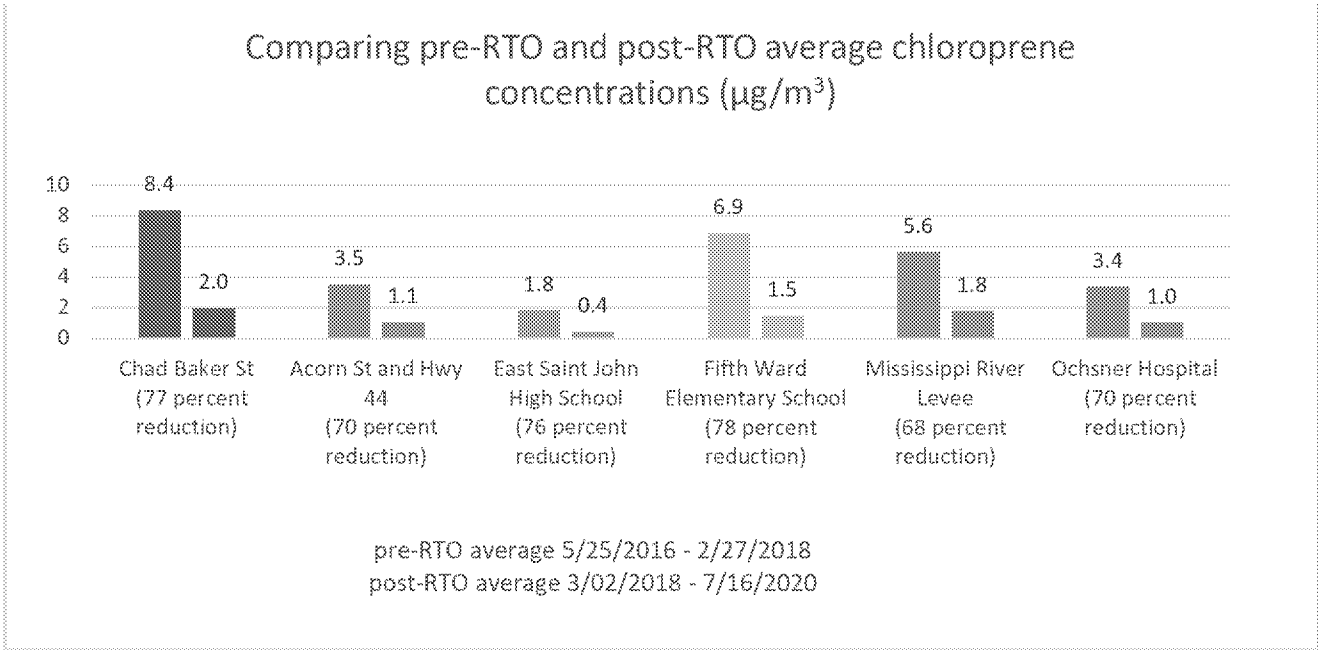
The highest annual rolling averages are in the time period before the implementation of additional emission controls at the facility in March 2018. The rolling annual averages drop consistently at all six air monitoring sites from March 2018 to July 2020.



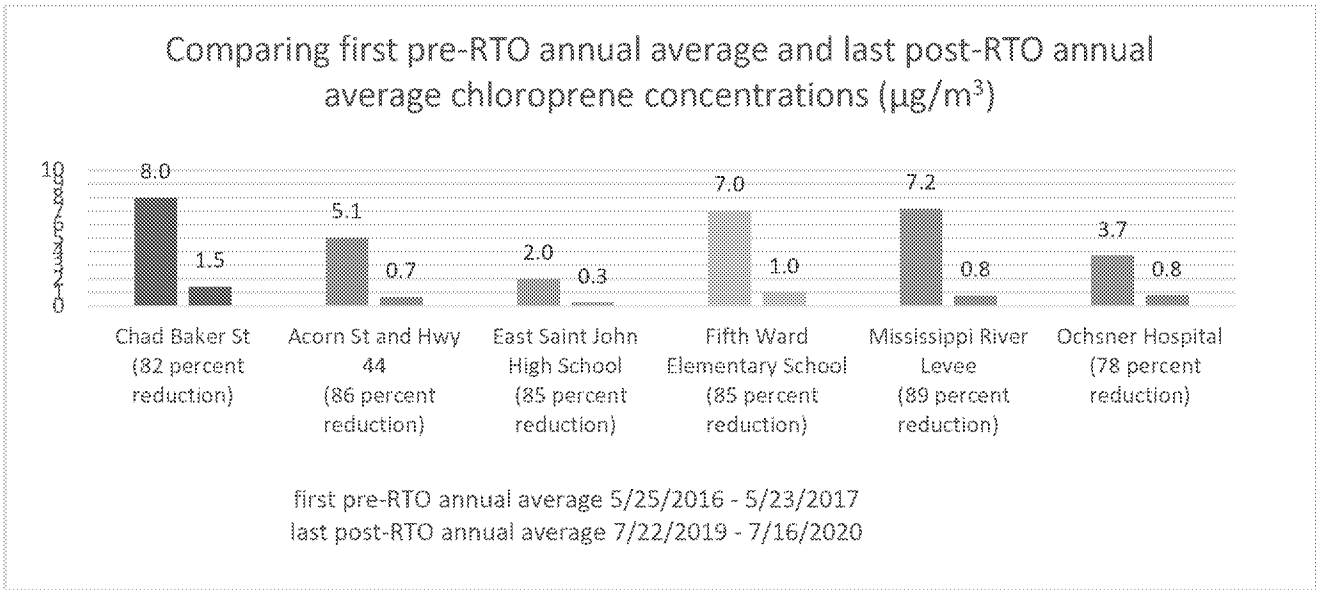
Since March 2018, air sampling results have shown a substantial reduction in chloroprene emissions at all monitoring locations. The last of the chloroprene emission control devices to become fully operational (in March 2018) was an RTO. The latest annual chloroprene emissions inventory data reported by DPE, based on 2019 data, reflect an emission reduction of 85% compared to 2014 emissions inventory data.

To illustrate how the reduction of chloroprene emissions at the facility resulted in lower levels of chloroprene in the air surrounding the facility, the average chloroprene levels detected by the community air monitors before (pre) and after (post) the full operation of the RTO in March 2018 were compared. As shown in the chart below,

there has been a 68% to 78% drop in average chloroprene concentrations at the monitors in the community surrounding the facility.



A comparison of the annual rolling averages in the time periods before (pre) and after (post) full operation of the RTO shows even larger chloroprene concentration decreases of the pre- and post-RTO operation at every EPA community air monitoring site around the facility. The percent average decrease in annual average rolling concentrations at the community monitoring sites ranged from 78% to 89%.



DATA QUALITY

EPA is confident in the data quality of the sample analysis results for the entire duration of this monitoring effort. Field sampling checks and calibration targets, as well as laboratory analytical quality assurance and control measures, were met for all the EPA community air monitoring data posted to the EPA LaPlace website.

For data quality purposes, EPA collected one collocated sample at one of the six community monitoring sites. Collocated sample results provide assurance that measured chloroprene levels are accurate and comparable.

EPA completed quality control reviews of the raw sample data results to assure they met EPA air sampling quality goals. These additional reviews further confirmed EPA's confidence in the identification and quantitation of the chloroprene results from the EPA air monitoring sites in the community surrounding the DPE facility.

COMPARISON OF EPA COMMUNITY AIR MONITORING TO DPE AIR MONITORING

DPE has conducted their own air monitoring for chloroprene at the following locations in LaPlace, shown on Figure 2.

1. Entergy Site
2. Railroad & Highway 44
3. Western Edge of DPE Property
4. Mississippi River Levee
5. Ochsner River Parishes Hospital
6. Edgard

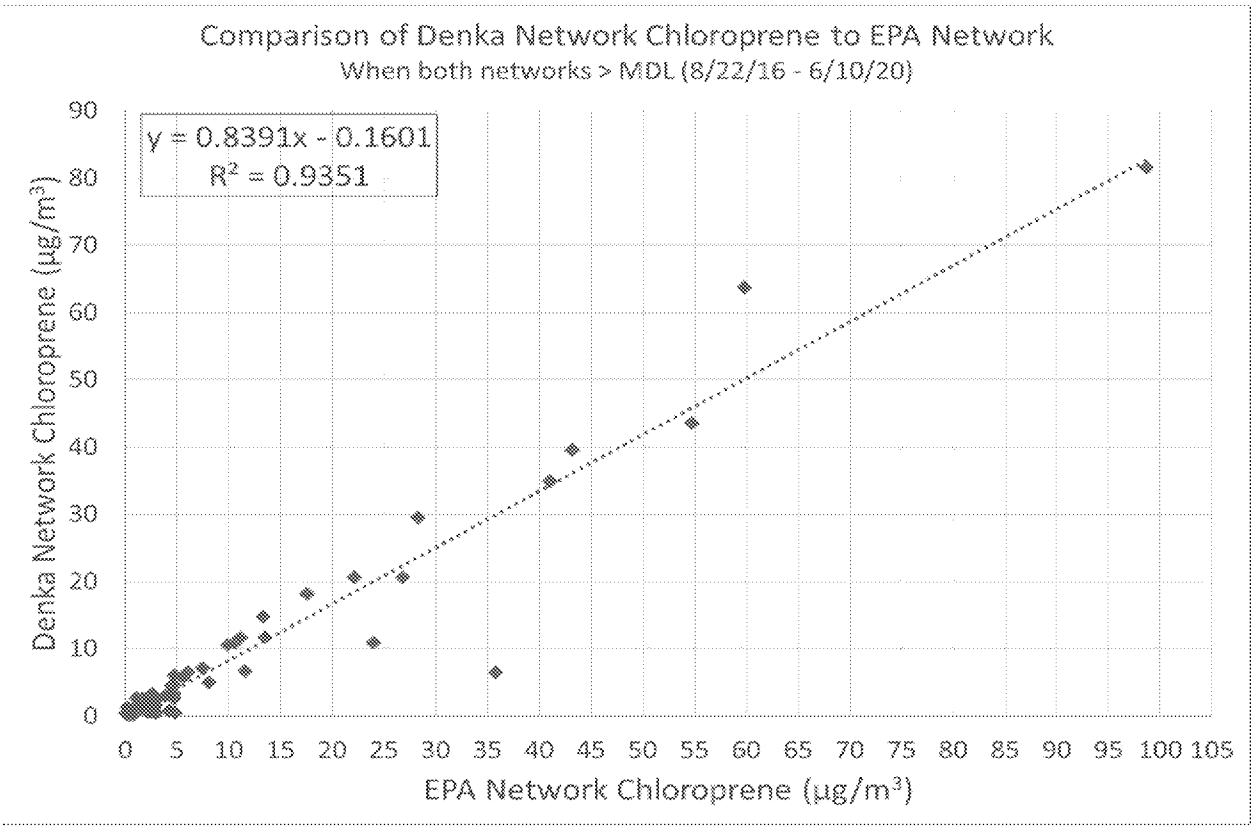
Figure 2. DPE Air Monitoring Locations, LaPlace, LA

EPA compared the EPA community monitoring data and the DPE monitoring data. The charts below compare the EPA and DPE results from the Levee and Hospital sampling sites. EPA chose to compare these two

locations because the EPA and DPE monitoring equipment at the sites are the most closely located. The sample results being compared from both monitoring networks are from the same site and have the same start day.

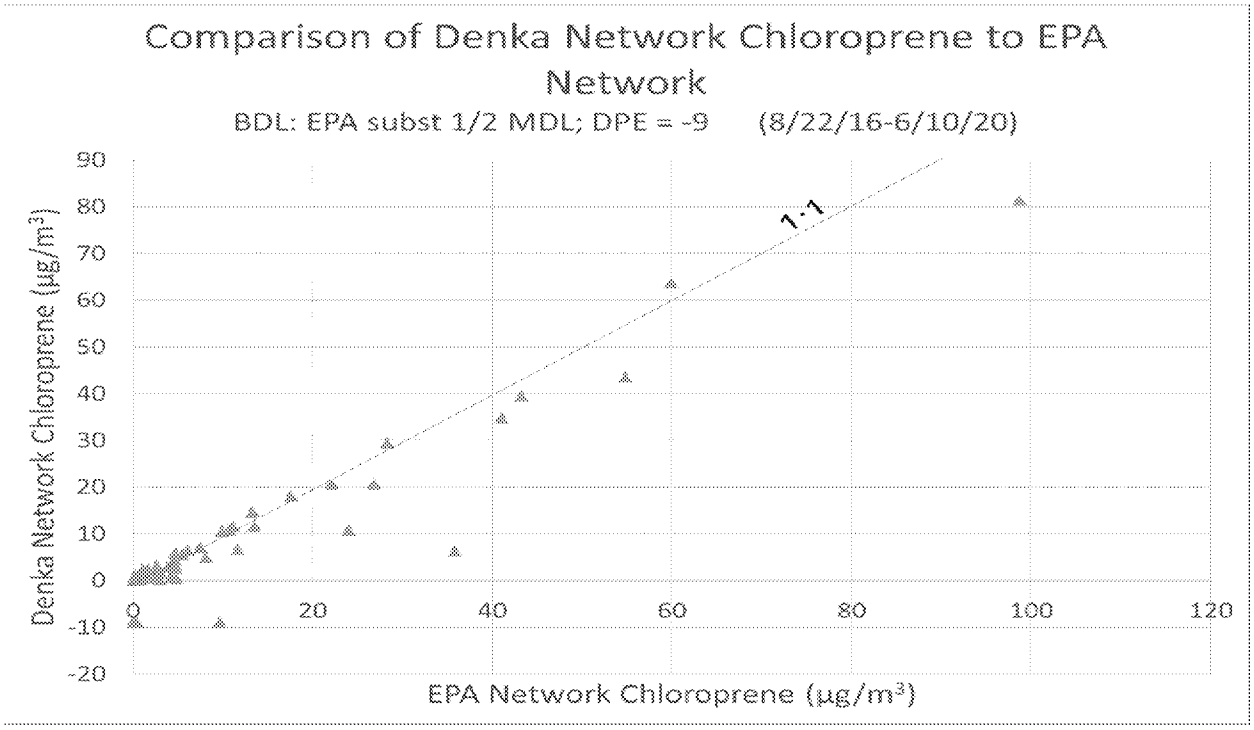
The first comparison is for days when both EPA and DPE monitoring results are greater than the minimum detection limit (MDL) of the respective sample analytical methods being used. In other words, the comparison occurs when both networks have sampling results on the same day at these two sites.

As can be seen in the following chart, the chloroprene air sampling results from both the EPA and DPE air monitoring networks are well correlated. A correlation factor equal to 1 is ideal. In this case, a factor of 0.9351 is very good. Also, in general, the closer the points in the chart are to the dashed line, the closer the two sets of sample results track. Stated simply, the results from the two sites, one EPA and one DPE, are comparable.



A second comparison, illustrated in the chart that follows, looks at sample results when the DPE sampling result was below the analytical method MDL but for which a sample result could be estimated. This comparison was done to see if the corresponding EPA sample result at the same site and on the same day is also relatively low.

The closer the points in the chart are to the solid line, the closer the two sets of sample results correlate. As seen in the chart below, at these lower chloroprene levels, which are more typical in the current post-RTO time frame, the air sampling results from both the EPA and DPE air monitoring networks are again comparable.



Based on our analysis, DPE's air monitoring data results have generally tracked well when compared to EPA's community monitoring data. DPE has committed to continue their air monitoring efforts in the community through calendar year 2021.

SUMMARY

Since March 2018, following the implementation of emission controls being installed by DPE, chloroprene emissions have been reduced by 85% and EPA air monitoring data have shown corresponding significant reductions of chloroprene concentrations in the community.

EPA noted that data collected between March 2018 to July 2020 indicated that rolling annual averages in the community would be lower except for occasional elevated measurements, or "spikes," that contribute to the averages. In order to understand the magnitude and frequency of these occasional, but recurring, elevated chloroprene measurements or "spikes," EPA began a Continuous Air Monitoring Program in March 2020.

The Continuous Air Monitoring Program is designed to measure short-term concentrations of chloroprene and provide important additional information to help identify potential opportunities to further reduce chloroprene emissions. The Continuous Air Monitoring Program, barring unforeseen circumstances, will operate until December 2020. This data will be posted on the following EPA website as it becomes available: https://www.epa.gov/la/denka-air-monitoring-data-summary.

Attachment: EPA Community Air Monitoring Data Results May 25, 2016 through July 16, 2020

EPA Chloroprene Community Air Monitoring Summary Sheet
May 25, 2016 - July 16, 2020

DATE	Units	238 Chad Baker	Acorn and Hwy 44	East St. John the	Fifth Ward Elementar	Levee	Ochsner Hospital
05/25/16	(µg/m^3)	ND	1.29	0.831	ND	ND	ND
05/25/16 (c	(µg/m^3)	--	--	--	ND	--	--
05/28/16	(µg/m^3)	--	Invalid	Invalid	--	Invalid	--
05/28/16 (c	(µg/m^3)	--	--	Invalid	--	--	--
05/31/16	(µg/m^3)	7.58	30.3	2.02	3.07	6.13	17.5
05/31/16 (c	(µg/m^3)	--	--	--	--	--	--
06/02/16	(µg/m^3)	7.15	0.073	2.67	1.88	2.64	0.083
06/02/16 (c	(µg/m^3)	--	--	--	--	--	0.047
06/05/16	(µg/m^3)	11.1	ND	0.341	4.97	20.5	0.809
06/05/16 (c	(µg/m^3)	--	ND	--	--	--	--
06/09/16	(µg/m^3)	5.48	0.624	1.25	3.41	4.93	4.68
06/09/16 (c	(µg/m^3)	--	--	--	--	4.72	--
06/12/16	(µg/m^3)	5.37	0.983	5.15	0.573	0.272	1.28
06/12/16 (c	(µg/m^3)	--	--	5.73	--	--	--
06/15/16	(µg/m^3)	1.21	0.225	1.07	1.74	0.366	10.8
06/15/16 (c	(µg/m^3)	--	--	0.990	--	--	--
06/18/16	(µg/m^3)	7.87	4.39	0.268	1.89	2.70	2.98
06/18/16 (c	(µg/m^3)	--	4.21	--	--	--	--
06/21/16	(µg/m^3)	5.08	ND	1.04	1.30	0.413	0.686
06/21/16 (c	(µg/m^3)	--	--	--	1.49	--	--
06/24/16	(µg/m^3)	0.305	6.82	*0.029*	ND	0.319	7.54
06/24/16 (c	(µg/m^3)	--	--	--	--	0.540	--
06/27/16	(µg/m^3)	0.163	1.19	0.417	ND	0.040	1.61
06/27/16 (c	(µg/m^3)	--	1.19	--	--	--	--
06/30/16	(µg/m^3)	4.53	ND	0.352	3.50	7.15	ND
06/30/16 (c	(µg/m^3)	4.21	--	--	--	--	--
07/03/16	(µg/m^3)	ND	0.054	1.69	ND	ND	4.28
07/03/16 (c	(µg/m^3)	--	--	--	--	--	--
07/06/16	(µg/m^3)	ND	ND	0.120	ND	ND	9.61
07/06/16 (c	(µg/m^3)	--	--	--	--	--	--

EPA Chloroprene Community Air Monitoring Summary Sheet
May 25, 2016 - July 16, 2020

DATE	Units	238 Chad Baker	Acorn and Hwy 44	East St. John the	Fifth Ward Elementar	Levee	Ochsner Hospital
07/09/16	(µg/m^3)	1.71	4.75	0.762	0.345	1.88	6.02
07/09/16 (c	(µg/m^3)	--	--	--	--	--	6.64
07/12/16	(µg/m^3)	6.89	1.23	2.36	5.62	0.722	0.232
07/12/16 (c	(µg/m^3)	--	--	2.70	--	--	--
07/15/16	(µg/m^3)	12.4	0.881	0.914	3.63	6.46	1.53
07/15/16 (c	(µg/m^3)	--	--	--	--	--	1.73
07/18/16	(µg/m^3)	37.0	ND	0.276	44.3	1.70	ND
07/18/16 (c	(µg/m^3)	33.2	--	--	--	--	--
07/21/16	(µg/m^3)	5.01	1.18	2.12	11.3	4.90	1.06
07/21/16 (c	(µg/m^3)	--	--	--	11.3	--	--
07/24/16	(µg/m^3)	16.7	9.07	8.16	8.09	9.47	10.0
07/24/16 (c	(µg/m^3)	--	--	--	--	10.0	--
07/27/16	(µg/m^3)	ND	1.71	0.196	ND	ND	3.59
07/27/16 (c	(µg/m^3)	--	--	--	--	--	3.70
07/30/16	(µg/m^3)	2.49	5.30	2.67	3.15	6.35	11.2
07/30/16 (c	(µg/m^3)	--	--	--	--	--	10.8
08/02/16	(µg/m^3)	0.254	0.881	1.86	10.3	16.8	6.56
08/02/16 (c	(µg/m^3)	--	--	--	--	--	5.95
08/05/16	(µg/m^3)	5.84	12.5	2.39	8.67	21.4	5.48
08/05/16 (c	(µg/m^3)	--	12.7	--	--	--	--
08/08/16	(µg/m^3)	0.417	4.86	1.63	0.569	2.77	0.827
08/08/16 (c	(µg/m^3)	--	5.98	--	--	--	--
08/11/16	(µg/m^3)	ND	12.8	ND	ND	0.649	2.43
08/11/16 (c	(µg/m^3)	--	--	--	--	--	2.23
08/14/16	(µg/m^3)	Invalid	Invalid	Invalid	Invalid	Invalid	Invalid
08/14/16 (c	(µg/m^3)						
08/17/16	(µg/m^3)	No Samples Collected Due to Flooding in the Area					
08/17/16 (c	(µg/m^3)	No Samples Collected Due to Flooding in the Area					
08/20/16	(µg/m^3)	No Samples Collected Due to Flooding in the Area					
08/20/16 (c	(µg/m^3)	No Samples Collected Due to Flooding in the Area					

EPA Chloroprene Community Air Monitoring Summary Sheet
May 25, 2016 - July 16, 2020

DATE	Units	238 Chad Baker	Acorn and Hwy 44	East St. John the	Fifth Ward Elementar	Levee	Ochsner Hospital
08/23/16	(µg/m^3)	5.19	34.7	8.56	--	--	24.0
08/23/16 (c	(µg/m^3)	--	--	--	--	--	23.0
08/26/16	(µg/m^3)	1.61	0.468	0.301	6.06	2.23	1.37
08/26/16 (c	(µg/m^3)	1.65	--	--	--	--	--
08/29/16	(µg/m^3)	25.6	ND	0.627	38.4	0.073	ND
08/29/16 (c	(µg/m^3)	--	--	--	38.8	--	--
09/01/16	(µg/m^3)	0.798	ND	ND	13.1	8.09	ND
09/01/16 (c	(µg/m^3)	--	--	--	11.0	--	--
09/04/16	(µg/m^3)	31.0	39.2	10.2	34.7	74.7	7.65
09/04/16 (c	(µg/m^3)	30.7	--	--	--	--	--
09/07/16	(µg/m^3)	Invalid	2.21	2.17	3.44	2.14	1.17
09/07/16 (c	(µg/m^3)	33.8	--	--	--	--	--
09/10/16	(µg/m^3)	10.9	0.160	4.90	6.27	2.53	0.791
09/10/16 (c	(µg/m^3)	10.7	--	--	--	--	--
09/13/16	(µg/m^3)	46.1	ND	0.120	16.1	0.232	ND
09/13/16 (c	(µg/m^3)	44.3	--	--	--	--	--
09/16/16	(µg/m^3)	28.6	ND	0.921	0.693	ND	ND
09/16/16 (c	(µg/m^3)	24.7	--	--	--	--	--
09/19/16	(µg/m^3)	ND	0.105	0.033	ND	1.320	0.076
09/19/16 (c	(µg/m^3)	--	--	--	--	--	0.062
09/22/16	(µg/m^3)	0.363	ND	0.065	0.722	0.18	ND
09/22/16 (c	(µg/m^3)	--	--	--	0.664	--	--
09/25/16	(µg/m^3)	0.109	0.073	0.127	0.105	0.548	ND
09/25/16 (c	(µg/m^3)	0.138	--	--	--	--	--
09/28/16	(µg/m^3)	0.073	0.432	0.051	0.555	3.37	0.301
09/28/16 (c	(µg/m^3)	--	--	--	--	3.49	--
10/01/16	(µg/m^3)	0.051	ND	ND	ND	10.3	ND
10/01/16 (c	(µg/m^3)	--	--	--	--	10.6	--
10/04/16	(µg/m^3)	37.4	1.27	24.9	42.4	26.8	6.06
10/04/16 (c	(µg/m^3)	--	--	--	33.3	--	--

EPA Chloroprene Community Air Monitoring Summary Sheet
May 25, 2016 - July 16, 2020

DATE	Units	238 Chad Baker	Acorn and Hwy 44	East St. John the	Fifth Ward Elementar	Levee	Ochsner Hospital
10/07/16	(µg/m^3)	32.8	0.403	1.37	5.77	4.24	0.704
10/07/16 (c	(µg/m^3)		--	--	5.73	--	--
10/10/16	(µg/m^3)	8.49	ND	ND	12.5	8.74	ND
10/10/16 (c	(µg/m^3)	--	--	--	12.6	--	--
10/13/16	(µg/m^3)	18.8	ND	3.57	1.76	1.27	0.258
10/13/16 (c	(µg/m^3)	--	--	--	1.7	--	--
10/16/16	(µg/m^3)	32.3	ND	ND	25.6	3.33	ND
10/16/16 (c	(µg/m^3)	31.6	--	--	--	--	--
10/19/16	(µg/m^3)	12.1	ND	1.70	0.232	ND	ND
10/19/16 (c	(µg/m^3)	11.9	--	--	--	--	--
10/22/16	(µg/m^3)	0.410	ND	ND	ND	13.5	0.073
10/22/16 (c	(µg/m^3)	--	--	--	--	9,.68	--
10/25/16	(µg/m^3)	29.8	57.3	12.0	33.0	67.5	43.5
10/25/16 (c	(µg/m^3)	--	--	--	--	65.3	--
10/28/16	(µg/m3)	25.0	ND	0.07	11.1	11.9	ND
10/28/16 (c	(µg/m3)	--	--	--	11.9	--	--
10/31/16	(µg/m3)	5.04	17.5	16.2	1.96	29.6	27.5
10/31/16 (c	(µg/m3)	--	--	--	1.99	--	--
11/03/16	(µg/m3)	18.8	ND	ND	66.4	2.30	ND
11/03/16 (c	(µg/m3)	18.9	--	--	--	--	--
11/06/16	(µg/m3)	32.6	0.54	0.102	28.9	3.12	0.120
11/06/16 (c	(µg/m3)	35.1	--	--	--	--	--
11/09/16	(µg/m3)	0.921	ND	ND	16.4	ND	ND
11/09/16 (c	(µg/m3)	--	--	--	17.3	--	--
11/12/16	(µg/m3)	0.221	ND	15.1	2.22	ND	ND
11/12/16 (c	(µg/m3)	--	--	--	2.13	--	--
11/15/16	(µg/m3)	ND	106	0.268	ND	54.8	59.8
11/15/16 (c	(µg/m3)	--	--	--	ND	--	--
11/18/16	(µg/m3)	16.9	0.827	3.61	23.4	0.210	0.831
11/18/16 (c	(µg/m3)	--	--	3.40	--	--	--
11/21/16	(µg/m3)	8.27	153	0.388	1.60	147	66.7
11/21/16 (c	(µg/m3)	--	--	--	1.61	--	--
11/24/16	(µg/m3)	2.81	5.66	0.870	1.02	17.1	3.77

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11/24/16 (c	(µg/m3)	--	--	--	--	--	3.74
11/27/16	(µg/m3)	3.74	*0.025*	ND	5.40	4.90	*0.018*
11/27/16 (c	(µg/m3)	--	--	--	5.08	--	--
11/30/16	(µg/m3)	*0.018*	*0.025*	0.058	*0.025*	0.802	0.218
11/30/16 (c	(µg/m3)	--	--	0.062	--	--	--
12/03/16	(µg/m3)	40.6	0.044	ND	0.979	ND	ND
12/03/16 (c	(µg/m3)	41.0	--		--	--	--
12/06/16	(µg/m3)	2.42	3.41	0.413	0.635	*0.029*	0.787
12/06/16 (c	(µg/m3)	--	3.55	--	--	--	--
12/09/16	(µg/m3)	ND	ND	ND	0.433	0.537	ND
12/09/16 (c	(µg/m3)	--	--	--	0.450	--	--
12/12/16	(µg/m3)	ND	0.196	2.41	ND	0.381	2.44
12/12/16 (c	(µg/m3)	--	--	2.36	--	--	--
12/15/16	(µg/m3)	ND	ND	ND	*0.025*	21.3	ND
12/15/16 (c	(µg/m3)	--	--	--	*0.029*		--
12/18/16	(µg/m3)	ND	ND	ND	ND	8.81	2.22
12/18/16 (c	(µg/m3)	--	--	ND	--	--	--
12/21/16	(µg/m3)	40.3	1.71	0.889	37.4	17.4	3.21
12/21/16 (c	(µg/m3)	--	--	--	39.9	--	--
12/24/16	(µg/m3)	26.2	ND	0.820	20.9	10.6	ND
12/24/16 (c	(µg/m3)	25.5	--	--	--	--	--
12/27/16	(µg/m3)	17.1	0.649	1.11	16.7	0.812	0.232
12/27/16 (c	(µg/m3)	16.2	--	--	--	--	--
12/30/16	(µg/m3)	3.18	ND	ND	4.82	17.6	ND
12/30/16 (c	(µg/m3)	--	--	--	--	Invalid	--
01/02/17	(µg/m3)	19.5	3.06	2.93	0.664	ND	2.76
01/02/17 (c	(µg/m3)	--	--	--	--	--	2.88
01/05/17	(µg/m3)	33.2	ND	0.577	17.5	4.68	ND
01/05/17 (c	(µg/m3)	--	--	--	Invalid	--	--
01/08/17	(µg/m3)	1.28	ND	ND	1.81	Invalid	ND
01/08/17 (c	(µg/m3)	--	--	--	--	Invalid	--
01/11/17	(µg/m3)	ND	ND	20.3	0.033	0.029	0.083
01/11/17 (c	(µg/m3)	--	--	20.5	--	--	--
01/14/17	(µg/m3)	20.0	ND	ND	75.1	0.381	ND
01/14/17 (c	(µg/m3)	--	--	--	75.1	--	--
01/17/17	(µg/m3)	ND	0.036	11.0	ND	0.036	0.522
01/17/17 (c	(µg/m3)	--	--	10.7	--	--	--

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01/20/17	(µg/m3)	ND	7.76	0.145	ND	ND	1.78
01/20/17 (c	(µg/m3)	--	--	--	--	--	1.99
01/23/17	(µg/m3)	ND	6.09	ND	ND	ND	0.022
01/23/17 (c	(µg/m3)	--	6.13	--	--	--	--
01/26/17	(µg/m3)	ND	ND	ND	ND	0.939	0.297
01/26/17 (c	(µg/m3)	--	--	--	--	--	0.297
01/29/17	(µg/m3)	ND	0.352	ND	ND	ND	ND
01/29/17 (c	(µg/m3)	--	0.352	--	--	--	--
02/01/17	(µg/m3)	ND	ND	0.051	ND	ND	0.051
02/01/17 (c	(µg/m3)	--	--	--	--	--	0.054
02/04/17	(µg/m3)	0.058	ND	ND	0.141	0.203	ND
02/04/17 (c	(µg/m3)	--	--	--	0.174	--	--
02/07/17	(µg/m3)	ND	ND	0.087	ND	ND	0.051
02/07/17 (c	(µg/m3)	--	--	0.087	--	--	--
02/10/17	(µg/m3)	1.32	ND	0.022	1.15	9.68	ND
02/10/17 (c	(µg/m3)	1.40	--	--	--	--	--
02/13/17	(µg/m3)	0.316	14.2	ND	8.56	0.656	0.040
02/13/17 (c	(µg/m3)	--	--	--	8.92	--	--
02/16/17	(µg/m3)	0.073	2.69	ND	0.218	2.62	ND
02/16/17 (c	(µg/m3)	--	2.13	--	--	--	--
02/19/17	(µg/m3)	0.551	0.301	0.682	1.740	0.334	0.112
02/19/17 (c	(µg/m3)	0.805	--	--	--	--	--
02/22/17	(µg/m3)	0.109	1.96	0.047	0.091	3.060	0.160
02/22/17 (c	(µg/m3)	--	1.90	--	--	--	--
02/25/17	(µg/m3)	ND	0.939	ND	ND	35.80	11.10
02/25/17 (c	(µg/m3)	--	0.856	--	--	--	--
02/28/17	(µg/m3)	ND	0.265	7.76	ND	ND	1.27
02/28/17 (c	(µg/m3)	--	--	8.16	--	--	--
03/03/17	(µg/m3)	2.58	ND	ND	1.36	2.25	ND
03/03/17 (c	(µg/m3)	--	--	--	1.55	--	--
03/06/17	(µg/m3)	ND	ND	0.620	ND	ND	ND
03/06/17 (c	(µg/m3)	--	--	--	--	--	--
03/09/17	(µg/m3)	14.8	ND	1.44	3.15	0.112	0.047
03/09/17 (c	(µg/m3)	15.5	--	--	--	--	--
03/12/17	(µg/m3)	5.6	ND	0.076	11.9	0.279	ND
03/12/17 (c	(µg/m3)	5.3	--	--	--	--	--
03/15/17	(µg/m3)	0.497	*0.04*	*0.025*	2.44	2.250	*0.025*

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03/15/17 (c	(µg/m3)	--	--	--	--	2.31	--
03/18/17	(µg/m3)	0.152	0.25	2.21	*0.022*	*0.022*	0.562
03/18/17 (c	(µg/m3)	--	--	2.66	--	--	--
03/21/17	(µg/m3)	ND	2.84	ND	*0.025*	*0.022*	13.30
03/21/17 (c	(µg/m3)	--	Invalid	--	--	--	--
03/24/17	(µg/m3)	*0.062*	*0.029*	0.178	ND	*0.025*	*0.025*
03/24/17 (c	(µg/m3)	0.116	--	--	--	--	--
03/27/17	(µg/m3)	ND	*0.022*	4.86	ND	*0.022*	*0.033*
03/27/17 (c	(µg/m3)	--	--	4.72	--	--	--
03/30/17	(µg/m3)	2.67	0.881	2.66	0.283	0.406	2.67
03/30/17 (c	(µg/m3)	--	--	2.68	--	--	--
04/02/17	(µg/m3)	4.90	ND	ND	0.044	ND	ND
04/02/17 (c	(µg/m3)	5.080	--	--	--	--	--
04/05/17	(µg/m3)	0.334	0.729	0.210	ND	ND	3.74
04/05/17 (c	(µg/m3)	--	--	0.174	--	--	--
04/08/17	(µg/m3)	17.3	0.925	3.20	13.7	28.3	1.05
04/08/17 (c	(µg/m3)	--	--	--	--	--	--
04/11/17	(µg/m3)	8.96	*0.029*	0.294	3.84		0.036
04/11/17 (c	(µg/m3)	9.10	--	--	--	--	--
04/14/17	(µg/m3)	24.6	ND	1.35	51.1	12.5	0.218
04/14/17 (c	(µg/m3)	32.0	--	--	--	--	--
04/17/17	(µg/m3)	18.4	*0.029*	1.53	17.6	0.120	0.276
04/17/17 (c	(µg/m3)	Invalid	--	--	--	--	--
04/20/17	(µg/m3)	8.270	ND	0.381	7.620	0.319	0.109
04/20/17 (c	(µg/m3)	8.960	--	--	--	--	--
04/23/17	(µg/m3)	0.765	0.816	0.102	0.051	10.6	0.232
04/23/17 (c	(µg/m3)	--	0.943	--	--	--	--
04/26/17	(µg/m3)	0.025	0.029	Invalid	0.054	0.029	2.390
04/26/17 (c	(µg/m3)	--	--	7.58	--	--	--
04/29/17	(µg/m3)	0.044	0.029	2.19	0.033	0.033	0.029
04/29/17 (c	(µg/m3)	--	--	2.30	--	--	--
05/02/17	(µg/m3)	9.94	11.5	6.60	4.64	9.90	17.6
05/02/17 (c	(µg/m3)	--	--	--	--	--	17.6
05/05/17	(µg/m3)	ND	2.81	ND	ND	0.174	0.312
05/05/17 (c	(µg/m3)	--	--	--	--	0.134	--
05/08/17	(µg/m3)	0.508	11.0	0.297	0.323	9.68	14.9
05/08/17 (c	(µg/m3)	--	--	--	0.283	--	--

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05/11/17	(µg/m3)	0.729	0.254	2.250	ND	*0.022*	0.247
05/11/17 (c	(µg/m3)	--	--	2.540	--	--	--
05/14/17	(µg/m3)	ND	ND	ND	ND	1.22	ND
05/14/17 (c	(µg/m3)	--	--	--	--	1.22	--
05/17/17	(µg/m3)	ND	ND	0.109	ND	ND	ND
05/17/17 (c	(µg/m3)	--	--	0.094	--	--	--
05/20/17	(µg/m3)	ND	ND	*0.025*	ND	ND	*0.018*
05/20/17 (c	(µg/m3)	--	--	ND	--	--	--
05/23/17	(µg/m3)	0.098	0.062	ND	ND	ND	0.062
05/23/17 (c	(µg/m3)	--	--	ND	--	--	--
05/26/17	(µg/m3)	ND	ND	0.054	ND	ND	0.163
05/26/17 (c	(µg/m3)	--	--	0.051	--	--	--
05/29/17	(µg/m3)	0.395	0.134	0.323	0.323	1.48	0.725
05/29/17 (c	(µg/m3)	--	--	0.316	--	--	--
06/01/17	(µg/m3)	7.73	0.214	0.109	2.06	0.366	0.102
06/01/17 (c	(µg/m3)	7.94	--	--	--	--	--
06/04/17	(µg/m3)	2.57	0.943	2.56	0.116	0.479	0.751
06/04/17 (c	(µg/m3)	--	--	2.63	--	--	--
06/07/17	(µg/m3)	0.872	ND	ND	1.180	5.590	ND
06/07/17 (c	(µg/m3)	--	--	--	1.180	--	--
06/10/17	(µg/m3)	19.7	ND	0.91	6.270	ND	ND
06/10/17 (c	(µg/m3)	21.9	--	--	--	--	--
06/13/17	(µg/m3)	28.6	ND	1.59	0.823	ND	0.758
06/13/17 (c	(µg/m3)	28.8	--	--	--	--	--
06/16/17	(µg/m3)	ND	4.82	ND	ND	ND	35.9
06/16/17 (c	(µg/m3)	--	--	--	--	--	36.2
06/19/17	(µg/m3)	26.7	2.59	1.60	10.7	7.76	2.47
06/19/17 (c	(µg/m3)	--	--	1.65	--	--	--
06/22/17	(µg/m3)	0.160	ND	4.43	ND	ND	ND
06/22/17 (c	(µg/m3)	0.192	--	--	--	--	--
06/25/17	(µg/m3)	11.8	7.15	0.61	11.8	13.9	0.384
06/25/17 (c	(µg/m3)	--	7.54	--	--	--	--
06/28/17	(µg/m3)	45.7	ND	2.14	6.60	0.199	ND
06/28/17 (c	(µg/m3)	47.9	--	--	--	--	--
07/01/17	(µg/m3)	ND	0.167	ND	ND	ND	4.50
07/01/17 (c	(µg/m3)	--	--	ND	--	--	--
07/04/17	(µg/m3)	0.058	0.28	ND	ND	ND	6.06

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07/04/17 (c	(µg/m3)	--	--	ND	--	--	--
07/07/17	(µg/m3)	1.42	6.49	0.308	1.65	2.68	0.94
07/07/17 (c	(µg/m3)	--	--	0.312	--	--	--
07/10/17	(µg/m3)	0.152	8.31	0.083	4.21	34.2	0.334
07/10/17 (c	(µg/m3)	--	8.27	--	--	--	--
07/13/17	(µg/m3)	4.63	2.40	0.878	3.70	2.81	1.17
07/13/17 (c	(µg/m3)	Invalid	--	--	--	--	--
07/16/17	(µg/m3)	4.64	5.04	2.73	2.09	5.88	11.2
07/16/17 (c	(µg/m3)	--	--	3.25	--	--	--
07/19/17	(µg/m3)	1.58	3.55	0.878	3.35	3.81	5.51
07/19/17 (c	(µg/m3)	--	--	0.921	--	--	--
07/22/17	(µg/m3)	5.11	13.9	1.06	10.2	7.00	2.02
07/22/17 (c	(µg/m3)	--	--	0.820	--	--	--
07/25/17	(µg/m3)	ND	0.929	0.345	ND	0.744	2.73
07/25/17 (c	(µg/m3)	--	0.892	--	--	--	--
07/28/17	(µg/m3)	ND	1.97	ND	ND	0.087	9.14
07/28/17 (c	(µg/m3)	--	2.88	--	--	--	--
07/31/17	(µg/m3)	4.28	ND	ND	1.76	2.63	ND
07/31/17 (c	(µg/m3)	--	--	--	1.65	--	--
08/03/17	(µg/m3)	14.3	ND	0.493	5.55	0.892	ND
08/03/17 (c	(µg/m3)	14.7	--	--	--	--	--
08/06/17	(µg/m3)	5.51	1.66	0.860	1.70	1.10	0.914
08/06/17 (c	(µg/m3)	--	--	0.649	--	--	--
08/09/17	(µg/m3)	45.3	0.076	ND	26.2	0.479	ND
08/09/17 (c	(µg/m3)	45.7	--	--	--	--	--
08/12/17	(µg/m3)	ND	12.3	0.276	0.058	0.736	4.68
08/12/17 (c	(µg/m3)	--	14.7	--	--	--	--
08/15/17	(µg/m3)	4.24	0.526	3.92	2.45	0.831	1.38
08/15/17 (c	(µg/m3)	--	--	3.92	--	--	--
08/18/17	(µg/m3)	ND	2.92	0.05	ND	0.461	3.41
08/18/17 (c	(µg/m3)	--	2.60	--	--	--	--
08/21/17	(µg/m3)	5.77	0.225	2.20	0.613	3.59	0.352
08/21/17 (c	(µg/m3)	--	--	--	0.591	--	--
08/24/17	(µg/m3)	3.27	0.218	0.033	7.00	1.720	0.776
08/24/17 (c	(µg/m3)	--	--	--	--	INVALID	--
08/27/17	(µg/m3)	33.3	0.432	0.054	1.16	0.406	0.170
08/27/17 (c	(µg/m3)	33.7	--	--	--	--	--

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08/30/17	(µg/m3)	13.9	*0.025*	2.29	0.308	ND	0.094
08/30/17 (c	(µg/m3)	14.0	--	--	--	--	--
09/02/17	(µg/m3)	2.39	0.174	0.07	2.81	2.66	0.127
09/02/17 (c	(µg/m3)	--	0.178	--	--	--	--
09/05/17	(µg/m3)	INVALID	1.15	2.29	0.247	2.15	3.92
09/05/17 (c	(µg/m3)	--	--	--	0.308	--	--
09/08/17	(µg/m3)	1.18	ND	ND	5.01	3.13	ND
09/08/17 (c	(µg/m3)	--	--	--	INVALID	--	--
09/11/17	(µg/m3)	0.029	ND	ND	17.1	4.28	ND
09/11/17 (c	(µg/m3)	--	--	--	14.0	--	--
09/14/17	(µg/m3)	4.94	0.130	2.45	6.57	0.370	1.55
09/14/17 (c	(µg/m3)	--	--	--	--	--	1.73
09/17/17	(µg/m3)	16.2	0.950	1.50	19.0	4.32	1.30
09/17/17 (c	(µg/m3)	15.4	--	--	--	--	--
09/20/17	(µg/m3)	0.260	0.040	1.54	0.1	0.050	6.71
09/20/17 (c	(µg/m3)	--	--	--	--	--	7.44
09/23/17	(µg/m3)	4.53	0.196	0.312	4.90	4.46	0.930
09/23/17 (c	(µg/m3)	--	--	--	3.24	--	--
09/26/17	(µg/m3)	22.7	0.033	*0.025*	8.2	1.72	*0.018*
09/26/17 (c	(µg/m3)	--	--	--	7.40	--	--
09/29/17	(µg/m3)	29.2	3.59	1.60	21.5	22.0	3.55
09/29/17 (c	(µg/m3)	--	--	--	22.3	--	--
10/02/17	(µg/m3)	34.1	0.044	0.062	4.13	0.029	0.033
10/02/17 (c	(µg/m3)	33.9	--	--	--	--	--
10/05/17	(µg/m3)	29.7	*0.025*	ND	23.2	0.559	ND
10/05/17 (c	(µg/m3)	33.9	--	--	--	--	--
10/08/17	(µg/m3)	0.929	0.475	*0.022*	0.831	0.936	0.058
10/08/17 (c	(µg/m3)	--	--	--	0.874	--	--
10/11/17	(µg/m3)	0.355	0.279	1.60	0.258	4.79	0.987
10/11/17 (c	(µg/m3)	--	--	--	0.395	--	--
10/14/17	(µg/m3)	30.4	ND	0.058	15.7	0.047	ND
10/14/17 (c	(µg/m3)	--	--	--	16.6	--	--
10/17/17	(µg/m3)	0.112	0.044	0.029	0.504	4.82	0.044
10/17/17 (c	(µg/m3)	--	--	--	0.479	--	--
10/20/17	(µg/m3)	21.0	0.036	0.036	13.7	0.044	0.036
10/20/17 (c	(µg/m3)	20.1	--	--	--	--	--
10/23/17	(µg/m3)	0.827	0.794	0.179	0.207	2.090	0.131

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10/23/17 (c	(µg/m3)	--	--	--	--	2.21	--
10/26/17	(µg/m3)	ND	15.5	1.61	*0.036*	2.99	43.2
10/26/17 (c	(µg/m3)	--	--	--	--	2.86	--
10/29/17	(µg/m3)	*0.033*	*0.033*	*0.033*	*0.036*	15.9	*0.025*
10/29/17 (c	(µg/m3)	--	--	--	--	--	--
11/01/17	(µg/m3)	19.5	*0.036*	1.44	1.65	*0.033*	*0.025*
11/01/17 (c	(µg/m3)	--	--	--	--	--	
11/04/17	(µg/m3)	7.29	*0.029*	2.13	0.646	ND	0.127
11/04/17 (c	(µg/m3)	7.94	--	--	--	--	--
11/07/17	(µg/m3)	0.167	4.28	0.769	*0.033*	ND	1.44
11/07/17 (c	(µg/m3)	--	--	--	--	--	1.37
11/10/17	(µg/m3)	1.37	1.20	*0.025*	2.33	6.46	*0.025*
11/10/17 (c	(µg/m3)	--	--	--	--	6.89	--
11/13/17	(µg/m3)	6.20	*0.033*	*0.029*	32.1	0.210	*0.029*
11/13/17 (c	(µg/m3)	--	--	--	34.1	--	--
11/16/17	(µg/m3)	28.8	*0.044*	*0.036*	32.4	0.649	*0.036*
11/16/17 (c	(µg/m3)	--	--	--	41	--	--
11/19/17	(µg/m3)	*0.033*	0.138	*0.036*	*0.036*	24.1	0.192
11/19/17 (c	(µg/m3)	--	--	--	--	24.6	--
11/22/17	(µg/m3)	0.464	*0.062*	*0.025*	8.2	2.7	*0.036*
11/22/17 (c	(µg/m3)	--	--	--	10.9	--	--
11/25/17	(µg/m3)	21.3	17.3	39.5	6.2	21.1	89.2
11/25/17 (c	(µg/m3)	22.4	--	--	--	--	--
11/28/17	(µg/m3)	70	Invalid	15.4	151	1.07	0.069
11/28/17 (c	(µg/m3)	--	--	--	149	--	--
12/01/17	(µg/m3)	0.192	0.131	0.254	0.395	1.65	0.127
12/01/17 (c	(µg/m3)	--	0.185	--	--	--	--
12/04/17	(µg/m3)	1.33	ND	0.051	0.794	0.036	
12/04/17 (c	(µg/m3)	--	--	--	0.820	--	--
12/07/17	(µg/m3)	ND	ND	ND	0.076	0.319	ND
12/07/17 (c	(µg/m3)	--	--	--	0.083	--	--
12/10/17	(µg/m3)	0.083	0.120	ND	0.123	0.395	0.276
12/10/17 (c	(µg/m3)	--	0.138	--	--	--	--
12/13/17	(µg/m3)	*0.029*	0.283	0.316	*0.018*	1.15	0.490
12/13/17 (c	(µg/m3)	--	--	--	--	1.18	--
12/16/17	(µg/m3)	1.02	*0.022*	*0.015*	0.929	0.954	*0.018*
12/16/17 (c	(µg/m3)	--	--	--	--	0.910	--

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12/19/17	(µg/m3)	3.51	ND	0.580	12.3	--	ND
12/19/17 (c	(µg/m3)	3.74	--	--	--	--	--
12/22/17	(µg/m3)	ND	ND	1.44	ND	ND	0.258
12/22/17 (c	(µg/m3)	--	--	1.40	--	--	--
12/25/17	(µg/m3)	0.566	*0.015*	*0.015*	2.80	5.59	ND
12/25/17 (c	(µg/m3)	--	*0.011*	--	--	--	--
12/28/17	(µg/m3)	*0.015*	*0.018*	*0.015*	1.06	0.468	ND
12/28/17 (c	(µg/m3)	--	--	--	1.10	--	--
12/31/17	(µg/m3)	6.75	ND	ND	9.39	4.24	ND
12/31/17 (c	(µg/m3)	--	--	--	12.0	--	--
01/03/18	(µg/m3)	ND	ND	ND	0.0598	2.66	ND
01/03/18 (c	(µg/m3)	--	--	--	0.048	--	--
01/06/18	(µg/m3)	16.9	ND	0.0526	23.6	2.72	ND
01/06/18 (c	(µg/m3)	--	--	--	25.4	--	--
01/09/18	(µg/m3)	ND	ND	ND	ND	11.6	ND
01/09/18 (c	(µg/m3)	--	ND	--	--	--	--
01/12/18	(µg/m3)	ND	1.60	0.392	ND	0.289	1.66
01/12/18 (c	(µg/m3)	--	--	--	--	0.302	--
01/15/18	(µg/m3)	2.65	3.84	3.84	4.50	12.0	5.37
01/15/18 (c	(µg/m3)	--	--	--	--	12.8	--
01/19/18	(µg/m3)	2.15	6.06	0.566	2.49	4.64	5.55
01/19/18 (c	(µg/m3)	--	--	--	--	5.11	--
01/22/18	(µg/m3)	15.6	ND	2.09	3.170	ND	1.78
01/22/18 (c	(µg/m3)	--	--	2.03	--	--	--
01/25/18	(µg/m3)	7.00	*0.0250*	*0.0225*	2.62	26.4	ND
01/25/18 (c	(µg/m3)	--	--	--	--	27.4	--
01/28/18	(µg/m3)	1.70	*0.0196*	*0.0236*	10.8	10.5	*0.0221*
01/28/18 (c	(µg/m3)	--	--	--	7.25	--	--
01/31/18	(µg/m3)	30.9	ND	30.3	INVALID	9.68	0.111
01/31/18 (c	(µg/m3)	34.4	--	--	--	--	--
02/03/18	(µg/m3)	8.45	*0.016*	*0.0185*	3.55	*0.018*	ND
02/03/18 (c	(µg/m3)	--	--	--	3.38	--	--
02/06/18	(µg/m3)	32.0	ND	*0.016*	32.4	0.598	ND
02/06/18 (c	(µg/m3)	33.2	--	--	--	--	--
02/09/18	(µg/m3)	16.5	ND	*0.0406*	3.950	Invalid	ND
02/09/18 (c	(µg/m3)	25.4	--	--	--	--	--
02/12/18	(µg/m3)	*0.0319*	*0.0348*	ND	*0.0243*	1.190	*0.0334*

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02/12/18 (c	(µg/m3)	--	--	--	--	1.090	--
02/15/18	(µg/m3)	*0.0308*	ND	3.12	*0.0406*	*0.0337*	Invalid
02/15/18 (c	(µg/m3)	--	--	3.21	--	--	--
02/18/18	(µg/m3)	4.43	0.889	0.424	0.972	0.852	3.95
02/18/18 (c	(µg/m3)	--	--	0.428	--	--	--
02/21/18	(µg/m3)	ND	*0.0323*	0.773	*0.0305*	*0.0243*	0.0316
02/21/18 (c	(µg/m3)	ND	--	--	--	--	--
02/24/18	(µg/m3)	0.624	*0.0297*	1.020	*0.0229*	ND	0.0591
02/24/18 (c	(µg/m3)	--	--	1.010	--	--	--
02/27/18	(µg/m3)	8.02	*0.0265*	*0.0374*	1.20	0.0497	*0.0232*
02/27/18 (c	(µg/m3)	--	--	--	1.06	--	--
03/02/18	(µg/m3)	0.0606	0.0479	*0.0247*	0.896	0.889	*0.0210*
03/02/18 (c	(µg/m3)	--	--	--	0.968	--	--
03/05/18	(µg/m3)	0.747	ND	0.33	0.490	0.403	0.088
03/05/18 (c	(µg/m3)	0.997	--	--	--	--	--
03/08/18	(µg/m3)	ND	ND	ND	0.0809	0.910	ND
03/08/18 (c	(µg/m3)	--	--	--	--	0.979	--
03/11/18	(µg/m3)	1.360	0.0736	0.722	0.136	0.191	0.0939
03/11/18 (c	(µg/m3)	--	--	1.00	--	--	--
03/14/18	(µg/m3)	0.128	13.8	*0.0196*	3.57	28.3	0.228
03/14/18 (c	(µg/m3)	--	--	--	3.21	--	--
03/17/18	(µg/m3)	ND	ND	0.718	ND	ND	1.06
03/17/18 (c	(µg/m3)	--	--	0.689	--	--	--
03/20/18	(µg/m3)	ND	0.453	ND	ND	ND	0.199
03/20/18 (c	(µg/m3)	--	0.428	--	--	--	--
03/23/18	(µg/m3)	4.75	0.849	1.04	5.15	2.42	2.75
03/23/18 (c	(µg/m3)	--	--	--	5.55	--	--
03/26/18	(µg/m3)	ND	*0.0345*	0.907	*0.0374*	*0.0359*	0.114
03/26/18 (c	(µg/m3)	--	--	0.961	--	--	--
03/29/18	(µg/m3)	*0.0218*	*0.0406*	0.689	*0.0196*	0.443	0.105
03/29/18 (c	(µg/m3)	--	--	0.675	--	--	--
04/01/18	(µg/m3)	3.70	ND	0.783	8.96	2.70	0.053
04/01/18 (c	(µg/m3)	3.555	--	--	--	--	--
04/04/18	(µg/m3)	0.285	0.0925	0.377	0.319	0.715	0.490
04/04/18 (c	(µg/m3)	--	--	0.450	--	--	--
04/07/18	(µg/m3)	ND	**0.482**	0.359	ND	0.321	0.0693
04/07/18 (c	(µg/m3)	--	--	0.377	--	--	--

