Message

From: Guinta, Frank [FCGuinta@mlstrategies.com]
Sent: 11/5/2018 9:10:07 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: FW: Request for a Call
Attachments: 2018_09_24 - EPA EXPECTED TO EASE RCRA RULES RE AIRBAGS.pdf

Hi Ryan – Would you have some time this week for a quick call? Best, Frank

Congressman Frank C. Guinta
Senior Vice President
ML Strategies, LLC
701 Pennsylvania Ave NW | Suite 900 | Washington, DC 20004
Main: (202) 296-3622 | Direct: (202) 434-7401 | Fax: (202) 434-7400
E-Mail: fcguinta@mlstrategies.com
Web: www.mlstrategies.com

ML STRATEGIES

From: Guinta, Frank
Sent: Monday, October 22, 2018 1:22 PM
To: 'jackson.ryan@epa.gov' <jackson.ryan@epa.gov>
Subject: FW: Request for a Call

Good afternoon Ryan – I just left a message for you at your office. I wanted to send this email request to you as a quick follow up. Wondering if we could set up a time to talk for a few minutes. Best, Frank

Congressman Frank C. Guinta
Senior Vice President
ML Strategies, LLC
701 Pennsyvania Ave NW | Suite 900 | Washington, DC 20004
Main: (202) 296-3622 | Direct: (202) 434-7401 | Fax: (202) 434-7400
E-Mail: fcguinta@mlstrategies.com
Web: www.mlstrategies.com

ML STRATEGIES

From: Guinta, Frank
Sent: Thursday, October 4, 2018 4:23 PM
To: 'jackson.ryan@epa.gov' <jackson.ryan@epa.gov>
Subject: Request for a Call

Ryan,

This is former Congressman Frank Guinta from NH. Hope your well. I wanted to reach out to ask if you may have a few minutes for a phone call this week or next to discuss a matter related to the Takata airbag recall? I represent a company that is involved in getting recalled airbags out of the system, and we saw the attached article indicating EPA has sent an

interim final rule on managing the recall to OMB for review. Just wanted to ask a couple questions about that and the process going forward. Thanks for any time you can share!

Frank

Congressman Frank C. Guinta
Senior Vice President
ML Strategies, LLC
701 Pennsyvania Ave NW | Suite 900 | Washington, DC 20004
Main: (202) 296-3622 | Direct: (202) 434-7401 | Fax: (202) 434-7400
E-Mail: fcguinta@mlstrategies.com
Web: www.mlstrategies.com

User Name: TRAVIS LEACH

Date and Time: Monday, September 24, 2018 9:51:00 AM EDT

Job Number: Ex. 6

Document (1)

1. *EPA EXPECTED TO EASE RCRA RULES TO ADDRESS MILLIONS OF RECALLED AIRBAGS*

Ex. 6

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EPA EXPECTED TO EASE RCRA RULES TO ADDRESS MILLIONS OF RECALLED AIRBAGS

Superfund Report

September 24, 2018

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Length: 685 words

Body

EPA's waste office has sent an interim final rule on managing recalled airbags to the White House Office of Management & Budget (OMB) for review, a measure that is expected to ease waste handling and disposal requirements for the millions of defective Takata vehicle airbags that have been recalled.

OMB Sept. 19 received an interim final rule titled "Facilitating Safe Management of Recalled Airbags," from EPA's Office of Land & Emergency Management (OLEM), according to its website.

The rule, under the Resource Conservation and Recovery Act (RCRA), is expected to address disposal of tens of millions of defective airbags manufactured by Takata Corp., that were used by 19 different automakers.

In 2015, the National Highway Traffic Safety Administration recalled 32 million Takata airbag inflators made with ammonium nitrate propellant due to an explosive shrapnel-producing defect.

In a June 2017 memo, Barnes Johnson, director of EPA's Office of Resource Conservation and Recovery, temporarily suspended RCRA Subtitle C regulatory requirements on the airbags, saying they were not considered discarded, and therefore were not waste, while they were being held under a government preservation order pending judicial proceedings and investigations.