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04/10/18	(µg/m3)	*0.0424*	ND	ND	0.119	1.04	ND
04/10/18 (c	(µg/m3)	--	--	--	--	1.02	--
04/13/18	(µg/m3)	ND	ND	2.47	ND	ND	*0.0178*
04/13/18 (c	(µg/m3)	--	--	2.58	--	--	--
04/16/18	(µg/m3)	ND	0.388	ND	ND	*0.0243*	*0.0185*
04/16/18 (c	(µg/m3)	--	0.392	--	--	--	--
04/19/18	(µg/m3)	ND	1.11	ND	ND	2.54	1.49
04/19/18 (c	(µg/m3)	--	--	--	--	--	1.81
04/22/18	(µg/m3)	0.421	ND	0.482	0.101	ND	0.0258
04/22/18 (c	(µg/m3)	INVALID	--	--	--	--	--
04/25/18	(µg/m3)	ND	3.99	ND	ND	4.72	0.120
04/25/18 (c	(µg/m3)	--	--	ND	--	--	--
04/28/18	(µg/m3)	0.522	7.51	ND	4.86	22.1	ND
04/28/18 (c	(µg/m3)	--	--	--	--	21.8	--
05/01/18	(µg/m3)	0.261	*0.0229*	0.100	INVALID	ND	ND
05/01/18 (c	(µg/m3)	0.261	--	--	--	--	--
05/04/18	(µg/m3)	ND	*0.0272*	0.0490	INVALID	*0.0268*	*0.0297*
05/04/18 (c	(µg/m3)	ND	--	--	--	--	--
05/07/18	(µg/m3)	ND	0.340	ND	ND	1.35	ND
05/07/18 (c	(µg/m3)	--	--	--	--	1.30	--
05/10/18	(µg/m3)	10.8	ND	4.53	2.22	0.0479	0.328
05/10/18 (c	(µg/m3)	--	--	4.43	--	--	--
05/13/18	(µg/m3)	3.35	ND	0.299	0.947	*0.0341*	*0.0185*
05/13/18 (c	(µg/m3)	3.53	--	--	--	--	--
05/16/18	(µg/m3)	*0.0341*	0.235	0.106	*0.0428*	1.82	0.226
05/16/18 (c	(µg/m3)	--	--	--	--	1.86	--
05/19/18	(µg/m3)	0.827	0.598	0.540	0.172	0.297	0.435
05/19/18 (c	(µg/m3)	--	--	--	--	--	0.439
05/22/18	(µg/m3)	ND	0.504	0.0671	*0.0105*	1.26	0.700
05/22/18 (c	(µg/m3)	ND	--	--	--	--	--
05/25/18	(µg/m3)	0.100	0.885	0.116	0.222	2.29	0.0591
05/25/18 (c	(µg/m3)	--	--	0.0624	--	--	--
05/28/18	(µg/m3)	0.468	ND	ND	0.103	3.53	ND
05/28/18 (c	(µg/m3)	--	--	--	0.132	--	--
05/31/18	(µg/m3)	ND	ND	0.646	ND	ND	1.020
05/31/18 (c	(µg/m3)	--	--	0.664	--	--	--
06/03/18	(µg/m3)	ND	0.783	ND	ND	ND	ND

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06/03/18 (c	(µg/m3)	--	--	--	--	--	ND
06/06/18	(µg/m3)	0.0617	1.03	*0.0323*	0.0519	1.24	0.0606
06/06/18 (c	(µg/m3)	--	--	--	--	1.16	--
06/09/18	(µg/m3)	8.49	4.21	1.68	0.689	6.06	5.44
06/09/18 (c	(µg/m3)	7.80	--	--	--	--	--
06/12/18	(µg/m3)	0.413	ND	1.41	ND	ND	ND
06/12/18 (c	(µg/m3)	--	--	1.39	--	--	--
06/15/18	(µg/m3)	1.24	1.59	1.14	2.04	5.11	0.958
06/15/18 (c	(µg/m3)	--	--	1.21	--	--	--
06/18/18	(µg/m3)	4.43	0.238	0.0932	ND	1.06	0.310
06/18/18 (c	(µg/m3)	3.84	--	--	--	--	--
06/21/18	(µg/m3)	ND	0.314	0.450	*0.0464*	0.693	0.609
06/21/18 (c	(µg/m3)	--	--	0.374	--	--	--
06/24/18	(µg/m3)	ND	*0.0229*	ND	ND	ND	2.980
06/24/18 (c	(µg/m3)	--	--	--	--	--	3.430
06/27/18	(µg/m3)	0.063	*0.0156*	0.182	ND	ND	0.758
06/27/18 (c	(µg/m3)	0.0686	--	--	--	--	--
06/30/18	(µg/m3)	*0.0417*	0.794	*0.0268*	*0.0395*	*0.0457*	0.220
06/30/18 (c	(µg/m3)	--	0.841	--	--	--	--
07/03/18	(µg/m3)	1.86	1.31	0.200	1.09	2.04	0.220
07/03/18 (c	(µg/m3)	--	1.28	--	--	--	--
07/06/18	(µg/m3)	2.01	0.0479	ND	0.881	0.342	0.151
07/06/18 (c	(µg/m3)	--	--	--	0.856	--	--
07/09/18	(µg/m3)	ND	0.0116	ND	1.32	0.0192	0.0374
07/09/18 (c	(µg/m3)	--	--	ND	--	--	--
07/12/18	(µg/m3)	ND	0.820	ND	ND	0.729	ND
07/12/18 (c	(µg/m3)	--	--	--	ND	--	--
07/15/18	(µg/m3)	ND	1.76	ND	ND	ND	0.237
07/15/18 (c	(µg/m3)	--	1.89	--	--	--	--
07/18/18	(µg/m3)	*0.0218*	1.04	ND	*0.0345*	ND	0.537
07/18/18 (c	(µg/m3)	--	1.20	--	--	--	--
07/21/18	(µg/m3)	ND	0.432	ND	ND	*0.0294*	ND
07/21/18 (c	(µg/m3)	--	0.43	--	--	--	--
07/24/18	(µg/m3)	0.512	0.0651	ND	0.128	0.348	0.0236
07/24/18 (c	(µg/m3)	--	--	ND	--	--	--
07/27/18	(µg/m3)	0.0406	0.0776	ND	ND	0.294	0.127
07/27/18 (c	(µg/m3)	--	--	--	0.0129	--	--

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07/30/18	(µg/m3)	0.159	0.476	0.0417	0.0923	0.295	0.233
07/30/18 (c	(µg/m3)	--	0.466	--	--	--	--
08/02/18	(µg/m3)	0.736	0.0446	0.121	0.395	1.38	0.0769
08/02/18 (c	(µg/m3)	--	--	--	0.355	--	--
08/05/18	(µg/m3)	1.56	ND	ND	1.840	ND	0.0395
08/05/18 (c	(µg/m3)	--	--	ND	--	--	--
08/08/18	(µg/m3)	2.17	1.14	1.11	3.42	10.2	1.04
08/08/18 (c	(µg/m3)	--	--	1.20	--	--	--
08/11/18	(µg/m3)	2.31	2.56	0.693	1.81	2.95	2.15
08/11/18 (c	(µg/m3)	--	--	--	--	3.06	--
08/14/18	(µg/m3)	ND	1.20	0.0475	0.0319	0.551	0.791
08/14/18 (c	(µg/m3)	--	--	--	--	--	0.827
08/17/18	(µg/m3)	0.343	ND	0.526	ND	0.0446	ND
08/17/18 (c	(µg/m3)	--	--	0.519	--	--	--
08/20/18	(µg/m3)	ND	ND	0.537	ND	ND	0.353
08/20/18 (c	(µg/m3)	--	--	0.522	--	--	--
08/23/18	(µg/m3)	0.838	ND	*0.0218*	1.42	1.30	ND
08/23/18 (c	(µg/m3)	--	--	--	--	1.26	--
08/26/18	(µg/m3)	0.972	*0.0265*	*0.0312*	1.57	INVALID	*0.0254*
08/26/18 (c	(µg/m3)	1.38	--	--	--	--	--
08/29/18	(µg/m3)	3.28	0.151	0.110	1.48	0.617	0.0548
08/29/18 (c	(µg/m3)	3.40	--	--	--	--	--
09/01/18	(µg/m3)	5.69	ND	ND	0.166	*0.0254*	*0.0308*
09/01/18 (c	(µg/m3)	5.88	--	--	--	--	--
09/04/18	(µg/m3)	9.32	ND	0.197	3.40	*0.0218*	*0.0141*
09/04/18 (c	(µg/m3)	8.20	--	--	--	--	--
09/07/18	(µg/m3)	1.50	0.104	0.965	2.21	7.65	0.177
09/07/18 (c	(µg/m3)	--	--	0.903	--	--	--
09/10/18	(µg/m3)	2.09	4.86	ND	1.80	3.08	1.45
09/10/18 (c	(µg/m3)	--	5.44	--	--	--	--
09/13/18	(µg/m3)	3.05	0.277	0.0660	3.32	0.457	0.205
09/13/18 (c	(µg/m3)	3.06	--	--	--	--	--
09/16/18	(µg/m3)	0.831	1.45	ND	0.392	0.881	0.421
09/16/18 (c	(µg/m3)	--	--	--	--	0.722	--
09/19/18	(µg/m3)	0.173	2.97	0.776	*0.0337*	0.217	19.7
09/19/18 (c	(µg/m3)	--	--	--	--	0.233	--
09/22/18	(µg/m3)	2.45	1.29	0.588	9.32	1.11	0.870

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09/22/18 (c	(µg/m3)	2.43	--	--	--	--	--
09/25/18	(µg/m3)	2.99	ND	0.258	1.67	ND	*0.0316*
09/25/18 (c	(µg/m3)	--	--	0.282	--	--	--
09/28/18	(µg/m3)	0.35	1.10	0.715	2.60	1.10	0.428
09/28/18 (c	(µg/m3)	--	--	--	--	1.11	--
10/01/18	(µg/m3)	28.2	0.314	0.206	2.09	1.59	1.60
10/01/18 (c	(µg/m3)	--	--	--	2.21	--	--
10/04/18	(µg/m3)	13.0	ND	ND	9.76	0.122	ND
10/04/18 (c	(µg/m3)	--	--	--	8.49	--	--
10/07/18	(µg/m3)	7.180	0.159	0.133	7.91	0.350	0.172
10/07/18 (c	(µg/m3)	--	0.246	--	--	--	--
10/10/18	(µg/m3)	2.51	*0.0287*	*0.0287*	2.78	2.22	*0.0301*
10/10/18 (c	(µg/m3)	--	--	--	--	2.22	--
10/13/18	(µg/m3)	37.4	34.2	5.19	57.7	98.7	41.0
10/13/18 (c	(µg/m3)	--	--	--	47.9	--	--
10/16/18	(µg/m3)	0.204	ND	*0.00689*	0.595	0.144	ND
10/16/18 (c	(µg/m3)	0.218	--	--	--	--	--
10/19/18	(µg/m3)	0.151	*0.0261*	*0.0250*	1.53	0.143	*0.0319*
10/19/18 (c	(µg/m3)	--	--	--	1.57	--	--
10/22/18	(µg/m3)	*0.0504*	*0.0268*	*0.0305*	0.144	0.241	*0.0305*
10/22/18 (c	(µg/m3)	--	--	--	0.143	--	--
10/25/18	(µg/m3)	0.537	*0.0363*	*0.0439*	0.142	0.0718	0.0497
10/25/18 (c	(µg/m3)	0.501	--	--	--	--	--
10/28/18	(µg/m3)	ND	1.25	0.158	*0.0229*	0.185	10.9
10/28/18 (c	(µg/m3)	--	--	--	--	--	11.8
10/31/18	(µg/m3)	*0.0163*	*0.0134*	1.48	ND	ND	0.0156
10/31/18 (c	(µg/m3)	--	--	1.52	--	--	--
11/03/18	(µg/m3)	*0.0443*	3.81	3.66	ND	0.482	2.13
11/03/18 (c	(µg/m3)	--	3.81	--	--	--	--
11/06/18	(µg/m3)	0.667	0.1020	ND	0.316	0.113	ND
11/06/18 (c	(µg/m3)	--	--	*0.0178*	--	--	--
11/09/18	(µg/m3)	1.91	INVALID	ND	2.15	3.63	*0.0141*
11/09/18 (c	(µg/m3)	--	--	--	1.84	--	--
11/12/18	(µg/m3)	1.310	*0.0406*	*0.0424*	0.976	0.211	ND
11/12/18 (c	(µg/m3)	--	--	--	--	--	ND
11/15/18	(µg/m3)	ND	ND	ND	ND	0.740	ND
11/15/18 (c	(µg/m3)	--	--	--	--	0.740	--

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11/18/18	(µg/m3)	8.67	ND	ND	6.89	0.968	ND
11/18/18 (c	(µg/m3)	8.34	--	--	--	--	--
11/21/18	(µg/m3)	0.780	ND	ND	0.220	3.88	ND
11/21/18 (c	(µg/m3)	--	--	--	--	3.74	--
11/24/18	(µg/m3)	2.45	0.156	1.08	0.548	1.21	0.156
11/24/18 (c	(µg/m3)	--	--	--	0.519	--	--
11/27/18	(µg/m3)	--	--	--	--	--	--
11/27/18 (c	(µg/m3)	--	--	--	--	--	--
11/30/18	(µg/m3)	ND	ND	2.61	ND	ND	ND
11/30/18 (c	(µg/m3)	--	--	2.67	--	--	--
12/03/18	(µg/m3)	3.66	ND	0.504	1.68	4.46	0.255
12/03/18 (c	(µg/m3)	--	--	0.519	--	--	--
12/06/18	(µg/m3)	5.15	ND	ND	15.2	0.374	ND
12/06/18 (c	(µg/m3)	--	--	ND	--	--	--
12/09/18	(µg/m3)	0.284	0.410	ND	0.191	0.580	0.154
12/09/18 (c	(µg/m3)	--	0.406	--	--	--	--
12/12/18	(µg/m3)	10.8	2.60	5.51	6.13	4.17	5.04
12/12/18 (c	(µg/m3)	10.9	--	--	--	--	--
12/15/18	(µg/m3)	ND	0.914	ND	ND	ND	ND
12/15/18 (c	(µg/m3)	--	--	--	--	--	ND
12/18/18	(µg/m3)	4.50	77.3	ND	24.9	40.3	38.4
12/18/18 (c	(µg/m3)	--	--	--	24.7	--	--
12/21/18	(µg/m3)	ND	ND	ND	ND	ND	ND
12/21/18 (c	(µg/m3)	--	ND	--	--	--	--
12/24/18	(µg/m3)	4.75	0.31	ND	1.06	1.22	ND
12/24/18 (c	(µg/m3)	--	--	--	0.983	--	--
12/27/18	(µg/m3)	2.17	ND	0.211	ND	ND	ND
12/27/18 (c	(µg/m3)	2.11	--	--	--	--	--
12/30/18	(µg/m3)	0.333	ND	ND	4.13	0.370	ND
12/30/18 (c	(µg/m3)	--	--	--	4.24	--	--
01/02/19	(µg/m3)	2.56	ND	ND	6.49	0.271	ND
01/02/19 (c	(µg/m3)	--	--	--	6.24	--	--
01/05/19	(µg/m3)	ND	3.52	ND	ND	0.987	ND
01/05/19 (c	(µg/m3)	--	3.47	--	--	--	--
01/08/19	(µg/m3)	ND	0.602	1.94	ND	0.220	2.580
01/08/19 (c	(µg/m3)	--	--	1.93	--	--	--
01/11/19	(µg/m3)	1.52	ND	ND	2.06	4.06	ND

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01/11/19 (c	(µg/m3)	--	--	ND	--	--	--
01/14/19	(µg/m3)	ND	ND	ND	ND	3.29	ND
01/14/19 (c	(µg/m3)	--	--	--	--	3.84	--
01/17/19	(µg/m3)	0.314	0.0635	0.475	ND	ND	0.267
01/17/19 (c	(µg/m3)	--	--	0.403	--	--	--
01/20/19	(µg/m3)	0.0283	ND	0.0272	0.219	0.0312	ND
01/20/19 (c	(µg/m3)	--	ND	--	--	--	--
01/23/19	(µg/m3)	1.02	0.0189	0.544	0.284	ND	ND
01/23/19 (c	(µg/m3)	1.02	--	--	--	--	--
01/26/19	(µg/m3)	6.53	ND	1.56	11.8	1.44	0.384
01/26/19 (c	(µg/m3)	--	--	--	11.4	--	--
01/29/19	(µg/m3)	ND	ND	1.33	ND	3.81	0.214
01/29/19 (c	(µg/m3)	--	--	1.26	--	--	--
02/01/19	(µg/m3)	27.2	ND	ND	0.958	0.0693	ND
02/01/19 (c	(µg/m3)	28.3	--	--	--	--	--
02/04/19	(µg/m3)	26.4	ND	0.239	0.990	0.347	ND
02/04/19 (c	(µg/m3)	22.9	--	--	--	--	--
02/07/19	(µg/m3)	ND	ND	0.157	ND	ND	0.101
02/07/19 (c	(µg/m3)	--	--	0.150	--	--	--
02/10/19	(µg/m3)	11.2	ND	ND	4.24	0.169	ND
02/10/19 (c	(µg/m3)	--	--	--	3.77	--	--
02/13/19	(µg/m3)	0.370	0.0765	ND	1.31	1.11	ND
02/13/19 (c	(µg/m3)	--	--	--	--	1.10	--
02/16/19	(µg/m3)	ND	0.351	ND	ND	ND	0.384
02/16/19 (c	(µg/m3)	--	--	--	--	--	0.403
02/19/19	(µg/m3)	6.93	ND	ND	1.90	ND	ND
02/19/19 (c	(µg/m3)	--	--	--	1.96	--	--
02/22/19	(µg/m3)	0.765	ND	0.841	0.291	ND	0.241
02/22/19 (c	(µg/m3)	--	--	0.823	--	--	--
02/25/19	(µg/m3)	3.06	ND	ND	0.624	0.765	ND
02/25/19 (c	(µg/m3)	--	--	--	--	0.762	--
02/28/19	(µg/m3)	ND	ND	1.50	ND	ND	2.89
02/28/19 (c	(µg/m3)	--	--	1.51	--	--	--
03/07/19	(µg/m3)	6.24	ND	1.11	1.55	0.994	ND
03/07/19 (c	(µg/m3)	--	--	--	1.61	--	--
03/14/19	(µg/m3)	ND	ND	1.60	ND	ND	0.0384
03/14/19 (c	(µg/m3)	--	--	1.64	--	--	--

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03/21/19	(µg/m3)	ND	0.482	0.0138	ND	1.03	0.816
03/21/19 (c	(µg/m3)	--	--	--	ND	--	--
03/28/19	(µg/m3)	7.40	0.399	2.32	9.21	10.6	7.44
03/28/19 (c	(µg/m3)	--	--	--	10.0	--	--
04/04/19	(µg/m3)	2.09	0.0258	0.174	2.58	0.282	ND
04/04/19 (c	(µg/m3)	--	--	--	1.4	--	--
04/11/19	(µg/m3)	ND	ND	0.780	ND	ND	0.776
04/11/19 (c	(µg/m3)	--	--	0.675	--	--	--
04/17/19	(µg/m3)	0.262	ND	0.192	ND	ND	ND
04/17/19 (c	(µg/m3)	--	--	--	ND	--	--
04/23/19	(µg/m3)	3.84	ND	2.31	0.240	ND	ND
04/23/19 (c	(µg/m3)	5.22	--	--	--	--	--
04/29/19	(µg/m3)	3.88	ND	0.870	0.293	ND	ND
04/29/19 (c	(µg/m3)	--	--	0.718	--	--	--
05/05/19	(µg/m3)	ND	ND	ND	INVALID	1.20	3.09
05/05/19 (c	(µg/m3)	--	--	--	ND	--	--
05/11/19	(µg/m3)	1.35	ND	0.238	ND	ND	0.0236
05/11/19 (c	(µg/m3)	--	--	--	ND	--	--
05/17/19	(µg/m3)	1.57	ND	0.765	ND	1.17	ND
05/17/19 (c	(µg/m3)	1.53	--	--	--	--	--
05/23/19	(µg/m3)	0.216	ND	0.240	0.461	0.123	ND
05/23/19 (c	(µg/m3)	--	--	--	0.432	--	--
05/29/19	(µg/m3)	ND	ND	1.43	ND	ND	INVALID
05/29/19 (c	(µg/m3)	--	--	1.35	--	--	--
06/04/19	(µg/m3)	4.93	4.75	ND	5.15	7.0	INVALID
06/04/19 (c	(µg/m3)	--	--	--	4.10	--	--
06/10/19	(µg/m3)	ND	ND	ND	2.73	22.5	ND
06/10/19 (c	(µg/m3)	--	--	--	--	19.9	--
06/16/19	(µg/m3)	0.446	ND	0.870	0.347	ND	0.305
06/16/19 (c	(µg/m3)	--	--	0.838	--	--	--
06/22/19	(µg/m3)	ND	ND	0.132	ND	ND	0.217
06/22/19 (c	(µg/m3)	--	--	0.129	--	--	--
06/28/19	(µg/m3)	3.20	0.273	0.540	1.98	4.03	0.392
06/28/19 (c	(µg/m3)	--	--	--	--	3.99	--
07/04/19	(µg/m3)	0.551	1.440	0.646	0.74	1.46	2.34
07/04/19 (c	(µg/m3)	--	--	--	--	--	2.24
07/10/19	(µg/m3)	0.355	3.66	0.133	ND	ND	0.294

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07/10/19 (c	(µg/m3)	--	3.63	--	--	--	--
07/16/19	(µg/m3)	ND	ND	0.595	ND	ND	ND
07/16/19 (c	(µg/m3)	--	--	0.530	--	--	--
07/22/19	(µg/m3)	0.450	1.44	0.889	0.135	0.177	3.12
07/22/19 (c	(µg/m3)	--	--	0.751	--	--	--
07/28/19	(µg/m3)	2.09	0.0457	0.356	4.13	0.176	0.192
07/28/19 (c	(µg/m3)	--	--	0.341	--	--	--
08/03/19	(µg/m3)	ND	0.707	0.0559	0.183	0.635	1.55
08/03/19 (c	(µg/m3)	--	--	--	--	0.638	--
08/09/19	(µg/m3)	ND	1.69	ND	ND	0.0236	1.33
08/09/19 (c	(µg/m3)	--	--	--	--	--	1.33
08/15/19	(µg/m3)	0.185	0.315	ND	0.559	2.09	ND
08/15/19 (c	(µg/m3)	--	--	--	--	1.99	--
08/21/19	(µg/m3)	0.464	0.0319	0.0729	0.0319	ND	0.548
08/21/19 (c	(µg/m3)	--	--	0.0733	--	--	--
08/27/19	(µg/m3)	ND	0.243	ND	ND	0.0432	0.363
08/27/19 (c	(µg/m3)	--	--	--	--	--	0.704
09/02/19	(µg/m3)	0.588	ND	ND	1.04	0.609	ND
09/02/19 (c	(µg/m3)	--	--	--	0.791	--	--
09/08/19	(µg/m3)	3.88	4.17	ND	0.0334	0.107	ND
09/08/19 (c	(µg/m3)	--	--	--	--	--	--
09/14/19	(µg/m3)	4.97	ND	0.475	5.30	1.12	0.014
09/14/19 (c	(µg/m3)	--	--	--	INVALID	--	--
09/20/19	(µg/m3)	1.65	ND	0.112	0.130	ND	ND
09/20/19 (c	(µg/m3)	--	--	--	0.144	--	--
09/26/19	(µg/m3)	0.045	6.31	0.130	0.019	1.52	0.696
09/26/19 (c	(µg/m3)	--	--	--	ND	--	--
10/02/19	(µg/m3)	3.74	ND	2.35	1.51	5.187	12.0
10/02/19 (c	(µg/m3)	3.74	--	--	--	--	--
10/08/19	(µg/m3)	ND	ND	ND	0.885	0.997	ND
10/08/19 (c	(µg/m3)	--	--	--	--	INVALID	--
10/14/19	(µg/m3)	9.03	ND	ND	1.70	1.58	ND
10/14/19 (c	(µg/m3)	--	--	--	--	1.69	--
10/20/19	(µg/m3)	1.11	1.49	1.18	0.0508	0.718	5.26
10/20/19 (c	(µg/m3)	--	1.49	--	--	--	--
10/26/19	(µg/m3)	0.744	0.233	0.0181	0.624	0.464	0.143
10/26/19 (c	(µg/m3)	0.635	--	--	--	--	--

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11/01/19	(µg/m3)	ND	ND	ND	0.0345	0.214	ND
11/01/19 (c	(µg/m3)	--	--	--	--	0.211	--
11/07/19	(µg/m3)	0.226	ND	ND	0.095	0.167	ND
11/07/19 (c	(µg/m3)	--	--	--	0.102	--	--
11/13/19	(µg/m3)	ND	ND	ND	0.00435	0.0736	ND
11/13/19 (c	(µg/m3)	--	--	--	--	0.0783	--
11/19/19	(µg/m3)	ND	12.6	ND	0.511	14.4	0.667
11/19/19 (c	(µg/m3)	--	12.6	--	--	--	--
11/25/19	(µg/m3)	4.06	2.55	4.82	0.791	0.805	9.21
11/25/19 (c	(µg/m3)	--	2.48	--	--	--	--
12/01/19	(µg/m3)	ND	0.0102	ND	ND	0.457	1.810
12/01/19 (c	(µg/m3)	--	0.0116	--	--	--	--
12/07/19	(µg/m3)	ND	0.287	ND	0.0268	0.374	ND
12/07/19 (c	(µg/m3)	--	--	--	--	0.399	--
12/13/19	(µg/m3)	0.812	0.202	ND	2.640	ND	ND
12/13/19 (c	(µg/m3)	--	--	--	2.420	--	--
12/19/19	(µg/m3)	0.464	ND	ND	0.214	1.65	ND
12/19/19 (c	(µg/m3)	--	--	--	--	1.65	--
12/25/19	(µg/m3)	0.820	0.0199	0.297	0.306	0.624	0.0232
12/25/19 (c	(µg/m3)	--	--	--	0.300	--	--
12/31/19	(µg/m3)	ND	0.0475	ND	ND	1.730	ND
12/31/19 (c	(µg/m3)	--	0.0490	--	--	--	--
01/06/20	(µg/m3)	0.0490	0.0472	0.00580	0.289	ND	0.301
01/06/20 (c	(µg/m3)	--	--	--	0.257	--	--
01/12/20	(µg/m3)	0.704	1.83	ND	1.15	0.537	ND
01/12/20 (c	(µg/m3)	--	--	--	--	0.595	--
01/18/20	(µg/m3)	22.6	ND	0.943	0.0874	ND	0.200
01/18/20 (c	(µg/m3)	24.1	--	--	--	--	--
01/24/20	(µg/m3)	0.0631	0.0566	0.845	0.145	0.417	0.0308
01/24/20 (c	(µg/m3)	--	--	--	0.0686	--	--
01/30/20	(µg/m3)	1.03	ND	ND	1.25	0.285	ND
01/30/20 (c	(µg/m3)	--	--	--	--	0.287	--
02/05/20	(µg/m3)	ND	ND	0.33	ND	ND	0.0787
02/05/20 (c	(µg/m3)	--	--	0.226	--	--	--
02/11/20	(µg/m3)	ND	ND	ND	ND	ND	0.53
02/11/20 (c	(µg/m3)	--	--	ND	--	--	--
02/17/20	(µg/m3)	2.6	ND	ND	5.37	0.0116	ND

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02/17/20 (c	(µg/m3)	--	--	--	5.04	--	--
02/23/20	(µg/m3)	1.69	ND	0.236	0.0889	ND	ND
02/23/20 (c	(µg/m3)	--	--	--	0.0885	--	--
02/29/20	(µg/m3)	ND	2,86	0.627	ND	0.834	5.4
02/29/20 (c	(µg/m3)	--	2.89	--	--	--	--
03/06/20	(µg/m3)	ND	ND	ND	ND	1.18	ND
03/06/20 (c	(µg/m3)	--	--	--	--	1.15	--
03/12/20	(µg/m3)	ND	0.296	0.306	ND	ND	0.569
03/12/20 (c	(µg/m3)	--	--	--	--	--	0.584
03/18/20	(µg/m3)	1.46	ND	0.609	0.566	ND	ND
03/18/20 (c	(µg/m3)	--	--	--	0.562	--	--
03/24/20	(µg/m3)	ND	ND	0.177	ND	ND	0.443
03/24/20 (c	(µg/m3)	--	--	0.183	--	--	--
03/30/20	(µg/m3)	7.98	ND	ND	1.59	0.119	ND
03/30/20 (c	(µg/m3)	--	--	--	1.57	--	--
04/05/20	(µg/m3)	1.35	0.555	0.269	0.302	0.508	0.384
04/05/20 (c	(µg/m3)	--	--	--	0.296	--	--
04/11/20	(µg/m3)	6.49	ND	ND	16.6	0.537	ND
04/11/20 (c	(µg/m3)	--	--	--	15.3	--	--
04/17/20	(µg/m3)	3.16	INVALID	0.457	11.8	ND	ND
04/17/20 (c	(µg/m3)	--	--	--	11.6	--	--
04/23/20	(µg/m3)	ND	0.0671	0.205	ND	ND	0.530
04/23/20 (c	(µg/m3)	--	--	0.198	--	--	--
04/29/20	(µg/m3)	0.230	0.320	0.153	0.176	2.44	0.195
04/29/20 (c	(µg/m3)	--	--	0.155	--	--	--
05/05/20	(µg/m3)	0.424	0.182	0.198	1.33	0.827	0.134
05/05/20 (c	(µg/m3)	--	--	0.188	--	--	--
05/11/20	(µg/m3)	0.170	ND	ND	0.220	2.12	ND
05/11/20 (c	(µg/m3)	--	--	--	--	2.16	--
05/17/20	(µg/m3)	ND	ND	0.277	ND	ND	1.34
05/17/20 (c	(µg/m3)	--	--	1.32	--	--	--
05/23/20	(µg/m3)	0.0167	ND	0.325	0.0501	0.0229	0.0134
05/23/20 (c	(µg/m3)	--	--	0.49	--	--	--
05/29/20	(µg/m3)	1.40	0.0377	1.15	1.56	1.32	0.0555
05/29/20 (c	(µg/m3)	--	--	1.26	--	--	--
06/04/20	(µg/m3)	0.740	0.0475	0.359	0.0816	0.0598	0.0508
06/04/20 (c	(µg/m3)	--	--	0.351	--	--	--

EPA Chloroprene Community Air Monitoring Summary Sheet
May 25, 2016 - July 16, 2020

DATE	Units	238 Chad Baker	Acorn and Hwy 44	East St. John the	Fifth Ward Elementar	Levee	Ochsner Hospital
06/10/20	**(µg/m3)**	ND	0.0268	0.0305	ND	0.0192	0.0076
06/10/20 (c	**(µg/m3)**	--	--	0.0326	--	--	--
06/16/20	**(µg/m3)**	0.0682	1.58	ND	0.272	0.805	1.08
06/16/20 (c	**(µg/m3)**	--	--	--	0.275	--	--
06/22/20	**(µg/m3)**	0.0236	0.0189	0.0116	0.0149	0.0156	0.0472
06/22/20 (c	**(µg/m3)**	--	--	0.0287	--	--	--
06/28/20	**(µg/m3)**	ND	ND	0.112	ND	ND	ND
06/28/20 (c	**(µg/m3)**	--	--	0.127	--	--	--
07/04/20	**(µg/m3)**	ND	0.0939	ND	ND	0.0359	0.0294
07/04/20 (c	**(µg/m3)**	--	--	--	--	--	--
07/10/20	**(µg/m3)**	ND	0.0443	ND	ND	0.0588	0.291
07/10/20 (c	**(µg/m3)**	--	0.0432	--	--	--	--
07/16/20	**(µg/m3)**	0.0769	INVALID	0.0141	ND	0.136	0.0392
07/16/20 (collocated)		--	--	--	--	--	0.0410
NOTES	**EXPLANATION**						
***11-27-18 sample was skipped due to ERG not getting the canisters to Weston in time.**							
1-6 sampling schedule started 03/01/19							
---	No sample received in lab						
Invalid	Sample was invalid						
ND	Concentration not detetcted						
Italicized	*Concentration below method detection limit*						

Method detection limit (ppbv) = 0.0115
Method detection limit (µg/m^3) = 0.0417

Mol. Weight	88.5
Factor	3.63

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

Office of the Regional Administrator

August 18, 2020

Jaclyn Hotard, President
St. John the Baptist Parish
1811 W. Airline Highway
LaPlace, Louisiana 70068

RE: Completion of Ambient Air Monitoring in the Neighborhoods Surrounding the Denka Performance Elastomer Facility in LaPlace, LA

Dear Parish President Hotard:

The U.S. Environmental Protection Agency (EPA) thanks you, Past President Natalie Robottom, and your staff for your leadership during our ambient air monitoring program in the neighborhoods surrounding the Denka Performance Elastomer facility (Denka) in LaPlace, LA over the past four years (2016-2020). During this time, Denka has installed pollution controls to reduce emissions required by the state and as LDEQ noted last May, the plant has seen an 85% reduction in chloroprene emissions.

From 2016 to 2020, EPA collected over 2,500 samples to monitor the concentrations of chloroprene in the ambient air. EPA's air monitoring data from the Community Air Monitoring Program, implemented in LaPlace since 2016, shows the annual average ambient air concentrations of chloroprene near the Denka facility in 2019 (after Denka's implementation of chloroprene emission control measures) was 0.5-2.3 µg/m3, depending upon the location of the monitor. This annual average would be lower but for occasional elevated concentrations that contribute to the average.

As such, EPA recently began a Continuous Air Monitoring Program (March 2020) to measure short-term concentrations of chloroprene and identify possible unaccounted for sources within the facility. We anticipate completing the Initial Phase of this program by September 1, 2020. The Initial Phase includes instrumentation quality checks, collection and processing of data to assess the sampling equipment performance, and development of Volatile Organic Compounds (VOC) trigger concentrations and averaging periods for canister samples at each of the six locations. The Operational Phase for the program will begin with completion of the Initial Phase and, barring unforeseen circumstances, will operate until December 2020. Chloroprene data from the program will be posted publicly at: https://www.epa.gov/la/denka-air-monitoring-data-summary.

We were delayed in completing the Initial Phase of the Continuous Air Monitoring Program due to instrument performance issues and modifications to the canister triggering methodology. Because of this delay, EPA extended the community ambient air monitoring work from the end of June 2020 and plans to remove the community air monitoring network at the end of September 2020. Chloroprene data through July 16 has been posted to the public website. Additional chloroprene data will be posted as soon as it is available. Additionally, the EPA is preparing an initial summary report highlighting the activities and results associated with the community ambient air monitoring program from 2016 to July 2020.

We appreciate your continued leadership in helping to reduce chloroprene emissions in LaPlace and look forward to continuing working with you. Thank you for your continued work in promoting a healthy and safe environment in the LaPlace community and in the State of Louisiana.

Sincerely,

Ken McQueen
Regional Administrator

Message

From: Hamilton, Sabrina [Hamilton.Sabrina@epa.gov]
Sent: 6/8/2021 9:03:08 PM
To: echeuse@earthjustice.org
CC: Ramoncita.C.Martinez [Ramoncita.C.Martinez@ceq.eop.gov]; Dorka, Lilian [Dorka.Lilian@epa.gov]; Gray, David [gray.david@epa.gov]; Starfield, Lawrence [Starfield.Lawrence@epa.gov]; Leathers, James [Leathers.James@epa.gov]; Koerber, Mike [Koerber.Mike@epa.gov]
Subject: EPA's Response to your May 6, 2021, Letter re Petition Concerning St. John the Baptist Parish, Louisiana Residents -- AX-21-000-3446
Attachments: Final Response to Emma Cheuse at Earthjustice -- AX-21-000-3446 SIGNED.pdf

Flag: Flag for follow up

Ms. Emma Cheuse
Earthjustice
1001 G Street, NW, Suite 1000
Washington, D.C. 20001

Via Electronic Mail: echeuse@earthjustice.org

Dear Ms. Cheuse:

Please find attached the U.S. Environmental Protection Agency's response to your May 6, 2021 letter concerning the *"Petition for Emergency Action under the Clean Air Act, 42 U.S.C. § 7603 et seq., to Abate the Imminent and Substantial Danger to St. John the Baptist Parish, Louisiana Residents from Toxic Air Pollution and Petition for Rulemaking under the Clean Air Act, 42 U.S.C. § 7412, to Set Health-Protective Air Toxics Emissions Standards."* If you experience problems opening the file, please contact me.

Sincerely,

Sabrina Hamilton

Sabrina Hamilton
Air and Radiation Liaison Specialist
and FOIA Coordinator
Office of Air and Radiation
U.S. Environmental Protection Agency (EPA)
1200 Pennsylvania Avenue, N.W. (6101-A)
Washington, D.C. 20460
hamilton.sabrina@epa.gov

U.S. ENVIRONMENTAL PROTECTION AGENCY

NEWS RELEASE

WWW.EPA.GOV/NEWSROOM

EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish

Grant funding prioritized for areas facing air quality challenges

Contact: Joe Hubbard or Jennah Durant at 214-665-2200 or [HYPERLINK "mailto:r6press@epa.gov"]

DALLAS (Oct. XX, 2020) – The U.S. Environmental Protection Agency (EPA) recently awarded the state of Louisiana two grants for a total of $311,012. The grants will help the state determine health risks from toxic air pollutants in the community near the Denka Plant in St. John the Baptist Parish, La.

"EPA has prioritized partnerships to support states as they develop data and programs that secure clean air in communities that may need additional attention to address environmental challenges," **said EPA Regional Administrator Ken McQueen.** "This project will significantly enhance our efforts to address community concerns as we continue to evaluate the air quality in this region to further protect public health and the environment."

The two grants were awarded to La. state agencies in partnership with Louisiana State University. EPA awarded $224,931 to the Louisiana Department of Environmental Quality and $86,081 to the Louisiana Department of Health to assess the health risks associated with Chloroprene exposure in the community near the Denka Plant.

Chloroprene is a chemical used in the production of neoprene. Neoprene has a variety of uses, such as in wetsuits, gaskets, hoses and adhesives. Chloroprene is classified as a likely carcinogen by several agencies, including EPA.

As EPA pursues its mission to protect human health and the environment, the agency periodically awards grants to help state, local and tribal air agencies conduct air quality monitoring projects to address localized air toxics issues. Air toxics, also known as hazardous air pollutants, may be linked to cancer or other serious health effects. Under the Clean Air Act, EPA currently regulates 187 listed air toxic pollutants.

Congress created the MPG program in 2016, and appropriated funds to this program in fiscal year (FY) 2018, FY 2019, and FY 2020. This MPG program is for the $13 million Congress appropriated in FY 2020. The Explanatory Statement accompanying the 2020 Act suggested that states and tribes might use the MPG funds to address emerging contaminants such as PFAS, but directed the Agency "to continue to give maximum flexibility to States and Tribes so that they, not the Agency, may determine where funds from this grant program are of most value."

For more information on Denka and EPA actions in the community, please visit: [HYPERLINK "https://www.epa.gov/la/laplace-louisiana-background-information"]

For more information on Chloroprene in Louisiana visit: [HYPERLINK "https://www.epa.gov/la/laplace-louisiana-frequent-questions"]

Connect with EPA Region 6:
On Facebook: [HYPERLINK "https://www.facebook.com/eparegion6"]
On Twitter: [HYPERLINK "https://twitter.com/EPAregion6"]
Activities in EPA Region 6: [HYPERLINK "http://www.epa.gov/aboutepa/region6.htm"]

# # #

Message

From: Hubbard, Joseph [Hubbard.Joseph@epa.gov]
Sent: 3/8/2021 9:11:49 PM
To: Mitchell, David [dmitchell@theadvocate.com]
CC: Durant, Jennah [Durant.Jennah@epa.gov]; Harwood, Jackie [Harwood.Jackie@epa.gov]
Subject: RE: Denka Performance Elastomer News Release & Background Information

Hi David,

We are checking on this for you. What is your deadline?

Best,

Joe Hubbard
U.S. Environmental Protection Agency
OFFICE: 214-665-8476
Hubbard.joseph@epa.gov

From: Mitchell, David <dmitchell@theadvocate.com>
Sent: Monday, March 8, 2021 2:55 PM
To: R6Press <R6Press@epa.gov>; Durant, Jennah <Durant.Jennah@epa.gov>; Hubbard, Joseph <Hubbard.Joseph@epa.gov>; Harwood, Jackie <Harwood.Jackie@epa.gov>
Subject: FW: Denka Performance Elastomer News Release & Background Information

Can any of you shed light on this process?

Denka says they previously filed for a request for reconsideration and withdrew it and now have filed a request for correction.
They also say that EPA had peer-reviewed this new Denka risk model for chloroprene, "which suggests the agency's previous assessment could overstate cancer risk from chloroprene exposure by as much as 130 times."

Help me understand this process, both generally and in reference to chloroprene.

Also you still haven't responded to me regarding my questions about the recent La. Tumor Registry report in connection with Denka and chloroprene.

THE ADVOCATE

BATON ROUGE · NEW ORLEANS · ACADIANA

David J. Mitchell

River Parishes reporter

dmitchell@theadvocate.com Tel: (225) 336-6961

www.theadvocate.com Cell: (225) 324-1877

Delivering throughout south Louisiana each day:

From: Schleifstein, Mark <mschleifstein@theadvocate.com>
Sent: Monday, March 08, 2021 2:12 PM
To: Mitchell, David <dmitchell@theadvocate.com>
Subject: FW: Denka Performance Elastomer News Release & Background Information

Mark Schleifstein
Environment reporter
mschleifstein@theadvocate.com
The Times-Picayune | The New Orleans Advocate
840 St. Charles Ave.
New Orleans LA 70130
Mobile: 504.717.1157
Home: 504.887.5331

From: Jim Harris <jharris@hdaissues.com>
Sent: Monday, March 8, 2021 1:29 PM
To: Schleifstein, Mark <mschleifstein@theadvocate.com>
Cc: David Laplante <dlaplante@hdaissues.com>
Subject: Denka Performance Elastomer News Release & Background Information

Mark,

Please find **attached** a news release from Denka Performance Elastomer. You may quote me as spokesperson if you decide to use this information. Below are some basic points on what it's about. I hope you received the background information on DPE that I sent you a week or so go. I hope everything is going well.

Best,
Jim Harris
On behalf of Denka Performance Elastomer

Background

• DPE is submitting a formal Request for Correction to the U.S. EPA that includes a new scientific model of chloroprene metabolism as part of the company's continued work with the agency to improve its understanding of chloroprene. A response or action on the request from EPA could take months.

• The model has been reviewed by the agency, undergone external peer review as part of being published in a prestigious scientific journal last year, a testament to the scientific community's confidence in its methods.

• The new model shows previous suggestions by the EPA's Integrated Risk Information System about chloroprene greatly overestimated potential risks to more than 130 times higher than reality.

• DPE's new request to EPA will take the place of a Request for Reconsideration, which the company withdrew as part of EPA's standard process for reviewing agency actions. EPA has suggested that this is a more appropriate process for incorporating the new model into EPA's risk assessment. A final decision and action by EPA on DPE's request could take several months. DPE will continue to work with EPA throughout this process.

• As you know, while DPE has been working with EPA throughout the scientific review process, the company spent over $35 million on emissions reduction projects, installing new equipment and improvements to reduce its environmental footprint. This investment has resulted in a similar decrease in concentrations of chloroprene measured in the air near the facility.

Jim Harris
Harris, DeVille & Associates, Inc.
521 Laurel Street
Baton Rouge, LA 70801

(225) 405-7330 (cell)
(225) 344-0381 (phone)
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Visit us on the Web at http://www.hdaissues.com

AGENDA
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
NATIONAL ENVIRONMENTAL JUSTICE ADVISORY COUNCIL
FULLY VIRTUAL PUBLIC MEETING
November 10, 2021
1:00 P.M. – 6:00 P.M. EDT

DAY 1: WEDNESDAY November 10, 2021	
1:00 pm - 1:30 pm	**WELCOME, INTRODUCTIONS, & OPENING REMARKS** o **Fred Jenkins Jr., PhD, Designated Federal Officer** – U.S. EPA o **Matthew Tejada, PhD, Director, Office of Environmental Justice** – U.S. EPA o **Sylvia Orduño, National Environmental Justice Advisory Council Chair** – Michigan Welfare Rights Organization o **Na'Taki Osborne Jelks, PhD, National Environmental Justice Advisory Council Vice Chair** – West Atlanta Watershed Alliance and Proctor Creek Stewardship Council o **Michael Tilchin, National Environmental Justice Advisory Council Vice Chair** – Jacobs Engineering
1:30 pm - 2:00 pm	**WELCOME, EPA UPDATES, & DIALOGUE** o **Janet McCabe, Deputy Administrator** – U.S EPA
2:00 pm - 2:30 pm	**The Draft FY 2022-2026 EPA Strategic Plan Presentation focus on Goal 2: Taking Decisive Action to Advance Environmental Justice and Civil Rights and updates on Justice40** o **Matthew Tejada, PhD, Office of Environmental Justice**– U.S EPA o **Lilian Dorka, External Civil Rights Compliance Office**
2:30 pm - 3:15 pm	**NEJAC Response to FY 2022-2026 EPA Strategic Plan Presentation**

3:15 pm - 3:30 pm	**Break**
3:30 pm – 4:15 pm	**NEJAC OPEN BUSINESS MEETING REFLECTION AND DISCUSSION MOVING FORWARD INCLUDING:** ○ **NEJAC Workgroup Updates**: ▪ Community Air Quality Workgroup ▪ Farm Worker and Pesticides Workgroup ▪ Financial and Investment (Justice40) ▪ NEPA ▪ PFAS/PFOA/ PFOS ▪ Water Infrastructure
4:15 – 5:55 pm	**PUBLIC COMMENT PERIOD** **Note:** Members of the public will be given three (3) minutes to present comments on their issue or concern to the NEJAC.
5:55 pm - 6:00 pm	**CLOSING REMARKS & ADJOURN** ○ **Sylvia Orduño, National Environmental Justice Advisory Council Chair** – Michigan Welfare Rights Organization ○ **Fred Jenkins Jr., PhD, *Designated Federal Officer*** – *U.S. EPA*
Note: Please be advised that agenda times are approximate; when the discussion for one topic is completed, discussions for the next topic will begin. For further information, please contact the Designated Federal Officer for this meeting, Fred Jenkins Jr., PhD, at jenkins.fred@epa.gov.	

FY 2022-2026 EPA Strategic Plan

Draft

October 1, 2021

ED_012929_00011821-00001

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Administrator Regan's Message (Placeholder)

[Placeholder]

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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. The Agency also adds a fourth foundational principle: advance justice and equity. We add 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 our operations and decision making now and into the future.

Building on work already begun under President Biden's 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*,[1] and in alignment with the Administration's whole-of-government approach, we are charting a course in this Strategic Plan where tackling climate change and advancing environmental justice and civil rights are integral to all we do in carrying out EPA's mission. In accordance with these priorities, we have established new strategic goals on addressing climate change and environmental justice to signal the importance of these issues. We will embed this focus into the work we do to carry out our five programmatic strategic goals for enforcement and compliance, air quality, water quality, land revitalization, and chemical safety.

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

Our four cross-agency strategies describe the essential ways EPA will carry out our mission. These strategies include reinforcing science as foundational to

[1] 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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Agency decision making; protecting children's environmental health; building back EPA's workforce with particular attention to equity and enhancing mission-support functions to achieve organizational excellence; and renewing our commitment to EPA's trust responsibility to Tribal nations[2] and our 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 we will achieve for each strategic objective and cross-agency strategy by 2026. LTPGs will help us understand, monitor, and tell the story of progress we are making to partners and external stakeholders, Agency employees, and the public.

In addition, we have 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;
- Clean up contaminated sites and invest in water infrastructure to enhance the livability and economic vitality of overburdened and underserved communities; and
- HUD and EPA will reduce exposure to lead to protect families, particularly children, in 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.[3] Our goal is to achieve a culture of evidence-building, continuous learning, and evaluation in our operations and decisions. The Learning Agenda will address key questions across priority areas by leveraging high-quality data. The Capacity Assessment will guide our efforts to develop the skills, expertise, and infrastructure that support routine, rigorous use of data. We 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 our Tribal, federal, state, and local government partners and our many stakeholders is an integral part of strategic planning. For the first time, we conducted early outreach prior to issuance of the *Draft Plan*. Through this engagement, we sought to understand what matters most to our Tribal and state partners and stakeholders as we work to achieve EPA's mission and find ways we can work together to achieve our goals. We issued a *Federal Register* notice and used www.regulations.gov to encourage and share feedback on the *Draft Plan*. We sent notification of the availability of the *Draft Plan* for review to over ## organizations and individuals. We also initiated consultation with our Tribal partners and Congress.

---

[2] In this Strategic Plan, the term "Tribe" and "Tribal nation" is 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.

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

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 people. 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.

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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 from human activities are the most significant driver of observed climate change since the mid-20th century.[4] 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 deep 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 will publish GHG emissions data and apply tools such as the social cost of greenhouse gases (SC-GHGs), multipollutant analysis, reviews of environmental impact statements, permitting, and technical assistance. EPA also will increase recycling and decrease 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 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 emissions by 533 million metric tons of carbon dioxide equivalent (MMTCO2e).

[4] 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 hydrofluorocarbons (HFCs) will be 10% below the baseline,[5] consistent with the HFC phasedown schedule implemented under the American Innovation and Manufacturing (AIM) Act. The current U.S. consumption limit for 2023 is less than 273.5 million metric tons of carbon dioxide equivalent (MMTCO2e).

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,[6] EPA will phase down the production and import of hydrofluorocarbons (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 (GWP) 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 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

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[5] 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 determines 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 GWPs included in IPCC (2007). EPA uses the terms "global warming potential" and "exchange value" interchangeably. One MMTEVe is therefore equivalent to one MMTCO2e.

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

testing motor vehicles, heavy-duty engines, nonroad engines, and fuels that enter the 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 greenhouse gas emissions. Approximately 62 percent of U.S. electricity comes from burning fossil fuels, mostly coal and natural gas.[7] Executive Order 13990: *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*[8] directs EPA to revise and address, as appropriate, the regulation of greenhouse gases 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 rules to reduce greenhouse gas pollution from fossil-fuel fired power plants and work closely with Tribes, states, and local agencies to implement them.

As part of the Administration's comprehensive approach to tackling the climate crisis, EPA will issue rules to reduce methane from oil and gas facilities. The oil and natural gas industry is the largest industrial source of U.S. emissions of methane, a potent greenhouse gas, and its facilities and operations also emit smog-forming volatile organic compounds and toxic air pollutants such as benzene. EPA will issue 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 attendant credit trading systems. Separately, EPA will also continue work with partners on programs to control emissions from marine and aircraft engines.

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 through the Climate Impacts and Risk Analysis (CIRA) project, quantifying and monetizing the risk of climate change on socially 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

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

[8] 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/.

social cost of greenhouse gases to reflect the best available climate science and economics. This metric—a range of estimates, in dollars, of the long-term damage imposed by one ton of greenhouse gas emissions—combines climate science and economics to help policy makers and the public understand the benefits of reducing greenhouse gas 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 to share GHG emissions and supply data with stakeholders, including industry, state and local governments, academia, the research community, and the public in general.

EPA will continue compiling and publishing the annual *Inventory of U.S. Greenhouse Gas Emissions and Sinks*[9] 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 under the Paris Agreement. 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

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

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 PM2.5 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% reduction in black carbon emissions by 2028. Globally, emissions from household energy/cookstoves are the largest controllable source of black carbon (>50%). 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. 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.[10] For example, more than one-third of all available food in the United States goes uneaten, ends up in landfills, and produces methane. 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,[11] 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 United States will be positioned to find more productive and sustainable ways to extract, use, 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.

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[10] International Resource Panel's *Global Resources Outlook 2019:* https://www.resourcepanel.org/reports/global-resources-outlook.

[11] The National Recycling Strategy is currently in draft and expected to be finalized during FY 2021. For more information, please visit: https://www.epa.gov/americarecycles/national-recycling-strategy-and-framework-advancing-us-recycling-system.

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 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.
- 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, states, territories, and communities across the nation.

Climate change poses significant risks to EPA's ability to fulfill its mission and affects how it 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 and 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 19 National Program and Regional Climate Adaptation Implementation Plans to account for the impacts of the changing climate on human health and the environment.
- By September 30, 2026, assist XX federally recognized Tribes to take action to anticipate, prepare for, adapt to, or recover from the impacts of climate change.
- By September 30, 2026, provide assistance to XX states, territories, local governments, and communities with environmental justice concerns 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 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 will implement 19 Climate Adaptation Implementation Plans developed by EPA programs and regions to align with and advance the five priorities in the 2021 EPA Adaptation Action Plan. Program and regional plans 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 to empower communities across the nation and Tribes 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 people. EPA will actively engage with organizations representing overburdened and underserved communities, such as the National Environmental Justice Advisory Council 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 communities, states, territories, local governments, 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.

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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 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 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 environmental justice communities 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 to advance climate assistance internationally at the Tribal/Indigenous, national, city, and local levels and provide leadership on the global stage to address climate change.

EPA support will increase partner countries' abilities 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, undertake 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 contribute to 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 may be disproportionately affected by 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 impact the following issues:

- 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.
- 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 country 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 INTERPOL 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 such as UNEP 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 such as UNEP 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 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[12]

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. 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 are 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; increased access to other environmental resources such as green spaces; better health outcomes in impacted communities; and increased public participation in critical decision making.

EPA will work to increase the capacity of communities and Tribes working to address environmental justice and civil right concerns; embed environmental justice and civil rights in the Agency's core work; and strengthen civil right enforcement in communities overburdened by pollution.

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[12] 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.

This goal consists of three objectives for furthering equity, justice, and civil rights across EPA's policies, programs, and activities. 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 reviewing state permitting actions, responding to emergencies, and cleaning up contamination. EPA recognizes that while the environmental justice and external civil rights programs and their authorities are distinct, 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 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 Executive Orders 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.

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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 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.[13]
- By September 30, 2026, EPA will include commitments to address disproportionate impacts in all written agreements between EPA and states and Tribes (e.g., grant work plans) implementing delegated authorities.
- By September 30, 2026, EPA programs with direct implementation authority will take at least X significant actions that will result in measurable improvements in Indian country.
- By September 30, 2026, all state recipients of EPA financial assistance will have foundational civil rights programs in place.

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. EO 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

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

meet this goal but exceed it. EPA must likewise ensure that relevant programs are actively supporting community efforts to engage and influence program implementation and maximize the benefits from the investment of resources to achieve meaningful change on the ground for the most impacted communities. 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 have their voices effectively heard and responded to. 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 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.

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)[14] and section 309 of the Clean Air Act, EPA will promote robust consideration and mitigation of environmental impacts on overburdened communities with environmental justice concerns in the review of other federal agencies' environmental impact statements for proposed actions such as 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 and incorporating environmental justice principles when the Agency directly implements federal environmental programs will advance environmental justice for federally recognized Tribes.

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

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 there remains a list of legacy environmental justice issues — such as toxic chemical exposure, hazardous facilities siting, and lack of safe drinking water — communities face a rapidly growing set of impacts from climate change. The majority of Superfund sites are near environmental justice communities, for example, and 65 of them 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.

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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 at 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 EPA programs. EPA must ensure the Agency is following and implementing the Civil Rights Act just as equally as environmental statutes. Advancing civil rights compliance through all EPA programs is distinct from Objective 2.3: Strengthen Civil Rights Enforcement in Communities with Environmental Justice Concerns. 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 analyzes for disproportionate impacts.
- Building EPA capacity to support community-driven approaches to building healthy, sustainable, and climate-resilient communities.
- Ensuring consideration of civil rights by EPA programs.

Long-Term Performance Goals

- By September 30, 2026, publicly identify and begin to implement at least ten commitments towards improving environmental and public health conditions on the ground for communities with environmental justice concerns.[15]
- By September 30, 2026, XX% of all significant EPA actions with environmental justice implications will clearly demonstrate how the action is responsive to environmental justice concerns and addresses disproportionate impacts.[16]

[15] The commitments will include delineation of the responsibilities of EPA programs and regions related to each commitment, establishment of a transparent annual reporting mechanism, and have resolved any policy, programmatic, or data needs in order to annually measure EPA's progress towards their achievement. Commitments will span EPA authorities including access to drinking water, clean surface waters, reduction in pollutants of concern such as air toxics and pesticides, access to natural resources and environmental benefits, and elimination of disparities such as blood lead levels and childhood asthma rates.

[16] 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.

- By September 30, 2026, XX% of EPA programs that work in and with communities will do so in ways that are community-driven, coordinated, and collaborative and will support community revitalization, equitable resilience, and/or implementation of climate justice plans. [17]
- By September 30, 2026, all EPA programs and regions will identify and implement areas and opportunities to achieve civil rights compliance in their planning, guidance, policy directives, monitoring, and review activities.

Strategies

Make 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 recognizes that these commitments require decisions and activities that extend beyond the implementation of EPA's authorities, such as capacity and relationship building and providing guidance and training to our partners. EPA believes that setting such ambitious goals that speak to priority environmental justice issues is critical to stimulating not only a deeper evaluation of the use of all EPA authorities, but also its 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 to make such ambitious outcome 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 incidence of asthma for children living in families below the federal the 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.
- Increasing access to natural resources such as green spaces within one-third of a mile, through efforts such as the cleanup and revitalization of contaminated sites in the overall number of overburdened and underserved communities.
- Reducing pesticide exposure to farmworkers, their families, and the agricultural community.

Ensure that EPA Decision Making Incorporates Meaningful Community Involvement and Analyzes for 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

[17] 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.

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.[18]

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 analyze for disproportionate impacts. One area 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.

Build EPA Capacity to Support Community-Driven Approaches to Building 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 increase annually the number of programs that have fully integrated key principles of effective community-driven work and build the number of collaborative partnerships centered on community priorities.

Ensuring Consideration of Civil Rights by EPA Programs: As a federal agency charged with enforcing federal civil rights laws, EPA must ensure that it is complying with and implementing civil rights obligations across all Agency programs and activities. To do so, EPA must recognize that in addition to the enforcement and implementation of federal civil rights laws, a responsibility that is 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 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 must communicate requirements and expectations to EPA staff through education, training, outreach, and technical assistance to enhance civil rights enforcement awareness and strengthen intra-Agency collaboration to identify whether recipient programs and activities are abiding by civil rights laws or 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 themselves, including their responsibility to develop and implement program-specific

[18] National Environmental Justice Advisory Council Recommendations: https://www.epa.gov/environmental-justice/national-environmental-justice-advisory-council-recommendation-reports-0.

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, sex, 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 15 proactive post-award civil rights compliance reviews annually in environmentally overburdened and underserved communities compared with the FY 2021 baseline of one.
- By September 30, 2026, complete 100 audits annually to ensure EPA financial assistance recipients are complying with nondiscrimination program requirements compared with the FY 2021 baseline of none.
- By September 30, 2026, complete 25 information sharing sessions, outreach, technical assistance events, and Alternative Dispute Resolution and informal resolution facilitation opportunities with overburdened and underserved communities and environmental justice advocacy groups on civil rights and environmental justice issues, annually, compared with the 2021 baseline of five.[19]
- LTPG under development on informal resolution agreements under Title VI.

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 law authorizes 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

[19] EPA anticipates completing a total of 84 engagements between FY 2022 and FY 2026.

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.

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 guidances issued and technical assistance 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, federally recognized Indian 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 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. This work 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 Initiatives, 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 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 HFCs, which are chemicals with potent global warming potential, and pursue violators of the Renewable Fuel Standard (RFS).

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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, ensure the number of "Referred No Complaint Filed" (RNCF) civil judicial cases that are more than 2.5 years old is no more than 93.[20]

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.

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 greenhouse gases or other compounds that contribute to or exacerbate the effects of climate change.

[20] 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:[21] 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 (ADR) 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.[22]
- Seeking restitution for victims of environmental crimes.

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

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[21] 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.

[22] For more information on Supplemental Environmental Projects, please 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.

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 greenhouse gas (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 contamination caused by emerging contaminants (e.g., Per- and polyfluoroalkyl substances (PFAS), which are a current priority), the Superfund 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.

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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.

Long-Term Performance Goals

- By September 30, 2026, send 75% of EPA inspection reports to facilities within 70 days of inspection.[23]
- By September 30, 2026, conduct 55% of inspections annually at facilities that affect communities with potential environmental justice concerns.[24]

Strategies

Through its ongoing process of selecting National Initiative areas in collaboration with Tribes, states, and territories, EPA will focus its work on critical areas of noncompliance. Recent examples include National 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.

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.

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

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 often directly benefits 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.

Strengthening Environmental Justice Through Compliance Assurance Activities: 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. As an example of community outreach to address the root causes of noncompliance at small drinking water and wastewater systems, EPA will continue the Compliance Advisor Program (formerly known as the Circuit Rider Program) to help systems return to, and maintain, compliance. Many small drinking water and wastewater systems are unable to achieve and maintain compliance due to lack of technical, managerial, and financial capacity as well as aging infrastructure, workforce shortages, and declining rate bases. These challenges are the root cause of most violations of the Safe Drinking Water Act (SDWA) and CWA at small drinking water and wastewater systems. The numbers of systems in noncompliance are holding fairly constant, indicating the need for more hands-on technical assistance for small systems to troubleshoot issues and develop plans to return to compliance. 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 capacity in these vulnerable communities, including those in Indian country and where EPA has direct implementation authority, to achieve and sustain compliance.

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, states, and the public. This

will enhance EPA's efforts to address compliance concerns in underserved communities and help EPA and authorized 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 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 greenhouse gases 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 and 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 (PM2.5 and PM10), sulfur dioxide (SO2), oxides of nitrogen (NOx), 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.[25]

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.[26] Studies show substantial disparities exist in PM2.5-related risk between groups. Nonwhites, particularly blacks, are at increased risk for PM2.5-related health effects, in part due to disparities in exposure.[27] One study estimated people of color were exposed to 25 percent higher PM2.5 (as compared to the rest of the population) in 2014 from domestic anthropogenic sources.[28] Neighborhoods with the highest poverty rates had 14 percent higher PM2.5 levels in 2016 compared with neighborhoods with the lowest poverty rates.[29] 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.[30]

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.

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[25] Our Nation's Air: Trends through 2020: https://gispub.epa.gov/air/trendsreport/2021/#home.
[26] Our Nation's Air: Trends through 2020: https://gispub.epa.gov/air/trendsreport/2021/#home.
[27] 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.
[28] Tessum, CW, Paolella, DA, Chambliss, SA, Apte, JS, Hill, JD, Marshall, JD. PM2.5 polluters disproportionately and systemically affect people of color in the United States. Sci Adv, 28 APR 2021: EABF4491.
[29] Colmer, J, Hardman, I, Shimshack, J, Voorheis, J. Disparities in PM2.5 air pollution in the United States. Science, 31 JUL 2020: 575-578.
[30] National Air Toxics Assessment: https://www.epa.gov/national-air-toxics-assessment.

Long-Term Performance Goals

- By September 30, 2026, reduce ozone season emissions of nitrogen oxides (NOx) from electric power generation sources by 21% from the 2019 baseline of XX.
- 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 (PM2.5) National Ambient Air Quality Standards.
- By September 30, 2026, ensure U.S. consumption of hydrochlorofluorocarbons (HCFCs) is less than 76.2 tons per year of ozone depletion potential.[31]

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.[32] 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 SO2 NAAQS, the 2012 PM2.5 and PM10 NAAQS, and the 2008 and 2015 Ozone NAAQS. EPA will also continue to work closely with state 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.[33] 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.

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

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 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 to develop improved measurement methods (e.g., for woodsmoke, PM emissions, PFAS, and air toxics, such as ethylene oxide). 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 our 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 GHG 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 implement its Air Toxics Strategy[34] 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 (ODS) in the United States. By 2022, U.S. consumption of hydrochlorofluorocarbons (HCFCs), 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 ODS, 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.[35] 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.

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

[35] 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 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.[36] 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.[37] 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,[38] 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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[36] NAS BEIR VI Report: Health Effects of Exposure to Radon: https://www.nap.edu/catalog/5499/health-effects-of-exposure-to-radon-beir-vi.

[37] 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.

[38] 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.

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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);[39] Safe Drinking Water Act (SDWA);[40] and Marine Protection, Research, and Sanctuaries Act (MPRA).[41] 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 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. 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 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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[39] For more information on the Clean Water Act, please visit: https://www.epa.gov/laws-regulations/summary-clean-water-act.

[40] For more information on the Safe Drinking Water Act, please visit: https://www.epa.gov/sdwa.

[41] For more information on the Marine Protection, Research and Sanctuaries Act, please visit: https://www.epa.gov/laws-regulations/summary-marine-protection-research-and-sanctuaries-act.

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.[42]

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 September 30, 2017 from 3,508 to 600.
- 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, EPA water infrastructure finance programs (CWSRF, DWSRF and WIFIA) will leverage an additional $45 billion in non-federal dollars.
- By September 30, 2026, in coordination with other federal agencies, provide access to basic sanitation for an additional 31,500 American Indian and Alaska Native homes.
- By September 30, 2026, provide 1,722 Tribal, small, rural, or underserved communities with technical, managerial, or financial training or assistance to improve operations of their drinking water or wastewater systems.

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 90% of pilot communities to address community-

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

identified needs related to their water and cleanup challenges and enhance their livability and economic vitality.

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. The Clean Water State Revolving Fund (CWSRF) Program is the largest source of federal funds for states to provide low-interest loans and other forms of assistance for water quality projects including construction of wastewater treatment facilities, water and energy efficiency projects, green infrastructure projects, and agricultural Best Management Practices (BMPs). This federal investment is designed to be used in concert with other sources of funds to address water quality needs.[43] 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 Safe Drinking Water Act (SDWA) requirements, protect public health, and support state and local efforts to protect and provide drinking water. 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.

EPA also will promote and certify water operators, who are critical to providing safe drinking water. EPA will ensure that the water sector is aware of threats posted by cyber-attacks and provide

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

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 a number of pilot 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 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. EPA is reviewing the Lead and Copper Rule Revision under Executive Order 13990; the Agency hosted a series of virtual engagements with low-income communities and communities of color to obtain further public input on the Lead and Copper Rule Revisions. 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 has 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 is charged with developing a strategic roadmap and identifying actions the Agency should take in the next five years to maximize the use of existing authorities and scientific capacity to research, restrict, and remediate PFAS. 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 also has determined that effluent limitation guidelines under the Clean Water Act 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, and to supporting those least able to access technical assistance, filtration, and other control and remediation solutions, so that we can work 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 our 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 Clean Water Act (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 our public health and communities requires that our water infrastructure is of sufficient capacity and properly maintained, and that the workforce that supports it is well-trained and resourced.

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 our 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 emerging 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 an additional 41,000 square miles the area of watersheds with surface water meeting standards that previously did not meet standards from a July 7, 2021 baseline of 425,198 square miles of watershed area with surface water that are meeting standards.

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[44] 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.
- Promulgate and update regulations, such as:
    - EPA and the Department of the Army's intent to revise the definition of "waters of the United States". This process includes two rulemakings: a foundational rule to restore

[44]For additional information, please see: https://internetofwater.org/.

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 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.

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 Clean Water Act (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 (NPDES) and Marine Protection, Research, and Sanctuaries Act (MPRSA) 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 Water Quality Standards 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 faced by communities.

EPA and its partners will accelerate progress to protect and restore ecologically and intrinsically valuable watersheds across the nation through its place-based and Geographic Programs 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 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.

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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. EPA assesses and restores contaminated land near 61 percent of the United States population, including 62 percent of children under the age of five. While there is no single way to characterize communities located near contaminated sites, the legacy of pollution disproportionally affects minority, 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.

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)[45] in responding to large-scale emergencies that involve chemicals, oil,

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

biological agents, radiation, or natural disasters. As part of the framework, EPA supports other 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.

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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, and groundwater 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. 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 minority. 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,[46] 56 percent are minority, and 7 percent are linguistically isolated. Children are disproportionately exposed to health risks and safety hazards, especially from lead in soil. 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.[47]

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.[48] 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.[49]

Long-Term Performance Goals

- By September 30, 2026, bring human exposures under control at an additional 60 Superfund sites.
- By September 30, 2026, clean up an additional 650 brownfields properties.

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[46] 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.

[47] 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.

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

[49] 2020 Environmental Benefits of Brownfields Redevelopment — A Nationwide Assessment. For more information, please visit: 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, clean up an additional 36,500 Leaking Underground Storage Tank facilities.

FY 2022-2023 Agency Priority Goal (APG)

- **HUD and EPA will reduce exposure to lead to protect families, particularly children, in overburdened and underserved communities.** By September 30, 2023, HUD and EPA will reduce exposure to lead to protect families, particularly children, by EPA completing at least 100 Superfund lead cleanup projects, of which there are at least 5 projects where HUD is financing efforts to reduce exterior and interior paint-lead hazards in housing.

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.

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.[50] 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. In addition, EPA will consider climate change and weather science as part of standard operating practices in Superfund cleanup projects[51] and take steps to reduce the carbon footprint of remedies' implementation.

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

[50] For more information, please visit: https://www.epa.gov/leadactionplanimplementation/implementation-status-report-epa-actions-under-december-2018-federal.
[51] For additional information, please visit: https://www.epa.gov/superfund/superfund-climate-resilience.

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 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 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 guidance and 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),[52] 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, 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

[52] 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.

resources available for cleanup. A 2016 study[53] 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 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.

[53] 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.

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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 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,[54] 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.[55]

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[54] The National Recycling Strategy is currently in draft and expected to be finalized during FY 2021. For more information, please visit: https://www.epa.gov/americarecycles/national-recycling-strategy-and-framework-advancing-us-recycling-system.

[55] 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 & 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.

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Long-Term Performance Goal

- By September 30, 2026, increase the percentage of permit renewals at RCRA facilities to 80% from the FY 2021 baseline of 71%.

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 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,[56] 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.[57] 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

[56] For more information about the Water Infrastructure Improvements for the Nation Act or the WIIN Act, please visit: https://www.epa.gov/coalash/permit-programs-coal-combustion-residual-disposal-units.

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

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.

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 CERCLA, Oil, Homeland Security, and FEMA exercises with EPA participation conducted annually address environmental justice concerns.

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 industry, Tribes, states, and local communities 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.

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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 CAA 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, state, and local agency partners to prepare for and respond to this threat.

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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 children, the elderly, and those with environmental justice concerns (including low income, minority, and Indigenous populations) 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 we use daily and are present in our environment and our 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 or 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, EPA assumed responsibility for making safety determinations in its review of hundreds of new chemical submissions annually. Under Section 6,[58] 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),[59] EPA is charged with protecting people and the environment from the risks that pesticide use can pose. EPA reviews and registers new pesticides, new uses for existing pesticides and other registration requests in accordance with statutory requirements, making 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. Under the Endangered Species Act (ESA),[60] 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. In addition, the Agency evaluates pesticides that are already in the market against current scientific standards for human health and the environment.

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[58] 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.

[59] 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).

[60] 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 with the FY 2020 baseline of one.
- By September 30, 2026, review 90% of risk mitigation requirements for TSCA new chemical substances compared to the FY 2021 baseline of none.
- By September 30, 2026, renew 40% of expiring lead-based paint Renovation, Repair, and Painting (RRP) firm certifications within 30 days compared to the FY 2021 baseline of 36%.
- By September 30, 2026, complete 78 pesticide registration review cases.
- 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 25%.
- By September 30, 2026, support Agricultural Worker Protection Standard (WPS) pesticide safety training for 20,000 farmworkers annually compared with 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.[61] 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 EPA'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.

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

Consistent with statutory responsibilities[62] [63] [64] 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 on a 15-year cycle 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)[65] 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. 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)[66] and the *Certification of Pesticide Applicators* (CPA)[67] 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,[68] 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 may be affected. Where risks are identified in a biological evaluation, EPA will work with the Services

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

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

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

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

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

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

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

through a consultation[69] process to ensure these new or existing pesticide registrations also will meet the ESA standard.[70] 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 observed new chemical submissions for 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.

External factors and emerging issues that could impact EPA-supported WPS training of farmworkers are as follows: 1) the EPA-funded grant is limited by funding and capacity to training a low number of farmworkers in relation to the overall U.S. farmworker population; and 2) tracking and assessing the effectiveness of all training is limited by the lack of a regulatory requirement that trainers/employers report back to EPA the number of farmworkers trained. 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 with additional resources, EPA would like to improve its ability to track trends using available pesticide incidence data sources (e.g., NIOSH SENSOR-Pesticides data).

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

[70] Additional information on how EPA protects endangered species from pesticides can be found at: 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) under the Pollution Prevention Act of 1990[71] 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 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 the generation of hazardous releases to air, water, and land; hazardous materials use; greenhouse gas generation; and water use. EPA's Toxics Release Inventory (TRI)[72] tracks implementation of pollution prevention activities by reporting 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 1.5 million metric tons of carbon dioxide equivalent (MMTCO2e) 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

During the next four years, EPA will focus on carrying out sector-focused P2 National Emphasis Areas[73] and enabling the replication and leveraging of business successes supported by the $5 million in P2 grants awarded annually. The Agency will customize, develop, and deliver training to identify and deploy green chemistry 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,[74] which advances chemical safety by increasing the availability and identification of products containing ingredients that

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

meet stringent health and environmental criteria, through a notice and comment process after 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 partner with organizations serving communities with environmental justice concerns to help custodial staff and house cleaning companies advocate for protections from occupational exposure-related conditions (e.g., asthma) and gain access 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.[75]

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 also 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 will also 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 and pursue market-oriented environmental and economic progress through increased adoption of these innovations. EPA's Green Chemistry Challenge Awards, which raise the profile and credibility of innovative green and sustainable chemistry technologies, 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.[76] EPA will continue research on tools that can quickly and accurately identify vulnerable communities near TRI facilities, which would support prioritization of pollution prevention initiatives. 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 in participation in P2 activities can be driven by economic conditions, the regulatory climate, and public pressure for industry to adopt pollution prevention solutions such as safer alternatives to chemicals and products currently in the marketplace. The program will continue to further enhance engagement with public and private sector stakeholders to facilitate adoption — and

[75] Safer Chemical Ingredients List: https://www.epa.gov/saferchoice/safer-ingredients.

[76] TRI for Communities: https://www.epa.gov/toxics-release-inventory-tri-program/tri-for-communities.

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.

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. To accomplish the goals and objectives set out in this Strategic Plan, EPA will develop, deliver, and use the best available scientific information, data, and evidence to meet partner needs and inform decision making at all levels, from site-specific decisions that affect local communities to national decisions that impact all Americans. EPA's cross-agency strategy will ensure scientific integrity by developing and using science worthy of public trust and confidence, advance the delivery of rigorous and independent scientific evaluation and analyses, and ground EPA's environmental policies, decisions, guidance, and regulations in high-quality, independent science.

EPA's science enterprise touches all parts of the Agency, 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 science to inform regulations and national compliance and enforcement initiatives. A major component of EPA's science enterprise is the research and development program,[77] which focuses on delivering leading-edge research to meet near-term and long-term science needs of the Agency, inform EPA decisions, and support the emerging needs of Tribal, state, and community partners.

Long-Term Performance Goals

- By September 30, 2026, YY% of ORD Research Products will meet partner needs compared to the FY 20ZZ baseline of XX%.
- LTPG under development for scientific integrity.

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 rebuild a culture of scientific integrity across the Agency by ensuring that adherence to scientific and ethical standards is outlined in EPA's Scientific Integrity Policy.[78] EPA will make sure that

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

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

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 support employees, contractors, and officials, EPA will provide training on scientific integrity and access to a network of deputy scientific integrity officials to whom employees, contractors, and officials can turn for advice to prevent lapses in scientific integrity or to report allegations of a loss of scientific integrity. EPA's programs will also 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,[79] which helps to guard against inadequate science and flawed analyses.

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 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.

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 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 advance environmental justice by conducting scientific research to improve its understanding of disproportionate impacts that can arise from unequal environmental conditions and exposure to multiple environmental stressors. EPA will also provide tools, training, and technical support to advance 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 vulnerable life stages, including infants and children, 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[80] provides the framework for planning, implementing, documenting, and assessing work performed by EPA,

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[79] 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.
[80] How EPA Manages the Quality of its Environmental Information: https://www.epa.gov/quality.

contractors, and grantees and for carrying out required quality assurance and quality control activities. Independent peer review is integral to ensuring the rigor of Agency analyses, methodologies, and scientific and technical products. EPA's Peer Review Handbook[81] provides a roadmap to ensure the Agency's peer review policy[82] is implemented effectively and that the integrity of our peer review activities can be demonstrated transparently to the public. EPA's Public Access Plan[83] 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*[84] promotes the development of clearance procedures that are transparent, clear, timely, predictable, and consistent.

Under the Foundations for Evidence-Based Policy Making 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: Identifying and implementing effective strategies for protecting human health and the environment—including strategies to adapt to the changing climate, advance environmental justice and equity, and protect children—requires that decisions be grounded in the best available science and evidence. Fit-for-purpose scientific assessments and analyses are of particular importance for informing the development of many national regulations. These assessments and analyses use, evaluate, and integrate existing and emerging information and data from diverse scientific disciplines to form scientific conclusions. This includes, but is not limited to, health or environmental effects, exposure, and impact or risk assessments; cost-benefit analyses; and other technical support documents. Because of their importance to evidence-based decision-making, EPA is committed to following well-established, scientifically rigorous protocols and guidelines for conducting scientific assessments or analyses and evaluating scientific information in a timely manner that is free from political interference, incorporates new advancements in science, and promotes consistency in scientific assessments across the Agency. 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 and to promote consistency across the Agency.

Building public trust and confidence in EPA's actions means being transparent about how EPA makes decisions, including being transparent about the scientific information and evidence EPA evaluates (with appropriate protections for privacy) and the confidence EPA has in the conclusions. EPA is deeply committed to restoring public trust in government and will strive to clearly articulate the role of science in every major action the Agency undertakes. EPA will demonstrate its commitment to using

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[81] EPA's Peer Review Handbook: https://www.epa.gov/sites/default/files/2020-08/documents/epa_peer_review_handbook_4th_edition.pdf.
[82] EPA's Peer Review Policy: https://www.epa.gov/sites/default/files/2015-01/documents/peer_review_policy_and_memo.pdf.
[83] Plan to Increase Access to Results of EPA-Funded Scientific Research: https://www.epa.gov/sites/default/files/2016-12/documents/epascientificresearchtransperancyplan.pdf.
[84] 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.

the best available scientific information, data, and evidence in Agency decision making by ensuring that public materials, such as *Federal Register* notices announcing proposed and final Agency actions, records of decision, and permit decisions describe the role of science in the decision clearly and in plain language. 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).

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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. EPA strives for Agency programs 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, evaluate and consider environmental health information and data for children at all life stages for XX% of 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

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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[85] 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[86] 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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[85] For more information on the President's Task Force on Environmental Health Risks and Safety Risks to Children, please visit: https://ptfceh.niehs.nih.gov/.

[86] 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 depend 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.

The Agency will strengthen workforce planning of mission-critical positions and continue to prioritize equity and diversity in EPA efforts to support succession management for the next generation of workers. EPA will modernize information technology systems, enhance the physical workplace for a hybrid workforce, support employee-friendly work policies, and transition to a paperless work environment. EPA will focus on implementing efficient and effective processes across the full range of Agency efforts, using proven techniques and training to equip staff to solve problems and make improvements to enhance our ability to accomplish our 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, adopt multifactor authentication for all EPA systems compared to the July 2021 baseline of 40%.
- 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.
- LTPG under development on Workforce Diversity, Equity, Inclusion and Accessibility (DEIA) pending finalization of Agency DEIA Strategic Plan.
- LTPG under development on Paper Process & Form Digitization. This measure will support achievement of EPA goals to transition to a paperless work environment.
- LTPG under development for automated permit application system for EPA permitting programs.
- LTPG under development on improving operational processes.

Actions

Fostering a Diverse, Equitable, Inclusive, and Accessible 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. Building upon

progress made on learning and succession management, 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.

EPA will implement Executive Order 14035: *Diversity, Equity, Inclusion, and Accessibility in the Federal Workforce*[87] and support the government-wide Diversity, Equity, Inclusion, and Accessibility (DEIA) Strategic Plan and develop an EPA DEIA Plan that will focus on cultivating a balanced work-life-wellness environment for employees and set goals and 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.

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.

[87] 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/.

EPA will implement the Federal Data Strategy to leverage federal data in carrying out the Agency's work. 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.

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 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. Additionally, EPA will advance the paperless transformation through the automation of permit application and approval processes for all EPA programs. 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*,[88] 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

[88] 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/.

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).[89] EPA will accomplish this by eliminating barriers to its procurement processes 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. 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 risks 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

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

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. Additionally, there may be barriers to federal employment that disproportionally impact underserved populations and 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. 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, integrate consideration of Tribal treaty rights into 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 with the August 2021 baseline of 1,148.
- LTPG under development on updating the Agency's oversight policies and guidances to strengthen and improve oversight of federally delegated environmental programs.

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*,[90] 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.

[90] Executive Order 13175: 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[91]. 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 to 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 "citizen science" 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.

[91] 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[92] 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[93] and the Multipurpose Grant Program,[94] 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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[92] Exchange Network Grant Program: https://www.epa.gov/exchangenetwork/exchange-network-grant-program.
[93] National Environmental Performance Partnership System: https://www.epa.gov/ocir/national-environmental-performance-partnership-system-nepps.
[94] 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. 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)[95] and is charged with achieving the environmental education (EE) objectives and supporting public understanding of the Agency. EPA will ensure that EE 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 EE as a tool to achieve environmental justice, climate equity, and economic prosperity. EPA will ask the National Environmental Education Advisory Council (NEEAC)[96] 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) 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 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.

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[95] National Environmental Education Act: https://www.epa.gov/education/national-environmental-education-act.
[96] National Environmental Education Advisory Council: https://www.epa.gov/education/national-environmental-education-advisory-council-neeac.

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.

Citizen science is an emerging issue that includes a broad range of activities and projects, from those originating in academic and government institutions that enlist 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 citizen science 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 citizen science activities.

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Draft Learning Agenda

The draft of the full EPA Learning Agenda is below. In the December 2021 Final Draft FY 2022-2026 EPA Strategic Plan and in the final Plan issued in February 2022, the Agency will include a high-level summary of the EPA Learning Agenda, with hyperlinks to the full Learning Agenda posted separately. This approach will support the Learning Agenda as a living document.

Overview

The Foundations for Evidence-Based Policymaking Act of 2018 (Evidence Act)[97] provides a framework to promote a culture of evaluation, continuous learning, and decision making using the best available evidence. EPA has identified four learning priority areas (three underway and one under development):

1. **Drinking Water Systems Out of Compliance** – What EPA/state drinking water program policies (tools, guidance, training, funding mechanisms) are most effective in increasing system compliance?
2. **Workforce Planning** – How can EPA ensure it has employees with the competencies needed to achieve its mission now and in the future, including identifying or developing leading practices in recruitment, retention, succession planning and knowledge management?
3. **Grant Commitments Met** – How can EPA assess the extent to which commitments achieve the intended environmental results and identify possible next steps in establishing a comprehensive grant reporting system?
4. **Air Pollution Benefits** (Under Development)

EPA continues to engage with relevant internal staff and external experts and stakeholders on these learning priority areas. Stakeholder engagement helps EPA to formulate priority questions, identify relevant past evidence development, and to plan and implement the activities designed to answer them. Currently these learning priority areas are in developmental phases (i.e., developing the questions, foundational fact finding, assessing data gaps, addressing data needs, reviewing research, etc.). EPA's Learning Agenda will be updated with evaluation and other evidence-building plans as the learning priority areas progress beyond this phase.

Learning Priority Area: Drinking Water Systems out of Compliance

The likelihood of a public water system (PWS) complying with Safe Drinking Water Act (SDWA) regulations is a function of water system characteristics such as infrastructure, operator expertise, and financial sustainability. These characteristics directly affect a water system's ability to comply with SDWA standards. EPA and primacy agencies aim to increase the probability of compliance by influencing system characteristics through program policy, tools, guidance, training, and funding (program components). Learning Agenda evidence-building activities, including evaluations, will guide

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

Agency decisions on policies to improve system compliance with existing regulations and provide the foundation for effective analysis in support of future policies and regulations.

Whether a program component improves compliance (or performance) ultimately depends on (1) its ability to affect on-the-ground system characteristics and (2) how these characteristics impact the likelihood of compliance. EPA will evaluate these dependencies and develop a "theory of change" for characteristics deemed high priority for addressing noncompliance and ultimately improving compliance.

For each system characteristic identified as important to study, EPA will identify:

- The program component(s) intended to impact the characteristic;
- Whether evidence exists that shows the program component is implemented correctly; and
- What evidence exists to estimate the effect of the characteristic on the likelihood of compliance.

Connecting program components to their associated system characteristics, and then identifying how these characteristics are assumed to impact the system operations, will help to focus data collection activities, assess how successfully program components are implemented, and define measurement of outcomes related to compliance. Research questions guiding this learning priority area must consider:

- *Program monitoring*: whether regulator efforts intended to impact a characteristic are implemented as intended; and
- *Program evaluation:* (i) how a program component affects the targeted system characteristic and (ii) how the characteristic change impacts the likelihood of improving compliance/performance.

Together, these elements represent a theory of change for how regulatory efforts work to achieve improved compliance. For each system characteristic, EPA can map the specific theory of change for the characteristic and its associated program components. This allows EPA to identify the assumptions and risks for each connection and key measurements for each. Differentiating program components from the characteristics they are intended to modify will allow the Agency to map more clearly existing empirical evidence and identify which characteristics are the most promising to target for improving compliance.

Specifically, the drinking water learning priority area focuses on evaluating ways to effectively improve community water system compliance by: (1) assessing drinking water data reported to EPA to determine how accurately it measures national compliance and if the data sufficiently substantiates EPA policy decisions; (2) examining root causes of system compliance and non-compliance and corresponding technical, managerial, financial factors; and (3) testing efficacy of technical assistance, enforcement, and state oversight. Each of the questions in this priority area will consider communities with concerns about environmental justice.

This learning priority area supports Goal 2, Objective 2.1, Promote Environmental Justice Efforts at the Federal, Tribal, State, and Local Levels and Objective 2.2, Embed Environmental Justice into EPA's Programs, Policies, and Activities; Goal 3, Objective 3.2, Detect Violations and Promote Compliance; and Goal 5, Objective 5.1, Ensure Safe Drinking Water and Reliable Water Infrastructure. This learning priority area is also aligned with Cross-Agency Strategy 1: Ensure Scientific Integrity and Science-Based

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

Stakeholder Engagement

To develop the priority questions, EPA consulted with internal and external stakeholders listed below including state and water system associations, small-system technical assistance providers, the U.S. Department of Agriculture, nongovernmental organizations (NGOs), and academia. Based on those consultations, EPA generated more than 30 potential questions covering about 10 categories before narrowing the focus to five. Hearing from a broad range of stakeholders helped identify important questions that were either common among most of the stakeholders or that address recalcitrant and environmental justice-related problems. External stakeholders EPA consulted with include:

- Associations and Technical Assistance Providers
    - Association of State Drinking Water Administrators (ASDWA)
    - American Water Works Association (AWWA)
    - National Rural Water Association (NRWA)
    - Rural Community Assistance Partnership (RCAP)
    - USDA's Rural Development-Rural Utilities Service (RUS)
- Non-Governmental Organizations
    - Natural Resources Defense Council (NRDC)
    - Environmental Defense Fund (EDF)
    - Earth Justice
    - Clean Water Action
- Academic Programs
    - University of North Carolina Environmental Finance Center
    - Harvard Law, Energy and Environment Law Program
    - Berkeley Dept. of Agriculture and Resource Economics

EPA has delegated primary enforcement responsibility (primacy) for public water system supervision programs to 49 states, five territories, and the Navajo Nation. EPA has established a work group to help advise evaluation of the drinking water learning priority area questions. The work group includes EPA regional representatives and state drinking water program staff. EPA will work closely with individual states on specific aspects of the evaluations through the ASDWA (which includes in its membership territories and the Navajo Nation).

At key points in plan development, study design and implementation, and product drafting, EPA will consult with associations that represent public water systems, Tribal coordinators, technical assistance providers, and drinking water NGOs. EPA will continue to seek and include perspectives for communities with environmental justice concerns as it evaluates the priority questions. EPA is engaging academia to assist with identifying relevant existing study results and to design and conduct studies.

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?

Strategy for Addressing the Priority Questions and Accomplishments to Date

1. To what extent does EPA have ready access to data to measure drinking water compliance reliably and accurately and to make policy decisions?

   EPA is carrying out the following activities to answer this priority question:
   - Gathering existing Government Accountability Office (GAO) and Inspector General (IG) reports, data verification audits, annual program file reviews, and published studies that analyze data quality of the Safe Drinking Water Information System (SDWIS) and creating a table that summarizes findings.
   - Developing a method for assessing SDWIS data quality impact on compliance rate calculations (for instance rule-by-rule compliance rates as well as national, overall compliance rate) and use for policy decisions.
     - Reviewing other programs' use of compliance monitoring data to inform this analysis.
   - Seeking compliance monitoring data that exist in state databases to use for SDWIS data quality checks and for trend analysis in the evaluations described in Questions 2 through 4.
   - Using statistical techniques to identify anomalies in sampling data.
   - Reviewing data accuracy through a statistical lens with the goal of quantifying the uncertainty of calculated rates.

2. What factors determine system noncompliance and continuous compliance?

   EPA is engaging in the following activities to answer this priority question:
   - Identifying, gathering, and merging existing analyses of SDWIS data.
   - Working with academics to identify data analysis tools (e.g., machine learning algorithms) to identify the most strongly correlated system factors to noncompliance and continuous compliance. Analyses will also be done on a rule-by-rule basis to learn from any trends in specific rule provisions.
   - Conducting literature searches to identify data sets that describe system characteristics/factors (e.g., system size, resource base, source water contamination, as well as technical, managerial, and financial capabilities) that are believed to correlate to performance. Previous analyses indicate the majority of systems in chronic non-compliance are in communities with environmental justice concerns.
   - Prioritizing system characteristics that correlate strongly with performance for additional study to determine causative associations. Studies will be designed based on the information gleaned from the analysis. Study designs may vary based on the types of correlative factors identified and what is already known about the factors and how much data exists for them. Studies could involve use of "big data" analytical tools, randomized control trials, retrospective analyses, or other study types.

3. Does increased use of compliance assurance tools (inspections and enforcement) improve system compliance, and if so, under what circumstances?

EPA is engaging in the following activities to answer this priority question:

- Gathering and synthesizing past and ongoing analyses.
- Conducting analyses of available information in SDWIS and the Enforcement and Compliance History Online that describe trends related to use of inspection and enforcement, which will help identify factors to include in randomized control trials (RCTs).
- Working with academics to determine interest in and approaches to further analyze historical data and design studies to answer questions about use of enforcement and inspections in the drinking water program.
- Using existing literature summaries and conducting additional literature searches on the efficacy of using compliance monitoring inspections and enforcement to ensure compliance.

4. 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?

   To answer this priority question, EPA will identify minimum core technical, managerial, and financial capabilities required for systems to maintain compliance based on empirical evidence gathering and use those minimum core capabilities to develop measures that will help to identify systems vulnerable to failure. The evaluation for priority question two will inform this evaluation's design and activities, as will other sources such as relevant published literature and data sets that exist outside of EPA and state drinking water agencies. It is particularly critical that primacy agencies, Tribal leaders, water sector associations, and technical assistance providers actively engage in this process.

5. What EPA oversight activities are effective at assessing and improving state programs' ability to drive compliance?

   To answer this priority question, EPA will develop an evidence-based methodology to identify the most effective oversight approaches that ensure state programs' ability to improve compliance in drinking water systems. The evaluation for this question will also be informed by the evaluations of the other questions.

Anticipated Agency-Specific Challenges and Proposed Solutions:

- Only a small portion of drinking water compliance data is housed in EPA's SDWIS database. States have compliance data, but some are reluctant to share them with EPA. Some states make the data open to the public through Drinking Water Watch. EPA will begin working early with states and invite them as collaborators on the Drinking Water Learning Agenda. EPA will also use the publicly available data as a starting point.
- A potential major challenge may occur if the data sets states are willing to give to EPA or that already are public are not similar to the data from states that do not share publicly (i.e., sampling bias). For example, states that are willing to voluntarily share their data with EPA or the public compared with states that are not as transparent may have higher compliance rates and/or implement their programs differently.
- The drinking water program under the Safe Drinking Water Act is delegated to authorized states, thus state participation in RCTs will be critical. EPA will need to recruit states willing to participate. Controlling for variations among state approaches and among drinking water systems will present a significant challenge. Upfront work will be done to ensure study designs

and appropriate statistical methods are used to account for the variations and can produce statistically significant results.

- EPA regions will be asked to use inspection and enforcement tools in new ways. As these two tools are used so infrequently now, without piloting changes in the use of these tools, EPA will likely have trouble learning under what circumstances such tools are effective. Working through the National Compliance Initiative for Drinking Water Compliance, EPA will attempt to get regional buy-in for the RCTs.
- EPA will have to overcome definitional problems in which a simple notice of violation (NOV) and a formal enforcement action with a binding compliance schedule are lumped together as enforcement actions, when in fact they are very different. While the use of NOVs is common, EPA suspects the use of formal enforcement actions is much less common and these two different tools will need to be distinguished to advance learning on when formal enforcement works.
- State participation in the RCTs is critical to the success of this effort, since the primacy agencies implement and enforce the National Primary Drinking Water Regulations, and the sample sizes would be increased. Working with additional organizations necessarily adds complexity. EPA will use lessons learned from other studies that have included states.
- While EPA has had success collaborating with academic researchers without providing the researchers with funding, EPA will spend time finding university researchers who are both interested in this work and can engage in it without EPA funding. This somewhat limits the pool of academics.

Learning Priority Area: Workforce Planning

Workforce planning is critical for all large organizations and EPA is at an important juncture to shape the workforce of the future. Currently, 25 percent of EPA's workforce is retirement eligible, increasing to an estimated 42 percent over the next five years. EPA's decentralized workforce planning approach and urgent programmatic needs often result in a "one-for-one" replacement of staff, with insufficient consideration of new skills and disciplines that might be needed. In addition, forward-thinking approaches often are hampered by the constraints and complexity of federal hiring practices and position classifications. For example, to successfully transition its workforce, EPA needs to better understand what skills are needed across all disciplines for a future that will certainly be more reliant on adept use of data. EPA also needs to acknowledge the wealth of institutional knowledge developed over the past 50 years. Knowledge management is the holistic process of creating, sharing, using, and maintaining the key knowledge and information of an organization. It creates organizational efficiencies by capturing information and best practices for the workforce of the future.

EPA identified this area as an enterprise risk due to the high number of staff eligible for retirement and EPA's aging workforce. The Agency completed several initiatives to better understand its workforce needs and to capture and close skills gaps. The completion of these activities will assist EPA in developing an evidence-based plan and roadmap for how EPA can ensure it has diverse employees with the competencies needed to achieve its mission now and in the future. It will also help determine the overall processes used to cultivate and manage the workforce, while anticipating internal and external changes, and continuously maximizing the efficiency and effectiveness of the Agency's human resource services.

EPA will take a two-phased approach to this learning priority area, with an ongoing goal of imbedding all learning into the Agency's tactical approaches to workforce.

In the near term, EPA will focus on:

- Determining current capabilities for assessing workforce status and needs;
- Defining the future skills and disciplines that will strengthen and modernize the workforce; and
- Planning for and beginning data collection for EPA's longer-term efforts, described below.

In the longer term, EPA will focus on:

- Identifying best strategies to retain and attract employees and develop skills to meet the Agency's future mission-critical needs; and
- Developing leading practices for maintaining expertise by transferring knowledge from current subject matter experts (SMEs) to existing and new employees.

To identify the actions needed to address the priority questions, EPA consulted with the U.S. Office of Personnel Management (OPM), external organizations, and academicians focused on the future of the federal workforce. Of specific interest is determining how government can attract and retain individuals with needed skills in environmental science.

This learning priority area covers all program areas and as such supports all strategic goals and is aligned with Cross-Agency Strategy 3: Advance EPA's Organizational Excellence and Workforce Equity.

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?

Stakeholder Engagement

EPA understands that its success in answering the above priority questions will to a great degree depend on the support and buy-in received from key stakeholder groups. Thus, the Agency has begun briefing a range of internal stakeholders, including senior leaders, members of the Human Resources Officer/Program Management Officer (HRO/PMO) community, and Shared Services Centers (SSCs) staff, and key employee groups. Information provided by Agency HROs/PMOs is being used to revise existing and future workforce planning tools. Quarterly updates to senior leaders are building greater understanding of the scope and anticipated benefits to answering the workforce priority questions. Interviews with human capital contacts at the National Institutes of Health (NIH), Internal Revenue Service (IRS), Department of Homeland Security (DHS), Small Business Administration (SBA), and Department of State are aiding EPA in fine-tuning its methodology for several actions. In FY 2021, the Agency also partnered with OPM's Strategic Foresight Team to hold a special training workshop for its HROs/PMOs and Office of Human Resources' (OHR) Management Team. Moving forward, additional stakeholder groups such as EPA's Diversity, Equity, Inclusion, and Accessibility Tiger Team; Emerging Leaders Network; First Line Supervisors Advisory Group; Executive Management Council; Human Resources Council; and members of the external human resources academic and practitioner

community will be integrated into the preparation, delivery, and evaluation of workforce priority items.

Strategy for Addressing the Priority Questions and Accomplishments to Date

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?

   While gathering data from various internal and external stakeholders, EPA will engage in the following activities to answer this priority question:

   - Assess: 1) overall effectiveness of EPA's existing workforce planning tools (Workforce Demographics Dashboard, Diversity Dashboard, Succession Management Guide, and Workforce Plan), 2) consistent use of the tools, 3) alignment of the tools with stakeholder needs, and 4) effectiveness of EPA's communication of and training for these tools; and
   - Ensure appropriate features and measures of diversity, equity, inclusion, and accessibility are incorporated into EPA's workforce planning tools and strategies.

   During FY 2021, significant progress was made on this priority question, including: designing the template for a workforce planning/succession management dashboard specifically aligned with each stage of the workforce planning process, developing training materials on workforce planning and succession management processes for our HRO/PMO community, and securing an annual membership with the American Productivity and Quality Center to facilitate researching leading practices and Key Performance Indicators for workforce planning/succession management.

2. What are the critical skills needed to support the Agency's mission, now and in the future?

   EPA has begun and will continue to engage in the following activities to answer this priority question:

   - Establish Mission Critical Skills needed across the Agency to ensure the demands of EPA and its various constituents are met by maintaining both the correct positions and employees with sufficient proficiencies both now and in the future;
   - Enhance the Talent Enterprise Diagnostic (TED) tool — EPA's competency assessment tool — and conduct Agencywide skills gap analyses;
   - Administer competency assessments using a revised version of the methodological and well-documented approach employed to complete the assessments already conducted;
   - Analyze results of all relevant competency and skills assessments, including those conducted via TED, the National Training Needs Assessment, and through other Evidence Act priorities; and
   - Evaluate competency assessment data to identify disparities along gender, racial, and targeted disability categories and, if found, research and recommend leading practices to eliminate such gaps.

   EPA has already started addressing several of the actions under this priority question by holding a special strategic foresight training workshop for its HROs/PMOs and Office of Human Resources' Management Team, beginning the enhancement of our competency assessment tool to provide more robust features in preparation for conducting large-scale skills assessments, and revamping the Agency's National Training Needs Assessment to better address stakeholder and Agency needs.

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3. What are the leading strategies to attract, recruit, train, and retain a diverse workforce? What makes people stay in the Agency long-term?

   EPA will engage in the following activities to answer this priority question:
   - Analyze internal and external recruitment strategies;
   - Enhance employee engagement strategies;
   - Develop an employee career progression model;
   - Conduct an attrition cause analysis; and
   - Track and evaluate trend data of key indices within the annual Federal Employee Viewpoint Survey.

   When analyzing the results of the above five actions, EPA will determine if disparities exist along categories of employee diversity, equity, inclusion, and accessibility. If found, the Agency will research and recommend leading practices to eliminate such disparities.

   In FY 2021, EPA started addressing several of the actions under this priority question by participating in OPM training to identify root causes of Mission Critical Occupation attrition, preparing to refill the Agency's Employee Engagement Officer role, and designing the template for an Agencywide dashboard capturing trends in the Employee Engagement Index and Global Satisfaction Index of the Federal Employee Viewpoint Survey.

4. How can EPA ensure knowledge is transferred from outgoing to current and incoming staff to support succession planning?

   EPA has begun and will continue to engage in the following activities to answer this priority question:
   - Perform a literature review for knowledge management and knowledge transfer to identify best practices;
   - Perform market research to identify relevant leading tools and resources; and
   - Assess EPA's current strategies for knowledge transfer to identify best practices, paying close attention to leading practices for individuals with different abilities.

   To accomplish the action items for this priority question, EPA deployed a knowledge transfer pilot for two organizations, gathered initial information on leading practices for knowledge management within both private industry and a government setting, and registered two OHR employees for the training required to obtain a certificate in knowledge management.

Anticipated Agency-Specific Challenges and Proposed Solutions:

- There might be low participation among stakeholders in the evaluation and analysis of EPA workforce planning tools and communication plan, including lower than expected completion rates for interviews, surveys, and focus groups. This possible challenge will be mitigated by enlisting the buy-in and support of senior leaders, the Human Resources Council, and other key stakeholders to help promote the process prior to its start and by keeping in constant contact with those stakeholders during the evaluation and analysis process.
- Once TED is enhanced and EPA begins conducting skills assessments needed for workforce planning and succession management, there might be low completion rates across the Agency

and/or in certain organizational components. This possible challenge will be mitigated by enlisting the buy-in and support of senior leaders, EPA's Human Resources Council, and other key stakeholders to help promote the process prior to its start and by keeping in constant contact with those stakeholders during the evaluation and analysis process. In addition, numerous training sessions will be conducted and recorded, and TED's User Guide and website will be refreshed.

Learning Priority Area: Grant Commitments Met

Every year, EPA awards over $4 billion in grants and other assistance agreements. Through these grants, EPA helps to protect human health and the environment through the work of small non-profits, academic institutions, Tribes, states, and local communities. 96 percent of these grants are awarded to state, local, and Tribal governments to implement environmental programs.

EPA's grant policies require each award be tied to the Agency's Strategic Plan and that the environmental results associated with grant actions be clearly established. Responsibilities for the management and tracking of the individual awards are dispersed among approximately 1,400 staff throughout headquarters and EPA's ten regional offices. The Agency's lack of a comprehensive system for tracking grant-related activities leads to an inability to proficiently evaluate environmental outcomes on a national scale.

Work to date has contributed to an improved understanding of reporting and tracking processes across the Agency's current grant programs. This baseline will help EPA develop a sustainable and consistent process for negotiating and tracking the environmental outputs and outcomes resulting from EPA's grant funding.

Over the last two years, the Office of the Administrator has engaged program and regional offices to better understand the Agency's grants management processes, including reporting mechanisms and frequency. The Agency found that due to variability in programmatic goals and metrics, the management of EPA's grants and cooperative agreements is highly variable. While some regions and programs employ a coordinated process to negotiate and track grant commitments, others rely on Project Officers. In addition, the Agency's current centralized grants management system is not configured to collect and track grantee progress on discrete commitments. EPA's work under this learning priority area will further Agency efforts to effectively report on the outcomes of taxpayer dollars and to make informed resource decisions.

This learning priority area covers all program areas, and thus supports all strategic goals and aligns with Cross-Agency Strategy 4: Strengthen Tribal, State, and Local Partnerships and Enhance Engagement.

Stakeholder Engagement

As this learning priority area moves into its second year, internal and external stakeholder engagement will be very important. The effort to date was internally focused on understanding EPA grant program practices and tools. The focus on best practices will involve essential engagement with both internal and external stakeholder groups, including the following:

- State media associations (e.g., Environmental Council of States, Association of State Drinking Water Administrators, Association of Clean Water Administrators, National Association of Clean Air Agencies, Association of Air Pollution Control Agencies, National Association of State

Departments of Agriculture, Association of State and Territorial Solid Waste Management Officials);
- EPA programs that administer grant programs;
- EPA regions that implement grant programs; and
- EPA's Office of Grants and Debarment.

Priority Questions

1. How do EPA's existing grant award and reporting systems identify and track grant commitments?
2. What EPA practices and tools effectively track whether grantees are fulfilling their workplan grant commitments, including outputs and environmental outcomes?
3. Are the commitments established in EPA's grant agreements achieving the intended environmental results?

Strategy for Addressing the Priority Questions and Accomplishments to Date

1. How do EPA's existing grant award and reporting systems identify and track grant commitments?

   To answer this priority question, EPA surveyed active EPA grant programs to determine the universe of existing grant reporting and tracking systems. EPA is reviewing the completeness of the data and will follow up with programs and regions, as appropriate, to collect any remaining survey data. EPA is using quantitative and qualitative methods to analyze the data. EPA will review survey data to identify where equity and climate change impacts are identified as priority outcomes of grant programs. EPA will use this information to better understand what factors might affect a grant program's ability to effectively track grant commitments related to equity and climate impacts and to help inform actions taken pursuant to the Agency's equity assessment under E.O. 13985, *Advancing Racial Equity and Support for Underserved Communities Through the Federal Government;* and pursuant to climate change initiatives under E.O. 14008, *Tackling the Climate Crisis at Home and Abroad.*

2. What EPA practices and tools effectively track whether grantees are fulfilling their workplan grant commitments, including outputs and environmental outcomes?

   EPA will engage in the following activities to answer this priority question:
   - Compare the current state of grants management to an ideal future state, considering the programmatic and statutory requirements unique to each grant program, and available tools for programmatic monitoring.
   - Identify opportunities for improvement to Agency grant program monitoring and tools to demonstrate environmental results more effectively on a national scale and to determine the extent to which these environmental results benefit underserved communities.

3. Are the commitments established in EPA's grant agreements achieving the intended environmental results?

   EPA will engage in the following activities to answer this priority question:
   - Select a subset of Agency grant programs to review for environmental outcomes or other priority strategic programmatic outcomes.

- Provide recommendations, as appropriate, for the selected Agency grant programs to better communicate how grant outputs advance the Agency's mission through environmental results, including achieving outcomes related to equity and climate change impacts.
- Identify what potential changes could be made to grant programs' data collection efforts to help EPA determine equity and climate change impacts.
- Outline next steps in establishing an EPA system that compiles the outputs and outcomes of Agency grant reporting.

Anticipated Agency-Specific Challenges and Proposed Solutions:

- Through approximately 1,400 project officers, EPA administers approximately 105 grant programs, each defined by its own set of laws, regulations, and policies that can change annually, in conformance with the Agency's priorities. Currently, there are on the order of 6,000 active grants across the Agency, each with an unknown number of specific commitments. EPA will be thoughtful in assessing what data are needed to answer each question and determining what data currently exist and what need to be collected to fill gaps. EPA will determine in advance how it will analyze the data to answer the questions and will collect data in a way that supports those analyses.
- The Agency plans to pilot a data collection tool with a subset of regions to ensure that it is a reliable instrument and that the data collected fulfills the anticipated need. EPA will refine the tool as needed before expanding its use to the complete universe of programs. EPA will involve internal stakeholders in the analyses to ensure the accuracy and utility of findings.
- EPA anticipates there will be a wide range of practices for monitoring grantee performance, but due to the lack of clear metrics and/or a clear directive to track individual grant activities, the data collection process may reveal data gaps. EPA also understands that a one-size-fits-all approach for grants management may not be appropriate across the Agency's grant programs. EPA will ensure both the national program and regional grant managers are closely involved in the criteria development for what constitutes a "successful" model for assessing grantee performance.

Learning Priority Area: Air Pollution Benefits

This learning priority area is under development.

Draft Capacity Assessment

The draft of EPA's Capacity Assessment report is below. In the December 2021 Final Draft FY 2022-2026 EPA Strategic Plan and in the final Plan issued in February 2022, the Agency will include a high-level summary of the EPA Capacity Assessment report with hyperlinks to the more detailed Capacity Assessment report posted separately. This approach will support updates of the Capacity Assessment, including summaries of actionable results and progress in implementing the Evidence Act.

Progress Overview

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 the Capacity Assessment can be broadly described in two phases:

- The initial assessment focuses on EPA's ability to answer the questions in the Agency Learning Agenda: Can we answer the questions posed by the Learning Agenda priority areas?
- The final assessment describes EPA's skills, capability, and capacity based on a maturity model: Do we have the 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 Assessment

EPA's approach to the Capacity Assessment consists of two phases: an initial assessment and a maturity model-based assessment. The initial assessment examines whether the Agency has the skills and resources to answer the priority questions in the Learning Agenda.

The Agency conducted a survey to examine whether EPA has access to the skills and resources to answer the priority questions in its area. The survey respondents included members of EPA workgroups coordinating actions to address each learning priority area, starting with the three initial learning priority areas: workforce planning, drinking water systems out of compliance, and grant commitments met.

Preliminary Take-Aways

All three priority area workgroups expressed concern about data availability, data access, and available funding beyond FY 2022. Other observations include:

- Workforce Planning – in the short-term, the workgroup has sufficient data, expertise, and funding for two of the four priority questions. The workgroup is unsure about data, expertise, and funding for the other two questions.
- Drinking Water Systems Out of Compliance – The workgroup will require both internal staff resources and access to external experts (contractors and academics) with expertise in evaluation design and implementation. While they believe they have access

to external experts, they do not believe they currently have internal staff resources with these skills available for the project.

- Grant Commitments Met – The workgroup is confident in its ability to answer only one of the three priority questions. For the other two priority questions, data availability, data quality, and the availability of funding to support the work were identified as the most significant possible challenges.

These findings are preliminary and subject to change pending further exploration via focus groups with workgroup members.

Development of the Maturity Model Approach for the Final Assessment

The final assessment will be Agencywide and based on a maturity model approach. The assessment will examine EPA's skills, organizational structure, resources, expertise, and infrastructure to answer Agency Learning Agenda priority questions, as well as to implement the Evidence Act across the Agency.

EPA's draft maturity model addresses five domains: Evaluation, Data Use, Research, Statistics, and Lean Management. For each domain, the draft maturity model considers dimensions such as coverage, quality, methods, independence, and effectiveness. The final maturity model will be included in a report published in February 2022.

Background

EPA's Current Context

The Evidence Act provides a framework to promote a culture of evaluation and continuous learning to ensure agencies' decisions are made using the best available evidence. The Evidence Act asks agencies to assess their capacity to implement this framework including coverage, quality, methods, consistency, effectiveness, and independence. Office of Management and Budget (OMB) implementation guidance asks agencies to "plan how they will assess the coverage, quality, methods, effectiveness, and independence of their statistics, evaluation, research, and analysis efforts… [to] provide a comprehensive view of agency capacity, while also ensuring that the review takes into account specific needs identified through the development of the agency's learning agenda."[98] This report outlines EPA's plan and includes preliminary results.

EPA's ability to pursue its mission to protect human health and the environment depends upon the availability and quality of data and evidence that support and inform environmental policies, decisions, guidance, and regulations. As a science-based organization, EPA is committed to developing and using evidence to achieve its mission. Evidence-building activities are governed by a myriad of EPA and governmentwide policies, standards, and guidance to promote the quality, reliability, and accuracy of the information EPA develops and/or uses to inform policy and decision-making. These include (but are not limited to) EPA's Peer Review Policy and Handbook for internal and external review of scientific products, EPA's Information Quality Guidelines, EPA's Policy and Procedures on Protection of Human

[98] Memorandum from the Executive Office of the President for Heads of Executive Departments and Agencies: Phase 1 Implementation of the Foundations for Evidence-Based Policymaking Act of 2018: Learning Agendas, Personnel, and Planning Guidance (July 10, 2019): https://www.whitehouse.gov/wp-content/uploads/2019/07/M-19-23.pdf.

Subjects in EPA Conducted or Supported Research, EPA's Plan to Increase Access to Results of EPA-Funded Scientific Research, EPA's Guidelines for Preparing Economic Analysis, and EPA's Scientific Integrity Policy. EPA is also drafting a "Policy for Evaluations and Other Evidence-Building Activities" for release by February 2022.

The Evidence Act builds on longstanding principles of good governance and asks that agencies ensure the use of data and evaluation to support performance management and the improvement of operations. Relatedly, EPA has longstanding performance measurement efforts incorporated throughout the Agency's work. Performance measurement is a part of the Agency's strategic plan development, annual planning and budgeting, operations and implementation, and accountability and results processes to inform decision-making. The Agency also has a history of using Lean Kaizen tools integrated with performance measurement to advance a culture of using data and visual management to support business process improvement and day-to-day operations.

However, the Evidence Act provides an opportunity for EPA to reconsider its capacity to use evaluation, data, statistics, research, analysis, and other evidence-building activities to support policymaking. For example, prior to the Evidence Act, EPA did not have mechanisms to invest consistently or substantially in evaluation for the purpose of evidence-based program design and implementation. Small, decentralized pockets of evaluation expertise exist within EPA, supporting evaluation and other evidence-building projects on an ad hoc basis. The decentralized structure of evaluation and evidence-building makes it challenging to coordinate efficiently across different parts of the Agency. In response to the Evidence Act, EPA seeks to reestablish a centralized evaluation function to support and coordinate Agency evaluations as well as to build capacity for evaluation and other Evidence Act activities across the organization. EPA has included investments in the FY 2022 and FY 2023 President's budgets to support specific evidence-building activities for the Agency Learning Agenda, which will be submitted as part of the *FY 2022-2026 EPA Strategic Plan*, and to meet Evidence Act requirements to develop a Capacity Assessment and evaluation policy. The Capacity Assessment will aid EPA's efforts to identify staffing and resource capabilities to implement the Evidence Act over the long-term. Identifying Agency strengths and opportunities for improvement will help set priorities, catalyze action, enable decisions that advance the robust use of data and evaluation, and support the routine development and use of evidence in decision-making.

Initial Assessment: EPA's ability to answer the questions in the Agency Learning Agenda

Status

EPA has initiated an assessment of the extent to which EPA has the necessary resources—expertise, capability, funding, data, technology, partners, organizations, and extramural vehicles—to answer the questions in three of the Agency's Learning Agenda priority areas. This assessment will generate information that may inform the scope, feasibility, timing, and implementation of the Agency Learning Agenda that will be part of the *FY 2022-2026 EPA Strategic Plan*.

Furthermore, EPA's understanding of its capacity to address the Learning Agenda' priority questions can facilitate a strategic approach to evaluation and evidence building and prioritize investments in

resources and staff. As EPA assesses its capacity to address the priority questions and employ a variety of evidence-building activities, the Agency will consider the coverage, quality, methods, effectiveness, and independence of EPA's statistics; as well as the quality of its evaluation, research, analysis, and other evidence-building efforts. EPA will also consider best practices for the use, protection, dissemination, and generation of data and the production of evidence for use in policymaking.

Early in the development of its learning agenda, EPA identified three priority areas: Workforce Planning, Grant Commitments Met, and Drinking Water Systems Out of Compliance. A fourth priority area—Air Pollution Benefits—is still under development. Consequently, the methodology described in the next section only applies to the first three priority areas. EPA will work closely with the fourth priority area team to assess its capacity to answer priority questions and will include this assessment in the final report.

Methodology

EPA's framework for assessing capacity involved the identification of seven capacity areas, including: data, evaluation design, data collection, data analysis, evaluation expertise, contracting, and funding (See Figure 1). Additionally, consistent with the requirements of the Evidence Act and where appropriate and applicable, EPA assessed key dimensions of the capacity areas including coverage, quality, methods, effectiveness, and independence. These dimensions will provide structure for assessing existing strengths and opportunities for improvement in these areas. EPA anticipates some overlap with the capacity areas and dimensions (See Figure 1. EPA Capacity Areas and Key Dimensions).

A survey was identified as the optimal data collection instrument given the need to assess seven capacity areas, five dimensions, three priority areas, and 12 learning agenda questions. The capacity areas were used to frame the design of the survey. EPA consulted with survey design experts from EPA's National Center for Environmental Economics (NCEE).

The target audience/survey respondents included the individual members of the priority area workgroups, starting with the three areas identified by EPA in FY 2020: workforce planning; drinking water systems out of compliance; and grant commitments met. The survey is designed such that priority area workgroup members answer the survey to assess capacity for each learning agenda question.

A survey comprised of a core set of 19 questions covering the seven capacity areas was designed for each Learning Agenda priority area. The different Learning Agenda priority questions necessitated the development of three surveys. These survey questions were repeated for each Learning Agenda priority question, resulting in a total number of survey questions ranging from 53 – 83 (depending on priority area/respective Learning Agenda priority). This approach helped increase the validity of the responses and ensured that respondents answered each survey question with a specific Learning Agenda priority in mind.

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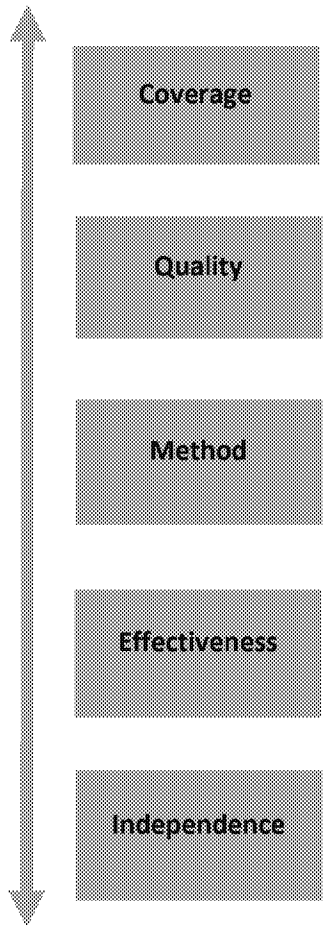
Figure 1. EPA Capacity Areas and Key Dimensions

Capacity Area	Description
Data	• Information required and source(s) • Data availability • Data accessibility • Data quality
Evaluation Design	Types of evaluation designs employed to address the evaluation questions
Data Collection	Strategies and methods for collecting the required information or data
Data Analysis	Analytical techniques to be used
Evaluation Expertise	Access to Staff skills and competencies in evaluation • Evaluation Design • Data Collection • Data Analysis
Contracting	Sufficient contract vehicles and capacity • Number of contract vehicles • Available capacity
Funding	Extramural dollars to support the effort



To the extent possible and where appropriate, workgroup members were asked to consider responses over the multiple years required to fully execute the Agency Learning Agenda. The survey process is expected to be augmented by individual or focus group interviews. Survey categories include:

- Learning Agenda Priority Area Workgroup Roles and Responsibilities;
- Availability and Access to Data to Support Answering the Learning Agenda Questions;
- Data Collection Methods Used to Support Answering the Learning Agenda Questions;
- Data Analysis Skills (Basic and Advanced Statistics) and Techniques Used to Support Answering the Learning Agenda Questions;
- Program Evaluation and Evaluation Design;
- Resources to Support the Execution of Evidence-Building Activities to Answer Learning Agenda Questions;
- General Familiarity with Program Evaluation and Evidence-Building Activities (e.g., Respondent's general understanding of program evaluation, data use, statistics, research and development, and lean management); and
- Independence and Use of Results.

A pilot of the survey was launched in April 2021 with a small subset of individuals representing each priority area workgroup. After completion, a follow-up meeting was scheduled to obtain feedback from the respondents regarding key aspects of the survey, including:

- Duration – Length of time to complete the survey;

- Clarity – Ease of completion and understanding of questions; identification of questions that are unclear or require further explanation; and
- Format/Structure – Assessing the format, structure and flow of the survey given the repetitive nature of the questions

The survey was revised to incorporate feedback from the pilot respondents and a final survey was distributed June 2021. After the survey closed, the pilot and final responses were combined, and EPA initiated the analysis of results. The analysis was a critical first step in identifying areas of overlap and divergence regarding workgroup member perspectives about data availability, data quality, methods, and access to experts. A summary highlighting the preliminary findings for each Learning Agenda priority area is presented in the Findings section that follows.

An important next step in the process involves conducting focus groups and interviews with the learning priority area workgroup members to discuss and reconcile the various perspectives and responses that emerged from the survey that require further exploration. After reconciling these perspectives, EPA will summarize the findings and develop a strategy to address gaps in knowledge, skills, data, methods, and access to experts.

The results from the initial pilot will be useful in helping to inform the design of the survey prior to broader application Agencywide.

Potential Limitations

Surveying a single individual (i.e., the workgroup leader) from each priority area workgroup (a total of three people), although a valid approach, presented a concern regarding the small number of respondents. Also, it raised a potential question about whether a single individual's response would mask or fully convey the perspectives of all workgroup members. To mitigate this concern, the survey was distributed to all workgroup members. Consequently, three survey instruments (one for each priority area) were distributed to 13 priority area workgroup members. Ten workgroup members completed the entire survey (75% of members).

Finally, EPA viewed this as an opportunity to understand how a survey approach can work as a component of a Capacity Assessment, before attempting an Agencywide survey approach for the final Capacity Assessment.

Progress to Date and Next Steps

Progress to Date

Data Collection

April 2021: Pilot Survey Launched
May 2021: Integrated Feedback and Revised Pilot Survey
June 2021: Final Survey Launched

Data Analysis

July 2021: Preliminary Analysis of Data Conducted

Next Steps

August – September 2021: Facilitate Focus Groups
October 2021: Draft Action Plan to address
November 2021 – February 2022: Implement Action Plan

Anticipated Agency-Specific Challenges and Proposed Solutions to Developing Evidence to Support Agency Priorities

Developing an evidence and evaluation culture that fosters continuous learning is an important goal embraced by EPA's senior leaders. The Learning Agenda has highlighted the need and value of investing resources and time to explore and research questions of greatest importance and interest to achieve the mission. The development of learning agendas, while commonplace to some federal agencies, is new to EPA. Consequently, navigating this new territory requires a measured approach resulting in a slow but steady pace.

Findings

As indicated earlier, the survey results revealed differing perspectives among the respective Learning Agenda priority area workgroup members regarding the various capacity areas. Therefore, findings presented in this section are preliminary and subject to change pending further exploration via focus groups with workgroup members. Keeping this in mind, a common and overarching theme that emerged for each priority workgroup revolved around questions related to data availability, data access, and available funding beyond FY 2022.

Learning Priority Area: Drinking Water Systems Out of Compliance

Priority Question(s)

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?

Overview

The linchpin to making progress in this priority area is having appropriate data to measure drinking water compliance reliably and accurately. The team is currently working to determine if the data they have or can access is sufficient. The team believes they will require both internal staff availability and access to external experts (contractors and academics) with expertise in evaluation design and implementation. While they believe they have access to external experts, they do not believe they currently have the necessary EPA staff resources with the skills available for this project.

Learning Priority Area: Workforce Planning

Priority Question(s)

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 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?

Overview

For Workforce Planning, data availability, uncertainty regarding data quality, and lack of funding beyond FY 2021 are the most significant hindrances and challenges to executing the Learning Agenda priority questions. In the short-term, sufficient data, expertise, and funding are available for two of the four learning agenda priority questions (1 and 3). EPA data does not currently exist to answer priority question 2 (leading strategies to attract, recruit, train and retain a diverse workforce) and priority question 4 (ensure knowledge transfer from outgoing and incoming staff to support succession planning). For priority question 2, EPA may be able to partner with a non-profit organization —the American Productivity and Quality Center — to access benchmarking and other data that can be used.

Learning Priority Area: Grant Commitments Met

Priority Question(s)

1. How do EPA's existing grant award and reporting systems identify and track grant commitments?
2. What EPA practices and tools effectively track whether grantees are fulfilling their workplan grant commitments, including outputs and environmental outcomes?
3. Are the commitments established in EPA's grant agreements achieving the intended environmental results?

Overview

For this priority area, EPA is fairly confident in its ability to answer priority question 1. For priority questions 2 and 3, EPA sees data availability, data quality, and the availability of funding to support the work as the most significant possible challenges to being able to execute the work.

Initial Assessment Summary

Overall, the execution of Phase 1 of the Capacity Assessment has been a valuable learning experience for EPA. This exercise enhanced the Agency's understanding of the level of effort, time, skills, and resources needed to assess our ability to execute evidence-building activities.

Specifically, the design of the survey instrument required customization for each Learning Agenda priority area and their respective questions. Unfortunately, this level of customization may not be feasible when assessing a broader range of evidence-building activities Agencywide. The approach and survey instrument will require adaptation in light of the broader scope. The preliminary findings from this phase will influence the Agency's approach to the final Capacity Assessment, particularly where there are common challenges. For example, since preliminary findings from the initial Learning Agenda survey suggests common challenges with data access and sharing, the Agencywide Capacity Assessment can explore this in greater depth.

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Final Assessment: Assessing EPA's skills, capability, and capacity based on a maturity model

I. Maturity Model Overview

Context

Maturity models assess a current state or level of effectiveness along with criteria for achieving the next desired level of performance. For EPA, a maturity model will serve as a roadmap to help establish an evidence-based culture where Agency decisions are informed by evidence, and performance is routinely evaluated for potential improvements. Stakeholder feedback and management buy-in are critical to ensuring that the maturity model will be actionable and can drive EPA towards achieving its desired state. Implementation of the maturity model will enable the Agency to take stock and chart a path forward to ensure it makes progress in critically important areas to EPA. Looking forward, EPA will pursue a holistic approach that integrates the requirements of the Evidence Act with strategic planning and budgeting, regulatory development, program management, scientific research, and continuous improvement efforts. This integration will reinforce the importance of each initiative and foster Agencywide long-term culture change.

Methodology

In January 2021, EPA's Evidence Act Workgroup convened a maturity model subgroup to research and develop the maturity model for EPA and to plan the approach for engaging internal stakeholders and piloting the model. The subgroup is a cross-office team comprised of individuals from national programs and regions with a range of subject matter expertise. The Evaluation Officer, Data Officer, and Statistical Official also participate in the subgroup. To date, the subgroup members have been following the approach below to produce a draft maturity model for Agency review:

1. **Identify existing background materials** – As a first step, members of the subgroup conducted a document review and literature search regarding the various elements and approaches/methodologies for developing a maturity model. In addition to drawing from this research, the subgroup reviewed maturity models developed by other federal agencies, including those shared through the Evaluation Officer Council and Max.gov.

2. **Scope maturity model elements** – After identifying the maturity model domains, the maturity model subgroup developed a definition for each domain to help clarify the types of activities that would encompass each domain. The definitions were assessed to ensure consistency with EPA's draft Evaluation Policy, the Evidence Act, and OMB Circular definitions. The definitions for each domain are below.

EPA's Maturity Model

EPA's Draft Maturity Model addresses five domains, described in the draft definitions below:

1. **Evaluation** is an assessment using systematic data collection and analysis of one or more programs, policies, and organizations. The purpose of evaluation is to make recommendations to improve, advance, or modify existing programs, policies, projects, or operations.
2. **Data Use** ensures the right people are aware of, have appropriate access to, and have the necessary tools and skills to use the data they need to answer important policy or programmatic questions.
3. **Statistics** and statistical activities are the collection, compilation, processing, or analysis of data from a sample of a population for the purpose of describing or making estimates concerning that population. This includes the development of methods or resources that support those activities. Statistical evidence is the information produced from statistical activities.
4. **Research and Development** activities are defined as creative and systematic work undertaken to develop new data, information, and technologies to support credible decision-making to safeguard human health and ecosystems from environmental pollutants and to enable implementation of programs and policies designed for this purpose. These activities involve both environmental and public health research to better understand and characterize the risks associated with exposure to environmental pollutants; sources, fate, and transport of pollutants in the environment; and solutions to monitor, prevent or mitigate environmental pollutant exposures. Further, Agency decision-making also includes social science and economic research and analysis regarding policy options.
5. **Lean Management** is an approach to managing an organization that supports continuous improvement by using Lean principles and tools paired with routine measurement, visual management, and regular engagement between management and staff to identify and solve problems, realize and sustain process improvements, and more effectively achieve Agency priorities.

Next, the maturity model subgroup identified the number of maturity model levels (steps in maturity) and fleshed out the attributes (e.g., qualities, standards, and performance) for each domain. Where appropriate, the dimensions of coverage, quality, methods, independence, and effectiveness were integrated into the model. Draft maturity models were developed for Evaluation, Data Use, Research, Statistics, and Lean Management. Since analysis significantly overlaps with activities in the other domains, and the types of analyses conducted by EPA are numerous, the subgroup agreed that a separate maturity model domain for general analysis is not appropriate. Instead, additional discussions are underway to explore whether a maturity model for a specific type of analysis (e.g., regulatory analysis) would add value in terms of supporting the Agency's mission.

Although a draft of each model is complete, they have not undergone stakeholder review. The maturity models will be included in the final submission after they have been fully vetted and stakeholder review has been integrated.

3. **Identify key stakeholders** – An initial list of internal EPA experts was compiled for each maturity model domain. These stakeholders represent centers of expertise (organizations/offices) and individuals that will bring subject matter experience and professional perspective, identify potential data sources and constraints, and increase the quality of the final product. A Draft Charge to

Reviewers was drafted to facilitate discussion and illicit feedback regarding the appropriateness of each maturity model (levels and attributes).

Maturity Model Rollout/Approach, Timing of Activities and Progress to Date

Progress to Date
January 2021: Maturity Model Subgroup Convened
February 2021: Maturity Model Domains Defined
March/April 2021: Maturity Models Drafted (Levels and Attributes completed), Charge to Reviewers and Communications Package Drafted, Stakeholder Engagement Approach Reviewed by Evidence Act Workgroup
May 2021: Executive Management Council Briefing
June 2021: Communications Subgroup

Next Steps
May – September 2021: Gather feedback from internal EPA stakeholders via listening sessions, interviews, and written comments
June – August 2021: Pilot the maturity model with a targeted set of EPA organizations with expertise in the domain areas
September – December 2021: Conduct the Agencywide Capacity Assessment; submit drafts to OMB
February 2022: Issue as part of the *FY 2022-2026 EPA Strategic Plan*

Stakeholder Engagement
Stakeholder engagement is a critical aspect of ensuring Agencywide support and use of the maturity model. Appropriate senior leader awareness and buy-in is crucial for culture change. Over the next several months, continued engagement with EPA's leadership will provide for an important component of stakeholder outreach.

In addition, EPA has identified an initial list of key stakeholders for each maturity model domain. Engagement has been hampered in part due to the complex nature of the topic and the novelty of maturity models within EPA.

Anticipated Agency-Specific Challenges and Proposed Solutions to Developing and Using the Maturity Model to Support Agency Priorities
Communication regarding the maturity model has been one of the more challenging aspects of this task. The complex nature of the subject and its novelty within the Agency requires a strategic approach to communicating the various components of the maturity model, how it will be used, by whom, and its benefits. To this end, the maturity model subgroup has taken steps to develop communications materials for use by subgroup members and others. These materials will be piloted and then used widely with stakeholders. In addition, the Agency will work closely with a communications specialist to implement a communications strategy to help translate the benefits of the maturity model in terms that are meaningful for multiple audiences including managers and staff.

The maturity model subgroup continues to discuss the rollout of the models both narrow and broad. Stakeholder input will provide critical feedback regarding how and at what level the responses for the maturity model domains will be aggregated.

Lessons Learned

[NOTE: In the spirit of continuous improvement, EPA will reflect on its experience and will summarize any lessons learned to inform future efforts and the efforts of other CFO Act agencies.]

II. The Role of the Data Skills Assessment Survey

Data Skills Assessment

Since data and analytics are increasingly becoming part of everyday business, with different jobs requiring different types of data skills, scientists and data specialists may require advanced technical skills to support data gathering, conversion, cleansing, and analysis; while non-specialists often need to interpret data, communicate its importance, and use it to make decisions.

In support of the Evidence Act and Federal Data Strategy requirements, EPA launched an Agencywide Data Skills Survey on April 19, 2021 to gain input on staff use of data to perform their work. The survey was designed to identify strengths and gaps related to critical data skills, assess staff capacity for those skills, and take actions to ensure its workforce is prepared to support evidence-building activities. In addition to skills questions, questions regarding attitudes and perceptions of EPA's overall culture with respect to data were included in the survey. The survey consisted of the following six categories:

- Respondent Office, Role, and Data Responsibilities;
- Awareness of Options to Access, Share, and Manage Data;
- Skills to Interpret Data and/or Analysis;
- Skills to Visualize Data;
- Skills to Communicate; and
- Organization Value/Use of Evidence.

A total of 2,665 EPA staff completed the survey. Of this number 2,015 answered all of the questions while 650 completed a portion (one percent – 98 percent). The current analysis only includes completed surveys. Preliminary survey results are currently under review by EPA's Data Governance Council (DGC) and will not be included in this submission. Upon the completion of the DGC review, a dashboard will be developed and options for communicating the survey results and findings Agencywide will be explored. Details regarding the potential limitations, timing of activities, challenges, findings, and lessons learned — as described below — will be included in the December submission.

III. Summary and Findings

Context

This section will bring together the work described in Sections I-II to present an overall summary and findings. EPA will describe the process used to: (1) identify the data sources, methods and data collection instruments needed to assess Agency maturity across the domains; (2) identify and develop the criteria needed to understand the progression from one level to the next in the maturity model; (3) conduct a comparison of the information collected, interpret and summarize the data to identify

existing capabilities, deficiencies, and areas where gaps exist, and prepare a report presenting the findings; and (4) develop and present the model based on the scoping effort, indicators, and analysis.

Methodology

EPA will summarize the methodology employed to bring together the information from assessing EPA's ability to answer the questions in the Agency Learning Agenda; from assessing EPA's skills, capability, and capacity based on a maturity model; and information from the data skills survey.

- *Final Capacity Assessment Approach, Timing of Activities and Progress to Date: EPA will describe internal major milestones and document progress to date.*
- *Stakeholder Engagement: EPA will describe activities undertaken receive input and feedback on the Final Assessment.*
- *Anticipated Agency-Specific Challenges and Proposed Solutions to conducting and using the Capacity Assessment to Support Agency Priorities: Any existing or potential challenges associated with the execution of the approach described above will be highlighted. For each challenge, the Agency will document a proposed mitigation strategy.*
- *Lessons Learned: In the spirit of continuous improvement, EPA will reflect on its experience and will summarize any lessons learned to inform future efforts and the efforts of other CFO Act agencies.*

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE
OFFICE OF GENERAL COUNSEL

April 6, 2022

In Reply Refer to:
EPA Complaint Nos. 01R-22-R6

Deena Tumeh
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EarthJustice
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dtumeh@earthjustice.org
echeuse@earthjustice.org

Dorian Spence
Lawyers' Committee for Civil Rights Under Law
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Re: Acceptance of Administrative Complaint

Dear Ms. Tumeh, Ms. Cheuse and Mr. Spence:

The U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), is accepting for investigation your administrative complaint filed against the Louisiana Department of Environmental Quality (LDEQ) and received by ECRCO on January 20, 2022. The complaint alleges LDEQ discriminates on the basis of race in violation of Title VI of the Civil Rights Act of 1964, 42 U.S.C. §§ 2000(d) *et seq.*, and EPA's nondiscrimination regulation, at 40 C.F.R. Part 7.[1]

[1] EPA Complaint No. 01R-22-R6 was also filed against the Louisiana Department of Health (LDH) (assigned EPA Complaint No. 02R-22-R6) and also alleges discrimination on the basis of race. Specifically, the complaint alleges that LDH is engaged in an ongoing policy or practice of discrimination in that it fails in its duty to provide the predominantly Black residents of St. John the Baptist Parish with necessary information regarding the health threats posed by air pollutants emitted from the facility owned by Denka and other nearby sources—including to students attending the Fifth Ward Elementary School. The complaint also alleges that LDH fails to make necessary

Your complaint, filed on behalf of Concerned Citizens of St. John and Sierra Club, alleges LDEQ, in implementing its air pollution control program, subjects residents to discrimination on the basis of race, and specifically, that LDEQ's actions and failures to undertake certain actions, relative to the Denka Performance Elastomer LLC (Denka) facility, and other nearby sources, subject the predominantly Black residents of St. John the Baptist Parish to disproportionate levels of air pollution, including chloroprene emitted by Denka and ethylene oxide from various nearby sources. This complaint also alleges that LDEQ is engaged in an ongoing discriminatory policy or practice evidenced by LDEQ's continued failure to review, renew or strengthen measures for certain Denka air pollution permit applications, failure to properly conduct public notice and comment on air pollution permit renewals, and failure, timely and transparently, to fulfill the terms of a grant awarded by EPA to assess the causes of higher cancer risk in St. John the Baptist Parish.

Pursuant to EPA's nondiscrimination regulation, ECRCO conducts a preliminary review of administrative complaints to determine acceptance, rejection, or referral to the appropriate Federal agency. *See* 40 C.F.R. § 7.120(d)(1). To be accepted for investigation, a complaint must meet the jurisdictional requirements described in the EPA's nondiscrimination regulation. First, the complaint must be in writing. *See* 40 C.F.R. § 7.120(b)(1). Second, it must describe an alleged discriminatory act that, if true, may violate the EPA's nondiscrimination regulation (*i.e.,* an alleged discriminatory act based on race, color, national origin, sex, age, or disability). *Id.* Third, it must be filed within 180 days of the alleged discriminatory act. *See* 40 C.F.R. § 7.120(b)(2). Finally, the complaint must be filed against an applicant for, or recipient of, EPA financial assistance that allegedly committed the discriminatory act. *See* 40 C.F.R. § 7.15.

After careful consideration, ECRCO has determined that this complaint meet the jurisdictional requirements stated above. First, the allegations are in writing. Second, they allege that discrimination occurred in violation of EPA's nondiscrimination regulation. Third, the discriminatory acts alleged occurred within 180 days of the filing of this complaint, and/or raise continuing violations. Finally, this complaint alleges discriminatory acts by LDEQ, which is a recipient of EPA financial assistance.

For EPA Complaint No. 01R-22-R6, ECRCO will investigate the following issues.

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recommendations to "all relevant government agencies" and affected communities regarding measures to reduce and prevent exposure to hazardous air pollutant emissions from these sources. Further the complaint alleges LDH fails, timely and transparently, to fulfill the terms of a grant awarded by EPA to assess the causes of higher cancer risk in St. John the Baptist Parish. Under separate cover, ECRCO is accepting this complaint for investigation. ECRCO also received an additional complaint (EPA Complaint No. 04R-22-R6), alleging LDEQ discriminates on the basis of race in implementing its air pollution control program by subjecting Black residents to ongoing disproportionate and adverse health and environmental impacts and that it fails to provide Black residents with meaningful involvement in air permitting decisions. The complaint also specifically alleges that LDEQ's August 5, 2021 decision to reaffirm issuance of 14 new air permits to the FG LA, LLC (Formosa) facility will subject the predominantly Black residents of St. James Parish to disproportionate levels of air pollution emitted by Formosa, including criteria air pollutants such as particulate matter (PM2.5), nitrogen dioxide, volatile organic compounds, and carbon monoxide, as well as toxic and carcinogenic air pollutants such as ethylene oxide, benzene, and formaldehyde. ECRCO is accepting this complaint for investigation.

1. Whether LDEQ uses criteria or methods of administering its air pollution control program that have the intent and/or effect of subjecting persons to discrimination on the basis of race in violation of Title VI of the Civil Rights Act of 1964 and EPA's implementing regulation at 40 C.F.R. Part 7 § § 7.30 and 7.35, including, but not limited and with respect to, LDEQ's acts or failures to undertake certain actions related to the Denka facility in connection with its air pollutant emissions, and the predominantly Black residents of St. John the Baptist Parish.

2. Whether LDEQ has and is implementing the procedural safeguards required under 40 C.F.R. Parts 5 and 7 that all recipients of federal assistance must have in place to comply with their general nondiscrimination obligations, including specific policies and procedures to ensure meaningful access to LDEQ services, programs, and activities, for individuals with limited English proficiency (LEP) and individuals with disabilities, and whether LDEQ has a public participation policy and process that is consistent with Title VI and the other federal civil rights laws, and EPA's implementing regulation at 40 C.F.R. Parts 5 and 7.[2]

The initiation of an investigation of the issues identified above is not a decision on the merits. ECRCO is a neutral fact finder and will begin its process to gather the relevant information, discuss the matters further with LDEQ and the Complainants, and determine next steps utilizing ECRCO's internal procedures. Generally, the investigation and resolution options and procedures identified in EPA's nondiscrimination regulation and ECRCO's Case Resolution Manual (CRM) will be utilized for the complaint investigation process. We invite you to review ECRCO's Case Resolution Manual for a more detailed explanation of ECRCO's complaint resolution process, available at https://www.epa.gov/sites/production/files/2021-01/documents/2021.1.5_final_case_resolution_manual_.pdf.

ECRCO is providing LDEQ with an opportunity to make a written submission responding to, rebutting, or denying the issues that have been accepted for investigation within thirty (30) calendar days of receiving a copy of this letter notifying LDEQ of the acceptance of the Complaints referenced herein. *See* 40 C.F.R. § 7.120(d)(1)(ii-iii).

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[2] *See* Title VI of the Civil Rights Act of 1964, 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 C.F.R. § § 7.30, 7.35. *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).

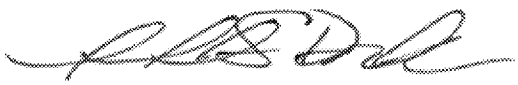
EPA's nondiscrimination regulation provides that ECRCO shall attempt to resolve complaints informally whenever possible. *See* 40 C.F.R. § 7.120(d)(2). Accordingly, ECRCO will contact LDEQ and the Complainants within 10 days of the date of this letter to provide information about ECRCO's complaint process, and to offer and discuss the alternative dispute resolution (ADR)[3] and informal resolution agreement[4] processes as potential options for resolution of the issues which ECRCO has accepted for investigation. If LDEQ (and the Complainants with respect to ADR) agrees to engage in either of these potential resolution processes, ECRCO will suspend the issuance of preliminary findings within 180 days. In the event that either of these potential resolution processes fails to result in an agreement, ECRCO will notify LDEQ as well as the Complainants that ECRCO has resumed its process to issue preliminary findings within 180 days of the start of the investigation – excluding any days spent in either of these potential resolution processes.[5]

Please be advised that a copy of the complaint has been provided to LDEQ, consistent with 40 C.F.R. § 7.120(e). ECRCO is releasing the complaint with appropriate redactions consistent with the Freedom of Information Act (FOIA) and the Privacy Act and will only release identifying information to the extent necessary to comply with 40 C.F.R. Parts 5 and 7.[6]

The EPA regulation prohibits applicants, recipients, and other persons from intimidating, threatening, coercing, or engaging in other discriminatory conduct against anyone because they have either taken action or participated in an action to secure rights protected by the civil rights requirements that we enforce. See 40 C.F.R. § 7.100. Any individual alleging such harassment or intimidation may file a complaint with ECRCO.

If you have any questions, please feel free to contact me at (202) 564-9649, by email at dorka.lilian@epa.gov, or Zahra Khan, Case Manager, at (202) 564-0460, by email at khan.zahra@epa.gov.

Sincerely,



Lilian S. Dorka, Director
External Civil Rights Compliance Office
Office of General Counsel

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[3] EPA ECRCO's Alternative Dispute Resolution (ADR) process involves the formal mediation of a complaint or complaint allegations between the complainant and recipient, through the use of a professionally trained mediator. See U.S. EPA, ECRCO Case Resolution Manual, Section 3.3, p.24 (https://www.epa.gov/sites/default/files/2021-01/documents/2021.1.5_final_case_resolution_manual_.pdf) .

[4] Informal Resolution occurs between ECRCO and the recipient. *See* Case Resolution Manual, Section 3.1, p.22 (https://www.epa.gov/sites/default/files/2021-01/documents/2021.1.5_final_case_resolution_manual_.pdf) .

[5] *See* 40 C.F.R. § 7.115(c).

[6] Freedom of Information Act, 5 U.S.C. § 552(b)(6) and (7)(c) and the Privacy Act of 1974, 5 U.S.C. § 552a.

cc: Ariadne Goerke
Deputy Associate General Counsel
Civil Rights & Finance Law Office

Cecil Rodrigues
Acting Deputy Regional Administrator
Acting Deputy Civil Rights Official
U.S. EPA Region 6

James McGuire
Regional Counsel
U.S. EPA Region 6

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE
OFFICE OF GENERAL COUNSEL

April 6, 2022

In Reply Refer to:
EPA Complaint No. 02R-22-R6

Deena Tumeh
Emma Cheuse
EarthJustice
Washington, DC 20001
dtumeh@earthjustice.org
echeuse@earthjustice.org

Dorian Spence
Lawyers' Committee for Civil Rights Under Law
1500 K Street, NW, Suite 900
Washington, DC 20005
dspence@lawyerscommittee.org

Re: Acceptance of Administrative Complaint

Dear Ms. Tumeh, Ms. Cheuse and Mr. Spence:

The U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), is accepting for investigation your administrative complaint filed against the Louisiana Department of Health (LDH) and received by the EPA on January 20, 2022. The complaint alleges LDH discriminated on the basis of race in violation of Title VI of the Civil Rights Act of 1964, 42 U.S.C. §§ 2000(d) *et seq.*, and EPA's nondiscrimination regulation, at 40 C.F.R. Part 7. Specifically, the complaint alleges that LDH is engaged in an ongoing policy or practice of discrimination in that it fails in its duty to provide the predominantly Black residents of St. John the Baptist Parish with necessary information regarding the health threats posed by air pollutants emitted from the facility owned by Denka Performance Elastomer LLC (Denka) and other nearby sources—including to students attending the Fifth Ward Elementary School. The complaint also alleges that LDH fails to make necessary recommendations to "all relevant government agencies" and affected communities regarding measures to reduce and prevent exposure to hazardous air pollutant emissions from these sources. Further the complaint alleges

LDH fails, timely and transparently, to fulfill the terms of a grant awarded by EPA to assess the causes of higher cancer risk in St. John the Baptist Parish.[1]

Pursuant to EPA's nondiscrimination regulation, ECRCO conducts a preliminary review of administrative complaints to determine acceptance, rejection, or referral to the appropriate Federal agency. *See* 40 C.F.R. § 7.120(d)(1). To be accepted for investigation, a complaint must meet the jurisdictional requirements described in the EPA's nondiscrimination regulation. First, the complaint must be in writing. *See* 40 C.F.R. § 7.120(b)(1). Second, it must describe an alleged discriminatory act that, if true, may violate the EPA's nondiscrimination regulation (*i.e.,* an alleged discriminatory act based on race, color, national origin, sex, age, or disability). *Id.* Third, it must be filed within 180 days of the alleged discriminatory act. *See* 40 C.F.R. § 7.120(b)(2). Finally, the complaint must be filed against an applicant for, or recipient of, EPA financial assistance that allegedly committed the discriminatory act. *See* 40 C.F.R. § 7.15.

After careful consideration, ECRCO has determined that the complaint meets the jurisdictional requirements stated above. First, the allegation is in writing. Second, it alleges that discrimination occurred in violation of EPA's nondiscrimination regulation. Third, the alleged discriminatory acts occurred within 180 days of the filing this complaint, as this complaint alleges continuing violations. Finally, it alleges discriminatory acts by LDH, which is a recipient of EPA financial assistance.

ECRCO will investigate the following issues:

1. Whether LDH subjects Black residents of St. John the Baptist Parish, including students at the Fifth Ward Elementary School, to discrimination on the basis of race in violation of Title VI of the Civil Rights Act of 1964 and EPA's implementing regulation at 40 C.F.R. Part 7, § § 7.30 and 7.35, including by allegedly failing in its duty to provide Parish residents with necessary information about health threats, and to make necessary

[1] This administrative complaint was also filed against the Louisiana Department of Environmental Quality (LDEQ) (assigned EPA Complaint No. 01R-22-R6), and alleges LDEQ, in implementing its air pollution control program, subjects Black residents to discrimination on the basis of race, and specifically, that LDEQ's actions and failures to undertake certain actions, relative to the Denka facility, and other nearby sources, subject the predominantly Black residents of St. John the Baptist Parish to disproportionate levels of air pollution, including chloroprene emitted by Denka and ethylene oxide from various nearby sources. This complaint also alleges that LDEQ is engaged in an ongoing discriminatory policy or practice evidenced by LDEQ's continued failure to review, renew or strengthen measures for certain Denka air pollution permit applications, failure to properly conduct public notice and comment on air pollution permit renewals, and failure, timely and transparently, to fulfill the terms of a grant awarded by EPA to assess the causes of higher cancer risk in St. John the Baptist Parish. By separate cover, this complaint has been accepted for investigation. ECRCO also received an additional complaint (EPA Complaint No. 04R-22-R6), alleging LDEQ discriminates on the basis of race in implementing its air pollution control program by subjecting Black residents to ongoing disproportionate and adverse health and environmental impacts and that it fails to provide Black residents with meaningful involvement in air permitting decisions. The complaint also specifically alleges that LDEQ's August 5, 2021 decision to reaffirm issuance of 14 new air permits to the FG LA, LLC (Formosa) facility will subject the predominantly Black residents of St. James Parish to disproportionate levels of air pollution emitted by Formosa, including criteria air pollutants such as particulate matter (PM2.5), nitrogen dioxide, volatile organic compounds, and carbon monoxide, as well as toxic and carcinogenic air pollutants such as ethylene oxide, benzene, and formaldehyde. ECRCO is accepting this complaint for investigation.

recommendations to all relevant government agencies and affected communities regarding measures to reduce and prevent exposure to hazardous air pollutant emissions from the Denka facility and other nearby sources of pollution.

2. Whether LDH has and is implementing the procedural safeguards required under 40 C.F.R. Parts 5 and 7 that all recipients of federal assistance must have in place to comply with their general nondiscrimination obligations, including specific policies and procedures to ensure meaningful access to LDH services, programs, and activities, for individuals with limited English proficiency (LEP) and individuals with disabilities, and whether the LDH has a public participation policy and process that is consistent with Title VI and the other federal civil rights laws, and EPA's implementing regulation at 40 C.F.R. Parts 5 and 7.[2]

The initiation of an investigation of the issues identified above is not a decision on the merits. ECRCO is a neutral fact finder and will begin its process to gather the relevant information, discuss the matter further with LDH and the Complainants, and determine next steps utilizing ECRCO's internal procedures. Generally, the investigation and resolution options and procedures identified in EPA's nondiscrimination regulation and ECRCO's Case Resolution Manual (CRM) will be utilized for the complaint investigation process. We invite you to review ECRCO's Case Resolution Manual for a more detailed explanation of ECRCO's complaint resolution process, available at https://www.epa.gov/sites/production/files/2021-01/documents/2021.1.5_final_case_resolution_manual_.pdf.

ECRCO is providing LDH with an opportunity to make a written submission responding to, rebutting, or denying the issues that have been accepted for investigation within thirty (30) calendar days of receiving a copy of the letter notifying LDH of the acceptance of Administrative Complaint No. 02R-22-R6. *See* 40 C.F.R. § 7.120(d)(1)(ii-iii).

EPA's nondiscrimination regulation provides that ECRCO shall attempt to resolve complaints informally whenever possible. *See* 40 C.F.R. § 7.120(d)(2). Accordingly, ECRCO will contact LDH and the Complainants within 10 days of the date of this letter to provide information about

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[2] *See* Title VI of the Civil Rights Act of 1964, 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 C.F.R. § § 7.30, 7.35. *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).

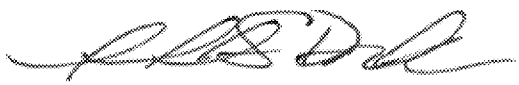
ECRCO's complaint process, and to offer and discuss the alternative dispute resolution (ADR)[3] and informal resolution agreement[4] processes as potential options for resolution of the issues which ECRCO has accepted for investigation. If LDH (and the Complainants with respect to ADR) agrees to engage in either of these potential resolution processes, ECRCO will suspend the issuance of preliminary findings within 180 days. In the event that either of these potential resolution processes fails to result in an agreement, ECRCO will notify the Complainants as well as LDH that ECRCO has resumed its process to issue preliminary findings within 180 days of the start of the investigation – excluding any days spent in either of these potential resolution processes.[5]

Please be advised that a copy of the complaint has been provided to LDH, consistent with 40 C.F.R. § 7.120(e). ECRCO is releasing the complaint with appropriate redactions consistent with the Freedom of Information Act (FOIA) and the Privacy Act and will only release identifying information to the extent necessary to comply with 40 C.F.R. Parts 5 and 7.[6]

The EPA regulation prohibits applicants, recipients, and other persons from intimidating, threatening, coercing, or engaging in other discriminatory conduct against anyone because they have either taken action or participated in an action to secure rights protected by the civil rights requirements that we enforce. See 40 C.F.R. § 7.100. Any individual alleging such harassment or intimidation may file a complaint with ECRCO.

If you have any questions, please feel free to contact me at (202) 564-9649, by email at dorka.lilian@epa.gov, or Zahra Khan, Case Manager, at (202) 564-0460, by email at khan.zahra@epa.gov.

Sincerely,



Lilian S. Dorka, Director
External Civil Rights Compliance Office
Office of General Counsel

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[3] EPA ECRCO's Alternative Dispute Resolution (ADR) process involves the formal mediation of a complaint or complaint allegations between the complainant and recipient, through the use of a professionally trained mediator. See U.S. EPA, ECRCO Case Resolution Manual, Section 3.3, p.24 (https://www.epa.gov/sites/default/files/2021-01/documents/2021.1.5_final_case_resolution_manual_.pdf) .

[4] Informal Resolution occurs between ECRCO and the recipient. *See* Case Resolution Manual, Section 3.1, p.22 (https://www.epa.gov/sites/default/files/2021-01/documents/2021.1.5_final_case_resolution_manual_.pdf) .

[5] *See* 40 C.F.R. § 7.115(c).

[6] Freedom of Information Act, 5 U.S.C. § 552(b)(6) and (7)(c) and the Privacy Act of 1974, 5 U.S.C. § 552a.

cc: Ariadne Goerke
Deputy Associate General Counsel
Civil Rights & Finance Law Office

Cecil Rodrigues
Acting Deputy Regional Administrator
Acting Deputy Civil Rights Official
U.S. EPA Region 6

James McGuire
Regional Counsel
U.S. EPA Region 6

Message

From: Hoang, Anhthu [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=767134B1927D4106A721B3D06CBBB9D9-HOANG, ANHTHU]
Sent: 1/25/2022 3:55:51 AM
To: dtumeh@earthjustice.org; echeuse@earthjustice.org; dspence@lawyerscommittee.org
CC: Dorka, Lilian [Dorka.Lilian@epa.gov]; Talbert-Duarte, Angelia [talbert-duarte.angelia@epa.gov]; Goerke, Ariadne [Goerke.Ariadne@epa.gov]; McGuire, James [McGuire.James@epa.gov]
Subject: RE: EPA Complaints No. 01R-22-R6 and 02R-22-R6
Attachments: 2022 01 21 CP Ack 01R-22-R6_02R-22-R6.pdf

Dear Mss. Tumeh, Cheuse and Spence,

This letter is to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received your correspondence on January 20, 2022, involving the Louisiana Department of Environmental Quality and the Louisiana Department of Health alleging discrimination based on race, color and national origin in violation of Title VI of the Civil Rights Act of 1964.

If you have any questions about the status of this correspondence, please contact me by telephone at (212) 637-5033 or by email at hoang.anhthu@epa.gov.

Anhthu Hoang
Acting Deputy Director
External Civil Rights Compliance Office
212-637-5033

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE
OFFICE OF GENERAL COUNSEL

January 24, 2022

In Reply Refer to:
EPA Complaint No. 01R-22-R6 and
02R-22-R6

Deena Tumeh
Emma Cheuse
EarthJustice
Washington, DC 20001
dtumeh@earthjustice.org
echeuse@earthjustice.org

Dorian Spence
Lawyers Committee for Civil Rights under Law
1500 K Street, NW, Suite 900
Washington, DC 20005
dspence@lawyerscommittee.org

Re: Acknowledgement of Administrative Complaint

Dear Mss. Tumeh, Cheuse and Spence:

This letter is to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received your correspondence on January 20, 2022, involving the Louisiana Department of Environmental Quality and the Louisiana Department of Health alleging discrimination based on race in violation of Title VI of the Civil Rights Act of 1964.

ECRCO is responsible for processing and resolving complaints alleging discrimination by programs or activities that receive financial assistance from the EPA. ECRCO will review the correspondence in light of EPA's nondiscrimination regulation to determine whether it is a complaint that falls within ECRCO's jurisdiction. Once this jurisdictional review is completed, ECRCO will notify you as to whether it will accept the complaint for investigation, or reject, or refer the complaint to another Federal agency.

Please be advised that, if your complaint is accepted for investigation, a copy of the complaint will be shared with the Recipient, consistent with 40 C.F.R. § 7.120(e). ECRCO will release the complaint with appropriate redactions consistent with the Freedom of Information Act (FOIA) and the Privacy Act) and will only release identifying information to the extent necessary to

comply with 40 C.F.R. Parts 5 and 7.[1]

In the interim, if you have any questions about the status of this correspondence, please contact me by telephone at (212) 637-5033 or by email at hoang.anhthu@epa.gov.

Sincerely,

Hoang, Anhthu

Digitally signed by Hoang, Anhthu
Date: 2022.01.24 22:54:56 -05'00'

Anhthu Hoang
Acting Deputy Director
External Civil Rights Compliance Office
Office of General Counsel

cc: Angelia Talbert-Duarte
Associate General Counsel
Civil Rights & Finance Law Office

Ariadne Goerke
Deputy Associate General Counsel
Civil Rights & Finance Law Office

David Gray
Deputy Regional Administrator
Deputy Civil Rights Official
US EPA Region 6

James McGuire
Regional Counsel

[1] Freedom of Information Act, 5 U.S.C. § 552(b)(6) and (7)(c) and the Privacy Act of 1974, 5 U.S.C. § 552a.

Message

From: Hoang, Anhthu [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=767134B1927D4106A721B3D06CBBB9D9-HOANG, ANHTHU]
Sent: 1/25/2022 3:48:24 AM
To: officesec@la.gov
CC: Dorka, Lilian [Dorka.Lilian@epa.gov]; Talbert-Duarte, Angelia [talbert-duarte.angelia@epa.gov]; Goerke, Ariadne [Goerke.Ariadne@epa.gov]; McGuire, James [McGuire.James@epa.gov]
Subject: re: EPA Complaint No. 01R-22-R6
Attachments: 2022.01.21Recipient ACK Ltr 01R-22-R6.pdf

Dear Secretary Brown,

This letter is to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received a complaint on January 20, 2022 involving the Louisiana Department of Environmental Quality alleging discrimination based on race in violation of Title VI of the Civil Rights Act of 1964.

If you have any questions about the status of this correspondence, please contact me by telephone at (212) 637-5033 or by email at hoang.anhthu@epa.gov.

Anhthu Hoang
Acting Deputy Director
External Civil Rights Compliance Office
212-637-5033

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE
OFFICE OF GENERAL COUNSEL

January 24, 2022

In Reply Refer to:
EPA Complaint No. 01R-22-R6

Dr. Chuck Carr Brown
Secretary
Louisiana Department of Environmental Quality
602 North Fifth Street
Baton Rouge, LA 70802
officesec@la.gov

Re: Acknowledgement of Receipt of Administrative Complaint

Dear Secretary Brown:

This letter is to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received a complaint on January 20, 2022 involving the Louisiana Department of Environmental Quality alleging discrimination based on race in violation of Title VI of the Civil Rights Act of 1964.

ECRCO is responsible for processing and resolving complaints alleging discrimination by programs or activities that receive financial assistance from the EPA. ECRCO will review the complaint in light of EPA's nondiscrimination regulation to determine whether it is a complaint that falls within ECRCO's jurisdiction. Once this jurisdictional review is completed, ECRCO will notify you as to whether it will accept the complaint for investigation or reject or refer the complaint to another Federal agency.

Please be advised that, if the complaint is accepted for investigation, a copy of the complaint will be shared with the Recipient, consistent with 40 C.F.R. § 7.120(e). ECRCO will release the complaint with appropriate redactions consistent with the Freedom of Information Act (FOIA) and the Privacy Act) and will only release identifying information to the extent necessary to comply with 40 C.F.R. Parts 5 and 7.[1]

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Sincerely,

Hoang, Anhthu

Digitally signed by Hoang, Anhthu
Date: 2022.01.24 22:46:17 -05'00'

Anhthu Hoang
Acting Deputy Director
External Civil Rights Compliance Office
Office of General Counsel

cc: Angelia Talbert-Duarte
Associate General Counsel
Civil Rights & Finance Law Office

Ariadne Goerke
Deputy Associate General Counsel
Civil Rights & Finance Law Office

David Gray
Deputy Regional Administrator
Deputy Civil Rights Official
US EPA Region 6

James McGuire
Regional Counsel

ED_012929_00012377-00002

Message

From: Hoang, Anhthu [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=767134B1927D4106A721B3D06CBBB9D9-HOANG, ANHTHU]
Sent: 1/25/2022 3:43:44 AM
To: courtney.phillips@la.gov
CC: Dorka, Lilian [Dorka.Lilian@epa.gov]; Talbert-Duarte, Angelia [talbert-duarte.angelia@epa.gov]; Goerke, Ariadne [Goerke.Ariadne@epa.gov]; McGuire, James [McGuire.James@epa.gov]
Subject: re: EPA Complaint No. 02R-22-R6
Attachments: 2022.01.21Recipient ACK Ltr 02R-22-R6.pdf

Dear Secretary Phillips,

This letter is to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received a complaint on January 20, 2022 involving the Louisiana Department of Environmental Quality alleging discrimination based on race in violation of Title VI of the Civil Rights Act of 1964.

If you have any questions about the status of this correspondence, please contact me by telephone at (212) 637-5033 or by email at hoang.anhthu@epa.gov.

Anhthu Hoang
Acting Deputy Director
External Civil Rights Compliance Office
212-637-5033

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE
OFFICE OF GENERAL COUNSEL

January 24, 2022

In Reply Refer to:
EPA Complaint No. 02R-22-R6

Dr. Courtney N. Phillips
Secretary
Louisiana Department of Health
628 North Fourth Street
Baton Rouge, LA 70802
courtney.phillips@la.gov

Re: Acknowledgement of Receipt of Administrative Complaint

Dear Secretary Phillips:

This letter is to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received a complaint on January 20, 2022 involving the Louisiana Department of Environmental Quality alleging discrimination based on race in violation of Title VI of the Civil Rights Act of 1964.

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Please be advised that, if the complaint is accepted for investigation, a copy of the complaint will be shared with the Recipient, consistent with 40 C.F.R. § 7.120(e). ECRCO will release the complaint with appropriate redactions consistent with the Freedom of Information Act (FOIA) and the Privacy Act) and will only release identifying information to the extent necessary to comply with 40 C.F.R. Parts 5 and 7.[1]

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Sincerely,

ANHTHU HOANG

Digitally signed by ANHTHU HOANG
Date: 2022.01.24 22:34:13 -05'00'

Anhthu Hoang
Acting Deputy Director
External Civil Rights Compliance Office
Office of General Counsel

cc: Angelia Talbert-Duarte
Associate General Counsel
Civil Rights & Finance Law Office

Ariadne Goerke
Deputy Associate General Counsel
Civil Rights & Finance Law Office

David Gray
Deputy Regional Administrator
Deputy Civil Rights Official
US EPA Region 6

James McGuire
Regional Counsel

ED_012929_00012379-00002

Message

From: Hoang, Anhthu [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=767134B1927D4106A721B3D06CBBB9D9-HOANG, ANHTHU]
Sent: 1/25/2022 7:35:26 PM
To: Courtney Phillips [Courtney.Phillips@la.gov]
CC: Dorka, Lilian [Dorka.Lilian@epa.gov]; Talbert-Duarte, Angelia [talbert-duarte.angelia@epa.gov]; Goerke, Ariadne [Goerke.Ariadne@epa.gov]; McGuire, James [McGuire.James@epa.gov]; Stephen Russo [Stephen.Russo@LA.GOV]; Pamela Wells [Pamela.Wells@LA.GOV]; Jenna Young [Jenna.Young@LA.GOV]; Rodrigues, Cecil [rodrigues.cecil@epa.gov]
Subject: RE: EPA Complaint No. 02R-22-R6
Attachments: 2022.01.21Recipient ACK Ltr 02R-22-R6.pdf

Dear Secretary Phillips,

Please accept my apologies for the confusion. The letter issued was to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received a complaint on January 20, 2022 involving the Louisiana Department of Health alleging discrimination based on race in violation of Title VI of the Civil Rights Act of 1964. Please see the attached for the revised notification letter.

If you have any questions about the status of this correspondence, please contact me by telephone at (212) 637-5033 or by email at hoang.anhthu@epa.gov. Against, I am very sorry for the oversight.

From: Courtney Phillips <Courtney.Phillips@la.gov>
Sent: Tuesday, January 25, 2022 2:12 PM
To: Hoang, Anhthu <Hoang.Anhthu@epa.gov>
Cc: Dorka, Lilian <Dorka.Lilian@epa.gov>; Talbert-Duarte, Angelia <talbert-duarte.angelia@epa.gov>; Goerke, Ariadne <Goerke.Ariadne@epa.gov>; McGuire, James <McGuire.James@epa.gov>; Stephen Russo <Stephen.Russo@LA.GOV>; Pamela Wells <Pamela.Wells@LA.GOV>; Jenna Young <Jenna.Young@LA.GOV>
Subject: Re: EPA Complaint No. 02R-22-R6

Anhthu Hoang:

I believe this letter may have been sent in error to the Louisiana Department of Health (LDH), since it references a complaint involving the Louisiana Department of Environmental Quality (DEQ). Please confirm if there was a situation where DEQ filed a complaint about LDH involving racial discrimination. Please let me know and someone from my team will follow-up as appropriate.

On Jan 24, 2022, at 9:43 PM, Hoang, Anhthu <Hoang.Anhthu@epa.gov> wrote:

EXTERNAL EMAIL: Please do not click on links or attachments unless you know the content is safe.

Dear Secretary Phillips,

This letter is to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received a complaint on January 20, 2022 involving the Louisiana Department of Environmental Quality alleging discrimination based on race in violation of Title VI of the Civil Rights Act of 1964.

If you have any questions about the status of this correspondence, please contact me by telephone at (212) 637-5033 or by email at hoang.anhthu@epa.gov.

Anhthu Hoang
Acting Deputy Director
External Civil Rights Compliance Office
212-637-5033

<2022.01.21Recipient ACK Ltr 02R-22-R6.pdf>

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE
OFFICE OF GENERAL COUNSEL

January 24, 2022

In Reply Refer to:
EPA Complaint No. 02R-22-R6

Dr. Courtney N. Phillips
Secretary
Louisiana Department of Health
628 North Fourth Street
Baton Rouge, LA 70802
courtney.phillips@la.gov

Re: Acknowledgement of Receipt of Administrative Complaint

Dear Secretary Phillips:

This letter is to notify you that the U.S. Environmental Protection Agency (EPA), External Civil Rights Compliance Office (ECRCO), received a complaint on January 20, 2022 involving the Louisiana Department of Health alleging discrimination based on race in violation of Title VI of the Civil Rights Act of 1964.

ECRCO is responsible for processing and resolving complaints alleging discrimination by programs or activities that receive financial assistance from the EPA. ECRCO will review the complaint in light of EPA's nondiscrimination regulation to determine whether it is a complaint that falls within ECRCO's jurisdiction. Once this jurisdictional review is completed, ECRCO will notify you as to whether it will accept the complaint for investigation or reject or refer the complaint to another Federal agency.

Please be advised that, if the complaint is accepted for investigation, a copy of the complaint will be shared with the Recipient, consistent with 40 C.F.R. § 7.120(e). ECRCO will release the complaint with appropriate redactions consistent with the Freedom of Information Act (FOIA) and the Privacy Act) and will only release identifying information to the extent necessary to comply with 40 C.F.R. Parts 5 and 7.[1]

[1] Freedom of Information Act, 5 U.S.C. § 552(b)(6) and (7)(c) and the Privacy Act of 1974, 5 U.S.C. § 552a.

In the interim, if you have any questions about the status of this correspondence, please contact me by telephone at (212) 637-5033 or by email at hoang.anhthu@epa.gov.

Sincerely,

Hoang, Anhthu

Digitally signed by Hoang, Anhthu
Date: 2022.01.25 14:31:50 -05'00'

Anhthu Hoang
Acting Deputy Director
External Civil Rights Compliance Office
Office of General Counsel

cc: Angelia Talbert-Duarte
Associate General Counsel
Civil Rights & Finance Law Office

Ariadne Goerke
Deputy Associate General Counsel
Civil Rights & Finance Law Office

David Gray
Deputy Regional Administrator
Deputy Civil Rights Official
US EPA Region 6

James McGuire
Regional Counsel

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January 20, 2022

By email

Anhthu Hoang
Acting Deputy Director
U.S. EPA External Civil Rights
Compliance Office (2310A)
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460
Title_VI_Complaints@epa.gov

Daria Neal
Deputy Chief, Federal Coordination and Compliance Section
Civil Rights Division
U.S. Department of Justice
950 Pennsylvania Avenue, N.W.
Washington, D.C. 20530
Daria.Neal@usdoj.gov

Re: Complaint Under Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d, Regarding Civil Rights Violations by Louisiana State Agency Grantees and Environmental Injustice in St. John the Baptist Parish

Dear Acting Deputy Director Hoang and Deputy Chief Neal:

Concerned Citizens of St. John ("CCSJ") and Sierra Club respectfully submit this complaint against the Louisiana Department of Environmental Quality ("LDEQ") and the Louisiana Department of Health ("LDH") for violations of Title VI of the Civil Rights Act of 1964, 42 U.S.C. § 2000d *et seq.*, and the U.S. Environmental Protection Agency's ("EPA") implementing regulations, 40 C.F.R. Part 7. Title VI prohibits entities receiving federal financial assistance from engaging in activities that subject individuals to discrimination on the basis of race, color, or national origin. 42 U.S.C. § 2000d. As entities receiving financial assistance from EPA, LDEQ and LDH are subject to Title VI's prohibition against discrimination. LDEQ and LDH have violated that prohibition by subjecting Black residents of St. John the Baptist Parish to disproportionate air pollution and related harms from various facilities, including ethylene oxide from various sources and chloroprene from a neoprene production facility. St. John the Baptist Parish is a majority Black parish, and, due to LDEQ's and LDH's failures, its residents face the highest cancer risk from air pollution in the nation.

LDEQ has violated Title VI and EPA's implementing regulations by: (1) failing to review the permit renewal applications submitted by the neoprene production facility (Denka Performance Elastomer LLC or "Denka") and to determine whether to renew and strengthen those permits; (2) failing to conduct the public notice and comment process required by

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Louisiana and federal law for permit renewal applications; and (3) failing to control hazardous air pollution from Denka and other air toxics sources as needed to protect St. John residents from disproportionate, adverse impacts from this pollution. LDH has violated Title VI and EPA's implementing regulations by: (1) failing to provide the public with necessary information on the health threats of air pollution from Denka and nearby sources, and (2) failing to make necessary recommendations to all relevant government agencies and communities on ways to reduce and prevent exposure to hazardous chemicals from these sources, such as recommending the relocation of students at the disproportionately Black Fifth Ward Elementary School.

Additionally, LDEQ and LDH have both failed to timely and transparently fulfill the terms of an EPA grant awarded to determine if Denka's hazardous air pollutant emissions have caused higher instances of cancer in St. John.

Accordingly, Complainants request that EPA and DOJ promptly and comprehensively investigate the allegations in this complaint, take specific actions discussed at the end of this complaint, and take all other actions necessary to ensure that LDEQ and LDH comply fully with the law and remedy violations of Title VI. If LDEQ and LDH do not come into compliance voluntarily, Complainants request that EPA, working with DOJ, suspend or terminate financial assistance to those agencies, at least regarding any discretionary funding requested by those agencies that would not directly benefit public health. *See* 40 C.F.R. § 7.130.

I. Parties

A. Concerned Citizens of St. John

Concerned Citizens of St. John is a non-profit organization based in St. John the Baptist Parish, Louisiana whose primary mission is to ensure the health and safety of communities in Cancer Alley by holding government officials and industry accountable for air pollution. St. John residents founded the organization in 2016 when they learned from EPA that their community faced a heightened cancer risk due in great part to chloroprene emissions from Denka. CCSJ has demanded that Denka reduce its chloroprene emissions by ensuring ambient air concentrations of chloroprene no longer exceed 0.2 $\mu g/m^3$—the maximum chloroprene air concentration that would keep cancer risk from this air pollutant below EPA's benchmark for unacceptable cancer risk, 100-in-1 million.[1]

CCSJ has advocated for residents of St. John at the local, state, federal, and international levels. For years, CCSJ has tried to arrange meetings with local and state government to share their members' concerns about chloroprene exposure and their desire to relocate Fifth Ward Elementary School, located three blocks from Denka. Yet these efforts have been dismissed by

[1] *See* Memo from Kelly Rimer, Leader, Air Toxics Assessment Group, Health & Env't Impacts Div., OAQPS, to Frances Verhalen, P.E., Chief, Air Monitoring/Grants Section, EPA Region 6, Re: Preliminary Risk-Based Concentration Value for Chloroprene in Ambient Air (May 5, 2016), https://www.epa.gov/sites/default/files/2016-06/documents/memo-prelim-risk-based-concentrations050516.pdf; University Network for Human Rights, *Concerned Citizens of St. John Parish Meet with EPA in Washington, D.C.* (Nov. 21, 2019), https://www.humanrightsnetwork.org/press/2019/11/20/concerned-citizens-of-st-john-parish-meet-with-epa-in-washington-dc.

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local and state authorities, including LDEQ and LDH, as discussed in further detail below.

At the federal level, CCSJ submitted a petition to EPA in May 2021 for emergency action and rulemaking pursuant to the Clean Air Act, 42 U.S.C. § 7412, and *Oljato Chapter of Navajo Tribe v. Train*, 515 F.2d 654 (D.C. Cir. 1975).[2] In the petition, CCSJ asked EPA to address the health emergency in St. John by reviewing and revising the national emission standards regulating chloroprene emissions, reinstating fenceline monitoring, and taking other necessary actions to protect community health. In November 2021, CCSJ and Sierra Club also filed a deadline suit in the U.S. District Court for the District of Columbia to compel EPA to conduct overdue reviews and rulemakings under section 112(d)(6) and (f)(2) of the Clean Air Act for Group I Polymers and Resins source categories regulated under the National Emission Standards for Hazardous Air Pollutants ("NESHAP"), 40 C.F.R. Part 63 Subpart U, including Neoprene Production.

At the international level, CCSJ has attempted to meet with representatives of Denka at the company's headquarters in Japan. In October 2019, two members of CCSJ traveled from St. John to Tokyo to present evidence that the company's neoprene facility was responsible for unusually high rates of cancer and other illnesses in the parish.[3] Denka did not meet with them.[4] In May 2021, CCSJ filed an emergency request for Precautionary Measures at the Inter-American Commission on Human Rights seeking protective measures to protect the human rights of St. John residents.[5]

B. Sierra Club

Sierra Club is a national nonprofit organization with 67 chapters and over 800,000 members dedicated to exploring, enjoying, and protecting the wild places of the earth; to practicing and promoting the responsible use of the earth's ecosystems and resources; to educating and enlisting humanity to protect and restore the quality of the natural and human environment; and to using all lawful means to carry out these objectives. Sierra Club is committed to reducing toxic air pollution and its impact on human health and the environment. For years, Sierra Club has advocated for EPA to promptly enforce Title VI. In 2015, Sierra Club and other groups brought a lawsuit against EPA challenging its failure to investigate their civil rights complaints for over a decade. The U.S. District Court for the Northern District of California ordered EPA as follows:

> ...for any Title VI complaint submitted by [Sierra Club] and accepted by EPA after the date of entry of this judgment, subject to

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[2] CCSJ Petition for Emergency Action and Rulemaking to EPA (May 6, 2021), https://earthjustice.org/sites/default/files/files/ccsj_petition_for_emergency_action_petition_for_rulemaking_05-06-2021_1.pdf.

[3] Justin McCurry, *Japanese owners of plant at heart of US Cancer Town refuse to meet activists,* THE GUARDIAN (Oct. 8, 2019), https://www.theguardian.com/us-news/2019/oct/08/cancer-town-japan-factory-owners-refuse-meet-activists.

[4] *Id.*

[5] CCSJ Emergency Request for Precautionary Measures to Inter-American Commission of Human Rights (2021), https://law.tulane.edu/sites/law.tulane.edu/files/Files/CCSJ%20Emergency%20Request%20for%20Precautionary%20Measures%20to%20Inter-American%20Commission%20on%20Human%20Rights.pdf.

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> any extension agreement between the complainant and the party complained against under 40 C.F.R. § 7.120, EPA must issue preliminary findings and any recommendations for voluntary compliance, or otherwise resolve the complaint, within 180 days of the date of acceptance. The requirements of this paragraph shall continue for a period of five years from the date judgment is entered.[6]

Sierra Club also filed the above-mentioned Group I Polymers and Resins deadline suit with CCSJ and is part of other longstanding national advocacy and pending litigation that covers air toxics emissions in St. John. Sierra Club's Delta Chapter has members residing in St. John the Baptist Parish and Cancer Alley.

C. Louisiana Department of Environmental Quality

LDEQ is the primary state agency responsible for environmental protection, regulation, and enforcement in Louisiana. La. Stat. Ann. § 30:2011. The LDEQ secretary maintains the power to grant or deny permits governed by Louisiana regulations and to apply for EPA funds. *Id.* § 30:2011(D)(2)-(5). EPA has delegated to LDEQ the authority to implement and enforce National Emission Standards for Hazardous Air Pollutants and administer the Clean Air Act Title V permitting program. 40 C.F.R. § 52.970 (approving Louisiana state implementation plan). LDEQ must ensure that air permits comply with "all state and federally applicable air quality requirements and standards at the source," including Title V of the Clean Air Act. La. Admin. Code tit. 33, § 501(C)(6).

The Louisiana Environmental Quality Act grants the LDEQ secretary various powers and duties, including to "issue such orders or determinations as may be necessary to effectuate the purpose of th[e Act]," La. Stat. Ann. § 30:2011(D)(6), and to "exercise all incidental powers necessary or proper to carry out the purposes of th[e Act]," *id.* § 30:2011(D)(14). The purpose of the Act is "[t]he maintenance of a healthful and safe environment" and "to preserve, protect, and enhance the quality of the environment in Louisiana." *Id.* § 30:2003. The LDEQ Secretary may also "formulate contingency plans for environmental emergencies, including interagency agreements with state, local, and federal agencies and with private agencies and persons." *Id.* § 30:2011(D)(15).

Furthermore, under the public trust doctrine, "[t]he natural resources of the state, including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved, and replenished insofar as possible and consistent with the health, safety, and welfare of the people." La. Const. art. IX, § 1. The Louisiana Supreme Court interpreted this constitutional mandate as requiring LDEQ to determine "before granting approval of proposed action affecting the environment, [] that adverse environmental impacts have been minimized or avoided as much as possible consistently with the public welfare." *Save Ourselves, Inc. v. La. Env't Control Comm'n*, 452 So. 2d 1152, 1157 (La. 1984). To fulfill the public trust duty, LDEQ "must act with diligence, fairness and faithfulness to

[6] Amended Judgment at 2-3, *Sierra Club, et al. v. EPA* (N.D. Cal. Oct. 2, 2020) (No. 4:15-cv-03292-SBA).

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protect this particular public interest in the resources." *Id.* Specifically, LDEQ must conduct a "balancing [] in which environmental costs and benefits must be given full and careful consideration along with economic, social and other factors." *Id.* The Louisiana Environmental Quality Act underscores LDEQ's public trust duty, mandating that "as the primary public trustee of the environment, [LDEQ] shall consider and follow the will and intent of the Constitution of Louisiana and Louisiana statutory law in making any determination relative to the granting or denying of permits." La. Stat. Ann. § 30:2014(A)(4).

D. Louisiana Department of Health

LDH is the state agency responsible for "the development and providing of health and medical services for the prevention of disease for the citizens of Louisiana." *Id.* § 36:251(B). The Office of Public Health, a division of the Department of Health, is tasked with "perform[ing] those functions of the state provided by law relating to environmental quality and pollution control which are related to the public health and which are specifically assigned to the department." *Id.* § 36.258(B). LDH's Section of Environmental Epidemiology and Toxicology ("SEET") "investigates the health effects of chemical exposures" and participates in environmental health research.[7] The duties of SEET include: (1) "[i]dentifying chemicals in the environment which are likely to cause adverse health effects," (2) "[e]valuating the extent of human exposure to these chemicals and the resultant adverse health effects," (3) "[m]aking recommendations for the prevention and reduction of exposure to hazardous chemicals," and (4) "[p]romoting a better public understanding of the health effects of chemicals in the environment."[8]

II. Jurisdiction

Title VI's prohibition on discrimination applies to all recipients of federal funds: "No person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance." 42 U.S.C. § 2000d. Acceptance of federal funds creates an obligation of the recipient to comply with Title VI and the EPA's implementing regulations. 40 C.F.R. § 7.80. Title VI applies to the entire institution that receives funds from EPA, not only the part of the institution that has received the financial assistance.[9] As discussed below, LDEQ and LDH receive federal funding from EPA and are therefore subject to the requirements of Title VI and EPA's implementing regulations.

Under Title VI and EPA's implementing regulations, EPA is required to ensure that its funds are not used to support discrimination on the basis of race, color, or national origin.[10] EPA's External Civil Rights Compliance Office ("ECRCO") is responsible for enforcing Title VI through complaint investigations, compliance reviews, technical assistance, community

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[7] LDH, *Environmental Epidemiology & Toxicology*, https://ldh.la.gov/subhome/22 (last visited Jan. 18, 2022).
[8] *Id.*
[9] *See* 40 C.F.R. § 7.25.
[10] *See* 42 U.S.C. § 2000d; 40 C.F.R. Part 7; EPA, *U.S. EPA's EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE COMPLIANCE TOOLKIT* 2 (Jan. 18, 2017), https://www.epa.gov/sites/production/files/2020-02/documents/toolkit_ecrco_chapter_1-letter-faqs_2017.01.18.pdf.

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engagement, and policy formulation.[11] ECRCO has jurisdiction to respond to Title VI complaints that implicate recipients of federal financial assistance such as a state agency.[12] As ECRCO noted, "many state environmental agencies receive federal funding for their regulatory and environmental protection functions. Those agencies should be aware that all actions, not just permitting decisions, taken by state agencies funded by EPA are subject to federal civil rights laws."[13]

A. Program or Activity

As Louisiana state agencies, any LDEQ and LDH operation is considered a "program or activity" that falls under Title VI compliance. 42 U.S.C. § 2000d. A "program or activity" is defined as "all of the operations of . . . a department, agency, special purpose district, or other instrumentality of a State or of a local government . . . any part of which is extended Federal financial assistance." *Id.* § 2000d-4a. Accordingly, LDEQ and LDH are agencies or instrumentalities of the State of Louisiana and must comply with Title VI whenever they receive financial assistance.

B. Federal Funding

LDEQ and LDH are subject to Title VI compliance because each agency received funding from EPA. LDEQ received federal funds from EPA through numerous grants. According to USASpending.gov, LDEQ received $33,285,179 in funding from EPA in FY2021.[14] In 2020, EPA awarded $978,866 to LDEQ to monitor ambient air quality for fine particulate matter.[15] Louisiana has received over $25 million in EPA Brownfield funding including grants to LDEQ.[16] On October 8, 2020, EPA announced that it awarded LDEQ $224,931 and LDH $86,081 to "(1) determine if there are higher instances of cancer in the community due to toxic chemical emissions by the Denka Plant, and (2) to determine if there has been under-reporting of these cases of cancer in the Louisiana Tumor Registry."[17]

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[11] EPA, *U.S. EPA's EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE COMPLIANCE TOOLKIT* 2 (Jan. 18, 2017), https://www.epa.gov/sites/production/files/2020-02/documents/toolkit_ecrco_chapter_1-letter-faqs_2017.01.18.pdf.

[12] *See* 40 C.F.R. § 7.15.

[13] EPA, *U.S. EPA's EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE COMPLIANCE TOOLKIT* 6 (Jan. 18, 2017), https://www.epa.gov/sites/production/files/2020-02/documents/toolkit_ecrco_chapter_1-letter-faqs_2017.01.18.pdf.

[14] USASpending, https://www.usaspending.gov/explorer/agency (select "FY2021," and "Environmental Protection Agency," then filter by "Recipient" and find LDEQ).

[15] EPA, *Louisiana receives $978,866 from EPA to enhance air quality* (Dec. 10, 2020), https://www.epa.gov/newsreleases/louisiana-receives-978866-epa-enhance-air-quality.

[16] LDEQ, *Brownfields: Overview of LDEQ's Brownfield Program*, https://deq.louisiana.gov/page/brownfields (last visited Jan. 18, 2022).

[17] EPA, *Cooperative Agreement with LDH* 1 (Sept. 19, 2020) (attached); EPA, *Cooperative Agreement with LDEQ* 1 (Sept. 19, 2020) (attached). *See* EPA, *EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish* (Oct. 8, 2020), https://www.epa.gov/newsreleases/epa-awards-louisiana-over-311000-assess-air-pollutants-st-john-parish.

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C. Timeliness

This Title VI complaint is timely. ECRCO considers Title VI complaints to be timely when the complaint has been filed within 180 calendar days of the date of the last alleged act of discrimination, 40 C.F.R. § 7.120(b)(2), or if the complainant alleges a "continuing policy or practice" of discrimination.[18] A complaint alleging a continuing discriminatory policy or practice must "allege facts that are sufficient to indicate either a series of related acts of which one occurred within the 180-day filing period or a systematic policy or practice that operated within the 180-day period."[19]

LDEQ's discriminatory conduct consists of discriminatory actions and continuing discriminatory policies and practices. LDEQ has failed to fulfil its legal obligations under Title V of the Clean Air Act or state law by allowing Denka to operate with outdated and expired air permits. As explained in further detail below, the following Title V permits expired on the following dates:

1) Chloroprene Unit Title V Operating Permit (No. 3000-V5), expired on April 26, 2017;[20]
2) Neoprene Unit Title V Operating Permit (No. 2249-V9), expired on May 15, 2019;[21] and
3) HCl Recovery Unit Title V Operating Permit (No. 206-V4), expired on June 18, 2020.[22]

Title V permits must include conditions sufficient to "assure compliance" with applicable Clean Air Act requirements, 42 U.S.C. §7661c(a), and are applicable for a maximum of five years, *id.* § 7661a(b)(5)(B). If a facility applies for a renewal of a permit, the permitting authority must review the permit to assure compliance with the Clean Air Act and provide an opportunity for meaningful public notice and comment. *See* 40 C.F.R. § 70.7(a)(1)(ii), (iv).[23] LDEQ's multiple failures to review Denka's permit renewal applications and determine whether to renew and strengthen those permits are ongoing violations of Title VI and are therefore timely for ECRCO to consider. LDEQ has an ongoing duty to review and determine whether to renew these permits. Each day that LDEQ fails to review and take action on Denka's renewal applications, it allows Denka to operate without a current, unexpired permit that assures compliance with all applicable Clean Air Act requirements.

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[18] EPA, *Case Resolution Manual* 8 (Jan. 2021), https://www.epa.gov/sites/default/files/2021-01/documents/2021.1.5_final_case_resolution_manual_.pdf.

[19] *Id.*

[20] Approval of Title V Permit for Chloroprene Unit 2 (Sept. 9, 2014), https://edms.deq.louisiana.gov/app/doc/view?doc=9456485.

[21] Approval of Title V Permit for Neoprene Unit 2 (Apr. 27, 2017), https://edms.deq.louisiana.gov/app/doc/view?doc=10591494.

[22] Approval of Title V Permit for HCl Unit 2 (Mar. 3, 2017), https://edms.deq.louisiana.gov/app/doc/view?doc=10524994.

[23] Denka is allowed to operate on an expired permit only after submitting a "timely and complete renewal application has been submitted." 40 C.F.R. 70.7(c)(ii). This provision, however, does not excuse permitting authorities from their duty to review and decide on permit renewal applications.

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Additionally, for years, LDEQ has allowed Denka to release excessive levels of chloroprene emissions that disproportionately affect St. John's Black community. This failure is an ongoing violation of Title VI and is therefore timely for ECRCO to consider. As discussed in further detail below, EPA concluded that chloroprene is "likely to be carcinogenic to humans" and determined that ambient air concentrations of chloroprene of 0.2 $\mu g/m^3$ are attributable to a cancer risk of 100-in-1 million, EPA's benchmark for unacceptable cancer risk.[24] EPA's air monitoring to date has consistently shown that ambient air levels of chloroprene in St. John the Baptist Parish far exceed the ambient concentration risk value of 0.2 $\mu g/m^3$.[25] According to EPA's monitoring data, chloroprene air concentrations in St. John remained as high as 23.677 $\mu g/m^3$ as of September 2021—almost *120 times* the ambient concentration cancer risk value of 0.2 $\mu g/m^3$ that is presumptively unacceptable.[26] The most recent data available indicate that chloroprene air concentrations in St. John remained as high as 18.387 $\mu g/m^3$ on December 3, 2021, in Chad Baker—over 90 times higher than the 0.2 $\mu g/m^3$ unacceptability benchmark.[27] In spite of this data, LDEQ has not reviewed Denka's permit renewal applications, conducted the required public participation process for permit renewals, determined whether to strengthen the permits to assure compliance with the Clean Air Act, or otherwise acted to sufficiently protect public health.

LDEQ's discriminatory conduct also consists of discriminatory actions and continuing discriminatory policies and practices. LDH has failed to recommend the relocation of Fifth Ward Elementary School or make any other recommendations to protect public health in St. John the Baptist Parish from the unacceptable cancer risk EPA data show.

Notably, and in the alternative, ECRCO may and should waive the 180-day time limit in view of the longstanding harm caused by both LDEQ's and LDH's discriminatory acts and failures to act, and EPA's failure to engage in oversight and ensure civil rights compliance by these federal grant recipients. *See* 40 C.F.R. § 7.120(b)(2).

D. Other Jurisdictional and Prudential Concerns

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[24] EPA, *IRIS Summary for Chloroprene* 11 (Sept. 2010), https://iris.epa.gov/static/pdfs/1021_summary.pdf. *See* EPA, *Toxicological Review of Chloroprene* 138 (Sept. 2010), https://iris.epa.gov/static/pdfs/1021tr.pdf; Memo from Kelly Rimer, Leader, Air Toxics Assessment Group, Health & Env't Impacts Div., OAQPS, to Frances Verhalen, P.E., Chief, Air Monitoring/Grants Section, EPA Region 6, Re: Preliminary Risk-Based Concentration Value for Chloroprene in Ambient Air (May 5, 2016), https://www.epa.gov/sites/default/files/2016-06/documents/memo-prelim-risk-based-concentrations050516.pdf. As Sierra Club and CCSJ have explained in comments to EPA, the 100-in-1 million cancer risk benchmark, set in 1989, is outdated and far too high. The benchmark should be reduced in light of children's vulnerability to cancer risk, environmental justice concerns, multiple source impacts, and the availability of current monitoring and pollution controls.

[25] *See* Memo from Kelly Rimer, Leader, Air Toxics Assessment Group, Health & Env't Impacts Div., OAQPS, to Frances Verhalen, P.E., Chief, Air Monitoring/Grants Section, EPA Region 6, Re: Preliminary Risk-Based Concentration Value for Chloroprene in Ambient Air (May 5, 2016), https://www.epa.gov/sites/production/files/2016-06/documents/memo-prelim-risk-based-concentrations050516.pdf.

[26] EPA, *Continuous Air Monitoring Summary Results for Chloroprene March 10, 2020 - December 8, 2021*, https://www.epa.gov/system/files/documents/2022-01/continuous-monitoring-summary-march-10-2020-through-december-08-2021.pdf (last visited Jan. 18, 2022).

[27] *Id.*

This complaint satisfies all other jurisdictional and prudential considerations laid out in Title VI, EPA's implementing regulations, and EPA's Interim Case Resolution Manual. This complaint is in writing, describes the alleged discriminatory acts, and is filed with EPA by CCSJ and Sierra Club, authorized representatives of St. John residents harmed by LDEQ's and LDH's violations of Title VI. 40 C.F.R. § 7.120(a). This complaint contains unique civil rights allegations that have not been alleged in a pending or resolved complaint before the EPA or another Federal, State, or local agency, or a state or federal court.[28] CCSJ and Sierra Club's deadline suit in the United States District Court for the District of Columbia federal court alleges that EPA is in violation of the Clean Air Act only. Complaint, *Concerned Citizens of St. John, et al. v. EPA*, D.D.C. Nov. 18, 2021) (No. 21-3063). It does not allege civil rights allegations. CCSJ has not filed any Title VI court action against the agencies at issue here, LDEQ or LDH.

III. Facts

A. Residents of St. John the Baptist Parish are disproportionately exposed to toxic air pollution, including chloroprene emissions from Denka.

John the Baptist Parish is located in Cancer Alley, an 85-mile-long corridor between Baton Rouge and New Orleans with over 150 industrial polluting facilities that have contributed to numerous environmental harms that disproportionately affect communities of color.[29] Environmental racism in Cancer Alley is a longstanding issue.[30] St. John the Baptist Parish has 42,477 residents, and 58.4% of them are African American.[31] St. John the Baptist residents are surrounded by petrochemical plants and oil refineries, including Denka, Evonik Materials' plant, Union Carbide Corporation's Taft/Star operation, and Marathon Petroleum's oil refinery.[32] Children are particularly vulnerable to the health consequences of toxic air pollution, and one of the parish's elementary schools, Fifth Ward Elementary, is located three blocks from Denka. EPA's 2014 National Air Toxics Assessment concluded that St. John residents face a cancer risk as high as 1,505-in-1 million—the highest cancer risk in the nation from air pollution—due to toxic air pollutant emissions from nearby facilities.[33] EPA attributed 85% (1,279-in-1 million)

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[28] EPA, *Case Resolution Manual* 11-12 (Jan. 2021), https://www.epa.gov/sites/default/files/2021-01/documents/2021.1.5_final_case_resolution_manual_.pdf. After CCSJ filed its emergency petition providing notice to the EPA Administrator that a Title VI investigation was needed, ECRCO conferred with petitioners' counsel and stated that it would wait to begin a Title VI investigation until CCSJ filed a full, formal Title VI complaint. This complaint includes newly detailed factual allegations of violations demonstrating that an investigation and relief to remedy these violations are required.

[29] *See* Matt Black & Trymaine Lee, *Cancer Alley: Big Industry, Big Problems*, PULITZER CENTER (Aug. 7, 2015), https://pulitzercenter.org/stories/cancer-alley-big-industry-big-problems.

[30] *See* United Nations Human Rights Office of the High Commissioner, *USA: Environmental racism in "Cancer Alley" must end – experts* (Mar. 2, 2021), https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=26824&LangID=E; Forensic Architecture, *Environmental Racism in Death Alley, Louisiana* (June 28, 2021) https://forensic-architecture.org/investigation/environmental-racism-in-death-alley-louisiana.

[31] U.S. Census Bureau, *QuickFacts St. John the Baptist Parish, Louisiana,* https://www.census.gov/quickfacts/fact/table/stjohnthebaptistparishlouisiana/PST045217 (last visited Jan. 18, 2022).

[32] Sharon Lerner, *A Tale of Two Toxic Cities*, THE INTERCEPT (Feb. 24, 2019), https://theintercept.com/2019/02/24/epa-response-air-pollution-crisis-toxic-racial-divide/.

[33] EPA, *2014 National Air Toxics Assessment* (Aug. 22, 2018), https://gispub.epa.gov/NATA/.

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of the cancer risk from air pollution in census tract 708 in St. John to chloroprene emissions from Denka, 12% (187-in-1 million) to ethylene oxide emissions, and 3% (38-in-1 million) to all other pollutants.[34]

The Denka facility, originally owned by E.I. DuPont de Nemours and Company ("DuPont"), produces neoprene. In 1941, Dupont constructed a neoprene facility in Rubbertown, a neighborhood in Louisville, Kentucky. Almost three decades later, in 1969, the company constructed a neoprene facility in St. John the Baptist Parish.[35] Since then, the plant has emitted chloroprene, a hazardous air pollutant.[36] In 2008, DuPont closed its plant in Rubbertown and relocated all neoprene production operations to the Dupont/Denka facility in St. John.[37]

In a 2010 Integrated Risk Information System assessment for chloroprene, EPA concluded that chloroprene "is likely to be carcinogenic to humans"[38] and determined that chloroprene levels of 0.002 $\mu g/m^3$ are attributable to a cancer risk of 1-in-1 million.[39] EPA also concluded that inhalation of chloroprene increases the risk of not only cancer but also numerous other adverse health effects, including nervous system and heart damage, gastrointestinal problems, hematological problems, and immune system dysfunction.[40]

Consistent with EPA's IRIS assessment, Stanford researchers conducted a 2018 household health survey of residents who lived within 2.5 kilometers of the Denka facility and found that the neighborhoods in the census blocks immediately adjacent to the facility, which were predominantly African American, faced "extremely improbable rates of cancer and other illness."[41] The survey also found that:

> nearly 40% [of those surveyed] regularly experience chest pain, heart palpitations, or both; one-third regularly experience[d] wheezing and/or difficulty breathing; more than half regularly experience[d] headaches, dizziness, and/or lightheadedness; nearly half regularly experience[d] eye pain/irritation and/or watery eyes; more than 40% experience[d] cough, sneezing, and/or sore/hoarse

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[34] *Id. See* Al Shaw & Lylla Younes, *The Most Detailed Map of Cancer-Causing Industrial Air Pollution in the U.S.*, PROPUBLICA (Nov. 2, 2021), https://projects.propublica.org/toxmap/ (showing high cancer rates in St. John the Baptist Parish and Cancer Alley due to toxic air pollution); Lylla Younes et al., *Poison in the Air*, PROPUBLICA (Nov. 2, 2021), https://www.propublica.org/article/toxmap-poison-in-the-air (discussing map and data analysis).
[35] Rebecca Hersher, *After Decades of Air Pollution, A Louisiana Town Rebels Against A Chemical Giant*, NPR (Mar. 6, 2018), https://www.npr.org/sections/health-shots/2018/03/06/583973428/after-decades-of-air-pollution-a-louisiana-town-rebels-against-a-chemical-giant.
[36] Sharon Lerner, *A Tale of Two Toxic Cities*, THE INTERCEPT (Feb. 24, 2019), https://theintercept.com/2019/02/24/epa-response-air-pollution-crisis-toxic-racial-divide/.
[37] *Id.*
[38] EPA, *IRIS Summary for Chloroprene* 11 (Sept. 2010), https://iris.epa.gov/static/pdfs/1021_summary.pdf.
[39] EPA, *Toxicological Review of Chloroprene* 138 (Sept. 2010), https://iris.epa.gov/static/pdfs/1021tr.pdf.
[40] EPA, *IRIS Summary for Chloroprene* 5 (Sept. 2010), https://iris.epa.gov/static/pdfs/1021_summary.pdf.
[41] University Network for Human Rights, *Waiting to Die: Toxic Emissions and Disease Near the Louisiana Denka/DuPont Plant* (2019), https://www.humanrightsnetwork.org/waiting-to-die; *see* Ruhan Nagra et al., *"Waiting to Die": Toxic Emissions and Disease Near the Denka Performance Elastomer Neoprene Facility in Louisiana's Cancer Alley*, 14 ENVIRONMENTAL JUSTICE 14 (Feb. 18, 2021), https://www.liebertpub.com/doi/abs/10.1089/env.2020.0056 (attached).

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> throat most of the time; more than one-third regularly experience[d] skin rash/irritation and/or itchy skin; and nearly 30% experience[d] fatigue/lethargy most of the time.[42]

Additionally, the study concluded there was a positive correlation between the prevalence of cancer (and other illnesses) and proximity to the Denka facility, meaning that residents were more likely to suffer from one or more of the aforementioned health afflictions the closer they live to Denka.[43]

Denka's owners and operators have known about the adverse health consequences from chloroprene exposure since the 1940s.[44] In 1941, then-owner Dupont produced a report detailing many of the same illnesses that workers suffered at the time, which are now experienced by residents of St. John the Baptist Parish.[45] Although Dupont knew about the dangers for years, it did not submit the report to EPA until 1992.[46]

For years, Denka has attempted to undermine EPA's science on the carcinogenicity of chloroprene. Denka has repeatedly attacked EPA's chloroprene IRIS assessment and risk value determination, even though they are directly supported by and consistent with findings of similarly highly regarded, scientific agencies, like the National Toxicology Program.[47] For example, in 2017, Denka filed a request for correction of the 2010 IRIS cancer risk value under the Information Quality Act. Denka claimed to have "derived an [inhalation unit risk] for chloroprene that is 156 times lower than that derived by US EPA."[48] In 2018, EPA denied Denka's request for correction because it found that EPA's underlying toxicological review was consistent with its Information Quality Guidelines.[49] In 2018, Denka submitted a request for reconsideration alleging that the 2010 IRIS cancer risk value warranted reconsideration due to new developments to a physiologically based pharmacokinetic ("PBPK") model for chloroprene.[50] The PBPK model was developed by Ramboll Environ, an industry-consulting

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[42] University Network for Human Rights, *Waiting to Die: Toxic Emissions and Disease Near the Louisiana Denka/DuPont Plant* (2019), https://www.humanrightsnetwork.org/waiting-to-die.
[43] *Id.* (summarizing study findings).
[44] Submission from Mark Christman, Counsel, Dupont to EPA's Document Processing Center (Oct. 18, 1992), https://theintercept.com/document/2017/03/23/toxicity-of-chlorabutadiene/. Also available at https://chemview.epa.gov/chemview/ (search under "Advanced Search," then "Document Information" for 8EHQ-92-13131, click on "chloroprene" and then click "TSCA § 8(e) Submission).
[44] *Id.*
[45] *Id.* attachment "Medical Research Project No. MR-77" at 3-19 (May 28, 1941), https://theintercept.com/document/2017/03/23/toxicity-of-chlorabutadiene/.
[46] Submission from Mark Christman, Counsel, Dupont to EPA's Document Processing Center (Oct. 18, 1992), https://theintercept.com/document/2017/03/23/toxicity-of-chlorabutadiene/.
[47] *See, e.g.*, Dep't of Health and Human Servs. Nat. Toxicology Prog., *Report on Carcinogens, Chloroprene* (15 ed. 2021), https://ntp.niehs.nih.gov/ntp/roc/content/profiles/chloroprene.pdf.
[48] Ramboll Environ, *Basis for Requesting Correction of the US EPA Toxicological Review of Chloroprene* 56 (June 2017), https://www.epa.gov/sites/production/files/2017-06/documents/exhibit_1-6_to_request_for_correction.pdf.
[49] Letter from Jennifer Orme-Zavaleta, PhD, Principal Deputy Assistant Adm'r for Science, Off. of Rsch. and Dev., EPA, to Robert Holden 2 (Jan. 25, 2018), https://www.epa.gov/sites/production/files/2018-08/documents/rfr_exhibits_a-g_n3630829x7a3a0.pdf (responding to Denka's RFC).
[50] Request for Reconsideration (RFR 17002A), Robert Holden on behalf of Denka Performance Elastomer LLC (July 23, 2018), https://www.epa.gov/sites/production/files/2018-08/documents/rfr_final_draft_7-23-2018_n3630830x7a3a0.pdf.

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group hired by Denka, and concluded that the inhalation unit risk for chloroprene was 156 times lower than EPA had found.[51] In 2020, EPA convened an external peer-review panel to review the PBPK model developed by Ramboll and by December 2021, the resulting peer review concluded and the findings were released to the public.[52] Notably, the reviewers overwhelmingly concluded that the model was not appropriate or sufficient for use as an alternative to EPA's 2010 IRIS toxicological assessment for chloroprene, with one reviewer stating, "...that it is NOT PRUDENT for the EPA to grant the requested 137X relaxation of the risk estimate in the IRIS risk assessment."[53] CCSJ and other groups also submitted comments to EPA on the fatal flaws with the PBPK model.[54] In the subsequent months, Denka voluntarily withdrew its request for reconsideration and submitted a new request for correction on July 15, 2021.[55]

EPA's air monitoring data show that St. John residents have been exposed to dangerous levels of chloroprene emissions for years.[56] More recent data shows that chloroprene air concentrations in St. John remained as high as 23.677 $\mu g/m^3$ in September 2021and 18.387 $\mu g/m^3$ in December 2021.[57]

In addition to longstanding exposure to chloroprene, residents of St. John also face exposure to ethylene oxide emissions from facilities owned by Union Carbide and Evonik Materials Corporation. EPA classifies ethylene oxide as a potent, known carcinogen.[58] The NATA has shown ethylene oxide emissions also contribute substantially to the unacceptable cancer risks faced by the St. John community.[59]

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[51] *Id.* at 4 n.6.

[52] *See* Versar, Inc., *Post-Meeting Peer Review Summary Report: External Peer Review of a Report on Physiologically Based Pharmacokinetic (PBPK) Modeling for Chloroprene (Ramboll, 2020) and a Supplemental Analysis of Metabolite Clearance (U.S. EPA, 2020)* (Dec. 17, 2020), https://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=541872.

[53] *See id.* at 15-16 (Raymond S.H. Yang, PhD).

[54] *See* Letter from CCSJ et al. to John Vandenberg, Dir. of Rsch., Nat'l Ctr. for Env't Assessment, EPA (Aug. 2, 2019) (attached); CCSJ et al., Comment Letter on PBPK Modeling for Chloroprene, 85 Fed. Reg. 44,885, Docket: EPA-HQ-ORD-2020-0181-0001 (Aug. 24, 2020), https://www.regulations.gov/comment/EPA-HQ-ORD-2020-0181-0016.

[55] Letter from Denka to EPA (July 15, 2021), https://www.epa.gov/system/files/documents/2021-07/chloroprene_rfc_letter-_071521.pdf.

[56] EPA, *Continuous Air Monitoring Summary Results for Chloroprene March 10, 2020 - December 8, 2021*, https://www.epa.gov/system/files/documents/2022-01/continuous-monitoring-summary-march-10-2020-through-december-08-2021.pdf (last visited Jan. 18, 2022).

[57] *Id.* EPA has directed Denka to add new fenceline monitoring using Methods 325A and 325B. *See* Letter from Penny Lassiter, Off. of Air Quality Plan. and Standards, EPA and Evan Belser, Off. of Civ. Enf't, EPA, to Jorge Lavastida, Exec. Officer and Plant Manager, Denka Performance Elastomer, LLC, Re: Clean Air Act Information Request for Denka Performance Elastomer, LLC Facility in LaPlace, Louisiana 7 (June 15, 2021), https://edms.deq.louisiana.gov/app/doc/view?doc=12754954. So far, these data have not been made publicly available. ECRCO should consult OAR to review the data and to monitor LDEQ's and LDH's action or inaction in response to the data.

[58] EPA, *Evaluation of the Inhalation Carcinogenicity of Ethylene Oxide* 2 (Dec. 2016), https://iris.epa.gov/static/pdfs/1025_summary.pdf.

[59] EPA, *2014 National Air Toxics Assessment* (Aug. 22, 2018), https://gispub.epa.gov/NATA/.

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The COVID-19 pandemic has exacerbated the harms from exposure to toxic air pollution. St. John residents have increased vulnerability to mortality from COVID-19.[60] At one point of the COVID-19 pandemic, St. John the Baptist had the highest COVID-19 death rate per capita in the United States.[61] By July 2020, six of the ten parishes with the highest COVID-19 death rates in Louisiana were in Cancer Alley.[62] A Harvard study found a correlation between long-term exposure to air pollution and COVID-19 mortality rates.[63] The results of the study "underscore the importance of continuing to enforce existing air pollution regulations to protect human health both during and after the COVID-19 crisis."[64] A more localized study confirmed that across parishes in Louisiana, higher COVID-19 deaths were associated with higher exposure to air pollution.[65]

B. LDEQ and LDH have failed to protect St. John residents from toxic air pollution and the consequent health crisis.

In spite of the data showing high rates of cancer and other illnesses in St. John the Baptist Parish, LDEQ and LDH have failed to take sufficient action to protect the community.

1. LDEQ's Failure to Review Permit Renewal Applications and Determine Whether to Strengthen and Renew Permits

For years, LDEQ has failed to review Denka's permit renewal applications for the Chloroprene Unit, Neoprene Unit, and HCl Unit and to determine whether to renew and strengthen those permits.

Under EPA regulations, a state permitting program "shall provide that the permitting authority take final action on each permit application (including a request for permit modification or renewal) within 18 months, or such lesser time approved by the Administrator, after receiving a complete application." 40 C.F.R. § 70.7(a)(2). "If the permitting authority fails to act in a timely way on a permit renewal, EPA may invoke its authority under section 505(e) of

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[60] *See* Michael Petroni et al., *Hazardous air pollutant exposure as a contributing factor to COVID-19 mortality in the United States*, 15 ENVIRONMENTAL RESEARCH LETTERS (Sept. 11, 2020), https://iopscience.iop.org/article/10.1088/1748-9326/abaf86/pdf; Sara Sneath, *Louisiana's river region residents seek scrutiny of pollution's role in coronavirus deaths*, THE NEW ORLEANS ADVOCATE (Apr. 16, 2020), https://www.nola.com/news/coronavirus/article_773badc2-7a6c-11ea-bb14-d325aeecfb71.html.

[61] Ashley Killough & Ed Lavandera, *This small Louisiana parish has the highest death rate per capita for coronavirus in the country*, CNN (Apr. 16, 2020), https://www.cnn.com/2020/04/15/us/louisiana-st-john-the-baptist-coronavirus/index.html.

[62] Kimberly A. Terrell & Wesley James, *Racial Disparities in Air Pollution Burden and COVID-19 Deaths in Louisiana, USA, in the Context of Long-Term Changes in Fine Particulate Pollution* 6, ENVIRONMENTAL JUSTICE (Sept. 2, 2020), https://www.liebertpub.com/doi/pdfplus/10.1089/env.2020.0021.

[63] X. Wu, et al., *Fine particulate matter and COVID-19 mortality in the United States: A national study on long-term exposure to air pollution and COVID-19 mortality in the United States* (Nov. 4, 2020) https://www.science.org/doi/10.1126/sciadv.abd4049.

[64] Harvard T.H. Chan Sch. of Pub. Health, *Air pollution linked with higher COVID-19 death rates* (May 5, 2020), https://www.hsph.harvard.edu/news/hsph-in-the-news/air-pollution-linked-with-higher-covid-19-death-rates/.

[65] Kimberly A. Terrell & Wesley James, *Racial Disparities in Air Pollution Burden and COVID-19 Deaths in Louisiana, USA, in the Context of Long-Term Changes in Fine Particulate Pollution* 6, ENVIRONMENTAL JUSTICE (Sept. 2, 2020), https://www.liebertpub.com/doi/pdfplus/10.1089/env.2020.0021.

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the Act to terminate or revoke and reissue the permit." *Id.* (c)(2). Title V permits must "assure compliance with applicable requirements of [the Clean Air Act]." 42 U.S.C. § 7661c(a).

Denka's Chloroprene Unit Title V Operating Permit expired on April 26, 2017.[66] Denka submitted a permit renewal application in 2016 and addenda in 2018 and 2020.[67] The Neoprene Unit Title V Operating Permit expired on May 15, 2019.[68] Denka submitted a permit renewal application in 2018 and two addenda in 2020.[69] Denka's HCl Recovery Unit Title V permit expired on June 18, 2020.[70] Denka submitted a permit renewal application in 2019 and addendum in 2020.[71] According to LDEQ's Electronic Document Management System, LDEQ did not make a determination on whether to renew and strengthen any of these three renewal applications.

2. *LDEQ's Failure to Conduct Public Notice and Comment Procedures on Permit Renewals*

Because LDEQ failed to renew the above permits, it also failed to provide the public with the legally required opportunity to participate in decision-making on the continued operation of Denka's Neoprene, Chloroprene, and HCl Recovery Units. LDEQ may not issue or renew a permit without conducting specific public participation processes. *See* 40 C.F.R. § 70.7(a)(1)(ii), (c)(1)(i) (federal requirements for public participation); La. Admin. Code tit. 33, § 531 (Louisiana requirements for public participation). LDEQ must give the public notice of all Part 70 permit proceedings (including initial permit issuance, significant modifications, and renewals) except for minor permit modification procedures. La. Admin. Code tit. 33, § 531(A)(2). LDEQ

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[66] Approval of Title V Permit for Chloroprene Unit 2 (Sept. 9, 2014), https://edms.deq.louisiana.gov/app/doc/view?doc=9456485.

[67] Title V Permit Renewal Application for Chloroprene Unit (Oct. 26, 2016), https://edms.deq.louisiana.gov/app/doc/recaptcha?previousUrl=https://edms.deq.louisiana.gov/app/doc/view?doc=10386907; Letter from LDEQ to Denka (Oct. 27, 2016), https://edms.deq.louisiana.gov/app/doc/view?doc=10380644 (stating permit renewal application was complete); Addendum 1 to Oct. 26, 2016 Title V Permit Renewal Application for Chloroprene Unit (Nov. 1, 2018), https://edms.deq.louisiana.gov/app/doc/view?doc=11395898 (stating that LDEQ did not renew permit); Addendum 2 to Oct. 26, 2016 Title V Permit Renewal Application for Chloroprene Unit (Dec. 18, 2020), https://edms.deq.louisiana.gov/app/doc/view?doc=12489947. Complainants note LDEQ recognized the application as complete, but Complainants take no position on whether the application actually contained or satisfied any substantive requirements.

[68] Approval of Title V Permit for Neoprene Unit (Apr. 27, 2017), https://edms.deq.louisiana.gov/app/doc/view?doc=10591494.

[69] Title V Permit Renewal Application for Neoprene Unit (July 26, 2018), https://edms.deq.louisiana.gov/app/doc/view?doc=11249049; Addendum 1 to July 26, 2018 Title V Permit Renewal Application for Neoprene Unit (Jan. 28, 2020), https://edms.deq.louisiana.gov/app/doc/view?doc=12041259; Addendum 2 to July 26, 2018 Title V Permit Renewal Application for Neoprene Unit (Aug. 28, 2020), https://edms.deq.louisiana.gov/app/doc/view?doc=12328494.

[70] Approval of Title V Permit for HCl Unit (Mar. 3, 2017), https://edms.deq.louisiana.gov/app/doc/view?doc=10524994.

[71] Title V Permit Renewal Application for HCl Unit (Nov. 19, 2019), https://edms.deq.louisiana.gov/app/doc/view?doc=11954047; Letter from LDEQ to Denka (Nov. 21, 2019), https://edms.deq.louisiana.gov/app/doc/view?doc=11949706 (stating that application was complete); Addendum 1 to Nov. 19, 2019 Title V Permit Renewal Application for HCl Unit (June 2, 2020), https://edms.deq.louisiana.gov/app/doc/view?doc=12204487. Complainants note LDEQ recognized the application as complete, but Complainants take no position on whether the application actually contained or satisfied any substantive requirements.

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must also provide at least 30 days for public comment and notice of any public hearing at least 30 days in advance of the hearing. *Id.* § 531(A)(3)(c). LDEQ "shall keep a record of the commenters and of the issues raised during the public participation process, as well as records of the written comments submitted during that process," and these records shall be available to the public. *Id.* § 531(C). LDEQ must also respond in writing to all significant comments raised during the public participation process and make the response public. *Id.* § 531(D).

Here, LDEQ failed to comply with public participation requirements, including to conduct notice and comment, regarding Denka's three permit renewals. LDEQ still has not issued any information on the status of these permits.

3. *LDEQ's Failure to Sufficiently Reduce Denka's Chloroprene Emissions*

LDEQ has failed to sufficiently reduce chloroprene emissions and follow the most recent science on the carcinogenicity of chloroprene. In doing so, LDEQ has failed to fulfill its duty under the Louisiana Environmental Quality Act and the public trustee doctrine, both of which require the Department to protect public health.

On January 6, 2017, LDEQ and Denka signed an Administrative Order on Consent, issued under the Louisiana Environmental Quality Act, La. Stat. Ann. § 30:2011(D)(6), (14).[72] Denka agreed to install emissions reductions devices to lower the facility's 2014 baseline chloroprene emissions by 85%.[73] Even when Denka purported to reduce its emissions by 85%, however, the ambient air concentration of chloroprene has remained astronomically higher than EPA's acceptable cancer risk value. For example, ambient air concentrations of chloroprene remained as high as 23.677 $\mu g/m^3$ in St. John as of September 2021.[74] This value is over *11,000 times* the ambient concentration cancer risk value of 0.002 $\mu g/m^3$, the level set by EPA scientists in 2010 and recognized as the goal for community health protection. It is over 118 times the level of 0.2 $\mu g/m^3$, the level at which EPA deems the cancer risk level presumptively unacceptable because it causes a cancer risk of 100-in-1 million or more.[75] More recently, continuous air monitoring results showed ambient air concentrations of chloroprene as high as 18.387 $\mu g/m^3$ on December 3, 2021.[76]

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[72] LDEQ, *Administrative Order on Consent* (Jan. 6, 2017), https://www.deq.louisiana.gov/assets/docs/Denka/DENKA_AdministrativeOrderOnConsentAOCJan2017.pdf.

[73] LDEQ, *LDEQ and Denka sign AOC designed to reduce chloroprene emissions at LaPlace facility* (Jan. 10, 2017), https://deq.louisiana.gov/news/ldeq-and-denka-sign-aoc-designed-to-reduce-chloroprene-emissions-at-laplace-facility.

[74] EPA, *Continuous Air Monitoring Summary Results for Chloroprene March 10, 2020 - December 8, 2021*, https://www.epa.gov/system/files/documents/2022-01/continuous-monitoring-summary-march-10-2020-through-december-08-2021.pdf (last visited Jan. 18, 2022).

[75] *See* Memo from Kelly Rimer, Leader, Air Toxics Assessment Group, Health & Env't Impacts Div., OAQPS, to Frances Verhalen, P.E., Chief, Air Monitoring/Grants Section, EPA Region 6, Re: Preliminary Risk-Based Concentration Value for Chloroprene in Ambient Air (May 5, 2016), https://www.epa.gov/sites/production/files/2016-06/documents/memo-prelim-risk-based-concentrations050516.pdf.

[76] EPA, *Continuous Air Monitoring Summary Results for Chloroprene March 10, 2020 - December 8, 2021*, https://www.epa.gov/system/files/documents/2022-01/continuous-monitoring-summary-march-10-2020-through-december-08-2021.pdf (last visited Jan. 18, 2022).

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Furthermore, although LDEQ has inspected the Denka facility to gauge compliance with various regulations, such inspections lack transparency. For example, LDEQ conducted an on-site compliance inspection on June 6, 2016, but failed to notify the public as to the results of that inspection.[77] When the facility reported ICIS-Air-related deviations, LDEQ failed to notify the public as to the nature of the deviations and whether Denka remedied them.[78] LDEQ is continuing to allow high ambient concentrations of chloroprene to occur, without consequence or action.

Indeed, a legislative audit of LDEQ confirmed that the agency's monitoring and enforcement processes contain numerous gaps.[79] According to the audit, LDEQ's identification of high priority violations is riddled with delays.[80] LDEQ does not issue enforcement actions in a timely manner to permitted facilities that violate air permit requirements. The time it took LDEQ to issue enforcement actions between 2015 and 2019 increased by 102.1%, from 289 days on average to 585 days.[81] Additionally, under Louisiana law, LDEQ loses its ability to assess or enforce actions after 5 years from the date of first reporting an enforcement action.[82] Of the 211 violations surveyed by the audit, 48 (22.7%) occurred more than five years prior to LDEQ issuing the enforcement action.[83] As a result, violations of air permits remain uncorrected for years.[84] LDEQ also does not effectively track penalties it has assessed and whether companies have paid these fines.[85] The agency has failed to remedy this process which appears to be due in part to its choices leading to insufficient staffing, high workloads, frequent staff turnover, and inefficient data systems.[86]

4. *LDH's Failure to Protect the Health of St. John Residents*

LDH has also failed to adequately protect St. John residents from disproportionate exposure to toxic air pollution. LDH's Office of Public Health is tasked with "perform[ing] those functions of the state provided by law relating to environmental quality and pollution control which are related to the public health and which are specifically assigned to the department." La. Stat. Ann. § 36.258. The Section of Environmental Epidemiology and Toxicology ("SEET") serves as a public health program for LDH and investigates the health effects of chemical exposure and participates in environmental health research.[87] The duties of SEET include: (1) "identifying chemicals in the environment which are likely to cause adverse

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[77] *See* EPA, *Action Plan* 5 (June 2016), https://www.epa.gov/sites/production/files/2016-06/documents/epa-laplace-action-plan.pdf.
[78] *See* EPA, *Detailed History Report*, https://echo.epa.gov/detailed-facility-report?fid=110067396669. LDEQ performed TV ACC Receipt/Review Inspections on March 29, 2019, and April 29, 2020, and found deviations.
[79] Louisiana Legislative Auditor, *Monitoring and Enforcement of Air Quality* 3 (Jan. 20, 2021), http://app.lla.state.la.us/PublicReports.nsf/0/4F3372ABDDF0F271862586630067C25D/$FILE/00022660A.pdf?OpenElement&.7773098.
[80] *Id.* at 9.
[81] *Id.* at 3, 12.
[82] *Id.* at 11.
[83] *Id.* at 13.
[84] *Id.* at 11.
[85] *Id.* at 3-4.
[86] *Id.* at 4.
[87] LDH, *Environmental Epidemiology & Toxicology*, https://ldh.la.gov/subhome/22 (last visited Jan. 18, 2022).

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health effects," (2) "evaluating the extent of human exposure to these chemicals and the resultant adverse health effects," (3) "making recommendations for the prevention and reduction of exposure to hazardous chemicals," and (4) "promoting a better public understanding of the health effects of chemicals in the environment."[88]

In the face of alarming EPA data on the cancer risk in St. John the Baptist Parish, LDH has not protected public health, "ma[de] recommendations for the prevention and reduction of exposure to hazardous chemicals," or "promot[ed] a better public understanding of the health effects of chemicals in the environment."[89] CCSJ has repeatedly advocated for the relocation of Fifth Ward Elementary School, located three blocks from Denka, to protect schoolchildren from chloroprene emissions.[90] A 2018 LDH study conducted by SEET concluded that Fifth Ward Elementary School students faced a higher cancer risk due to chloroprene emissions than children in East St. John Elementary School, located further from Denka.[91] Nonetheless, LDH did not recommend relocation of the school.

LDH's provided reasoning for not recommending relocation was nonsensical and out of step with its legal obligations and public health mission. LDH concluded that "transferring children from the current Fifth Ward Elementary School location to another location within the community would not greatly decrease their theoretical risks of developing excess cancers from exposure to chloroprene."[92] In other words, in spite of LDH's duty to "mak[e] recommendations for the prevention and reduction of exposure to hazardous chemicals," LDH has refused to provide recommendations for protecting schoolchildren at Fifth Ward Elementary School because the entire parish suffers a high cancer risk.[93] In contrast to LDH's approach to widespread chloroprene exposure in St. John the Baptist Parish, LDH has provided schools with recommendations on how to protect students from the COVID-19 pandemic and even provided free testing for students.[94]

Furthermore, LDH officials also "found no reason that children cannot attend the school" because "[m]onitoring has shown spikes of chloroprene, not continuous exposure."[95] LDH and LDEQ failed to demonstrate or explain, however, why spikes in chloroprene emissions do not

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[88] *Id.*
[89] *Id.*
[90] Nick Reimann, *St. John School Board panel suggests study on moving students from school near chemical plant*, NEW ORLEANS ADVOCATE (Aug. 27, 2019), https://www.nola.com/news/education/article_275fc7d2-c83a-11e9-8fa9-87f1f4a3225a.html; St. John the Baptist Parish School Board, *Proceedings* 14 (Aug. 15, 2019), https://4.files.edl.io/a7b7/08/21/19/170128-caa64fa9-39c6-45b3-83fd-be5c1091fce6.pdf (CCSJ advocating to School Board for the relocation of Fifth Ward Elementary School).
[91] LDH, *A REFERENCE DOCUMENT FOR THE PRELIMINARY ASSESSMENT OF CHLOROPRENE LEVELS IN ST. JOHN THE BAPTIST PARISH: Evaluation of Potential Health Risks for Elementary School Students based on Early Sampling Results following Emissions Reductions* 14-15 (June 14, 2018), https://ldh.la.gov/assets/oph/Center-EH/DENKA/PreliminaryChloropreneReport.pdf.
[92] *Id.* at 15.
[93] *Id.*
[94] *See* LDH, *COVID-19 Information*, https://ldh.la.gov/safer-smarter-schools (last visited Jan. 18, 2022); LDH, *Safer Smarter Schools: K-12 COVID Testing in Louisiana Schools*, https://ldh.la.gov/assets/oph/Coronavirus/In-School Testing/WorkingwithSchools_101_StrategicEngagement.pdf (last visited Jan. 18, 2022).
[95] LDEQ, *Denka: The Path Forward*, https://www.deq.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=denka (last visited Jan. 18, 2022).

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pose a threat to students' health. To the contrary, short-term exposure "spikes" in chloroprene emissions should be cause for concern given that cancer risk is additive and children spend substantial time on the school campus and grounds. Furthermore, inhalation of chloroprene emission is associated with acute and chronic non-cancer risks.[96]

LDH's approach to pollution-related health issues at Fifth Ward Elementary School differs significantly from its approach to those issues at East St. John Elementary School. In 2015, LDH recommended that East St. John Elementary School "be moved back to its permanent location at the earliest possible time" because it "[wa]s located in a high risk area situated among several industrial facilities that produce air-borne particulates and the risk of chemical releases."[97] LDH did not make that same recommendation for Fifth Ward Elementary School, even after finding that its students suffered a higher cancer risk than students at East St. John Elementary School.[98] This discrepancy in treatment between the schools appears to be unexplained.

LDH also failed to make other recommendations to protect Fifth Ward Elementary School students' health. For example, for East St. John Elementary School students, LDH recommended that the school have a plan to: (1) "respond to any warnings of releases or production of particulates and should continue its close communications with the St. John Parish Office of Emergency Preparedness" and (2) "minimize the entry of particulates into the school and to manage indoor air quality using the EPA Tools for Schools process.[99] LDH also recommended that "[m]echanisms for the industrial facilities to provide immediate warnings to the school of chemical releases or times when heavy particulates are produced [] be put into place."[100] LDH has provided no similar information for chloroprene exposure for Fifth Ward Elementary students and their families.

5. *LDEQ's and LDH's Failure to Timely and Transparently Fulfill the Terms of an EPA Grant to Assess Cause of Cancer Risk in St. John*

LDEQ and LDH have also failed to timely and transparently fulfill the terms of an EPA grant to study cancer risk in St. John. In September 2020, EPA awarded LDH $86,081 and LDEQ $224,931 "to assess the health risks associated with Chloroprene exposure in St. John the Baptist Parish near the Denka Plant" by September 30, 2021.[101] The project had two objectives:

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[96] *See* EPA, Toxicological Review of Chloroprene, EPA/635/R-09/010F (Sept. 2010), https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/1021tr.pdf.

[97] *See* EPA, *Action Plan* 5 (June 2016), https://www.epa.gov/sites/production/files/2016-06/documents/epa-laplace-action-plan.pdf (summarizing LDH report).

[98] LDH, *A REFERENCE DOCUMENT FOR THE PRELIMINARY ASSESSMENT OF CHLOROPRENE LEVELS IN ST. JOHN THE BAPTIST PARISH: Evaluation of Potential Health Risks for Elementary School Students based on Early Sampling Results following Emissions Reductions* 14-15 (June 14, 2018), https://ldh.la.gov/assets/oph/Center-EH/DENKA/PreliminaryChloropreneReport.pdf.

[99] *See* EPA, *Action Plan* 6 (June 2016), https://www.epa.gov/sites/production/files/2016-06/documents/epa-laplace-action-plan.pdf (summarizing LDH report).

[100] *Id.*

[101] EPA, *Cooperative Agreement with LDH* 1 (Sept. 19, 2020) (attached); EPA, *Cooperative Agreement with LDEQ* 1 (Sept. 19, 2020) (attached). *See* EPA, *EPA awards Louisiana over $311,000 to assess air pollutants in St. John*

"(1) to determine if there are higher instances of cancer in the community due to toxic chemical emissions by the Denka Plant, and (2) to determine if there has been under-reporting of these cases of cancer in the Louisiana Tumor Registry."[102] To date, the community has been informed that LDEQ and LDH have performed an audit of the Tumor Registry in fulfillment of the grant's second objective.[103] To the community's knowledge, LDEQ and LDH have published no assessment that fulfills the first objective of the grant. The audit did not fulfill the first objective of the grant because it did not provide any conclusion as to whether higher instances of cancer in St. John were due to Denka's emissions or any other information that fulfills the obligation "to assess the health risks" from chloroprene exposure in St. John.[104] Indeed, Dr. Edward Trapido from Louisiana State University, who conducted the audit, stated that the Tumor Registry "does not collect data on possible contributing factors or environmental conditions to which persons with cancer may have been exposed. That is the purview of other entities and scientists."[105]

IV. Title VI Violations

Title VI and EPA's implementing regulations prohibit recipients of EPA financial assistance from carrying out activities that intentionally discriminate or create a disparate impact on protected groups, including communities of color. To establish a prima facie case of disparate impact, EPA must: "(1) identify the specific policy or practice at issue; (2) establish adversity/harm; (3) establish disparity; **and** establish (4) causation."[106] EPA's analysis focuses on the consequences of the policies or decisions instead of intent. If the evidence establishes a prima facie case of adverse disparate impact, EPA determines "whether the recipient has articulated a 'substantial legitimate justification' for the challenged policy or practice."[107] If a recipient shows a "substantial legitimate justification," EPA must determine whether there are less discriminatory alternatives to the policy or practice.[108] EPA has recognized that an agency may be in violation of Title VI even in circumstances where an agency is complying with applicable environmental laws if there is an adverse health impact on protected groups.[109]

LDEQ's and LDH's practices with respect to Denka have a disparate, adverse impact on Black residents of St. John the Baptist Parish. These agencies have failed to implement less

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Parish (Oct. 8, 2020), https://www.epa.gov/newsreleases/epa-awards-louisiana-over-311000-assess-air-pollutants-st-john-parish.

[102] EPA, *Cooperative Agreement with LDH* 1 (Sept. 19, 2020) (attached); EPA, *Cooperative Agreement with LDEQ* 1 (Sept. 19, 2020) (attached).

[103] Letter from David Gray, Acting Regional Administrator, EPA Region 6 to CCSJ (Apr. 5, 2021) (attached).

[104] *Id.*; EPA, *EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish* (Oct. 8, 2020), https://www.epa.gov/newsreleases/epa-awards-louisiana-over-311000-assess-air-pollutants-st-john-parish.

[105] David Mitchell, *Louisiana Tumor Registry hasn't missed cancers around Denka, LSU says, but can't speak to causes*, THE ADVOCATE (Mar. 1, 2021), https://www.theadvocate.com/baton_rouge/news/article_8ed5b334-7aa1-11eb-88b6-4be749a395f7.html.

[106] EPA, EPA, *U.S. EPA's EXTERNAL CIVIL RIGHTS COMPLIANCE OFFICE COMPLIANCE TOOLKIT* 8 (Jan. 18, 2017), https://www.epa.gov/sites/default/files/2020-02/documents/toolkit_ecrco_chapter_1-letter-faqs_2017.01.18.pdf (internal citations removed).

[107] *Id.* at 9.

[108] *Id.*

[109] *See Elston v. Talladega County Bd. Of Educ.*, 997 F.2d 1394, 1407, 1413 (11th Cir. 1993); *Larry P. v. Riles*, 793 F.2d 969, 982 (9th Cir. 1984).

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discriminatory alternatives. As a result, these agencies' practices violate Title VI and EPA's implementing regulations and warrant an investigation by ECRCO.

A. Practices at Issue

Both LDEQ and LDH have engaged in a series of conduct that has caused a disparate, adverse impact on St. John's African American community. As explained in detail above, LDEQ has permitted Denka to continue to operate under its standard mode of operations even though ambient air concentrations of chloroprene have consistently remained dangerously high and well above EPA's 0.2 $\mu g/m^3$ unacceptability benchmark. As of the date of the submission of this complaint, LDEQ has also failed to review Denka's permit renewal applications and determine whether to renew and strengthen those permits. LDEQ's failure to review Denka's permit renewals has delayed and denied the public's right to gain information about this facility's operations and impacts and to participate in the permit decision-making process. LDEQ has also failed to demonstrate that it is using its enforcement authority as needed to control Denka's chloroprene emissions to a level that protects public health.

As to LDH, the agency has repeatedly dismissed legitimate health concerns related to Denka's chloroprene emissions. Despite EPA's finding that there is a higher risk of cancer in St. John, LDH has not provided concrete recommendations to protect the students at Fifth Ward Elementary School or any other community members.

B. Adverse Impact

St. John the Baptist residents are adversely impacted by hazardous air pollution, especially chloroprene and ethylene oxide emissions. As discussed above, EPA data show that St. John the Baptist Parish residents face the highest cancer risk in the nation due to toxic air pollution—1,505-in-1 million—and that 97% of this risk comes from chloroprene and ethylene oxide emissions.[110]

Because they breathe toxic air daily, St. John residents have been exposed and are being exposed to extremely high cancer and other health risks associated with chloroprene emissions. Chloroprene is a likely human carcinogen that also weakens the immune system and causes headaches, heart palpitations, anemia, stomach problems, impaired kidney function, and rashes.[111] Indeed, many residents have endured or died from a range of illnesses including cancer, seizures, tumors, neurological problems, asthma, autoimmune disorders, stomach problems, heart palpitations, rashes, and kidney disorders.[112] Complainants are particularly

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[110] EPA, *2014 National Air Toxics Assessment* (Aug. 22, 2018), https://gispub.epa.gov/NATA/; Al Shaw & Lylla Younes, *The Most Detailed Map of Cancer-Causing Industrial Air Pollution in the U.S.*, PROPUBLICA (Nov. 2, 2021), https://projects.propublica.org/toxmap/ (showing high cancer rates in St. John the Baptist Parish and Cancer Alley due to toxic air pollution); Lylla Younes et al., *Poison in the Air*, PROPUBLICA (Nov. 2, 2021), https://www.propublica.org/article/toxmap-poison-in-the-air (discussing map and data analysis).
[111] Sharon Lerner, *The Plant Next Door*, THE INTERCEPT (Mar. 24, 2017), https://theintercept.com/2017/03/24/a-louisiana-town-plagued-by-pollution-shows-why-cuts-to-the-epa-will-be-measured-in-illnesses-and-deaths/.
[112] *Id.*

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concerned about how chloroprene affects local children's health.[113] In 2015, LDH investigated a report of asthma-like symptoms at East St. John Elementary School, which is near Denka.[114] On two separate occasions that year, children complained to the school nurse of stomachache, headache, sore throat, chest tightness, vomiting, burning eyes/nose, dizziness, fever, nausea, and weakness.[115] Importantly, respiratory and neurotoxic effects are all health issues associated with chloroprene exposure. Although LDH concluded that it was difficult to assess the underlying causes of these symptoms, the Department found that the school is in a high-risk area because of several industrial facilities and should be moved to another location at the earliest possible time.[116]

Further, constant exposure to toxic air pollution has harmed and is continuing to harm the quality of life for residents in St. John. Residents avoid going outside of their homes during certain times of the day because the odor of the fumes from the Denka facility are intolerable. During the summers, residents are often forced to turn off their air conditioning during the day or the middle of the night because the odor from the facility has permeated through the air conditioning. Having to do so is particularly uncomfortable given that the average temperature in St. John during the summer is above 90 degrees. Even so, residents cannot avoid exposure and are essentially trapped when emissions from the Denka facility are at their peak. In the words of a St. John resident, "we're just sitting here, waiting to die."[117]

C. Adverse Impact Suffered Disproportionately By St. John The Baptist Parish's Black Community

As EPA and the United Nations have acknowledged, environmental injustice in Cancer Alley is longstanding.[118] In St. John the Baptist Parish, the severe health impacts and reduced quality of life caused by the Denka facility disproportionately burden Black residents, who live, work, and go to school near Denka and other local pollution sources. St. John the Baptist Parish is 58.4% Black.[119] But 94% of the population within one mile of Denka is Black.[120]

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[113] *Id.*

[114] *See* EPA, *Action Plan* 5 (June 2016), https://www.epa.gov/sites/production/files/2016-06/documents/epa-laplace-action-plan.pdf.

[115] *Id.*

[116] *Id.*

[117] University Network for Human Rights, *Gloria Dumas*, YOUTUBE (Aug. 8, 2019), https://youtu.be/F77MvXt6y88?t=48.

[118] *See* EPA, *ICYMI: On his Journey to Justice, EPA Administrator Michael S. Regan Toured Historically Marginalized Communities in the American South, Highlighted Benefits of Bipartisan Infrastructure Law* (Nov. 22, 2021), https://www.epa.gov/newsreleases/icymi-his-journey-justice-epa-administrator-michael-s-regan-toured-historically; Bobbi-Jeanne Misick, WWNO-New Orleans Public Radio, *Louisiana's most vulnerable residents share their stories during EPA's 'Journey to Justice' tour* (Nov. 19, 2021), https://www.wwno.org/news/2021-11-19/louisianas-most-vulnerable-residents-share-their-stories-during-epas-journey-to-justice-tour; United Nations Human Rights Office of the High Commissioner, *USA: Environmental racism in "Cancer Alley" must end – experts* (Mar. 2, 2021), https://www.ohchr.org/EN/NewsEvents/Pages/DisplayNews.aspx?NewsID=26824&LangID=E.

[119] U.S. Census Bureau, *QuickFacts: St. John the Baptist Parish, Louisiana*, https://www.census.gov/quickfacts/stjohnthebaptistparishlouisiana (last visited Jan. 18, 2022).

[120] This data is 2014-2018 American Community Survey data shown on EPA's Environmental Justice Screening and Mapping tool. EPA, *EPA's Environmental Justice Screening and Mapping Tool (version 2020)*, https://ejscreen.epa.gov/mapper/ (last visited Jan. 18, 2022).

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Researchers from Stanford University conducted a household health survey of residents who live within 2.5 kilometers of the Denka facility.[121] The study found that the neighborhoods in the census blocks immediately adjacent to the facility, which are predominantly African American, face "extremely improbable rates of cancer and other illness."[122] Indeed, EPA's 2014 National Air Toxics Assessment found that residents in census tract 708, which is located in St. John the Baptist Parish and next to Denka, face a cancer risk 47 times the national average.[123] Ninety-one percent of the residents in that census tract are African American.[124]

The racial health disparities also extend to COVID-19 mortalities. Black residents account for 33% of Louisiana's population but 51% of COVID-19 deaths.[125] Louisiana census tracts with higher populations of Black residents have higher pollution burdens in contrast to census tracts with large percentages of white populations.[126] These disparities also correlate with higher death rates from COVID-19 in Louisiana. In other words, increased per-capita COVID-19 death rates are associated with higher estimates of air pollution exposure and larger percentages of Black residents.[127] Smoking, diabetes, and obesity do not play a role in driving these trends.[128] This signifies that the disproportionate harm burdening the Black population in St. John due to chloroprene emissions also extend to that population's susceptibility to COVID-19 mortality.

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[121] Ruhan Nagra et al., *"Waiting to Die": Toxic Emissions and Disease Near the Denka Performance Elastomer Neoprene Facility in Louisiana's Cancer Alley*, 14 ENVIRONMENTAL JUSTICE 14 (Feb. 18, 2021), https://www.liebertpub.com/doi/abs/10.1089/env.2020.0056 (attached).
[122] University Network for Human Rights, *Waiting to Die: Toxic Emissions and Disease Near the Louisiana Denka/DuPont Plant* (2019), https://www.humanrightsnetwork.org/waiting-to-die (summarizing study findings).
[123] EPA, *2014 National Air Toxics Assessment* (Aug. 22, 2018), https://gispub.epa.gov/NATA/.
[124] Census Reporter, *Census Tract 708, St. John the Baptist, LA*, https://censusreporter.org/profiles/14000US22095070800-census-tract-708-st-john-the-baptist-la/ (last visited Jan. 18, 2022).
[125] Kimberly A. Terrell and Wesley James, *Racial Disparities in Air Pollution Burden and COVID-19 Deaths in Louisiana, USA, in the Context of Long-Term Changes in Fine Particulate Pollution* 1-2, ENVIRONMENTAL JUSTICE (Sept. 2, 2020), https://www.liebertpub.com/doi/pdfplus/10.1089/env.2020.0021.
[126] *See* Kimberly Terrell & Wesley James, *Air Pollution and COVID-19: A Double Whammy for African American and Impoverished Communities in Cancer Alley* 5 (2020), https://law.tulane.edu/sites/law.tulane.edu/files/Files/Terrell%20-%20COVID-19%20-%20PM%202.5%20Louisiana%202020-5-14%20WEB%20VERSION.pdf.
[127] *Id.* at 7.
[128] *Id.*

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D. Adverse Impact Caused by LDEQ and LDH

Black residents in St. John the Baptist Parish continue to suffer a disproportionate, adverse impact from toxic air pollution due to LDEQ's and LDH's failures to protect public health. LDEQ has failed to ensure that Denka reduce its chloroprene emissions sufficiently to protect public health. Although the Administrative Order on Consent signed by LDEQ and Denka required the company to implement measures designed to reduce emissions of chloroprene by 85% from the facility's 2014 baseline chloroprene emission, chloroprene emissions remain dangerously high.[129] For example, EPA data shows that chloroprene air concentrations in St. John the Baptist Parish remained as high as 17.588 $\mu g/m^3$ on December 12, 2020, in Chad Baker, 13.194 $\mu g/m^3$ on January 18, 2021, in Levee, and 18.387 $\mu g/m^3$ on December 3, 2021, in Chad Baker.[130] LDEQ has not taken sufficient action to reduce these emissions to a level that protects St. John the Baptist residents.

Further, LDEQ's failure to review and determine whether to renew Denka's Chloroprene Unit, Neoprene Unit, and HCl Recovery Unit operating permits has adversely impacted St John the Baptist residents by depriving them of critical public participation processes, information, and government oversight of this facility's permits and operations.[131] The public notice and comment process is a protected legal right under Title V of the Clean Air Act and is integral to the permit decision making process. *See* 40 C.F.R. § 70.7(a)(1)(ii), (c)(1)(i). Without this process, CCSJ and Sierra Club are unable to participate in permitting decisions that affect their community and environment and pressure LDEQ to exercise its authority in lowering chloroprene emissions. Importantly, EPA has acknowledged that public participation is critical to Title VI compliance: "Violations of Title VI or EPA's Title VI regulations can be based solely on discriminatory actions in the procedural aspects of the permitting process," and "[m]any Title VI complaints . . . may have been prevented, mitigated, or resolved if certain public involvement practices had been implemented by recipient agencies."[132]

As a result of LDH's failure to recommend the relocation of Fifth Ward Elementary School students or any other mitigation measures, these students continue to go to school next to Denka and suffer the consequences of chloroprene exposure. As LDH concluded, these students face a higher cancer risk due to chloroprene emissions, yet LDH has done and is doing nothing to

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[129] LDEQ, *Administrative Order on Consent* 2 (Jan. 6, 2017), https://www.deq.louisiana.gov/assets/docs/Denka/DENKA_AdministrativeOrderOnConsentAOCJan2017.pdf.

[130] EPA, *Continuous Air Monitoring Summary Results for Chloroprene March 10, 2020 - December 8, 2021*, https://www.epa.gov/system/files/documents/2022-01/continuous-monitoring-summary-march-10-2020-through-december-08-2021.pdf (last visited Jan. 18, 2022).

[131] *See* EPA, *Action Plan* 1 (June 2016), https://www.epa.gov/sites/production/files/2016-06/documents/epa-laplace-action-plan.pdf.

[132] EPA, *Title V Public Involvement Guidance for EPA Assistance Recipients Administering Environmental Permitting Programs (Recipient Guidance)*, 71 Fed. Reg. 54, 14,207, 14,210 (Mar. 21, 2006), https://www.epa.gov/sites/default/files/2013-09/documents/title6_public_involvement_guidance.3.13.13.pdf.

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protect them or provide them with information or recommendations on protections for their health.[133]

LDEQ and LDH have contributed to the disparate impact affecting Black St. John residents by failing to fulfill the terms of an EPA grant in a timely and transparent fashion. In September 2020, EPA awarded LDEQ and LDH to "assess the health risks associated with Chloroprene exposure in the community near the Denka Plant" by September 30, 2021.[134] Months after an assessment was due, the community is unaware of such an assessment being conducted or submitted. By failing to fulfill the purpose of this EPA grant and provide this information to the public, LDEQ and LDH have prolonged the delay of much-needed support for St. John residents.

E. Less Discriminatory Alternatives

The following less discriminatory alternatives are and have been available to LDEQ:

1. Review and determine whether to renew Denka's air permits once the company submitted renewal applications. Conduct all required public participation processes required under 40 C.F.R. § 70.7 and Louisiana Administrative Code title 33 § 531, including public notice and comment. Condition renewal of a permit on assuring full compliance with federal and state legal requirements, including ending and ameliorating the negative impacts of the facility's emissions on St. John the Baptist Parish's predominantly Black community.

2. Exercise all available legal and equitable remedies available to LDEQ to seek emission reductions to 0.2 $\mu g/m^3$ or less pursuant to La. Stat. Ann. § 30:2011(D)(6), (D)(14), and (D)(15).

3. Share inspection reports and the results of its investigations of Denka. Maintain transparency on how, if at all, LDEQ responded or is responding to the violations, and any potential mitigation or other remedies. Provide a mechanism for community input on potential mitigation or other remedies.

4. Fulfill the first objective of the EPA grant in a timely and transparent fashion, including sharing the final assessment with the public, along with any recommendations regarding ways to protect the community's health.

The following less discriminatory alternatives are and have been available to LDH:

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[133] LDH, *A REFERENCE DOCUMENT FOR THE PRELIMINARY ASSESSMENT OF CHLOROPRENE LEVELS IN ST. JOHN THE BAPTIST PARISH: Evaluation of Potential Health Risks for Elementary School Students based on Early Sampling Results following Emissions Reductions* 14-15 (June 14, 2018), https://ldh.la.gov/assets/oph/Center-EH/DENKA/PreliminaryChloropreneReport.pdf.

[134] EPA, *EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish* (Oct. 8, 2020), https://www.epa.gov/newsreleases/epa-awards-louisiana-over-311000-assess-air-pollutants-st-john-parish.

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1. Recommend the relocation of Fifth Ward Elementary School to an area with lower cancer risk; provide information to the school district, students, and their families on the cancer risk at the School; and recommend the use of air filters and other mechanisms that will reduce the impact of chloroprene emission on students.

2. Fulfill the first objective of the EPA grant in a timely and transparent fashion, including sharing with the public the final assessment and any recommendations to protect community health.

V. Relief Requested

Complainants request that EPA promptly and comprehensively accept this complaint; investigate the allegations in this complaint, including whether LDEQ and LDH violated Title VI of the Civil Rights Act and its implementing regulations; and take all actions necessary to ensure that LDEQ and LDH comply fully with the law. *See* 40 C.F.R. § 7.130. Complainants also request that the Civil Rights Division of the Department of Justice play an active role in coordinating this federal investigation and any enforcement actions, consistent with the mission of the Federal Coordination and Compliance Section.

Complainants request that LDEQ and LDH be brought into full compliance and ask EPA to provide the following relief:

1. Require LDEQ to respond to Denka's permit renewal applications and assure compliance with all applicable federal and state legal requirements; conduct a full and fair analysis of whether a decision to renew the permits would disproportionately harm communities on the basis of race, color, or national origin; and identify alternatives that would avoid, minimize, or mitigate this harm. Any decision to renew a permit must be conditioned on ameliorating the negative impacts of the facility's emissions on St. John the Baptist Parish's predominantly Black community and ensuring compliance with Title V of the Clean Air Act and Title VI of the Civil Rights Act.

2. Require LDEQ to comply with federal and state public notice, participation, and public input consideration requirements in determining whether to renew or strengthen any expired air permits at Denka. *See* 40 C.F.R. § 70.7(a)(1)(ii), (c)(1)(i), (h) (requiring state operating air permitting programs to provide specific public participation procedures); La. Admin. Code tit. 33, § 531 (requiring public participation in permitting process).

3. Oversee the permitting process for Denka and ethylene oxide-emitting sources that impact St. John the Baptist Parish, including Union Carbide Corporation's Taft/Star Operation and Evonik Materials' plant, to ensure LDEQ's full compliance with the Clean Air Act and Title VI of the Civil Rights Act.

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4. Require LDEQ to exercise all available legal and equitable remedies to seek and ensure chloroprene emission reductions occur until the ambient air concentration is 0.2 $\mu g/m^3$ or less. *See* La. Stat. Ann. § 30:2011(D)(6), (D)(14), (D)(15).

5. Require LDEQ to publicly share inspection reports and the results of its investigations of Denka and maintain transparency on how, if at all, LDEQ responded or is in the process of responding to identified violations. Involve CCSJ and other affected community members in ensuring any remedies actually protect and mitigate harm to the community through seeking input and participation to determine corrective remedies for any current or future violations in any enforcement actions for the next 5 years.

6. Require LDH's Section of Environmental Epidemiology and Toxicology to conduct medical monitoring in St. John the Baptist Parish, assess healthcare access in the community and the need to relocate the students at Fifth Ward Elementary School in light of emissions exposure, and issue recommendations for mitigating the health risks students face.

7. Require LDEQ and LDH to form an environmental emergency contingency plan wherein the agencies conduct a full assessment of disparate impacts from the Denka facility including: fenceline monitoring, a cooperative community needs assessment, and in-person visits to affected neighborhoods. *See* La. Stat. Ann. § 30:2011(D)(15).

8. Require LDEQ and LDH to provide Complainants and EPA with an update on the status of the grant-funded assessment on cause of cancer risk in St. John and require them to submit the assessment to EPA and the public by a prompt deadline in 2022.

9. Perform any other action EPA deems appropriate to remedy the disparate impact caused by the conduct of LDEQ and LDH.

If LDEQ and LDH do not come into compliance voluntarily, Complainants request that EPA suspend or terminate financially assisting those agencies at least in regard to any discretionary funding requested by those agencies or used in a manner that does not directly protect the public and community members in St. John. *See* 40 C.F.R. § 7.130.

Complainants also request that they be involved in the investigation and resolution of this complaint. We look forward to working with EPA's ECRCO to prevent further harm to the St. John the Baptist community.

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Sincerely,

Deena Tumeh
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Attachments to CCSJ and Sierra Club Title VI Complaint to EPA

Attachments are listed in the order they appear in the Complaint. Additional sources cited are in EPA's possession or available by request to Earthjustice.

1. Amended Judgment, *Sierra Club, et al. v. EPA* (N.D. Cal. Oct. 2, 2020) (No. 4:15-cv-03292-SBA).

2. EPA, *Cooperative Agreement with LDH* (Sept. 19, 2020).

3. EPA, *Cooperative Agreement with LDEQ* (Sept. 19, 2020).

4. Ruhan Nagra et al., *"Waiting to Die": Toxic Emissions and Disease Near the Denka Performance Elastomer Neoprene Facility in Louisiana's Cancer Alley*, 14 ENVIRONMENTAL JUSTICE 14 (Feb. 18, 2021).

5. Letter from Concerned Citizens of St. John et al. to John Vandenberg, Dir. of Rsch., Nat'l Ctr. for Env't Assessment, EPA (Aug. 2, 2019).

6. Letter from David Gray, Acting Regional Administrator, EPA Region 6 to CCSJ (Apr. 5, 2021).

UNITED STATES DISTRICT COURT

FOR THE NORTHERN DISTRICT OF CALIFORNIA

OAKLAND DIVISION

CALIFORNIANS FOR RENEWABLE ENERGY, ASHURST BAR/SMITH COMMUNITY ORGANIZATION, CITIZENS FOR ALTERNATIVES TO RADIOACTIVE DUMPING, SAINT FRANCIS PRAYER CENTER, SIERRA CLUB, and MICHAEL BOYD, Plaintiffs, vs. UNITED STATES ENVIRONMENTAL PROTECTION AGENCY and ANDREW R. WHEELER, in his official capacity as Administrator of the Environmental Protection Agency, Defendants.	Case No: C 15-3292 SBA **AMENDED JUDGMENT**

In accordance with the Court's Order Granting in Part and Denying in Part Plaintiffs' Motion for Summary Judgment and Denying Defendants' Rule 12 Motion to Dismiss and Granting Alternative Motion for Summary Judgment as to the Sixth Claim for Relief, Dkt. 114, the Order Granting in Part and Denying in Part Defendants' Motion to Alter Judgment, Dkt. 144, and for the reasons set forth therein, the Court hereby enters judgment as follows:

1. Judgment is entered in favor of Plaintiff Saint Francis Prayer Center with respect to the First Claim for Relief; in favor of Plaintiffs CAlifornians for Renewable Energy and Michael Boyd with respect to the Second Claim for Relief; in favor of Plaintiff Sierra Club with respect to the Third Claim for Relief; in favor of Plaintiff Citizens for Alternatives to Radioactive Dumping with respect to the Fourth Claim for Relief; and, in favor of Plaintiff Ashurst Bar/Smith Community Organization with respect to the Fifth Claim for Relief.

2. Judgment is entered in favor of Defendants U.S. Environmental Protection Agency ("EPA") and Scott Pruitt, Administrator of EPA, with respect to Plaintiffs' Sixth Claim for Relief.

3. The Court declares that the EPA's failure to issue preliminary findings and any recommendations as to Plaintiffs' Title VI complaints numbered 01R-94-R5, 02R-00-R9, 01R-00-R6, 09R-02-R6, and 06R-03-R4 in accordance with the timeline set forth in 40 C.F.R. § 7.115(c) constitutes agency action unlawfully withheld, under the Administrative Procedure Act, 5 U.S.C. § 706(1).

4. The EPA shall timely process any pending and future Title VI complaints submitted by Plaintiffs and accepted for investigation by EPA as follows: for any pending investigation into a Title VI complaint submitted by any Plaintiff, EPA must issue preliminary findings and any recommendations for voluntary compliance, or otherwise resolve the complaint, within 180 days of the date of entry of this judgment; for any Title VI complaint submitted by any Plaintiff and accepted by EPA after the date of entry of this judgment, subject to any extension agreement between the complainant and the party complained against under 40 C.F.R. § 7.120, EPA must issue preliminary findings and any recommendations for voluntary compliance, or otherwise resolve the complaint,

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within 180 days of the date of acceptance. The requirements of this paragraph shall continue for a period of five years from the date judgment is entered.

5. The Court shall retain jurisdiction to enforce this judgment only as to those complaints subject to Paragraph 4 above.

IT IS SO ORDERED.

Dated: 10/02/20

SAUNDRA BROWN ARMSTRONG
Senior United States District Judge

ED_012929_00012382-00031

U.S. ENVIRONMENTAL PROTECTION AGENCY

Cooperative Agreement

GRANT NUMBER (FAIN): 01F70501	
MODIFICATION NUMBER: 0	**DATE OF AWARD** 09/19/2020
PROGRAM CODE: AA	
TYPE OF ACTION New	**MAILING DATE** 09/26/2020
PAYMENT METHOD: ASAP	**ACH#** 60612

RECIPIENT TYPE:
State

Send Payment Request to:
Research Triangle Park Finance Center

RECIPIENT:
Louisiana Department of Health
1450 Poydras St., Ste 1652
New Orleans, LA 70112-1227
EIN: 72-6000821

PAYEE:
Louisiana Department of Health
P.O. Box 4489
Baton Rouge, LA 70821-4489

PROJECT MANAGER	EPA PROJECT OFFICER	EPA GRANT SPECIALIST
Jimmy Guidry P. O. Box 3214 Baton Rouge, LA 70821 **E-Mail:** jimmy.guidry@la.gov **Phone:** 225-342-0236	Ashley Williams 1201 Elm Street, Suite 500, ARPM Dallas, TX 75270-2102 **E-Mail:** williams.ashley@epa.gov **Phone:** 214-665-8183	Anedia Feaster Mission Support Division, MSDCA **E-Mail:** feaster.anedia@epa.gov **Phone:** 214-665-2267

PROJECT TITLE AND DESCRIPTION
Louisiana Department of Health - Tumor Registry and Denka Plant
Louisiana Department of Health, in partnership with Louisiana State University and Louisiana Department of Environmental Quality, proposes to assess the health risks associated with Chloroprene exposure in St. John the Baptist Parish near the Denka Plant. The objective of this project is twofold: (1) to determine if there are higher instances of cancer in the community due to toxic chemical emissions by the Denka Plant, and (2) to determine if there has been under-reporting of these cases of cancer in the Louisiana Tumor Registry.

BUDGET PERIOD	PROJECT PERIOD	TOTAL BUDGET PERIOD COST	TOTAL PROJECT PERIOD COST
10/01/2019 - 09/30/2021	10/01/2019 - 09/30/2021	$86,081.00	$86,081.00

NOTICE OF AWARD

Based on your Application dated 09/09/2020 including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA) hereby awards $86,081. EPA agrees to cost-share 100.00% of all approved budget period costs incurred, up to and not exceeding total federal funding of $86,081. Recipient's signature is not required on this agreement. The recipient demonstrates its commitment to carry out this award by either: 1) drawing down funds within 21 days after the EPA award or amendment mailing date; or 2) not filing a notice of disagreement with the award terms and conditions within 21 days after the EPA award or amendment mailing date. If the recipient disagrees with the terms and conditions specified in this award, the authorized representative of the recipient must furnish a notice of disagreement to the EPA Award Official within 21 days after the EPA award or amendment mailing date. In case of disagreement, and until the disagreement is resolved, the recipient should not draw down on the funds provided by this award/amendment, and any costs incurred by the recipient are at its own risk. This agreement is subject to applicable EPA regulatory and statutory provisions, all terms and conditions of this agreement and any attachments.

ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)	AWARD APPROVAL OFFICE
ORGANIZATION / ADDRESS	**ORGANIZATION / ADDRESS**
Acquisition and Assistance Section 1201 Elm Street, Suite 500 Dallas, TX 75270-2102	U.S. EPA, Region 6 Air and Radiation Division 1201 Elm Street, Suite 500 Dallas, TX 75270-2102

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

Digital signature applied by EPA Award Official James McDonald - Director, Mission Support Division	**DATE** 09/19/2020

EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	$	$ 86,081	$ 86,081
EPA In-Kind Amount	$	$	$ 0
Unexpended Prior Year Balance	$	$	$ 0
Other Federal Funds	$	$	$ 0
Recipient Contribution	$	$	$ 0
State Contribution	$	$	$ 0
Local Contribution	$	$	$ 0
Other Contribution	$	$	$ 0
Allowable Project Cost	$ 0	$ 86,081	$ 86,081

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.204 - Multipurpose Grants to States and Tribes	Consolidated Appropriations Act of 2018 (P.L. 115-141) Consolidated Appropriations Act of 2019 (PL 116-6)	2 CFR 200 2 CFR 1500 and 40 CFR 33

Fiscal

Site Name	Req No	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
-	2006JSR025	19	E1	06J2	000M20	4133	-	-	86,081
									86,081

Budget Summary Page

Table A - Object Class Category (Non-construction)	Total Approved Allowable Budget Period Cost
1. Personnel	$36,683
2. Fringe Benefits	$20,750
3. Travel	$0
4. Equipment	$0
5. Supplies	$12,967
6. Contractual	$3,000
7. Construction	$0
8. Other	$12,681
9. Total Direct Charges	$86,081
10. Indirect Costs: % Base	$0
11. Total (Share: Recipient 0.00 % Federal 100.00 %.)	$86,081
12. Total Approved Assistance Amount	$86,081
13. Program Income	$0
14. Total EPA Amount Awarded This Action	$86,081
15. Total EPA Amount Awarded To Date	$86,081

Administrative Conditions

A. General Terms and Conditions

The recipient agrees to comply with the current EPA general terms and conditions available at: https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-1-2019-or-later These terms and conditions are in addition to the assurances and certifications made as a part of the award and the terms, conditions, or restrictions cited throughout the award.

The EPA repository for the general terms and conditions by year can be found at: https://www.epa.gov/grants/grant-terms-and-conditions.

B. Correspondence Condition

The terms and conditions of this agreement require the submittal of reports, specific requests for approval, or notifications to EPA. Unless otherwise noted, all such correspondence should be sent to the following email addresses:

- Federal Financial Reports (SF-425): RTPFC-grants@epa.gov and (GS) Anedia Feaster, feaster.anedia@epa.gov, (214) 665-2267, R6_EPA_Grants_Programs@epa.gov
- MBE/WBE reports (EPA Form 5700-52A): Debora Bradford, bradford.debora@epa.gov, (214) 665-7406, R6_EPA_Grants_Programs@epa.gov
- All other forms/certifications/assurances, Indirect Cost Rate Agreements, Requests for Extensions of the Budget and Project Period, Amendment Requests, Requests for other Prior Approvals, updates to recipient information (including email addresses, changes in contact information or changes in authorized representatives) and other notifications: (GS) Anedia Feaster, feaster.anedia@epa.gov, (214) 665-2267, (PO) Ashley Williams, williams.ashley@epa.gov, (214) 665-8183, R6_EPA_Grants_Programs@epa.gov
- Payment requests (if applicable): RTPFC-grants@epa.gov
- Quality Assurance documents, workplan revisions, equipment lists, programmatic reports and deliverables: (PO) Ashley Williams, williams.ashley@epa.gov, (214) 665-8183

C. Extension of Project/Budget Period Expiration Date

EPA has not exercised the waiver option to allow automatic one-time extensions for non-research grants under 2 CFR 200.308 (d)(2). Therefore, if a no-cost time extension is necessary to extend the period of availability of funds the recipient must submit a written request to the EPA prior to the budget/project period expiration dates. **The written request must include:** a justification describing the need for additional time, an estimated date of completion, and a revised schedule for project completion including updated milestone target dates for the approved workplan activities. In addition, if there are overdue reports required by the general, administrative, and/or programmatic terms and conditions of this assistance agreement, the recipient must ensure that they are submitted along with or prior to submitting the no-cost time extension request.

D. Disadvantaged Business Enterprise (DBEs)

UTILIZATION OF SMALL, MINORITY AND WOMEN'S BUSINESS ENTERPRISES

GENERAL COMPLIANCE, 40 CFR, Part 33

The recipient agrees to comply with the requirements of EPA's Disadvantaged Business Enterprise (DBE) Program for procurement activities under assistance agreements, contained in 40 CFR, Part 33 except as described below based upon the associated class deviation.

EPA MBE/WBE CERTIFICATION, 40 CFR, Part 33, Subpart B
A class exception to the following provisions of Subpart B of 40 CFR Part 33 has been issued suspending the EPA MBE/WBE certification program: §33.204(a)(3) providing that an entity may apply to EPA MBE or WBE certification after unsuccessfully attempting to obtain certification as otherwise described in §33.204; and §33.205 through and including §33.211. The class exception was authorized pursuant to the authority in 2 CFR 1500.3(b).

SIX GOOD FAITH EFFORTS, 40 CFR, Part 33, Subpart C
Pursuant to 40 CFR, Section 33.301, the recipient agrees to make the following good faith efforts whenever procuring construction, equipment, services and supplies under an EPA financial assistance agreement, and to require that sub-recipients, loan recipients, and prime contractors also comply. Records documenting compliance with the six good faith efforts shall be retained:

(a) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

(b) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

(c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.

(d) Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.

(e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

(f) If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs (a) through (e) of this section.

CONTRACT ADMINISTRATION PROVISIONS, 40 CFR, Section 33.302
The recipient agrees to comply with the contract administration provisions of 40 CFR, Section 33.302 (a)-(d) and (i).

BIDDERS LIST, 40 CFR, Section 33.501(b) and (c)
Recipients of a Continuing Environmental Program Grant or other annual reporting grant, agree to create and maintain a bidders list. Recipients of an EPA financial assistance agreement to capitalize a revolving loan fund also agree to require entities receiving identified loans to create and maintain a bidders list if the recipient of the loan is subject to, or chooses to follow, competitive bidding requirements. Please see 40 CFR, Section 33.501 (b) and (c) for specific requirements and exemptions.

FAIR SHARE OBJECTIVES, 40 CFR, Part 33, Subpart D
A class exception to the entire Subpart D of 40 CFR Part 33 has been authorized pursuant to the authority in 2 CFR 1500.3(b). Notwithstanding Subpart D of 40 CFR Part 33, recipients are not required to negotiate or apply fair share objectives in procurements under assistance agreements.

MBE/WBE REPORTING- SPECIFIC CHANGES PURSUANT TO CLASS DEVIATION, 40 CFR, Part 33, Subpart E

When required, the recipient agrees to complete and submit a "MBE/WBE Utilization Under Federal Grants and Cooperative Agreements" report (EPA Form 5700-52A) on an annual basis. The current EPA Form 5700-52A can be found at the EPA Grantee Forms Page at https://www.epa.gov/grants/epa-grantee-forms.

Reporting is required for assistance agreements where funds are budgeted for procuring construction, equipment, services and supplies (including funds budgeted for direct procurement by the recipient or procurement under subawards or loans in the "Other" category) with a cumulative total that exceed the threshold amount of $250,000, including amendments and/or modifications. When reporting is required, all procurement actions are reportable, not just that portion which exceeds $250,000.

Annual reports are due by October 30th of each year. Final reports are due by October 30th or 90 days after the end of the project period, whichever comes first.

This provision represents an approved deviation from the MBE/WBE reporting requirements as described in 40 CFR, Part 33, Section 33.502.

E. Pre-Award Costs

In accordance with 2 CFR 1500.8, the grantee may charge otherwise allowable pre-award costs (both Federal and non-Federal matching shares) incurred from ***10/01/*** 2019 to the actual award date provided that such costs were contained in the approved application and all costs are incurred within the approved budget period.

Programmatic Conditions

GRANT-SPECIFIC PROGRAMMATIC TERMS AND CONDITIONS

F. PERFORMANCE REPORTING AND FINAL PERFORMANCE REPORT

Performance Reports – Content

In accordance with 2 CFR 200.328, the recipient agrees to submit performance reports that include brief information on each of the following areas: 1) an abstract or overview of the project including completed workplan activities; 2) a comparison of actual accomplishments to the outputs/outcomes established in the assistance agreement workplan for the period; 3) the reasons why established outputs/outcomes were not met; 4) additional pertinent information, including, when appropriate, analysis and explanation of cost overruns or high-unit costs; 5) methods to be used to effectively disseminate project information and/or continue the benefits of this project (although the project itself may not be continuing); and 6) materials generated in connection with project activities (e.g., workshop announcements, newspaper/newsletter announcements, articles or releases, press packets, pamphlets). Additionally, the recipient agrees to inform EPA as soon as problems, delays or adverse conditions which will materially impair the ability to meet the outputs/outcomes specified in the assistance agreement workplan are known.

Interim performance and final progress reports must prominently display the three Essential Elements for state work plans: 1) Strategic Plan Goal; (2) Strategic Plan Objective; and (3) Workplan Commitments plus time frame. (See Grants Policy Issuance 11-03 State Grant Workplans and Progress Reports for more information).

Performance Reports - Frequency

1) The recipient shall submit performance reports annually.
2) The recipient agrees to submit the Final Performance Report electronically to the EPA Project Officer within 90 days of the budget/project period end date (9/30/2021).

G. STATE CYBERSECURITY CONDITION

(a) The recipient agrees that when collecting and managing environmental data under this assistance agreement, it will protect the data by following all applicable State law cybersecurity requirements.
(b) (1) EPA must ensure that any connections between the recipient's network or information system and EPA networks used by the recipient to transfer data under this agreement, are secure. For purposes of this Section, a connection is defined as a dedicated persistent interface between an Agency IT system and an external IT system for the purpose of transferring information. Transitory, user-controlled connections such as website browsing are excluded from this definition. If the recipient's connections as defined above do not go through the Environmental Information Exchange Network or EPA's Central Data Exchange, the recipient agrees to contact the EPA Project Officer and work with the designated Regional/Headquarters Information Security Officer to ensure that the connections meet EPA security requirements, including entering into Interconnection Service Agreements as appropriate. This condition does not apply to manual entry of data by the recipient into systems operated and used by EPA's regulatory programs for the submission of reporting and/or compliance data.
(2) The recipient agrees that any subawards it makes under this agreement will require the subrecipient to comply with the requirements in (b)(1) if the subrecipient's network or information system is connected to EPA networks to transfer data to the Agency using systems other than the Environmental Information Exchange Network or EPA's Central Data Exchange. The recipient will be in compliance with this condition: by including this requirement in subaward agreements; and during subrecipient monitoring deemed necessary by the recipient under 2 CFR 200.331(d), by inquiring whether the subrecipient has contacted the EPA Project Officer. Nothing in this condition requires the recipient to contact the EPA Project Officer on behalf of a subrecipient or to be involved in the negotiation of an Interconnection Service Agreement between the subrecipient and EPA.

H. COMPETENCY OF ORGANIZATIONS GENERATING ENVIRONMENTAL MEASUREMENT DATA

In accordance with Agency Policy Directive Number FEM-2012-02, Policy to Assure the Competency of Organizations Generating Environmental Measurement Data under Agency-Funded Assistance Agreements, recipient agrees, by entering into this agreement, that it has demonstrated competency prior to award, or alternatively, where a pre-award demonstration of competency is not practicable, recipient agrees to demonstrate competency prior to carrying out any activities under the award involving the generation or use of environmental data. Recipient shall maintain competency for the duration of the project period of this agreement and this will be documented during the annual reporting process. A copy of the Policy is available online at https://www.epa.gov/sites/production/files/2015-03/documents/competency-policy-aaia-new.pdf, or a copy may also be requested by contacting the EPA Project Officer for this award.

I. QUALITY ASSURANCE

Quality Management Plan

In accordance with 2 CFR 1500.11, the recipient shall continue to implement and adhere to the Quality Management Plan (QMP) submitted to EPA. The QMP should be updated annually or as necessary based on the EPA QA/R-2: EPA Requirements for Quality Management Plans. This quality assurance requirement applies to all grants, cooperative agreements, contracts and interagency agreements that involve the use of environmental data.

Quality Assurance Project Plan

In accordance with 2 CFR 1500.11, the recipient must develop and implement quality assurance and

quality control procedures, specifications and documentation that are sufficient to produce data of adequate quality to meet project objectives. Recipients implementing environmental programs within the scope of the assistance agreement must submit to the EPA Project Officer an approvable Quality Assurance Project Plan (QAPP) at least 60 days prior to the initiating of data collection or data compilation. The Quality Assurance Project Plan (QAPP) is the document that provides comprehensive details about the quality assurance, quality control, and technical activities that must be implemented to ensure that project objectives are met. Environmental programs include direct measurements or data generation, environmental modeling, compilation of date from literature or electronic media and data supporting the design, construction and operation of environmental technology. The QAPP should be prepared in accordance with EPA QA/R-5: EPA Requirements for Quality Assurance Project Plans.

No environmental data collection or data compilation may occur until the QAPP is approved by the EPA Project Officer and Quality Assurance Regional Manager. When the recipient is delegating the responsibility for an environmental data collection or data compilation activity to another organization, the EPA Regional Quality Assurance Manager may allow the recipient to review and approve that organization's QAPP. Additional information on these requirements can be found at the EPA Office of Grants and Debarment website:
https://www.epa.gov/grants/implementation-quality-assurance-requirements-organizations-receiving-epa-financial

J. SUBSTANTIAL INVOLVEMENT

EPA will be substantially involved in this agreement. Substantial involvement by the EPA Project Officer may include:
1) monthly telephone calls and other monitoring,
2) reviewing project phases and providing approval to continue to the next phase,
3) reviewing and commenting on any documents, web content or other materials developed under this agreement (the recipient will make final decisions on these matters),
4) approving substantive terms included in contracts or subawards (EPA's Project Officer will not suggest, recommend or direct the recipient to select any particular contractor or subrecipient except to the extent permitted in Section 10 of EPA's Subaward Policy),
5) reviewing and commenting on the programmatic progress reports,
6) consultation with EPA regarding the selection of key personnel (EPA's involvement is limited to reviewing the technical qualifications of key personnel and the recipient will make the final decisions on selection. EPA's Project Officer will not suggest, recommend or direct the recipient to select any individual), and/or
7) joint operational involvement, participation and/or collaboration between EPA and the recipient.

K. Pre-Award Costs

In accordance with 2 CFR 1500.8, the grantee may charge otherwise allowable pre-award costs (both Federal and non-Federal matching shares) incurred from October 1, 2019 to the actual award date provided that such costs were contained in the approved application and all costs are incurred within the approved budget period.

U.S. ENVIRONMENTAL PROTECTION AGENCY

Cooperative Agreement

GRANT NUMBER (FAIN): 01F70601 **MODIFICATION NUMBER:** 0 **PROGRAM CODE:** AA	**DATE OF AWARD** 09/19/2020
TYPE OF ACTION New	**MAILING DATE** 09/26/2020
PAYMENT METHOD: ASAP	**ACH#** 60626

RECIPIENT TYPE:
State

Send Payment Request to:
Research Triangle Park Finance Center

RECIPIENT:
Louisiana Department of Environmental Quality
P.O Box 4303
Baton Rouge, LA 70821-4303
EIN: 72-0999270

PAYEE:
LA Department of Environmental Quality
P.O. Box 4303
Baton Rouge, LA 70821-4303

PROJECT MANAGER	EPA PROJECT OFFICER	EPA GRANT SPECIALIST
Tomeka Prioleau P.O Box 4303 Baton Rouge, LA 70821-4303 **E-Mail:** tomeka.prioleau@la.gov **Phone:** 225-219-0877	Ashley Williams 1201 Elm Street, Suite 500, ARPM Dallas, TX 75270-2102 **E-Mail:** williams.ashley@epa.gov **Phone:** 214-665-8183	Anedia Feaster Mission Support Division, MSDCA **E-Mail:** feaster.anedia@epa.gov **Phone:** 214-665-2267

PROJECT TITLE AND DESCRIPTION
LDEQ Multi-Purpose Grant
Louisiana Department of Environmental Quality, in partnership with Louisiana State University and Louisiana Department of Health, proposes to assess the health risks associated with Chloroprene exposure in St. John the Baptist Parish near the Denka Plant. The objective of this project is twofold: (1) to determine if there are higher instances of cancer in the community due to toxic chemical emissions by the Denka Plant, and (2) to determine if there has been under-reporting of these cases in the Louisiana Tumor Registry.

BUDGET PERIOD	PROJECT PERIOD	TOTAL BUDGET PERIOD COST	TOTAL PROJECT PERIOD COST
10/01/2019 - 09/30/2021	10/01/2019 - 09/30/2021	$224,931.00	$224,931.00

NOTICE OF AWARD

Based on your Application dated 09/09/2020 including all modifications and amendments, the United States acting by and through the US Environmental Protection Agency (EPA) hereby awards $224,931. EPA agrees to cost-share 100.00% of all approved budget period costs incurred, up to and not exceeding total federal funding of $224,931. Recipient's signature is not required on this agreement. The recipient demonstrates its commitment to carry out this award by either: 1) drawing down funds within 21 days after the EPA award or amendment mailing date; or 2) not filing a notice of disagreement with the award terms and conditions within 21 days after the EPA award or amendment mailing date. If the recipient disagrees with the terms and conditions specified in this award, the authorized representative of the recipient must furnish a notice of disagreement to the EPA Award Official within 21 days after the EPA award or amendment mailing date. In case of disagreement, and until the disagreement is resolved, the recipient should not draw down on the funds provided by this award/amendment, and any costs incurred by the recipient are at its own risk. This agreement is subject to applicable EPA regulatory and statutory provisions, all terms and conditions of this agreement and any attachments.

ISSUING OFFICE (GRANTS MANAGEMENT OFFICE)	AWARD APPROVAL OFFICE
ORGANIZATION / ADDRESS	**ORGANIZATION / ADDRESS**
Acquisition and Assistance Section 1201 Elm Street, Suite 500 Dallas, TX 75270-2102	U.S. EPA, Region 6 Air and Radiation Division 1201 Elm Street, Suite 500 Dallas, TX 75270-2102

THE UNITED STATES OF AMERICA BY THE U.S. ENVIRONMENTAL PROTECTION AGENCY

Digital signature applied by EPA Award Official James McDonald - Director, Mission Support Division	**DATE** 09/19/2020

EPA Funding Information

FUNDS	FORMER AWARD	THIS ACTION	AMENDED TOTAL
EPA Amount This Action	$	$ 224,931	$ 224,931
EPA In-Kind Amount	$	$	$ 0
Unexpended Prior Year Balance	$	$	$ 0
Other Federal Funds	$	$	$ 0
Recipient Contribution	$	$	$ 0
State Contribution	$	$	$ 0
Local Contribution	$	$	$ 0
Other Contribution	$	$	$ 0
Allowable Project Cost	$ 0	$ 224,931	$ 224,931

Assistance Program (CFDA)	Statutory Authority	Regulatory Authority
66.204 - Multipurpose Grants to States and Tribes	Consolidated Appropriations Act of 2018 (P.L. 115-141) Consolidated Appropriations Act of 2019 (PL 116-6)	2 CFR 200 2 CFR 1500 and 40 CFR 33

Fiscal

Site Name	Req No	FY	Approp. Code	Budget Organization	PRC	Object Class	Site/Project	Cost Organization	Obligation / Deobligation
-	2006JSR024	19	E1	06J2	000M20	4133	-	-	224,931
									224,931

Budget Summary Page

Table A - Object Class Category (Non-construction)	Total Approved Allowable Budget Period Cost
1. Personnel	$0
2. Fringe Benefits	$0
3. Travel	$0
4. Equipment	$0
5. Supplies	$25,147
6. Contractual	$0
7. Construction	$0
8. Other	$199,784
9. Total Direct Charges	$224,931
10. Indirect Costs: % Base	$0
11. Total (Share: Recipient 0.00 % Federal 100.00 %.)	$224,931
12. Total Approved Assistance Amount	$224,931
13. Program Income	$0
14. Total EPA Amount Awarded This Action	$224,931
15. Total EPA Amount Awarded To Date	$224,931

Administrative Conditions

A. General Terms and Conditions

The recipient agrees to comply with the current EPA general terms and conditions available at: https://www.epa.gov/grants/epa-general-terms-and-conditions-effective-october-1-2019-or-later These terms and conditions are in addition to the assurances and certifications made as a part of the award and the terms, conditions, or restrictions cited throughout the award.

The EPA repository for the general terms and conditions by year can be found at: https://www.epa.gov/grants/grant-terms-and-conditions.

B. Correspondence Condition

The terms and conditions of this agreement require the submittal of reports, specific requests for approval, or notifications to EPA. Unless otherwise noted, all such correspondence should be sent to the following email addresses:

- Federal Financial Reports (SF-425): RTPFC-grants@epa.gov and (GS) Anedia Feaster, feaster.anedia@epa.gov, (214) 665-2267, R6_EPA_Grants_Programs@epa.gov
- MBE/WBE reports (EPA Form 5700-52A): R6_EPA_Grants_Programs@epa.gov
- All other forms/certifications/assurances, Indirect Cost Rate Agreements, Requests for Extensions of the Budget and Project Period, Amendment Requests, Requests for other Prior Approvals, updates to recipient information (including email addresses, changes in contact information or changes in authorized representatives) and other notifications: (GS) Anedia Feaster, feaster.anedia@epa.gov, (214) 665-2267, (PO) Ashley Williams, williams.ashley@epa.gov, (214) 665-8183, R6_EPA_Grants_Programs@epa.gov
- Payment requests (if applicable): RTPFC-grants@epa.gov
- Quality Assurance documents, workplan revisions, equipment lists, programmatic reports and deliverables: (PO) Ashley Williams, williams.ashley@epa.gov, (214) 665-8183

C. Extension of Project/Budget Period Expiration Date

EPA has not exercised the waiver option to allow automatic one-time extensions for non-research grants under 2 CFR 200.308 (d)(2). Therefore, if a no-cost time extension is necessary to extend the period of availability of funds the recipient must submit a written request to the EPA prior to the budget/project period expiration dates. **The written request must include:** a justification describing the need for additional time, an estimated date of completion, and a revised schedule for project completion including updated milestone target dates for the approved workplan activities. In addition, if there are overdue reports required by the general, administrative, and/or programmatic terms and conditions of this assistance agreement, the recipient must ensure that they are submitted along with or prior to submitting the no-cost time extension request.

D. Disadvantaged Business Enterprise (DBEs)

UTILIZATION OF SMALL, MINORITY AND WOMEN'S BUSINESS ENTERPRISES

GENERAL COMPLIANCE, 40 CFR, Part 33

The recipient agrees to comply with the requirements of EPA's Disadvantaged Business Enterprise (DBE) Program for procurement activities under assistance agreements, contained in 40 CFR, Part 33 except as described below based upon the associated class deviation.

EPA MBE/WBE CERTIFICATION, 40 CFR, Part 33, Subpart B

A class exception to the following provisions of Subpart B of 40 CFR Part 33 has been issued suspending the EPA MBE/WBE certification program: §33.204(a)(3) providing that an entity may apply to EPA MBE or WBE certification after unsuccessfully attempting to obtain certification as otherwise described in §33.204; and §33.205 through and including §33.211. The class exception was authorized pursuant to the authority in 2 CFR 1500.3(b).

SIX GOOD FAITH EFFORTS, 40 CFR, Part 33, Subpart C
Pursuant to 40 CFR, Section 33.301, the recipient agrees to make the following good faith efforts whenever procuring construction, equipment, services and supplies under an EPA financial assistance agreement, and to require that sub-recipients, loan recipients, and prime contractors also comply. Records documenting compliance with the six good faith efforts shall be retained:

(a) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local and Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

(b) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.

(c) Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.

(d) Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.

(e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

(f) If the prime contractor awards subcontracts, require the prime contractor to take the steps in paragraphs (a) through (e) of this section.

CONTRACT ADMINISTRATION PROVISIONS, 40 CFR, Section 33.302
The recipient agrees to comply with the contract administration provisions of 40 CFR, Section 33.302 (a)-(d) and (i).

BIDDERS LIST, 40 CFR, Section 33.501(b) and (c)
Recipients of a Continuing Environmental Program Grant or other annual reporting grant, agree to create and maintain a bidders list. Recipients of an EPA financial assistance agreement to capitalize a revolving loan fund also agree to require entities receiving identified loans to create and maintain a bidders list if the recipient of the loan is subject to, or chooses to follow, competitive bidding requirements. Please see 40 CFR, Section 33.501 (b) and (c) for specific requirements and exemptions.

FAIR SHARE OBJECTIVES, 40 CFR, Part 33, Subpart D
A class exception to the entire Subpart D of 40 CFR Part 33 has been authorized pursuant to the authority in 2 CFR 1500.3(b). Notwithstanding Subpart D of 40 CFR Part 33, recipients are not required to negotiate or apply fair share objectives in procurements under assistance agreements.

MBE/WBE REPORTING- SPECIFIC CHANGES PURSUANT TO CLASS DEVIATION, 40 CFR,

Part 33, Subpart E
When required, the recipient agrees to complete and submit a "MBE/WBE Utilization Under Federal Grants and Cooperative Agreements" report (EPA Form 5700-52A) on an annual basis. The current EPA Form 5700-52A can be found at the EPA Grantee Forms Page at https://www.epa.gov/grants/epa-grantee-forms.

Reporting is required for assistance agreements where funds are budgeted for procuring construction, equipment, services and supplies (including funds budgeted for direct procurement by the recipient or procurement under subawards or loans in the "Other" category) with a cumulative total that exceed the threshold amount of $250,000, including amendments and/or modifications. When reporting is required, all procurement actions are reportable, not just that portion which exceeds $250,000.

Annual reports are due by October 30th of each year. Final reports are due by October 30th or 90 days after the end of the project period, whichever comes first.

This provision represents an approved deviation from the MBE/WBE reporting requirements as described in 40 CFR, Part 33, Section 33.502. 1.1.

E. National Term and Condition for Subawards

a. The recipient agrees to:
   (1) Establish all subaward agreements in writing;
   (2) Maintain primary responsibility for ensuring successful completion of the EPA-approved project (this responsibility cannot be delegated or transferred to a subrecipient);
   (3) Ensure that any subawards comply with the standards in Section 210(a)-(d) of OMB Circular A-133 and are not used to acquire commercial goods or services for the recipient;
   (4) Ensure that any subawards are awarded to eligible subrecipients and that proposed subaward costs are necessary, reasonable, and allocable;
   (5) Ensure that any subawards to 501(c)(4) organizations do not involve lobbying activities;
   (6) Monitor the performance of their recipients and ensure that they comply with all applicable regulations, statutes, and terms and conditions which flow down in the subaward;
   (7) Obtain EPA's consent before making a subaward to a foreign or international organization, or a subaward to be performed in a foreign country; and
   (8) Obtain approval from EPA for any new subaward work that is not outlined in the approved work plan in accordance with 40 CFR Parts 30.25 and 31.30, as applicable.
b. Any questions about subrecipient eligibility or other issues pertaining to subawards should be addressed to the recipient's EPA Project Officer. Additional information regarding subawards may be found at http://www.epa.gov/ogd/guide/subaward-policy-part-2.pdf. Guidance for distinguishing between vendor and subrecipient relationships and ensuring compliance with Section 210(a)-(d) of OMB Circular A-133 can be found at http://www.epa.gov/ogd/guide/subawards-appendix-b.pdf and http://www.whitehouse.gov/omb/circulars/a133/a133.html.
c. The recipient is responsible for selecting its subrecipients and, if applicable, for conducting subaward competitions.

Programmatic Conditions

GRANT-SPECIFIC PROGRAMMATIC TERMS AND CONDITIONS

E. PERFORMANCE REPORTING AND FINAL PERFORMANCE REPORT

Performance Reports – Content

In accordance with 2 CFR 200.328, the recipient agrees to submit performance reports that include brief information on each of the following areas: 1) an abstract or overview of the project including completed workplan activities; 2) a comparison of actual accomplishments to the outputs/outcomes established in the assistance agreement workplan for the period; 3) the reasons why established outputs/outcomes were not met; 4) additional pertinent information, including, when appropriate, analysis and explanation of cost overruns or high-unit costs; 5) methods to be used to effectively disseminate project information and/or continue the benefits of this project (although the project itself may not be continuing); and 6) materials generated in connection with project activities (e.g., workshop announcements, newspaper/newsletter announcements, articles or releases, press packets, pamphlets). Additionally, the recipient agrees to inform EPA as soon as problems, delays or adverse conditions which will materially impair the ability to meet the outputs/outcomes specified in the assistance agreement workplan are known.

Interim performance and final progress reports must prominently display the three Essential Elements for state work plans: 1) Strategic Plan Goal; (2) Strategic Plan Objective; and (3) Workplan Commitments plus time frame. (See Grants Policy Issuance 11-03 State Grant Workplans and Progress Reports for more information).

Performance Reports - Frequency

1) The recipient shall submit performance reports annually.
2) The recipient agrees to submit the Final Performance Report electronically to the EPA Project Officer within 90 days of the budget/project period end date (9/30/2021).

F. STATE CYBERSECURITY CONDITION

(a) The recipient agrees that when collecting and managing environmental data under this assistance agreement, it will protect the data by following all applicable State law cybersecurity requirements.
(b) (1) EPA must ensure that any connections between the recipient's network or information system and EPA networks used by the recipient to transfer data under this agreement, are secure. For purposes of this Section, a connection is defined as a dedicated persistent interface between an Agency IT system and an external IT system for the purpose of transferring information. Transitory, user-controlled connections such as website browsing are excluded from this definition. If the recipient's connections as defined above do not go through the Environmental Information Exchange Network or EPA's Central Data Exchange, the recipient agrees to contact the EPA Project Officer and work with the designated Regional/Headquarters Information Security Officer to ensure that the connections meet EPA security requirements, including entering into Interconnection Service Agreements as appropriate. This condition does not apply to manual entry of data by the recipient into systems operated and used by EPA's regulatory programs for the submission of reporting and/or compliance data.
(2) The recipient agrees that any subawards it makes under this agreement will require the subrecipient to comply with the requirements in (b)(1) if the subrecipient's network or information system is connected to EPA networks to transfer data to the Agency using systems other than the Environmental Information Exchange Network or EPA's Central Data Exchange. The recipient will be in compliance with this condition: by including this requirement in subaward agreements; and during subrecipient monitoring deemed necessary by the recipient under 2 CFR 200.331(d), by inquiring whether the subrecipient has contacted the EPA Project Officer. Nothing in this condition requires the recipient to contact the EPA Project Officer on behalf of a subrecipient or to be involved in the negotiation of an Interconnection Service Agreement between the subrecipient and EPA.

G. COMPETENCY OF ORGANIZATIONS GENERATING ENVIRONMENTAL MEASUREMENT DATA

In accordance with Agency Policy Directive Number FEM-2012-02, Policy to Assure the Competency of Organizations Generating Environmental
Measurement Data under Agency-Funded Assistance Agreements, recipient agrees, by entering into this agreement, that it has demonstrated competency

prior to award, or alternatively, where a pre-award demonstration of competency is not practicable, recipient agrees to demonstrate competency prior to
carrying out any activities under the award involving the generation or use of environmental data. Recipient shall maintain competency for the duration of the
project period of this agreement and this will be documented during the annual reporting process. A copy of the Policy is available online at
https://www.epa.gov/sites/production/files/2015-03/documents/competency-policy-aaia-new.pdf, or a copy may also be requested by contacting the EPA
Project Officer for this award.

H. QUALITY ASSURANCE

Quality Management Plan

In accordance with 2 CFR 1500.11, the recipient shall continue to implement and adhere to the Quality Management Plan (QMP) submitted to EPA. The QMP should be updated annually or as necessary based on the EPA QA/R-2: EPA Requirements for Quality Management Plans. This quality assurance requirement applies to all grants, cooperative agreements, contracts and interagency agreements that involve the use of environmental data.

Quality Assurance Project Plan

In accordance with 2 CFR 1500.11, the recipient must develop and implement quality assurance and quality control procedures, specifications and documentation that are sufficient to produce data of adequate quality to meet project objectives. Recipients implementing environmental programs within the scope of the assistance agreement must submit to the EPA Project Officer an approvable Quality Assurance Project Plan (QAPP) at least 60 days prior to the initiating of data collection or data compilation. The Quality Assurance Project Plan (QAPP) is the document that provides comprehensive details about the quality assurance, quality control, and technical activities that must be implemented to ensure that project objectives are met. Environmental programs include direct measurements or data generation, environmental modeling, compilation of date from literature or electronic media and data supporting the design, construction and operation of environmental technology. The QAPP should be prepared in accordance with EPA QA/R-5: EPA Requirements for Quality Assurance Project Plans.

No environmental data collection or data compilation may occur until the QAPP is approved by the EPA Project Officer and Quality Assurance Regional Manager. When the recipient is delegating the responsibility for an environmental data collection or data compilation activity to another organization, the EPA Regional Quality Assurance Manager may allow the recipient to review and approve that organization's QAPP. Additional information on these requirements can be found at the EPA Office of Grants and Debarment website:
https://www.epa.gov/grants/implementation-quality-assurance-requirements-organizations-receiving-epa-financial

I. SUBSTANTIAL INVOLVEMENT

EPA will be substantially involved in this agreement. Substantial involvement by the EPA Project Officer may include:
1) monthly telephone calls and other monitoring,
2) reviewing project phases and providing approval to continue to the next phase,
3) reviewing and commenting on any documents, web content or other materials developed under this agreement (the recipient will make final decisions on these matters),
4) approving substantive terms included in contracts or subawards (EPA's Project Officer will not suggest, recommend or direct the recipient to select any particular contractor or subrecipient except to the extent permitted in Section 10 of EPA's Subaward Policy),
5) reviewing and commenting on the programmatic progress reports,

6) consultation with EPA regarding the selection of key personnel (EPA's involvement is limited to reviewing the technical qualifications of key personnel and the recipient will make the final decisions on selection. EPA's Project Officer will not suggest, recommend or direct the recipient to select any individual), and/or
7) joint operational involvement, participation and/or collaboration between EPA and the recipient.

J. Pre-Award Costs

In accordance with 2 CFR 1500.8, the grantee may charge otherwise allowable pre-award costs (both Federal and non-Federal matching shares) incurred from October 1, 2019 to the actual award date provided that such costs were contained in the approved application and all costs are incurred within the approved budget period.

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"Waiting to Die": Toxic Emissions and Disease Near the Denka Performance Elastomer Neoprene Facility in Louisiana's Cancer Alley

Ruhan Nagra, Robert Taylor, Mary Hampton, and Lance Hilderbrand

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ABSTRACT

Background: Residents of census tract 708 in St. John Parish, Louisiana, face the highest nationwide cancer risk from air pollution due to chloroprene emissions from the Denka Performance Elastomer facility. The University Network for Human Rights worked with residents of this predominantly Black community in Cancer Alley to design and implement a survey-based health study of the area. The study aimed to (1) assess the relationship between household proximity to the facility and reported illness, and (2) advance the advocacy objectives of the community.
Methods: The survey area consisted of households within a 2.5-km radius of the Denka facility. Sixty percent of the households within 1.5 km of the facility ("Zone 1") and 20% of the households between 1.5 and 2.5 km from the facility ("Zone 2") were randomly sampled. Survey implementers collected information on cancer diagnoses about all residents of each surveyed household. Information on chloroprene-linked medical symptoms was collected about respondents (those who took the survey) only.
Results: Cancer prevalence among the survey sample is (1) significantly higher than what is considered likely using Monte Carlo simulations based on Surveillance, Epidemiology, and End Results prevalence data ($p = 0.0306$); and (2) associated with proximity to the facility, with significantly higher-than-likely prevalence in Zone 1 ($p = 0.0032$) and lower prevalence in Zone 2. Levels of medical symptoms among respondents are high and also associated with proximity to the facility.
Discussion: Our findings highlight the need for action to compel Denka to reduce chloroprene emissions to Environmental Protection Agency-recommended limits.
Conclusion: Our findings are consistent with Cancer Alley communities' lived experiences of the debilitating health consequences of the area's industrial emissions. The burden of proof must shift to polluting industries.

Keywords: environmental justice, environmental racism, industrial corridor, Cancer Alley, health disparities, community-engaged research

INTRODUCTION

Cancer Alley and the Denka neoprene facility

Louisiana's heavily industrialized corridor between New Orleans and Baton Rouge has long been known as "Cancer Alley." More than 200 chemical plants and refineries are concentrated in this 210-kilometer stretch of land along the Mississippi River, mostly in or near historically Black communities where many residents can trace their lineage to ancestors who were enslaved in the area.[1]

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A preliminary version of this study was posted on the University Network for Human Rights website at: https://drive.google.com/file/d/1Ie93SHF-GrgFfN61PqwXrGh1Ay4lWqMD/view

[1]Trymaine Lee. "Cancer Alley: Big Industry, Big Problems." *MSNBC*. <www.msnbc.com/interactives/geography-of-poverty/se.html>. (Last accessed September 30, 2020).

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Since the late 1970s, many Cancer Alley residents have attributed cancer and other illness in their communities to toxic industrial pollution[2] and sought to use regulatory and legal challenges as well as grassroots struggle to compel industry to reduce emissions.[3]

In the past several years, Environmental Protection Agency (EPA) data have bolstered suspicions about the link between air pollution and negative health outcomes in Cancer Alley.[4] According to the most recent EPA National Air Toxics Assessment (NATA), 7 of the 10 U.S. census tracts with the highest cancer risk from air pollution are in Cancer Alley, including the tract with the highest nationwide risk—tract 708 in the town of Reserve in St. John the Baptist Parish.[5]

Nationally, the average estimated risk of developing cancer from air pollution is 32 per million people; in Louisiana's census tract 708, the estimated cancer risk from air pollution is 1505 per million people—47 times the national average.[6] The vast majority of this risk, moreover, is attributed to a single chemical, chloroprene, emitted by the Denka Performance Elastomer neoprene facility. EPA attributes 85% (1279 per million people) of the cancer risk from air pollution in census tract 708 to chloroprene emissions, 12% (187 per million people) to ethylene oxide emissions, and 3% (38 per million people) to all other pollutants.[7] The Denka facility is the only source of chloroprene emissions in St. John Parish[8] and the only producer of chloroprene and neoprene in the United States.[9]

The neoprene facility, owned by DuPont until its sale to Japanese company Denka Performance Elastomer in November 2015, has been pumping chloroprene into the neighboring Black community since 1969.[10] Residents of the community had long felt that there was too much illness in the area—far beyond what could be considered normal.[11] As one resident told us, "We're just sitting here, waiting to die."[12]

EPA's Integrated Risk Information System (IRIS) classified chloroprene as a "likely human carcinogen" in 2010. Reflecting this new IRIS assessment of chloroprene toxicity, the 2011 NATA (published in December 2015) estimated highly elevated cancer risk from air pollution near the Denka facility. Upon learning about EPA's estimate of their cancer risk in July 2016, residents of Reserve formed a community group called Concerned Citizens of St. John the Baptist Parish ("Concerned Citizens"). Concerned Citizens has demanded a significant reduction in chloroprene emissions from the Denka facility, such that air concentration of the chemical does not exceed 0.2 $\mu g/m^3$—the maximum chloroprene air concentration that would keep cancer risk from air pollution within EPA's "upper limit of acceptability" (100 per million people).[13] Concerned Citizens' ongoing struggle for environmental justice has gained increasing traction and national media coverage.[14]

[2]Barbara Allen. "Cradle of a Revolution? The Industrial Transformation of Louisiana's Lower Mississippi River." *Technology and Culture* 47 (2006): 115–116.

[3]Ibid: 116–117. In the Great Louisiana Toxics March of 1989, hundreds of Cancer Alley residents walked from Baton Rouge to New Orleans over a 10-day period. Thirty years later, in 2019, the Coalition Against Death Alley—a coalition of community groups across Cancer Alley and their allies—marched from the town of Reserve to the state capitol in Baton Rouge, demanding environmental justice. Jamiles Lartey and Oliver Laughland. "'They've been killing us for too long': Louisiana residents march in coalition against 'death alley.'" *The Guardian*, 30 May 2019. <https://www.theguardian.com/us-news/2019/may/30/toxic-america-louisiana-residents-march-against-polluting-plant>. (Last accessed February 10, 2021).

[4]EPA's 2011 and 2014 National Air Toxics Assessment (NATA) data showed elevated cancer risks from air pollution in a number of Cancer Alley census tracts. According to the 2014 NATA, for example, of the 109 U.S. census tracts where the probability of developing cancer from air pollution is higher than EPA's upper limit of acceptable risk (100 per million people), 31 are in Cancer Alley. In addition, EPA's Risk-Screening Environmental Indicators model shows very high estimated levels of cancer-causing pollutants in Cancer Alley, according to a recent analysis. Lylla Younes, Al Shaw, and Claire Perlman. "In a Notoriously Polluted Area of the Country, Massive New Chemical Plants Are Still Moving In." *ProPublica*, 30 October 2019. <https://projects.propublica.org/louisiana-toxic-air/>. (Last accessed February 10, 2021).

[5]U.S. Environmental Protection Agency. 2014 National Air Toxics Assessment. August 2018. <https://www.epa.gov/national-air-toxics-assessment/2014-nata-assessment-results#nationwide>. (Last accessed February 10, 2021). We consider Cancer Alley to include the following 11 parishes (i.e., counties) of Louisiana: Ascension, East Baton Rouge, Iberville, Jefferson, Orleans, Plaquemines, St. Bernard, St. Charles, St. James, St. John the Baptist, and West Baton Rouge.

[6]Ibid.

[7]Ibid.

[8]Louisiana Department of Environmental Quality. "Annual Certified Emissions Data 1991-present." April 2020 <https://www.deq.louisiana.gov/page/eric-public-reports>. (Last accessed February 10, 2021).

[9]Jamiles Lartey and Oliver Laughland. "Cancer and chemicals in Reserve, Louisiana: the science explained." *The Guardian*, 6 May 2019. <https://www.theguardian.com/us-news/2019/may/06/cancertown-chemicals-reserve-louisiana-science>. (Last accessed February 10, 2021).

[10]Sharon Lerner. "The Plant Next Door." *The Intercept* (March 2017). <https://theintercept.com/2017/03/24/a-louisiana-town-plagued-by-pollution-shows-why-cuts-to-the-epa-will-be-measured-in-illnesses-and-deaths/>. (Last accessed February 10, 2021).

[11]Ibid.

[12]"Gloria Dumas." YouTube video, 2:46, excerpts of interview conducted by University Network for Human Rights, posted by "University Network for Human Rights." 2019. <https://www.youtube.com/watch?time_continue=63&v=F77MvXt6y88&feature=emb_logo>. (Last accessed February 10, 2021).

[13]U.S. Environmental Protection Agency. "Preliminary Risk-Based Concentration Value for Chloroprene in Ambient Air." May 2016. <https://www.epa.gov/sites/production/files/2016-06/documents/memo-prelim-risk-based-concentrations050516.pdf>. (Last accessed February 10, 2021).

[14]Sharon Lerner. "When Pollution Is a Matter of Life and Death." *New York Times*, 22 June 2019. <https://www.nytimes.com/2019/06/22/opinion/sunday/epa-carniogens.html>. (Last accessed February 10, 2021); Jamiles Lartey and Oliver Laughland. "'Almost every household has someone that has died from cancer,'" *The Guardian*, 6 May 2019. <https://www.theguardian.com/us-news/ng-interactive/2019/may/06/cancertown-louisana-reserve-special-report>. (Last accessed February 10, 2021); Rebecca Hersher. "After Decades of Air Pollution, a Louisiana Town Rebels Against a Chemical Giant." *NPR*, 6 March 2018. <https://www.npr.org/sections/health-shots/2018/03/06/583973428/after-decades-of-air-pollution-a-louisiana-town-rebels-against-a-chemical-giant>. (Last accessed February 10, 2021); Victor Blackwell, Wayne Drash, and Christopher Lett. "Toxic tensions in the heart of 'Cancer Alley'" *CNN*, 20 October 2017. <https://www.cnn.com/2017/10/20/health/louisiana-toxic-town/index.html>. (Last accessed February 10, 2021).

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TABLE 1. SUMMARY STATISTICS OF ENVIRONMENTAL PROTECTION AGENCY'S CHLOROPRENE AIR MONITORING DATA

Year	*Maximum concentration detected (μg/m³)*	*Mean concentration (lower bound) (μg/m³)*	*Mean concentration (upper bound) (μg/m³)*	*Proportion of samples >0.2 μg/m³ (%)*
2016	153.0	7.3289	7.3387	68.6
2017	151.0	3.7076	3.7190	53.5
2018	98.7	2.1262	2.1393	47.8
2019	27.2	1.1558	1.1737	46.5
2020	22.6	0.7175	0.7349	35.4

In January 2017, Denka signed a voluntary agreement with the Louisiana Department of Environmental Quality to reduce its emissions.[15] Although chloroprene air concentrations have dropped since then, EPA's monitoring data have continued to show concentrations well in excess of 0.2 μg/m^3 in the neighborhoods around the Denka facility: in 2020, 35% of air samples exceeded the 0.2 μg/m^3 threshold and the mean chloroprene air concentration was 0.7 μg/m^3—more than three times the threshold (Table 1).

Although EPA's estimates of air pollution-related cancer risk have been critical in elevating the longstanding concerns of Cancer Alley residents, these risk estimates have not compelled adequate action to protect human health. As discussed further hereunder, although building upon risk estimates with health studies to determine observed levels of negative health outcomes is valuable, such studies should not be necessary to compel action to protect human health. Once EPA has determined that residents of certain areas may face unacceptably high health risks, strong and swift action is not only warranted but obligatory.[16]

Genesis and goals of our community-engaged research project

The University Network for Human Rights (UNHR) is a nonprofit organization that works closely with communities affected by rights abuse to amplify and advance their struggles through community-led interdisciplinary research, documentation, and advocacy. The authors of this study—UNHR researchers and leaders of Concerned Citizens of St. John Parish—first met in fall 2017.[17] Concerned Citizens then convened several joint community meetings with UNHR researchers to discern residents' most pressing concerns and advocacy priorities. Residents discussed at length their anecdotal evidence of abnormally high levels of cancer and other illness in the community. Multiple people reported, for example, that in almost every household on the streets closest to the Denka facility, someone had cancer or had died of cancer. Residents felt that, to have an impact, this anecdotal evidence needed to be supplemented with quantitative data collected through a household health survey of the area near the plant.

After community members identified a survey-based household health study as one of their priorities, UNHR researchers began working closely with Concerned Citizens to develop a community-engaged research plan for implementation of the study. The goals of the study were (1) to determine the overall health status of a large sample of residents living in the area of the Denka facility, (2) to assess the relationship between household proximity to the Denka facility and reported illness, and (3) to advance the advocacy objectives of Concerned Citizens by collecting and analyzing data that might be useful in the group's efforts to compel Denka to adhere to the EPA's 0.2 μg/m^3 guideline for maximum chloroprene air concentration.

The survey instrument focused on chloroprene-linked health outcomes, in particular, because (1) the vast majority of the cancer risk from air pollution near the Denka facility is due to chloroprene emissions, (2) these emissions can be attributed to the Denka facility since it is the only source of chloroprene emissions in St. John Parish, and (3) the study was motivated by community members' concern about their exposure to chloroprene, which EPA had recently brought to their attention after the release of the 2011 NATA.

METHODS

Epidemiologists and statisticians at Stanford University provided input and guidance to ensure use of proper actuarial processes, study design methods, and

[15]Louisiana Department of Environmental Quality. "Administrative Order on Consent." (Jan 2017). <https://www.deq.louisiana.gov/assets/docs/Denka/DENKA_AdministrativeOrderOnConsentAOCJan2017.pdf>. (Last accessed February 10, 2021).

[16]According to the precautionary principle, one of the most significant developments in modern international environmental law, decision makers must take action to protect the environment and public health when there is scientific uncertainty. Principle 15 of the 1992 Rio Declaration on Environment and Development states, for example: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." United Nations General Assembly, "Annex 1: Rio Declaration on Environment and Development." *Report of the United Nations Conference on Environment and Development.* 12 August 1992, <https://www.un.org/en/development/desa/population/migration/generalassembly/docs/globalcompact/A_CONF.151_26_Vol.I_Declaration.pdf>. (Last accessed February 10, 2021).

[17]At the time, Ruhan Nagra was a clinical instructor at Stanford Law School's Human Rights Clinic. She transitioned employment to the University Network for Human Rights in fall 2018 and has continued this work in that capacity.

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survey implementation principles and techniques. As a field epidemiology investigation, the study was (1) initiated in response to what community members described as a public health crisis in the area near the Denka facility, and (2) conducted in the field, through survey-based collection of residents' health information.[18] Stanford University's Research Compliance Office has determined that no IRB review would have been required "[b]ecause the goal of this project was advocacy for a specific issue in a specific situation and not generalizable research."

Survey instrument

To guide the development of our survey instrument (Appendix A1), we used peer-reviewed studies based on similar household health surveys.[19] The survey instrument was designed to collect certain health and other information—including age, sex, part- or full-time residency status, cancer and other medical diagnoses, and child health—about all residents of a household. Additional information was collected about respondents (those who took the survey) only, including race/ethnicity and medical symptoms.

Many symptoms and diagnoses were included in the survey instrument because of their link to chloroprene exposure, according to EPA's *Toxicological Review of Chloroprene*. Other symptoms and diagnoses were included after community members identified them as particular sources of concern in focus group sessions held in February 2018.

In addition to cancer diagnoses, the following chloroprene-linked health symptoms were included in the survey instrument: headache, dizziness, fatigue, shortness of breath, rapid heart rate, heart palpitations, chest pain, and irritation of the eyes, nose, throat, and skin.[20] In light of community members' particular concern about health impacts on children as well as evidence suggesting that children are more susceptible than adults to the toxic effects of chloroprene exposure,[21] we also collected survey data on two specific symptoms in children: headaches and nosebleeds. Community members cited both of these symptoms as common in children who live and/or attend school in the area near the Denka facility. (In addition, as noted, headaches are linked to chloroprene exposure.)

Finally, the survey instrument included questions on the frequency and strength of chemical odors in the area as well as residents' level of concern about pollution in their community.

A draft survey instrument was piloted with five residents of the area in February 2018 and modified accordingly for clarity and efficiency of data collection.

Study design

The geographic scope of the study was the area within a 2.5-km radius of the Denka facility. In Figure 1, the outer circle circumscribes the entire survey area and the inner circle circumscribes the area within 1.5 km of the facility. The facility—with a red dot at its center—can be seen at the center of the survey area. In the map on the right, gray dots represent households. Residents of the orange-colored census tract (708) face the nation's highest cancer risk from air pollution, according to EPA. Residents of the yellow-colored census tract (709) face the third-highest nationwide risk.

We ultimately surveyed 60% of households (267 out of 445) within the 1.5-km radius of the plant ("Zone 1," as shown in Fig. 1) and 20% of households (271 out of 1376) located between 1.5 and 2.5 km from the plant ("Zone 2"). Households were randomly sampled. After obtaining addresses by census block online, we used a census batch geocoder to geocode the addresses. We determined that there are 445 total households in Zone 1 and 1376 total households in Zone 2, according to 2010 census information. We designed our protocol to ensure that we would randomly survey at least 250 households in Zone 1 (56% of the Zone 1 total) and at least 250 households in Zone 2 (18% of the Zone 2 total). Assuming a survey response rate of $\sim$50%, we used the R random number generator to generate a randomly ordered list of all 445 households in Zone 1 (predicting that we would need to attempt to survey all 445 households to achieve our target number of 250 surveys in Zone 1). We also used the R random number generator to randomly select (and randomly order) 500 addresses in Zone 2 (predicting that we would need to attempt to survey at least 500 households to achieve our target number of 250 surveys in Zone 2). Once we had attempted to survey all 500 households on our Zone 2 list at least twice without reaching the target number of surveys (250), we generated a randomly ordered list of all remaining households in Zone 2. To reach our target number of surveys for each zone, we attempted to survey almost every household in Zone 2 and every household in Zone 1. Thus, the survey response rate is equivalent to the percentage of households ultimately surveyed in each zone.

Study protocol

One day before the start of survey implementation, a team of community members and UNHR researchers distributed flyers throughout the survey area. The flyers informed residents about the upcoming health survey, its goals, and the possibility that their household might be randomly selected for participation. The flyers also stated that residents' participation in the survey was entirely voluntary.

[18]Richard A. Goodman, James W. Buehler, and Michael Gregg. "Field epidemiology defined." *Field Epidemiology* (2008): 3–15. doi: 10.1093/acprof:oso/9780195313802.001.0001.

[19]Peter M. Rabinowitz, Ilya B. Slizovskiy, Vanessa Lamers, Sally J. Trufan, Theodore R. Holford, James D. Dziura, Peter N. Peduzzi, Michael J. Kane, John S. Reif, Theresa R. Weiss, and Meredith H. Stowe. "Proximity to Natural Gas Wells and Reported Health Status: Results of a Household Survey in Washington County, Pennsylvania." *Environmental Health Perspectives* 123 (2015): 21–26.

[20]U.S. Environmental Protection Agency. "Toxicological Review of Chloroprene." September 2010. <https://www.epa.gov/sites/production/files/2016-10/documents/chloroprene.pdf>. (Last accessed February 10, 2021). These conditions can affect people both short- and long-term following exposure to chloroprene.

[21]Ibid.

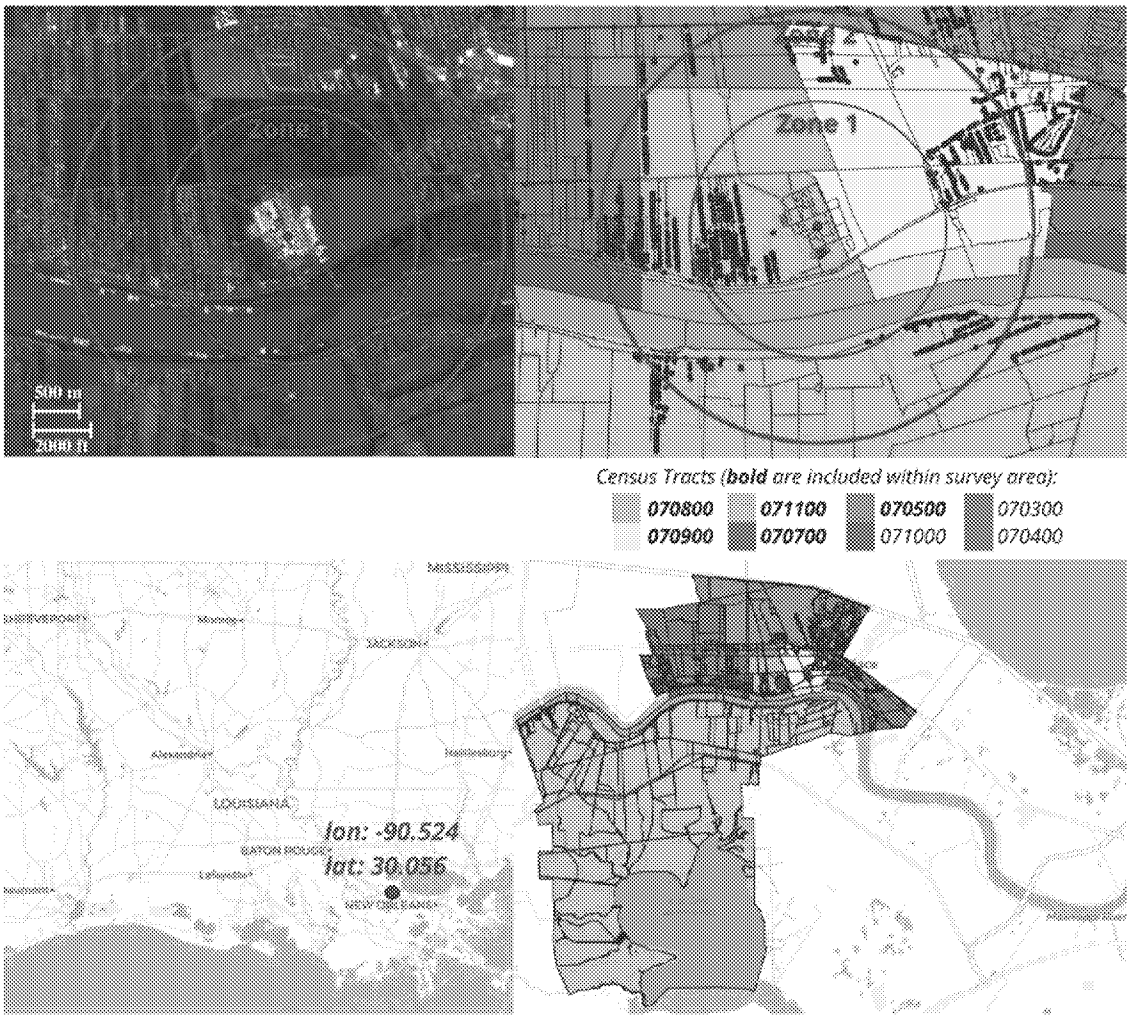

FIG. 1. Maps of survey area.

After undergoing intensive training and practice in survey implementation principles and techniques under the supervision of Stanford University experts, a team of 14 Stanford undergraduates implemented the survey over 9 days (March 22–30, 2018). The survey area was divided into seven geographic subareas for ease of survey implementation (i.e., so that survey implementers could be assigned to a subarea for a given period of time rather than having to walk long distances from household to household across the entire survey area). Survey implementers almost always worked in pairs. Each day, each pair of survey implementers was assigned to one of the seven geographic subareas and provided with a list of households in their subarea. The list was randomized, but to reduce time spent walking between households, the route efficiency was optimized for each set of 20 addresses. Survey implementers attempted to survey each of the 20 route-optimized households twice before moving on to the next set of 20. The following day, survey implementers made a third attempt to survey households that had been attempted twice the previous day, before moving on to the next set of households. Survey implementers generally did not visit a household more than three times. If a household member declined to participate in the survey, implementers did not attempt to survey that household again. Households were surveyed from ~9 am to 7 pm each day.

For each household surveyed, one household member (the "respondent") provided health and demographic information about themself and every other person living in the household. We use the term "residents" to refer to everyone for whom data were collected (i.e., respondents plus all other household members).

Survey implementers obtained verbal informed consent from each respondent before proceeding. Upon encountering a potential respondent, survey implementers introduced themselves and conveyed the purpose of the survey. They explained that participation in the survey was voluntary; that, if the potential respondent chose to participate, neither their name nor the names of any of their household members would be recorded; that any information provided would remain strictly confidential and would not be shared outside our research team; and that the overall results of the study would be made public but no one's identity or identifying health information

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would be disclosed. If the respondent verbally consented to participate in the survey, one of the survey implementers asked the survey questions, while the other recorded the respondent's answers on a paper survey.

After completion of survey implementation, the data from each survey were manually entered into an electronic REDCap instrument.

Data analysis

Monte Carlo analyses of cancer prevalence. We used Monte Carlo simulations in RStudio to analyze our data on cancer prevalence among residents surveyed. We simulated a population in the United States with the same race, sex, and age demographics as the survey sample. Using 10,000 simulations, we generated probability distributions of cancer prevalence in the simulated population based on the National Cancer Institute's 2015 Surveillance, Epidemiology, and End Results (SEER) data for 23-year cancer prevalence (see Appendix A2 for code abstract).[22] "Simulated" cancer prevalence refers to the probability distribution of outcomes generated by these 10,000 simulations. We then compared 23-year cancer prevalence in the survey sample ("observed" cancer prevalence) with the 23-year cancer prevalence values that are likely—based on SEER data broken down by race, sex, and age—in a demographically similar U.S. population (see Appendix Table A1 for the race/sex/age breakdown of the survey sample with corresponding SEER prevalence data for each demographic). We determined the probability (p-value) that a simulated population with the same race, sex, and age makeup as the survey sample would have a cancer prevalence as high or higher than that observed in the survey sample. We considered results significant when $p < 0.05$.[23]

For every resident in the survey sample, we had a corresponding resident—of the same race, sex, and age—in the simulated population. Each member of the simulated population was assigned a value of 0 (no cancer diagnosis in the previous 23 years) or 1 (one or more cancer diagnoses in the previous 23 years). The probability that a simulated resident in a certain race/sex/age group would be assigned 0 or 1 was based on SEER data. For example, according to SEER data, 23-year cancer prevalence among Black men between the ages of 60 and 69 years is about 12.8%. In the simulated population, every Black male in his 60s was randomly assigned a value of 1 with probability $p = 12.8\%$ (otherwise, a value of 0 with probability $1 - p = 87.2\%$). Each simulated resident was assigned a value of 0 or 1 in this manner, using the SEER cancer prevalence data for that resident's race/sex/age group. The process was then repeated 9999 times to generate a total of 10,000 simulations. This enabled us to compare the observed cancer prevalence outcome in the survey sample to a distribution of cancer prevalence outcomes in the simulated population. Race, sex, and age were considered in our Monte Carlo analyses because SEER data are broken down by these three demographic variables. Other demographic variables (such as socioeconomic status) could not be considered because we lacked comparable national cancer prevalence data for other variables.

We ran Monte Carlo simulations for cancer prevalence in the overall survey area as well as by spatial zone. After separately determining cancer prevalence probabilities closer to the Denka facility (in Zone 1) and farther away from the facility (in Zone 2), we were able to determine whether or not there is an association between cancer prevalence among the survey sample and proximity to the Denka plant.

We ran Monte Carlo simulations both with and without a smoking exclusion criterion. This exclusion criterion removed all residents who live in households where anyone smokes on a daily basis. Since corresponding residents were also removed from the simulated population, the smoking exclusion criterion impacted the range of simulated outcomes as well as the survey outcome.

Age-adjusted cancer prevalence by spatial zone. In addition to Monte Carlo analyses, crude survey data on cancer prevalence in each zone were age-adjusted to the U.S. Standard Population in the year 2000 so that the survey data by zone could be directly compared with SEER's national cancer prevalence (which is also age-adjusted to the 2000 U.S. Standard Population). Survey data were age-adjusted both with and without a smoking exclusion criterion.

Health symptoms and pollution data. We did not use Monte Carlo simulations for health symptoms and pollution data because we lacked comparable national data by demographic group. Survey data on the following symptoms and pollution questions are presented by spatial zone: (1) headaches and nosebleeds in children; (2) chest pain and heart palpitations; (3) wheezing and difficulty breathing; (4) headaches, dizziness, and lightheadedness; (5) eye pain/irritation and watery eyes; (6) cough, sneezing, and sore/hoarse throat; (7) skin rash/irritation and itchy skin; (8) fatigue/lethargy; (9) chemical odors; and (10) concern about pollution.

RESULTS

Analysis of EPA's chloroprene air monitoring data

Since 2016, EPA has collected chloroprene air concentration data from six monitoring sites surrounding the Denka facility.[24] Using these data, we calculated annual

[22]A.M. Noone, N. Howlader, M. Krapcho, D. Miller, A. Brest, M. Yu, J. Ruhl, Z. Tatalovich, A. Mariotto, D.R. Lewis, H.S. Chen, E.J. Feuer, and K.A. Cronin (eds). *SEER Cancer Statistics Review, 1975–2015*. (National Cancer Institute, 2018). <https://seer.cancer.gov/archive/csr/1975_2015/results_merged/sect_02_all_sites.pdf>. (Last accessed February 10, 2021).

[23]A lower p-value indicates a smaller probability that the observed difference is due to chance; in other words, the lower the p-value, the more likely that the observed difference is a true difference.

[24]U.S. Environmental Protection Agency. "DENKA Air Monitoring Summary Sheet." September 2020. <https://www.epa.gov/sites/production/files/2020-10/documents/r6_summary_through_september_26_2020.pdf>. (Last accessed February 10, 2021).

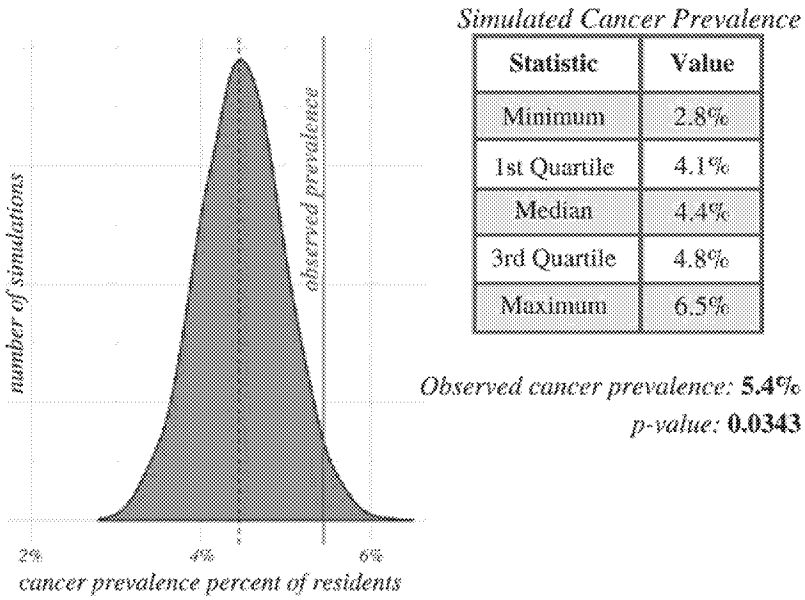

FIG. 2. Simulated and observed 23-year cancer prevalence.

mean concentrations in two different ways (Table 1): in our "lower bound" method, we replaced entries listed as "ND" (concentration not detected) with values of 0 $\mu g/m^3$ and kept all values below the method detection limit (0.0417 $\mu g/m^3$) as they are. In our "upper bound" method, we substituted 0.0417 $\mu g/m^3$ for each "ND" entry and for each value below 0.0417 $\mu g/m^3$.

In 2020, the maximum chloroprene air concentration detected was 22.6 $\mu g/m^3$, 113 times the 0.2 $\mu g/m^3$ threshold. The lower and upper bound mean concentrations that year—0.7175 and 0.7349 $\mu g/m^3$, respectively—were both more than three times the threshold. 35.4% of air samples collected in 2020 had a chloroprene concentration that exceeded 0.2 $\mu g/m^3$.

Analyses of cancer prevalence

Of the 1640 total residents in the survey sample, eliminations from the data set were made as follows for the analyses of cancer prevalence: 98 part-time residents (defined as those who live in the household for only 1–5 days of the week, inclusive) were eliminated from the data set. Eight residents for whom we did not have all three pieces of necessary demographic information—race, sex, and age—were eliminated from the data set. Twenty-one residents who reported a race/ethnicity for which there is no SEER analogue (and, therefore, no comparable national cancer prevalence statistic) were eliminated from the data set. Finally, since we used SEER's 23-year cancer prevalence statistics, we eliminated the six residents whose only cancer diagnosis happened in 1994 or earlier (>23 years before the health survey).

After all eliminations, the numbers of residents included in the cancer prevalence analyses were 777 in Zone 1 (from 262 households) and 730 in Zone 2 (from 263 households), for a total of 1507 (from 525 households).

Although race information was collected for respondents only, we assumed—for purposes of the cancer prevalence analyses only—that all residents of a household shared the race of the respondent. If a particular respondent was eliminated from the data set (due to one of the aforementioned elimination criteria), all members of the respondent's household were eliminated from the data set as well (since the other household members' race depended on the respondent's race).

Monte Carlo analyses of cancer prevalence across survey area. In a probability distribution of 10,000 simulations, the median value for 23-year cancer prevalence in a population with the same race, sex, and age demographics as the survey sample was 4.4% (Fig. 2). In other words, half of the simulations yielded cancer prevalence values <4.4% and half of the simulations yielded cancer prevalence values >4.4%. The median is, therefore, an approximation of the cancer prevalence outcome that is most likely in a simulated population with the same demographic makeup as the survey sample.[25] In Figure 2, the median is represented by the dotted vertical line in the distribution.

The percentage of survey residents who reported at least one cancer diagnosis in the previous 23 years ("observed cancer prevalence") was 5.4%, significantly higher than indicated by Monte Carlo simulations based on SEER prevalence data ($p = 0.0343$) (Fig. 2). This p-value indicates the probability that a simulated population with the same demographic makeup as the survey sample would have a cancer prevalence greater than or equal to that of the survey sample. In Figure 2, the survey sample cancer prevalence is represented by the solid red

[25]The table in Figure 2 also provides: (1) minimum, that is, the lowest cancer prevalence value in the probability distribution; (2) first quartile, that is, the cancer prevalence value at which 25% of the simulations yielded lower values and 75% of the simulations yielded higher values; (3) third quartile, that is, the cancer prevalence value at which 75% of the simulations yielded lower values and 25% of the simulations yielded higher values; (4) maximum, that is, the highest cancer prevalence value in the probability distribution.

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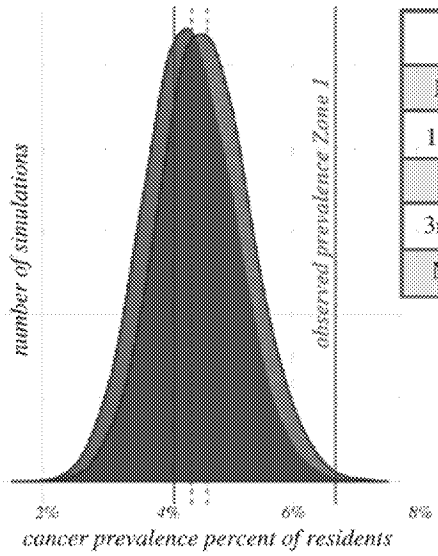

Simulated Cancer Prevalence

Statistic	Zone 1 value	Zone 2 value
Minimum	2.2%	1.5%
1st Quartile	4.1%	3.8%
Median	4.6%	4.4%
3rd Quartile	5.1%	4.8%
Maximum	7.3%	7.5%

Observed cancer prevalence:
Zone 1: **6.7%**; Zone 2: **4.1%**
p-value:
Zone 1: **0.0033**; Zone 2: **0.6527**

FIG. 3. Simulated and observed 23-year cancer prevalence by zone.

vertical line in the distribution. The greater the distance between the solid red line (survey sample cancer prevalence) and the dotted line (approximation of most likely cancer prevalence), the more unusual the cancer prevalence in the survey sample.

When the smoking exclusion criterion was applied, the median value for cancer prevalence in the probability distribution for the simulated population was 4.5% (Appendix Fig. A1). The percentage of survey residents who reported a cancer diagnosis in the previous 23 years was 5.4%, significantly higher than indicated by Monte Carlo simulations based on SEER prevalence data ($p=0.0306$) (Appendix Fig. A1).

Monte Carlo analyses of cancer prevalence by spatial zone. In probability distributions of 10,000 simulations by spatial zone, the median value for cancer prevalence in Zone 1 was 4.6% and the median value for cancer prevalence in Zone 2 was 4.4% (Fig. 3). In other words, in Zone 1 half of the simulations yielded cancer prevalence values <4.6% and half of the simulations yielded cancer prevalence values >4.6%, and in Zone 2 half of the simulations yielded cancer prevalence values <4.4% and half of the simulations yielded cancer prevalence values >4.4%. The median is, therefore, an approximation of the cancer prevalence outcome that is most likely in a simulated population with the same demographic makeup as the survey sample for each zone.[26] In Figure 3, the red distribution shows the range of cancer prevalence values likely for a simulated population with the same demographic makeup as the Zone 1 survey sample, and the blue distribution shows the range of cancer prevalence values likely for a simulated population with the same demographic makeup as the Zone 2 survey sample. Because there is not a significant difference in the range of simulated cancer prevalence outcomes for Zone 1 and Zone 2, the two distributions overlap significantly. The median for Zone 1 is represented by the dotted red vertical line, and the median for Zone 2 is represented by the dotted blue vertical line.

The percentage of survey residents in Zone 1 who reported a cancer diagnosis was 6.7%, significantly higher than indicated by Monte Carlo simulations based on SEER prevalence data ($p=0.0033$) (Fig. 3). This p-value indicates the probability that a simulated population with the same demographic makeup as the Zone 1 survey sample would have a cancer prevalence greater than or equal to that of the survey sample. The percentage of survey residents in Zone 2 who reported a cancer diagnosis was 4.1% (Fig. 3). In Figure 3, Zone 1 cancer prevalence is represented by the solid red vertical line, and Zone 2 cancer prevalence is represented by the solid blue vertical line. The greater the distance between the solid line (survey sample cancer prevalence for zone) and dotted line of corresponding color (approximation of most likely cancer prevalence for zone), the more unusual the survey sample cancer prevalence for that zone.

When the smoking exclusion criterion was applied, the median value for cancer prevalence in the Zone 1 probability distribution was 4.6% and the percentage of Zone 1 survey residents who reported a cancer diagnosis was 7.0%, significantly higher than indicated by Monte Carlo simulations based on SEER prevalence data ($p=0.0032$) (Appendix Fig. A1). The median value in the Zone 2 probability distribution was 4.5% and the percentage of Zone 2 survey residents who reported a cancer diagnosis was 4.3% (Appendix Fig. A1).

[26]The table in Figure 3 also provides: (1) minimum, that is, the lowest cancer prevalence value in each probability distribution; (2) first quartile, that is, the cancer prevalence value for each distribution at which 25% of the simulations yielded lower values and 75% of the simulations yielded higher values; (3) third quartile, that is, the cancer prevalence value for each distribution at which 75% of the simulations yielded lower values and 25% of the simulations yielded higher values; and (4) maximum, that is, the highest cancer prevalence value in each probability distribution.

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Age-adjusted cancer prevalence by spatial zone. Age-adjusted cancer prevalence among residents surveyed in Zone 1 was 5.0139%, 44% higher than SEER's age-adjusted national cancer prevalence of 3.4851%. When the smoking exclusion criterion was applied, age-adjusted Zone 1 prevalence was 5.1421%, 48% higher than the national prevalence of 3.4851%. Age-adjusted cancer prevalence among residents surveyed in Zone 2 was 3.5308%. When the smoking exclusion criterion was applied, age-adjusted Zone 2 prevalence was 3.5112%.

Race/ethnicity, health symptoms, and pollution data

The race/ethnicity, health symptoms, and pollution data presented hereunder were collected for survey respondents only, with the exception of data pertaining to children in the household. After part-time respondents were eliminated from the data set, the sample size for race/ethnicity, symptoms, and pollution data was 263 in Zone 1 and 259 in Zone 2 (a total of 522). Data on headaches and nosebleeds in children were collected from survey respondents, who were asked about the health of any children in their households. After part-time children were eliminated from the data set, the sample size for child health data was 186 in Zone 1 and 220 in Zone 2 (a total of 406).

Race/ethnicity data. The overwhelming majority of respondents in the survey area (80.7%) identified as Black. 15.7% of respondents identified as white, and 3.6% identified as another race/ethnicity or did not provide race/ethnicity information. Black respondents were not distributed evenly throughout the survey area. In Zone 1, a higher proportion of respondents identified as Black than in Zone 2 (93.2% vs. 68.0%). Conversely, 4.9% of Zone 1 respondents and 26.6% of Zone 2 respondents identified as white. 1.9% of Zone 1 respondents and 5.4% of Zone 2 respondents identified as another race/ethnicity or did not provide race/ethnicity information.

Health symptoms data. More than 40% of children in households surveyed in Zone 1 (40.3%) reportedly suffer from headaches. This proportion dropped to 28.6% in Zone 2. More than one-fifth of children in households surveyed in Zone 1 (21%) reportedly suffer from nosebleeds. This proportion dropped slightly in Zone 2, to 18.2%. Nearly 40% of Zone 1 respondents (37.3%) reported that they experienced chest pain, heart palpitations, or both at least 1 day per week in the past month. This proportion dropped to 27.8% in Zone 2. Approximately one-third of Zone 1 respondents (33.5%) reported that they experienced wheezing and/or difficulty breathing at least 2 days per week in the past month. This proportion dropped to 24.3% in Zone 2. More than half of Zone 1 respondents (50.6%) reported that they experienced headaches, dizziness, and/or lightheadedness at least 2 days per week in the past month. This proportion dropped to 37.5% in Zone 2. Nearly half of Zone 1 respondents (44.5%) reported that they experienced eye pain/irritation and/or watery eyes at least 2 days per week in the past month. This proportion was roughly the same in Zone 2 (43.6%). More than 40% of Zone 1 respondents (41.1%) reported that they experienced cough, sneezing, and/or sore/hoarse throat at least 4 days per week in the past month. This proportion dropped to 33.6% in Zone 2. More than one-third of Zone 1 respondents (34.6%) reported that they experienced skin rash/irritation and/or itchy skin at least 2 days per week in the past month. This proportion dropped slightly in Zone 2, to 30.5%. Nearly 30% of Zone 1 respondents (29.3%) reported that they experienced fatigue/lethargy at least 4 days per week in the past month. This proportion dropped to 22.8% in Zone 2.

Pollution data. Approximately half of Zone 1 respondents (49.4%) reported that they smell chemical odors while inside their homes "at least a few times per month." This proportion dropped to 31.3% in Zone 2. More than half of Zone 1 respondents (51.7%) reported that they smell chemical odors while outside their homes "at least a few times per week." This proportion dropped to 42.1% in Zone 2. More than three-fourths of Zone 1 respondents (76.4%) reported that they smell chemical odors while outside their homes "at least a few times per month." This proportion dropped to 67.2% in Zone 2. 84.0% of Zone 1 respondents reported that they are "extremely concerned" about pollution in their community. This proportion dropped to 63.7% in Zone 2.

DISCUSSION

To our knowledge, this is the first study conducted in Cancer Alley that evaluates the potential link between household proximity to a particular industrial facility and reported adverse health outcomes. Our analysis yielded three major findings. First, cancer prevalence among the survey sample is significantly higher than what is considered likely using Monte Carlo simulations based on SEER prevalence data. Second, cancer prevalence among the survey sample is associated with proximity to the Denka facility, with significantly higher-than-likely prevalence in the zone closer to the facility and lower prevalence in the zone further from the facility. Third, levels of chloroprene-linked health symptoms among the survey sample—including among children—are high and also associated with proximity to the Denka facility.

Across the survey area as a whole, cancer prevalence among residents surveyed is significantly higher than what is considered likely for a U.S. population with the same race, sex, and age makeup. Removing residents who live in households where anyone smokes on a daily basis does not alter this result. When cancer prevalence among the survey sample is analyzed by spatial zone, prevalence in the zone closer to the Denka facility (Zone 1) is more statistically significant (with a p-value 10 times lower) than prevalence in the survey area as a whole. Prevalence in Zone 1 is higher than prevalence in Zone 2, further from the facility. Again, applying the smoking exclusion criterion does not alter this result.

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Our findings on other adverse health outcomes linked to chloroprene exposure show that high proportions of respondents regularly experience cardiac symptoms, difficulty breathing, headaches, eye irritation, respiratory symptoms, skin irritation, and fatigue. In virtually every case, respondents who live closer to the Denka facility (Zone 1) are affected in higher proportions than respondents who live further away (Zone 2).

Our findings on child health show that >40% of children in surveyed households in Zone 1 suffer from headaches, an outcome linked to short- and long-term chloroprene exposure. Since the beginning of their struggle for environmental justice, Concerned Citizens of St. John Parish has advocated for the health and well-being of the children in their community. In particular, Fifth Ward Elementary School—located less than a third of a mile from the Denka facility—has been a focal point of activism.[27]

A strength of the study was the random sampling design, which reduced the possibility of selection bias. Race data from survey samples in Zones 1 and 2 were representative of the respective larger areas: according to American Community Survey data, Zone 1 is 95% Black and 5% white (compared with 93% Black and 5% white in the survey sample) and Zone 2 is 71% Black and 27% white (compared with 68% Black and 27% white in the survey sample).[28] Additional strengths of the study included the spatial analysis of the data, that is, the use of geographic zones by proximity to the facility; the consideration of confounding variables such as smoking, age, sex, and race; the value of field epidemiology, that is, data collection in the field to investigate concerns about community health; and the strong partnership and relationship of trust between researchers and community members, which facilitated the design of a robust survey instrument (including through the use of focus groups) and collection of a large amount of data. Survey respondents were neither aware that the study design relied on the use of geographic zones nor aware of the zone in which their residence was located, reducing the possibility of awareness bias.

A limitation of the study was the reliance on self-reported health information provided by a single household member about all members of the household. On the one hand, respondents may have underreported other household members' health conditions. On the other hand, awareness bias in respondents who were concerned about air pollution, their own health, or household members' health may have increased reporting of adverse health outcomes. Other limitations included the use of only two comparison groups, limiting the ability to conduct statistical tests; the lack of reliable statistics to enable robust comparison of symptoms data; and potential confounding factors that were not considered, such as inclusion of multiple household members who share an indoor environment and may share genetics. In addition, our use of proximity to the facility was an indirect measure of exposure to air emissions; more precise measures of exposure include air monitoring and biomonitoring of individuals. Finally, stigma associated with illness—especially cancer—in the community may have led to a nonresponse bias that favored healthier individuals and households.

None of our findings came as a surprise to community members; rather, the study findings were consistent with community members' lived experiences. Community members view the health study as a useful tool to advance their struggle for clean air. Simultaneously—5 years after discovering that they face the highest likelihood in the country of developing cancer from air pollution—residents are weary of hearing and reading about adverse health outcomes and pollution in their community and believe that it is long past time for action. More than sufficient evidence of chloroprene toxicity and community suffering has been collected to justify action; now, the state must compel Denka Performance Elastomer to reduce emissions so that chloroprene air concentration does not exceed EPA's maximum guideline of 0.2 $\mu g/m^3$.

CONCLUSION

EPA's estimate of cancer risk alone should have been enough to warrant swift and decisive action. As valuable as they are, health studies such as this one should not be necessary to compel decision makers to act to protect public health. Consistent with the precautionary principle in environmental science—which maintains that "when an activity raises threats of harm to human health or the environment, precautionary measures should be taken even if some cause and effect relationships are not fully established scientifically"—action to protect public health in St. John should be taken on the basis of EPA's estimate of cancer risk in the parish.[29] Producing definitive scientific proof of a cause-and-effect relationship between chloroprene emissions and cancer in the area of the Denka facility would be virtually impossible—a feature of scientific uncertainty that polluting industries have long exploited to maintain their potentially toxic activities. Communities across Cancer Alley should not have to bear the burden of proof to achieve environmental justice. It is long past time for this burden to shift to Denka and other industries that are threatening human and environmental health.

ACKNOWLEDGMENTS

We extend our deepest gratitude to the St. John Parish residents who participated in this study. James Cavallaro, Executive Director of the University Network for Human Rights, played an instrumental role in the survey

[27]Nick Reimann. "St. John School Board panel suggests study on moving students from school near chemical plant." *The Advocate*, 27 August 2019. <https://www.nola.com/news/education/article_275fc7d2-c83a-11e9-8fa9-87f1f4a3225a.html>. (Last accessed February 10, 2021).

[28]The EPA's EJSCREEN tool was used to generate maps of Zones 1 and 2 and download 2013–2017 American Community Survey data for each zone.

[29]David Kriebel, Joel Tickner, Paul Epstein, John Lemons, Richard Levins, Edward L. Loechler, Margaret Quinn, Ruthann Rudel, Ted Schettler, and Michael Stoto. "The Precautionary Principle in Environmental Science." *Environmental Health Perspectives* 109 (2001): 871.

implementation process and provided constructive feedback throughout the data analysis phase. Elan Dagenais provided invaluable assistance with data analysis. Finally, we thank our 14 survey implementers: Ravi Chandra, Neha Chetry, Julia Daniel, Vance Farrant, Hattie Gawande, Yu Jin Lee, Sarah Maung, Kinsey Morrison, Keith Nobbs, Lorenzo de la Puente, Noam Shemtov, Hannah Smith, Mauranda Upchurch, and Alisha Zhao.

AUTHOR DISCLOSURE STATEMENT

No competing financial interests exist.

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This study was designed and implemented while the first author was an instructor at Stanford University. As such, all hard costs of survey implementation were assumed by Stanford University. When the first author transitioned employment to co-found the University Network for Human Rights, the study was in the data analysis phase and no additional hard costs were incurred.

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Appendices

APPENDIX A1

Community Health Survey
St. John the Baptist Parish

Participant ID#: _____
Data Collector 1: _____
Data Collector 2: _____
Date: _____Time: _____

First, I'd like to ask some basic questions about you and each member of your household. We won't record names, just first initials.

Initial	**Age** (years)	**Sex** (M/F)	**Blood relative?** (Y/N)	**Part- or full-time resident***	**School (if 18 or under)**
			N/A (self)		

*A part-time resident is someone who lives in the household for 1–5 days of the week (inclusive)

(*Appendix continues* →)

Now I'm going to ask you some basic questions about yourself, where you live, and where you used to live.

1. What is your race/ethnicity? (check all that apply)	☐ Asian ☐ Black or African American ☐ Hispanic/Latina/Latino/Latinx ☐ Native American ☐ Native Hawaiian and Other Pacific Islander ☐ White ☐ Other: _____
2. How long have you lived in this home?	☐ Less than one year ☐ ___ year(s)
3. Where did you live before moving to this home? (*city and state*)	
4. How long did you live in your previous home?	☐ Less than one year ☐ ___ year(s)

5. Now I'm going to ask you some questions about your medical history and the medical histories of others in your household. I'm going to go through a list of medical conditions. For each medical condition, I'll ask you whether a doctor or another health care provider has ever told you or anyone else in your household that you or they have the condition, and if so, what year you or they were told that. (*For the survey respondent, write yes or no, and year if relevant and known. For household members, provide the initial of every household member who has received the diagnosis, as well as year of diagnosis, if known.*)

	Yourself? (*yes/no, year*)	**Household members?** (*if yes, initial and year*)
a. ADHD?		
b. Allergies?		
c. Asthma?		
d. Anemia?		
e. Birth defects? Which one(s):		
f. Bronchitis?		
g. Congestive heart failure?		
h. Diabetes, other than during pregnancy?		
i. Heart disease?		
j. High blood pressure?		
k. Hyperthyroidism?		
l. Hypothyroidism?		
m. Learning difficulties?		
n. Nodules or a mass on the liver?		
o. Nodules or a mass on the lung(s)?		
p. Rapid pulse or rapid heartrate?		
q. Sinus infection?		

(*Appendix continues* →)

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6. Now I'm going to ask about all members of your household and whether or not they had cancer, beginning with yourself. Please tell me the month and year of diagnosis, if possible. If members of your household had cancer and died, we will ask you about them afterward.

Type of cancer	**Yourself?** (*yes/no, month & year*)	**Household members?** (*if yes, initial and month & year*)
a. Bladder cancer		
b. Brain cancer		
c. Breast cancer		
d. Colon cancer		
e. Esophageal cancer		
f. Kidney cancer		
g. Leukemia		
h. Liver cancer		
i. Lung cancer		
j. Lymphoma		
k. Melanoma		
l. Oral cancer		
m. Ovarian cancer		
n. Pancreatic cancer		
o. Prostate cancer		
p. Sarcoma		
q. Skin cancer		
r. Spleen cancer		
s. Thyroid cancer		
t. Uterine cancer		
u. Other (*specify*):		

Now I'm going to ask you a few questions about others in your household and family.

7a. Has anyone in this household had cancer and died in the past 20 years?

☐ Yes
If YES, who? (*use first initial*): _____
☐ No
☐ Don't know

If YES to 7a…
7b. What kind of cancer did that person have? (*initial: type of cancer*)
7c. What was that person's relationship to you? (*initial: relationship*)
7d. Were they a blood relative? (*initial: Y/N/IDK*)
7e. What was their sex? (*initial: M/F*)
7f. How old were they when they died? (*initial: age at death*)
7g. What year did they die? (*initial: year*)

(*Appendix continues* →)

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8a. Has anyone in your immediate family had cancer and died, who we haven't already talked about? This includes your parents, siblings, spouse, and children.

☐ Yes
If YES, who? (*use first initial*): _____
☐ No
☐ Don't know

If YES to 8a…
8b. What kind of cancer did that person have? (*initial: type of cancer*)
8c. What was that person's relationship to you? (*initial: relationship*)
8d. Were they a blood relative? (*initial: Y/N/IDK*)
8e. What was their sex? (*initial: M/F*)
8f. How old were they when they died? (*initial: age at death*)
8g. What year did they die? (*initial: year*)
8h. Did they live in St. John the Baptist Parish? (*initial: Y/N/IDK*)
If YES to 8h:
8i. What city? (*initial: city*)

9a. Has anyone in this household ever had a miscarriage?

☐ Yes
If YES, who? (*use first initial*): _____
☐ No
☐ Don't know

If YES to 9a…
9b. When did the miscarriage(s) happen? (*initial: year*)
9c. At what stage(s) of pregnancy did the miscarriage(s) happen? (*initial: week or month*)
9d. Did that person live in St. John the Baptist Parish at the time of the miscarriage(s)? (*initial: Y/N/IDK*)
If YES to 9d:
9e. What city? (*initial: city*)

10a. Has anyone in this household ever had a stillbirth (loss at 20+ weeks)?

☐ Yes
If YES, who? (*use first initial*): _____
☐ No
☐ Don't know

If YES to 10a…
10b. When did the stillbirth(s) happen? (*initial: year*)
10c. Did that person live in St. John the Baptist Parish at the time of the stillbirth(s)? (*initial: Y/N/IDK*)
If YES to 10c:
10d. What city? (*initial: city*)
11a. Do any children in the household suffer from nosebleeds?
If YES to 11a…
11b. Who suffers from nosebleeds? (*Use initials*)
11c. In the past month, how many nosebleeds did they have? (*Write number next to initials*)

12a. Do any children in the household suffer from headaches?
If YES to 12a…
12b. Who suffers from headaches? (*Use initials*)
12c. In the past month, how many headaches did they have? (*Write number next to initials*)

(*Appendix continues* →)

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Now I'm going to ask you some questions about yourself.

13. How would you rate your current overall health?
- ☐ Very good
- ☐ Good
- ☐ Fair
- ☐ Poor
- ☐ Very Poor

14a. In the past 12 months, have you visited a doctor or other health care provider for treatment or consultation about a medical condition?
- ☐ Yes
- ☐ No

If YES, to 14a…

14b. Approximately how many times?

15. In the past month, how often did you experience the following symptoms?

	Never	1 day per week	2–3 days per week	4–5 days per week	6–7 days per week
a. Achiness					
b. Chest pain					
c. Cough					
d. Difficulty breathing					
e. Dizziness					
f. Eye pain or irritation					
g. Fatigue/lethargy					
h. Headaches					
i. Heart palpitations*					
j. Itchy skin					
k. Joint pain					
l. Light headedness					
m. Nosebleeds					
n. Skin rash or irritation					
o. Sneezing					
p. Sore/hoarse throat					
q. Watery eyes					
r. Weakness					
s. Wheezing					
t. Other: _____					

*Palpitations are when you feel like your heart is beating too hard, too fast, skipping a beat, or fluttering.

Now I have a few questions about the environment near your home.

16. How concerned are you about pollution in your community?
- ☐ Not at all concerned
- ☐ Slightly concerned
- ☐ Moderately concerned
- ☐ Extremely concerned

17. How often do you smell chemical odors while inside your home?
- ☐ Never
- ☐ A few times per year
- ☐ A few times per month
- ☐ A few times per week
- ☐ Daily

18. How often do you smell chemical odors while outside your home?
- ☐ Never
- ☐ A few times per year
- ☐ A few times per month
- ☐ A few times per week
- ☐ Daily

(*Appendix continues* →)

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The next few questions I'm going to ask are about whether or not you work or have ever worked at an industrial facility. The reason we ask these questions is to get a sense of any potential exposure to chemicals as a result of your workplace.

19a. Does your job involve working on the property of an industrial facility or plant? (*It doesn't matter whether you're employed by the facility itself, by a contractor of the facility, or by a servicing company – only whether you work on the site of an industrial facility.*)	☐ Yes ☐ No ☐ Don't know
If YES to 19a…	
19b. How long have you worked on the property of an industrial facility?	☐ Less than one year ☐ ___ year(s)
19c. Approximately how many hours per week do you work on the property of an industrial facility?	
If NO to 19a…	
19d. Has your job ever involved working on the property of an industrial facility or plant? (*It doesn't matter whether you were employed by the facility itself, by a contractor of the facility, or by a servicing company – only whether you worked on the site of an industrial facility.*)	☐ Yes ☐ No ☐ Don't know
If **YES** to 19d…	
19e. How long did you work on the property of an industrial facility?	☐ Less than one year ☐ ___ year(s)
19f. Approximately how many hours per week did you work on the property of an industrial facility?	

Now I'm going to ask you a few short questions about tobacco use.

20. How often does anyone smoke inside your home? Would you say daily, weekly, monthly, less than monthly, or never?	☐ Daily ☐ Weekly ☐ Monthly ☐ Less than monthly ☐ Never ☐ Don't know
21a. Altogether, have you smoked at least 100 or more cigarettes, cigars, or other tobacco products in your entire lifetime?	☐ Yes ☐ No ☐ Don't know
If YES to 21a…	
21b. For how many years have you smoked?	☐ Less than one year ☐ ____year(s)
21c. How many days per week did you smoke in the last month?	☐ 7 days per week ☐ 2 to 6 days per week ☐ 1 or fewer days per week
22. Finally, are there any other relevant health or environmental issues that we haven't talked about that you think we should know?	

Thank you for your time!

(*Appendix continues* →)

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APPENDIX A2

```
Code Abstract
```{r}
# 'residents' refers to the dataframe containing one row per resident represented in the survey.

# the lookup() function returns the corresponding SEER prevalence stat for the given race/age/sex input.

# This arbitrary seed has been set for all Monte Carlo calculations.
set.seed(140637)
# setting loop to repeat simulation 10,000 times.
for(i in 1:10000) {
sim <- c() # creating/resetting an empty vector to store the next simulated values.

# setting loop to run calculation for each resident (i.e., each row in 'residents' dataframe).
for(j in 1:nrow(residents)) {
# retrieving relevant SEER prevalence stat as a decimal.
x <- lookup(residents$race[j], residents$age[j], residents$sex[j])

# assigning a resident a simulated binary cancer diagnosis (1, cancer; 0, no cancer) using their SEER stat (x) as probability.
sim[j] < - sample(c(0,1), size = 1, replace = TRUE, prob = c(1-x, x))
}
# the vector of simulated resident cancer diagnoses are saved to be compiled (cbind()) with the others.
}


# The final result gives a data frame with one row per resident, along with a column per simulation (10,000), each cell containing
# either 0 or 1 based on the sampled value. The sum of each column divided by the number of rows then gives the cancer prevalence
# for the simulation. These 10,000 simulated prevalences naturally give a normal distribution with the median simulated prevalence
# at its center. P-values are then calculated by the number of simulated prevalences >= the survey population's cancer prevalence,
# divided by the number of simulations (10,000).
```
```

(Appendix continues →)

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Appendix Table A1. Demographic Breakdown of Survey Population and Corresponding Surveillance, Epidemiology, and End Results Probabilities

Race	*Sex*	*Age*	*Total sample size*	*Zone 1 sample size*	*Zone 2 sample size*	*SEER probability (%)*
Black	M	0–9	85	49	36	0.0692
Black	M	10–19	104	48	56	0.1382
Black	M	20–29	82	54	28	0.2256
Black	M	30–39	65	37	28	0.4453
Black	M	40–49	65	40	25	1.1497
Black	M	50–59	89	58	31	4.1103
Black	M	60–69	84	54	30	12.8086
Black	M	70–79	46	23	23	24.8125
Black	M	80+	11	8	3	29.4374
Black	F	0–9	71	40	31	0.0634
Black	F	10–19	107	55	52	0.1352
Black	F	20–29	56	28	28	0.2442
Black	F	30–39	80	48	32	0.7119
Black	F	40–49	90	45	45	2.0842
Black	F	50–59	91	59	32	4.6132
Black	F	60–69	79	50	29	8.3256
Black	F	70–79	59	35	24	11.8842
Black	F	80+	28	20	8	12.1149
White	M	0–9	8	0	8	0.0947
White	M	10–19	10	0	10	0.2258
White	M	20–29	12	1	11	0.4143
White	M	30–39	10	1	9	0.7700
White	M	40–49	10	1	9	1.5339
White	M	50–59	14	1	13	3.8687
White	M	60–69	18	1	17	10.3809
White	M	70–79	9	3	6	21.9162
White	M	80+	7	1	6	29.0692
White	F	0–9	7	0	7	0.0909
White	F	10–19	10	0	10	0.2003
White	F	20–29	11	1	10	0.4296
White	F	30–39	14	0	14	1.1432
White	F	40–49	5	0	5	2.9117
White	F	50–59	9	2	7	5.9617
White	F	60–69	16	3	13	10.3736
White	F	70–79	15	5	10	15.3738
White	F	80+	5	2	3	16.9960
Hispanic	M	0–9	2	0	2	0.0842
Hispanic	M	10–19	4	1	3	0.1992
Hispanic	M	20–29	1	1	0	0.3187
Hispanic	M	30–39	2	0	2	0.5131
Hispanic	M	50–59	1	0	1	2.3494
Hispanic	M	80+	1	0	1	21.1148
Hispanic	F	0–9	6	1	5	0.0749
Hispanic	F	20–29	2	1	1	0.2970
Hispanic	F	30–39	2	0	2	0.7641
Hispanic	F	40–49	1	0	1	1.9653
Hispanic	F	50–59	2	0	2	4.1819
Hispanic	F	70–79	1	0	1	9.9048
Total			1507	777	730	

SEER, Surveillance, Epidemiology, and End Results.

(*Appendix continues* →)

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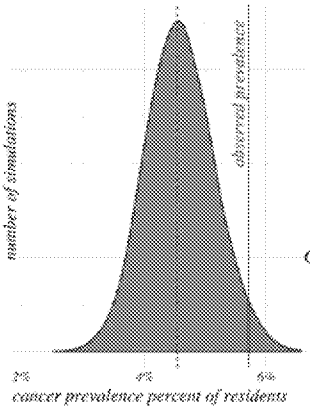
*Simulated and observed 23-year cancer prevalence**



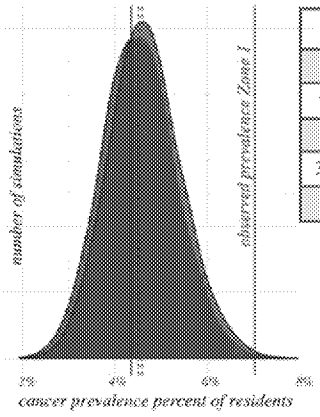
Simulated Cancer Prevalence

Statistic	Value
Minimum	2.5%
1st Quartile	4.2%
Median	4.5%
3rd Quartile	4.9%
Maximum	6.6%

Observed cancer prevalence: **5.4%**
p-value: **0.0306**

**after removing all residents who live in households where anyone smokes on a daily basis*

*Simulated and observed 23-year cancer prevalence by zone**



Simulated Cancer Prevalence

Statistic	Zone 1 value	Zone 2 value
Minimum	2.0%	1.9%
1st Quartile	4.1%	4.0%
Median	4.6%	4.5%
3rd Quartile	5.2%	5.0%
Maximum	8.1%	7.6%

Observed cancer prevalence:
Zone 1: **7.0%**; Zone 2: **4.3%**
p-value:
Zone 1: **0.0032**; Zone 2: **0.6139**

**after removing all residents who live in households where anyone smokes on a daily basis*

APPENDIX FIG. A1.

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Concerned Citizens for St. John * Earthjustice * Lambert Law Firm * Lawyers Committee for Civil Rights Under Law * Louisiana Environmental Action Network * University Network for Human Rights et al.

August 2, 2019

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Re: Requesting a Meeting; Opposition to Denka's Request for Reconsideration of EPA's Toxicological Review of Chloroprene (RFC 17002)

Dear Dr. Vandenberg,

The undersigned groups respectfully request a meeting to discuss EPA's process for the *Request for Reconsideration of the Toxicological Review of Chloroprene* (RFC 17002), submitted by Denka Performance Elastomer LLC (Denka).[1] In addition to discussing the request for correction and request for reconsideration (and supporting materials) submitted by Denka, we would like to discuss both the *Third Party Correspondence (RFC 17002); Objection to RFC regarding IRIS Toxicological Review of Chloroprene* submitted by Dr. Karl Brooks, PhD[2] and the *Third Party Correspondence (RfR 17002A: Response to Denka Request for Reconsideration* submitted by Marco Kaltofen, PhD, PE and Keeve Nachman, PhD.[3] The purpose of this meeting is to address concerns regarding the reconsideration process itself and Denka's suggestion that EPA might reconsider the chloroprene risk value in light of Denka's request for reconsideration.[4] We seek to ensure that EPA considers community and scientific voices regarding this matter, and ask EPA to follow its usual scientific protocols and decide not to reconsider the robust and well-supported 2010 IRIS assessment.

---

[1] EPA, EPA Information Quality Guidelines - Requests for Correction and Requests for Reconsideration Submitted to EPA (RFC 17002) (June 2017), https://www.epa.gov/quality/epa-information-quality-guidelines-requests-correction-and-requests-reconsideration.

[2] Third Party Correspondence (RfC 17002) from Karl Brooks, PhD, to Tina Bahadori, PhD and Kristina Thayer, PhD PhD, NCEA (September 8, 2017), https://www.epa.gov/sites/production/files/2017-10/documents/response_to_denka_rfc_17002_re_chloroprene.pdf.

[3] Third Party Correspondence (RfC 17002) from Marco Kaltofen, PhD and Keeve Nachman, PhD, John Hopkins University, to EPA (July 23, 2018), https://www.epa.gov/sites/production/files/2018-09/documents/rfr_17002a_3rd_party_correspondence.pdf.

[4] Request of Reconsideration of Denial of Request for Correction (RfR 17002A), Jorge Lavastida and Robert E. Holden, Denka (July 23, 2018), https://www.epa.gov/sites/production/files/2018-08/documents/rfr_transmittal_ltr_7-23-2018_n3630834x7a3a0.pdf.

ED_012929_00012382-00068

EPA's 2010 IRIS assessment of chloroprene concluded that chloroprene is "likely to be carcinogenic to humans" through a mutagenic mode of action and with the primary exposure route being the inhalation pathway.[5] The conclusion in the assessment was based on a comprehensive and systematic review of the available evidence on chloroprene toxicity. An inhalation unit risk (IUR) was set based on the available toxicological studies on increased incidence of tumors in a number of organ systems observed in both rat and mice and epidemiological studies of occupational workers, which showed an increased risk of liver cancer and lung cancer among workers. IRIS concluded based on the best available science that: "These tumors generally appeared earlier with increasing exposure level and showed statistically significantly increasing trends with increasing exposure level [to chloroprene]."[6] Moreover, chloroprene's chemical structure is similar to known human carcinogens 1,3-butadiene and vinyl chloride, which provides an additional level of evidence to support the conclusion that chloroprene is a likely carcinogen. IRIS also determined that this chemical operates with a mutagenic mode of action for carcinogenicity, such that early-life exposure to babies, young children, or *in utero*, causes increased lifetime cancer risk.[7]

Based on these studies and the weight of the evidence, the IUR for cancer from chloroprene was set at 0.0003 per $\mu g/m^3$ for adult-only exposure through inhalation. IRIS also determined that it is necessary to account for increased vulnerability from early-life exposure, such that the more protective value of 0.0005 per $\mu g/m^3$ should be used to calculate cancer risks. [8]

IRIS's evidence and conclusions are directly supported by or consistent with findings of similarly highly regarded, scientific agencies, like the National Toxicology Program (NTP) and the International Agency for Research on Cancer (IARC), which conclude that based on available evidence chloroprene is classified as "reasonably anticipated to be a human carcinogen" (NTP) and it is "possibly carcinogenic to humans" (IARC).[9] Each institution – EPA, NTP, and IARC are highly reputable, respected, and known to conduct robust, independently peer-reviewed research on the toxicity of chemicals. The high standards set by each of these agencies results in chemical assessments that are both unbiased and reliable.[10]

An EPA Office of Air Quality Planning and Standards (OAQPS) internal memo on the *Preliminary Risk-Based Concentration Value for Chloroprene in Ambient Air* by Kelly Rimer, Leader of the Air Toxics Assessment Group, in the Health and Environmental Impacts Division of OAQPS, in reliance on the 2010 IRIS value, states,

---

[5] EPA, Toxicological Review of Chloroprene, EPA/635/R-09/010F (Sept 2010), https://cfpub.epa.gov/ncea/iris/iris_documents/documents/toxreviews/1021tr.pdf ("IRIS 2010") and EPA, IRIS Chemical Assessment Summary – Chloroprene (Sept 2010), https://cfpub.epa.gov/ncea/iris/iris_documents/documents/subst/1021_summary.pdf ("IRIS Summary 2010").

[6] IRIS 2010 at 148.

[7] IRIS Summary 2010 at 17.

[8] IRIS 2010 at 109-11, 148.

[9] NTP, Report on Carcinogens, Fourteenth Edition – Chloroprene (2016), attached as Attachment 1; IARC, IARC Monographs on the Evaluation of Carcinogenic Risks to Humans, Volume 71 – Chloroprene, attached as Attachment 2.

[10] Similarly, California's Office of Environmental Health Hazard Assessment has long recognized chloroprene as a chemical "known to cause cancer." https://oehha.ca.gov/proposition-65/crnr/chloroprene-cobalt-sulfate-heptahydrate-and-fenoxycarb-listed-known-cause-cancer (listing chloroprene as a carcinogen in June 2000).

ED_012929_00012382-00069

> *Under EPA's air toxics risk management framework, a cancer risk of 100-in-1 million is generally described as the upper limit of acceptability for purposes of risk-based decisions. Cancer risks at or below 1-in-1 million indicate little potential for cancer risk in the air toxics program. When existing source emissions are too high to achieve the 1-in-1 million level and controls are being considered, EPA is interested in controls that reduce off-site exposure concentrations associated with cancer risks to no higher than approximately 1-in-1 million for as much of the nearby population as feasible.*[11]

The memo goes on to acknowledge that:

> [T]he 100-in-1 million cancer-risk based comparison level and the 1-in-1 million cancer-risk based comparison levels for chloroprene are 0.2 $\mu g/m^3$, and 0.002 $\mu g/m^3$ respectively. At a minimum, [the memo] recommend[s] that [Denka] aims for emission reductions such that the maximum annual average chloroprene concentration is no higher than 0.2 $\mu g/m^3$ at the highest modeled off-site location…it is preferable to have the chloroprene concentration at the highest modeled census block as close to 0.002 $\mu g/m^3$ as reasonably achievable.[12]

It is not clear from this letter whether OAQPS used 0.0003 per $\mu g/m^3$ or 0.0005 per $\mu g/m^3$, which is needed to protect public health, including children, from higher vulnerability to cancer that can result from exposure to chloroprene early in life. Regardless, EPA's letter and an analysis of the current air monitoring data make clear that the levels of chloroprene and resulting health risk are currently unacceptable, and far too high for community members in LaPlace, LA.[13] Recent air monitoring data from 2016-19 show elevated levels of chloroprene that are far higher than 0.2 per $\mu g/m^3$ and 0.002 per $\mu g/m^3$ – including at a local hospital, elementary and high schools, and other community locations – that demonstrate the need for action to protect public health.[14]

It is important to the community for EPA to continue relying on the IRIS assessment to reduce the unhealthy levels of chloroprene Denka is emitting in LaPlace, LA, to get emissions down and end the currently unacceptable levels of cancer risk. It is essential for EPA's IRIS program to

---

[11] Memo from Kelly Rimer, Leader, Air Toxics Assessment Group, Health & Envtl Impacts Div., OAQPS, to Frances Verhalen, P.E., Chief, Air Monitoring/Grants Section, EPA Region 6, Re: Preliminary Risk-Based Concentration Value for Chloroprene in Ambient Air (May 5, 2016) ("2016 EPA Memo"), https://www.epa.gov/sites/production/files/2016-06/documents/memo-prelim-risk-based-concentrations050516.pdf.

[12] *Id.*

[13] The undersigned groups believe that EPA's benchmark of presumed unacceptability (100-in-1 million) is far too high for any given source category, as discussed in prior comments submitted on EPA's Cumulative Risk Assessment Request for Information. *See, e.g.*, Comments of Earthjustice, NRDC, et al. on Request for Information and Citations on Methods for Cumulative Risk Assessment at 9, 38-40 (May 1, 2013), https://www.regulations.gov/document?D=EPA-HQ-ORD-2013-0292-0132 (filed June 28, 2013), attached as Attachment 3. It is important and "preferable," as EPA's memo states, to reduce the ambient air concentration down to the level needed to avoid a cancer risk above 1-in-1 million. 2016 EPA Memo at 1.

[14] *See* EPA, Denka Air Monitoring Summary Sheet, May 25, 2016 – April 29, 2019, *see also* EPA, DENKA Air Monitoring Summary Sheet, May 25, 2016-April 29, 2019, https://www.epa.gov/sites/production/files/2019-05/documents/r6_summary_through_april_29_2019.pdf; https://deq.louisiana.gov/index.cfm?md=pagebuilder&tmp=home&pid=denka&id=2425 (average values in May 2018 at monitors ranged from 0.35 to 2.26 per $\mu g/m^3$, which are orders of magnitude higher than the levels threatening cancer risk that EPA deems unacceptable).

leave at rest the final, peer-reviewed value it issued in 2010 after completing the usual, scientific IRIS protocol.

EPA has already reconsidered this value once at Denka's request, and determined that it should stand, and there is no valid scientific reason for EPA to question or revisit the IRIS value now. In 2018, EPA denied Denka's request for correction (RfC), finding that the underlying review was consistent with EPA's Information Quality Guidelines.[15] Denka had 90 days to submit a request for reconsideration (RfR) thereafter, such that it was due by April 25, 2018. Instead, Denka submitted a request for a 90-day extension of this date, days before its opportunity to submit the RfR expired. EPA granted the extension, and Denka submitted its RfR on July 23, 2018. On July 19, 2018 (only days before the RfR was submitted) EPA staff met with officials from the Louisiana Department of Environmental Quality, Denka, and Ramboll (a consulting group hired by Denka) to discuss a newly developed physiologically based pharmacokinetic (PBPK) model by Ramboll that resulted in a cancer-risk estimate far less stringent than the IRIS assessment derived.[16] On July 24, 2018, Denka sent a letter to EPA suggesting that particular EPA staff (*i.e.*, Paul Schlosser) would be "go[ing] over the model," and stating that Denka was "pleased to hear that EPA intends to give high priority to the PBPK model evaluation and we look forward to receiving an updated timeline for the evaluation process."[17] During the meeting, it appears that Denka believes EPA agreed to review the draft model, suggest improvements and upon revision, and arrange for some kind of additional review of the model.

We are highly concerned that Denka's description of EPA's statements suggests that IRIS may be engaging in or considering a process that is out of step with its own IRIS protocol and guidelines, and that, if followed, would represent an erosion of the integrity of the science assessments EPA's research staff conducts and the science-based actions that communities rely on for protections. Furthermore, existing agency documentation suggests that the PBPK models are in need of "better methods or implementation, and the characterization of uncertainty and variability in PBPK models is not yet a sufficiently standard practice."[18] Consequently, such level of uncertainty and variability in PBPK modeling does not result in the ability to rely on such modeling as opposed to the sound science and robust weight of evidence provided in the available toxicological and epidemiological studies that IRIS relied upon for the 2010 chloroprene assessment.

Residents of LaPlace, LA face far too much toxic air pollution, and it has now been years since EPA first acknowledged that and began working to address this problem, after the 2011 National Air Toxics Assessment (NATA) showed cancer risks that are as high as 826-in-1 million for this community.[19] The most recent NATA, released in 2018 and utilizing data from 2014, found

---

[15] EPA Response to RfC 17002, Jennifer Orme-Zavaleta, PhD, NCEA, to Robert Holden, Denka (January 25, 2018), https://www.epa.gov/sites/production/files/2018-01/documents/epa_repsonse_to_mr._holdren_jan_25_2018_complete.pdf.

[16] Summary of Meeting Action Items, Event Title: Chloroprene Request for Correction/Request for Reconsideration (July 19, 2018), https://cfpub.epa.gov/ncea/iris2/event_attachment.cfm?layout=none&attach_id=544; the model has not completed an independent peer-review process.

[17] Letter from Patrick A. Walsh, Denka, to John Vandenberg, PhD, NCEA (July 24, 2018), attached as Attachment 4.

[18] EPA, Uncertainty and Variability in Physiologically Based Pharmacokinetic Models: Key Issues and Case Studies, EPA/600/R-08/090 (Aug. 2008), http://ofmpub.epa.gov/eims/eimscomm.getfile?p_download_id=477286.

[19] EPA, EPA in Louisiana – LaPlace, Louisiana Background Information (2016), https://www.epa.gov/la/laplace-louisiana-background-information.

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cancer risks in this community are as high as 1505-in-1 million, driven primarily by chloroprene and ethylene oxide emissions.[20]

Based on EPA's most current data, the parishes of St. John the Baptist and St. Charles have the census tracts with the highest cancer risk in the United States. Residents here live in what is sometimes described as "Cancer Alley," a geographic area that represents one of the most polluted parts in the country, and is also their home, where they should be able to be safe and healthy in their daily lives. The 2010 chloroprene risk value provides a baseline value that demonstrates this community needs a greater level of protection for residents from chloroprene pollution. EPA should follow through with additional action to protect the community, as discussed in its 2016 Action Plan for LaPlace, Louisiana, not spend time weakening or questioning the robust science in the 2010 IRIS assessment.[21]

EPA should not evaluate or undertake yet another review of the IRIS value, under EPA's own policy, when the 2010 chloroprene risk value is based on the best available science. Instead, EPA must continue to use and apply the 2010 chloroprene risk value to applicable assessments and cannot lawfully ignore the value in regulatory and enforcement processes. Rather than spending time questioning this well-supported health risk value, EPA should instead focus on completing IRIS assessments that are long overdue for chemicals that do not have an IRIS evaluation based on the best available science.

Community groups exposed to emissions from Denka and directly affected by EPA's actions respectfully request the opportunity to meet with EPA, to voice concerns regarding the process, and to receive information from EPA regarding the process.

Therefore, we respectfully request a meeting with you and any other appropriate EPA staff. Please contact Michelle Mabson at mmabson@earthjustice.org, (202) 667-4500 (ext. 5254), or Emma Cheuse at echeuse@earthjustice.org (ext. 5220) to arrange a meeting at your earliest convenience.

Sincerely,

Michelle Mabson, MPH, MSc
Staff Scientist
Emma Cheuse
Staff Attorney
Earthjustice
1625 Massachusetts Ave, NW, Suite 702
Washington, DC 20036
Office: 202-667-4500 ext. 5254 or 5220
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Dorian Spence
Director of Special Litigation and Advocacy
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Counsel
Lawyers' Committee for Civil Rights
Under Law
1500 K Street NW

[20] EPA, 2014 National Air Toxics Assessment (2018), https://www.epa.gov/national-air-toxics-assessment/2014-nata-assessment-results; Sharon Lerner, *A Tale of Two Toxic Cities*, The Intercept (Feb. 24, 2019), https://theintercept.com/2019/02/24/epa-response-air-pollution-crisis-toxic-racial-divide/ at Table: 109 Air Pollution Hotspots.

[21] *See* EPA Action Plan (June 2016), https://www.epa.gov/sites/production/files/2016-06/documents/epa-laplace-action-plan.pdf.

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Cc:

Anne Idsal, Acting Assistant Administrator, EPA's Office of Air & Radiation
Jennifer Orme-Zavaleta, Principal Deputy Administrator for Science & Science Advisor, ORD
Vaughn Noga, Chief Information Officer
David Gray, Acting Regional Administrator, EPA Region 6
Kristina Thayer, ORD/NCEA IRIS Division Director
Tina Bahadori, ORD/NCEA Director
Bruce Rodan, Associate Director for Science, ORD
Matthew Tejada, Office of Environmental Justice

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* *Note: Academic affiliation provided for informational purposes only and does not imply institutional endorsement or approval*

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
1201 ELM STREET, SUITE 500
DALLAS, TEXAS 75270

Office of the Regional Administrator

April 5, 2021

Ms. Mary Hampton, President
Mr. Robert Taylor, Executive Director
Concerned Citizens of St. John the Baptist Parish
Reserve, Louisiana 70084
Email: citizensofstjohnparish@gmail.com

Dear Ms. Hampton and Mr. Taylor:

The United States Environmental Protection Agency has received your letter sent via email dated February 28, 2021. In the letter, you stated that the Louisiana Department of Environmental Quality (LDEQ) and the Louisiana Department of Health (LDH) '… misused the EPA funds by conducting a project that is completely different—in purpose, scope, and methodology—from the one proposed to the EPA in the agencies' grant application.' Your letter also stated: '[t]he actual project does not fit within the EPA's "Improve Air Quality" objective, is not aligned with [Clean Air Act (CAA)] §105 criteria, and has nothing to do with preventing or controlling air pollution.'

The EPA takes allegations of misuse of federal funds seriously. The EPA has completed its review of this matter. The EPA found that the work done is within the scope of work provided by the state and the activities align with the requirements of the CAA §105 criteria. While considerable work was done by Louisiana State University (LSU) New Orleans School of Public Health for the LDH to collect information for the Tumor Registry study, the overall project is not complete and additional work is underway by the LDH in cooperation with the LDEQ. Please review the enclosure for discussion of your concerns with respect to the grant requirements.

The EPA appreciates your interest in the project in your community and your efforts to provide supporting information. Thank you for your continued interest in addressing air quality in the St. John the Baptist Parish area. If you would like to discuss our responses, please contact me at 214-665-2100, or Ms. Gloria Vaughn at 214-665-7535.

Sincerely,

David W. Gray
Acting Regional Administrator

Enclosure

cc: Mark Cooper, Officer of the Governor (Mark.Cooper@la.gov)
Matthew Block, Office of the Governor (Matthew.Block@la.gov)

cc cont.:

Dr. Chuck Carr Brown, Louisiana Department of Environmental Quality (Chuck.Brown@la.gov)
Courtney Burdette, Louisiana Department of Environmental Quality (Courtney.Burdette@la.gov)
Joseph Kanter, Louisiana Department of Health (Joseph.Kanter@la.gov)
Stephen Russo, Louisiana Department of Health (Stephen.Russo@la.gov)

Enclosure

Concern 1: The Louisiana Department of Environmental Quality (LDEQ) and the Louisiana Department of Health (LDH) '… *misused EPA funds by conducting a project that is completely different—in purpose, scope, and methodology—from the one proposed to EPA in the agencies' grant application.*'

The multipurpose grants issued to the LDEQ and the LDH contain two interrelated tasks to be completed:

(1) to determine if there are higher instances of cancer in the community due to toxic chemical emissions by the [Denka Performance Elastomer, LLC (Denka)] Plant
(2) to determine if there has been under-reporting of these cases of cancer in the Louisiana Tumor Registry

The EPA discussed the progress of the work with the LDEQ and the LDH staff on March 5, 2021. During that conversation, EPA learned that the project is not completed. There are two tasks that are to be accomplished: a study to ensure that the types and numbers of cancers in the Louisiana Tumor Registry database are complete for the area to serve as a baseline, and an evaluation and analysis of that database specific to the 1.5-km radius and 2.5-km radius around Denka to determine if there are higher instances of cancer in the community and if the observed cancers are attributable to Denka.

In cooperation with the LDH, the Louisiana State University (LSU) New Orleans School of Public Health conducted the Cancer Reporting in St. John Parish (CRISP) project between January 2020 and January 2021. The main objective of the project was to detect reportable cancer cases in the survey area around the Denka facility for the 2009 to 2018 timeframe that were missing from the Louisiana Tumor Registry data. Residents within a 2.5-kilometer radius around Denka were approached to participate in the survey. In addition to cancer cases, residents were also able to report any health conditions/community concerns about living near the Denka facility.

The CRISP study found no missing, reportable cancers that were not part of Louisiana Tumor Registry data. All of the identified reportable cancer cases found in the study had been counted by the LA Tumor Registry. This study completes the second task listed above.

In discussions with the LDEQ and the LDH on March 5, 2021, EPA also learned that they are beginning the evaluation and analysis task of the grants, and the activities in support of task 1 of the work plan are continuing as the scope of work in the grant work plans is completed.

Concern 2: '*The actual project does not fit within EPA's "Improve Air Quality" objective, is not aligned with [Clean Air Act (CAA)] §105 criteria, and has nothing to do with preventing or controlling air pollution.*'

The EPA, prior to awarding the grant, reviewed the proposed tasks for the work and negotiated with the LDEQ and the LDH to ensure that the CAA §105 criteria were met. Collection, evaluation, and analysis of data associated with risk from air toxics emissions are allowable activities under the CAA. (See 42 U.S.C. §7405(a)(1)(A))

Concern 3: '*We find it extremely concerning that over $300,000 of EPA funding was spent mostly on salaries for Tumor Registry staff to conduct a project that was neither responsive to the needs of the community nor consistent with the project that the LDEQ and the LDH proposed to the EPA to secure funds.*'

The EPA cannot confirm the statement '*that over $300,000 of EPA funding was spent mostly on salaries for Tumor Registry staff*', as those costs have not been presented to the EPA. The project is not complete and the funds have not been fully expended. The EPA has not authorized payment for this amount.

The EPA, the LDEQ and the LDH believe that the tasks in the workplan will provide information that these government agencies believe will be useful to the community.

Finally, the EPA found that the project is '*consistent with the project that the LDEQ and the LDH proposed to the EPA to secure funds*', with respect to the task that is completed – namely the study conducted by LSU to detect reportable cancer cases in the survey area around the Denka facility for the 2009 to 2018 timeframe that were missing from the Louisiana Tumor Registry data.

Message

From: Hubbard, Joseph [Hubbard.Joseph@epa.gov]
Sent: 10/13/2020 2:49:52 PM
To: mdmitchell@theadvocate.com
CC: Durant, Jennah [Durant.Jennah@epa.gov]
Subject: RE: EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish Grant funding

Hi David,

I will give you a call in a bit. Please note, Monday was a Federal holiday. Also, DEQ/LDH are the grantees and will have the best information on how they will use the grant.

Cheers,

Joe Hubbard
U.S. Environmental Protection Agency
OFFICE: 214-665-8476
Hubbard.joseph@epa.gov

From: Mitchell, David
Sent: Tuesday, October 13, 2020 9:41:23 AM (UTC-06:00) Central Time (US & Canada)
To: R6Press
Subject: FW: EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish Grant funding

I was wondering if I could talk to someone today about exactly what this grant money will be used to do. I called yesterday and again this morning and haven't heard back. The folks down here in Louisiana are giving me conflicting stories. I was wondering if you could help, in particular, on the DEQ piece. Is this money related to an "audit," or companion survey, of the La. Tumor Registry that was started in reaction to a student community survey, suggesting cancer rates in the St. John the Baptist area could be higher than the registry indicates. The student survey was among people living near the Denka plant and trying to analyze the impact of chloroprene emissions.

DEQ says that is what the money is for, but the Tumor Registry says it isn't. Please call today. Thanks. On my cell.

THE ADVOCATE
BATON ROUGE · NEW ORLEANS · ACADIANA

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From: Baurick, Tristan <tbaurick@theadvocate.com>
Sent: Friday, October 09, 2020 10:48 AM
To: Mitchell, David <dmitchell@theadvocate.com>
Subject: Re: EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish Grant funding

Go for it. Thanks.

From: Mitchell, David <dmitchell@theadvocate.com>
Sent: Thursday, October 8, 2020 5:55 PM
To: Russell, Gordon <grussell@theadvocate.com>; Schleifstein, Mark <mschleifstein@theadvocate.com>; Baurick, Tristan <tbaurick@theadvocate.com>
Subject: RE: EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish Grant funding

I can get unless you want, Tristan.

THE ADVOCATE

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From: Russell, Gordon <grussell@theadvocate.com>
Sent: Thursday, October 08, 2020 5:46 PM
To: Schleifstein, Mark <mschleifstein@theadvocate.com>; Baurick, Tristan <tbaurick@theadvocate.com>; Mitchell, David <dmitchell@theadvocate.com>
Subject: RE: EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish Grant funding

Tristan or David, one of you guys in a position to write this up tomorrow? I figure Mark gonna be on weather duty.

From: Schleifstein, Mark <mschleifstein@theadvocate.com>
Sent: Thursday, October 8, 2020 5:43 PM

To: Baurick, Tristan <tbaurick@theadvocate.com>; Russell, Gordon <grussell@theadvocate.com>; Mitchell, David <dmitchell@theadvocate.com>
Subject: FW: EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish Grant funding

Mark Schleifstein
Environment reporter
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The Times-Picayune | The New Orleans Advocate
840 St. Charles Ave.
New Orleans LA 70130
Mobile: 504.717.1157
Home: 504.887.5331

From: EPA South Central <no_reply@epa.gov>
Sent: Thursday, October 8, 2020 12:03 PM
To: Schleifstein, Mark <mschleifstein@theadvocate.com>
Subject: EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish Grant funding

EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish

Grant funding prioritized for areas facing air quality challenges

Contact: Joe Hubbard or Jennah Durant at 214-665-2200 or r6press@epa.gov

DALLAS (Oct. 8, 2020) – The U.S. Environmental Protection Agency (EPA) recently awarded the state of Louisiana two grants for a total of $311,012. The grants will help the state determine health risks from toxic air pollutants in the community near the Denka Plant in St. John the Baptist Parish, La.

"Through these grants, EPA supports states as they develop programs and projects to address localized environmental concerns," **said EPA Regional Administrator Ken McQueen.** "EPA has been working with the State of Louisiana and the local leadership in St. John the Baptist Parish for several years to reduce chloroprene emissions. We look forward to further assisting the community through these grants, which will promote the health of its citizens and the environment."

The two grants were awarded to La. state agencies in partnership with Louisiana State University. EPA awarded $224,931 to the Louisiana Department of Environmental Quality and $86,081 to the Louisiana Department of Health to assess the health risks associated with Chloroprene exposure in the community near the Denka Plant.

Chloroprene is a chemical used in the production of neoprene. Neoprene has a variety of uses, such as in wetsuits, gaskets, hoses and adhesives. Chloroprene is classified as a likely carcinogen by several agencies, including EPA.

As EPA pursues its mission to protect human health and the environment, the agency periodically awards grants to help state, local and tribal air agencies conduct air quality monitoring projects to address localized air toxics issues. Air toxics, also known as hazardous air pollutants, may be linked to cancer or other serious health effects. Under the Clean Air Act, EPA currently regulates 187 listed air toxic pollutants.

Congress created the MPG program in 2016, and appropriated funds to this program in fiscal year (FY) 2018, FY 2019, and FY 2020. This MPG program is for the $13 million Congress appropriated in FY 2020. The Explanatory Statement accompanying the 2020 Act suggested that states and tribes might use the MPG funds to address emerging contaminants such as PFAS, but directed the Agency "to continue to give maximum flexibility to States and Tribes so that they, not the Agency, may determine where funds from this grant program are of most value."

For more information on Denka and EPA actions in the community, please visit: https://www.epa.gov/la/laplace-louisiana-background-information

For more information on Chloroprene in Louisiana visit: https://www.epa.gov/la/laplace-louisiana-frequent-questions

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EPA awards Louisiana over $311,000 to assess air pollutants in St. John Parish

Grant funding prioritized for areas facing air quality challenges

Contact: Joe Hubbard or Jennah Durant at 214-665-2200 or [HYPERLINK "mailto:r6press@epa.gov"]

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"EPA has prioritized partnerships to support states as they develop data and programs that secure clean air in communities that may need additional attention to address environmental challenges," **said EPA Regional Administrator Ken McQueen.** "This project will significantly enhance our efforts to address community concerns as we continue to evaluate the air quality in this region to further protect public health and the environment."

The two grants were awarded to La. state agencies in partnership with Louisiana State University. EPA awarded $224,931 to the Louisiana Department of Environmental Quality and $86,081 to the Louisiana Department of Health to assess the health risks associated with Chloroprene exposure in the community near the Denka Plant.

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For more information on Chloroprene in Louisiana visit: [HYPERLINK "https://www.epa.gov/la/laplace-louisiana-frequent-questions"]

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# # #

United States Department of State

United States Permanent Mission to the Organization of American States

Washington, D.C. 20520

July 16, 2021

Tania Reneaum Panszi
Executive Secretary
Inter-American Commission on Human Rights
Organization of American States
Washington, D.C. 20006

Re: Concerned Citizens of St. John the Baptist Parish, MC-421-21
Response of the United States to Request for Information

Dear Executive Secretary Panszi:

We acknowledge receipt of your office's letter dated June 28, 2021, requesting additional information concerning this matter. Consistent with our letter dated June 21, 2021, the United States reiterates its longstanding position on the lack of competence of the Inter-American Commission on Human Rights (the "Commission") to require precautionary measures, and submits that the Commission should refrain from requesting precautionary measures in this case.

Nevertheless, the United States herein endeavors to provide publicly available information that may be responsive to the request by the Commission in evaluating the Concerned Citizens of St. John the Baptist Parish's (the "Applicants") May 25, 2021 request for precautionary measures (MC-421-21, United States). Specifically, subject to the objections and limitations set forth below, the United States responds as follows to the Commission's additional request for: "*[i]nformation about the current state of health of the proposed beneficiaries, in particular, levels of individuals with cardiac symptoms, cancer, or COVID-19 in St. John the Baptist Parish, as well as measures adopted by the State in response to the health-related risks caused by the Denka Performance Elastomer Neoprene facility.*"[1]

[1] The United States notes that it already took into account the information presented in the Applicants' June 9, 2021 submission in the United States' June 21, 2021 response.

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The particular health conditions identified in the Commission's request (*i.e.*, levels of individuals with cardiac symptoms, cancer, or COVID-19) encompass a tremendously broad and ever-evolving category of information, not all of which may be relevant to the Applicants' request for precautionary measures. Moreover, the amount and types of information are so potentially vast and possessed by so many different entities, including multiple levels of government and private sources, that it would be impossible to provide a comprehensive, accurate, and meaningful response regarding information about "the current state of health" of the proposed beneficiaries within the timeframe allowed by the Commission's request, if at all. Considering the breadth and inherent complexity of the Commission's request, the United States would be hard-pressed to estimate the time needed to prepare a complete and thorough response, were such response even possible.

To the extent such health-related information in question is developed and maintained, it would be by multiple levels of government, and most predominantly by state and local health departments. The United States federal government has varying degrees of access to such information and limited or no control over such data. Moreover, in the United States, personal health information is subject to privacy laws, such as the Privacy Act, 5 U.S.C. § 552a, and the Health Insurance Portability and Accountability Act (Public Law 104–191, August 21, 1996, 110 Stat 1936), which limit the disclosure of protected health information. We also note that responding to a request about the overall "current state of health" of the Applicants may encompass a range of information that goes beyond the scope of the Applicants' request for precautionary measures to address their concerns about chloroprene emissions from the Denka facility. Furthermore, the United States is not presently in a position to evaluate, and then convey to the Commission, whether and how any potentially available information is relevant to the Applicants' claims and the Commission's request for additional information. These factors substantially limit the United States' response to the Commission's request.

Despite these limitations, the United States provides the following information in an effort to be responsive to the Commission's requests. The United States is aware of publicly available information about the health conditions specifically identified by the Commission. Much of this information is gathered and managed by the Louisiana Department of Health, an agency of the State of Louisiana, not the United States government.[2] And because the United States did not develop and does not control this information, we do not comment on or make representations about the accuracy and comprehensiveness of the information, its relevance to the Commission's inquiry, or any conclusions that could be drawn from it.

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[2] One exception is that the information about incidence of heart attacks and stroke is from the United States Center for Disease Control's National Environmental Public Health Tracking Network.

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Data about the "levels of individuals with cardiac symptoms, cancer, or COVID-19 in St. John the Baptist Parish," was gathered for this response, and may be found by any private individual through the following links to publicly available parish-level data:

HEART ATTACK

Indicator (the type of data measured): Hospitalizations for Heart Attack

Measure: Age-adjusted rate of hospitalization for heart attack among persons 35 and older per 10,000 population (Annual rates available for 2000-2019)

https://ephtracking.cdc.gov/DataExplorer/?query=bd0cd935-218d-4f13-b08d-6994311671ed

STROKE

Indicator: Stroke Prevalence

Measure: Small Area Estimation of Adults Aged >=18 Years Who Have Had a Stroke (2018)

https://ephtracking.cdc.gov/DataExplorer/?query=5f4a04c1-4df0-487a-97b7-06dd6c713780

CANCER

- Cancer Incidence - Louisiana Tumor Registry's Data Visualization Tool:

  https://sph.lsuhsc.edu/louisiana-tumor-registry/data-usestatistics/louisiana-cancer-data-visualization/, January 2020.

Incidence Rates in St. John the Baptist (2013-2017)

- All Cancers Combined: https://public.tableau.com/shared/FKWB62SMS?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y

- Breast Cancer (females): https://public.tableau.com/shared/9YGNZ3T29?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y

- Colon and Rectum: https://public.tableau.com/shared/M6NM9FG9P?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y

- Uterine:

https://public.tableau.com/shared/X5YQHXB4C?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y

- Kidney: https://public.tableau.com/shared/HBNFKTKJJ?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y
- Lung and Bronchus: https://public.tableau.com/shared/4P6KKJNS5?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y
- Melanoma: https://public.tableau.com/shared/FKDSF347B?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y
- Non-Hodgkin Lymphoma: https://public.tableau.com/shared/H5JH52D62?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y
- Pancreas: https://public.tableau.com/shared/6NS8X3MZ2?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y
- Prostate: https://public.tableau.com/shared/YGBKGSYMG?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y
- Bladder: https://public.tableau.com/shared/MXGR2PYXM?:toolbar=n&:display_count=y&:origin=viz_share_link&:embed=y

Other publicly available assessments performed by the Louisiana Department of Health about chloroprene emissions and cancer incidence are available at:

- https://ldh.la.gov/assets/oph/Center-EH/DENKA/PreliminaryChloropreneReport.pdf
- https://ldh.la.gov/assets/oph/Center-EH/envepi/PHA/Documents/DENKALetterHealthConsultCancerReview2018.pdf

The full report, completed in 2021, is available at: https://louisianacancer.org/st-john/

COVID-19

https://ldh.la.gov/coronavirus

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Please accept renewed assurances of my highest consideration.

Sincerely,

(Endorsed electronically)

Bradley Freden
Interim Permanent Representative

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