But in a July 2018 memo, Johnson told regional officials that in the face of ongoing requests for clarification of the airbags' regulatory status, officials were weighing an exemption from waste requirements for the recalled airbags, once they were set to be discarded. Relevant documents are available on InsideEPA.com. (Doc. ID: 215366)

Johnson noted that applying RCRA regulations "to the end-of-life management of used airbag modules and airbag inflators poses unique regulatory challenges, particularly in the context of the recall of Takata airbag inflators."

As a result, "EPA is considering developing a rule that would exempt discarded airbag modules and airbag inflators from some RCRA regulatory requirements provided certain conditions are met," he wrote.

"The goal of such a rule would be to protect human health by helping to expedite the removal of defective airbag modules and airbag inflators (whether at dealerships, autobody shops, or salvage yards), while maintaining key environmental and human health protections during airbag collection, storage, and disposal."

Key matters that EPA might weigh for such a rule are "the extent that such an exclusion includes conditions that would ensure the defective airbags are safely destroyed in a manner that is protective of human health and the environment, and are not sham recycled by being diverted back into vehicles," the memo said.

"They wouldn't be issuing a rule to make it any harder for them," an industry source says. EPA is "definitely going to give them some type of relief."

TRAVIS LEACH

While it is not clear how EPA will ease requirements, the industry source believes the agency has various options, including proposing a new scrap metal exemption from hazardous and solid waste regulations for the recalled airbags, or placing them under the universal waste rule.

The former would provide an easier route for industry than the latter, the source says. Placing the recalled airbags under the universal waste rule would subject them to reduced regulations, such as no waste manifests, storage or accumulation limits, the source says. In addition, disposal facilities would not necessarily need a hazardous waste treatment and disposal permit, but would have to meet certain conditions, the source says.

The July memo also lays out how the agency interprets whether other, non-recalled airbags are hazardous waste or not. For instance, non-recalled, used airbag modules and inflators removed from a car that can be legitimately reused in another vehicle are still deemed a product and not a waste unless discarded, the memo says.

If airbag modules and inflators remain installed in a vehicle -- whether Takata airbags or not -- and the vehicle is being recycled as scrap metal, then the whole unit is exempt from waste regulations under the scrap metal exemption, according to the memo. -- Suzanne Yohannan

Classification

Language: ENGLISH

Publication-Type: Newsletter

Subject: VEHICLE AIRBAGS (92%); MOTOR VEHICLE SAFETY EQUIPMENT (90%); ENVIRONMENTAL LAW (90%); AGENCY RULEMAKING (90%); ENVIRONMENTAL DEPARTMENTS (90%); US RESOURCE CONSERVATION & RECOVERY ACT (90%); HAZARDOUS MATERIALS REGULATION (89%); US ENVIRONMENTAL LAW (89%); CONSERVATION (89%); HAZARDOUS WASTE (79%); SOLID WASTE REGULATION (79%); BOMBS & EXPLOSIVE DEVICES (73%); DEATH & DYING (71%); ROAD TRANSPORTATION SAFETY (69%); INVESTIGATIONS (66%)

Company: TAKATA CORP (85%)

Organization: OFFICE OF MANAGEMENT & BUDGET (84%); NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION (56%)

Ticker: 7312 (TSE) (85%)

Industry: VEHICLE AIRBAGS (92%); MOTOR VEHICLE SAFETY EQUIPMENT (90%); HAZARDOUS MATERIALS REGULATION (89%); HAZARDOUS WASTE (79%); SOLID WASTE REGULATION (79%); WASTE MANAGEMENT & REMEDIATION SERVICES (78%); (77%); AUTOMOBILE MFG (69%); ROAD TRANSPORTATION SAFETY (69%); AUTOMAKERS (54%); AUTOMOTIVE BODY & INTERIOR REPAIR SHOPS (50%)

Load-Date: September 24, 2018

End of Document

Message

From: Brian Wynne Ex. 6
Sent: 10/10/2018 8:36:25 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Wheeler, Andrew [wheeler.andrew@epa.gov]
Subject: Re: do your job!

Sent from my iPhone

> On Oct 10, 2018, at 8:26 AM, Brian Wynne Ex. 6 wrote:
>
> My brother died one year ago this week. Do your job! Send the rule to OMB. I know why you are delaying.
>
> Brian Wynne
>
> Sent from my iPhone

Message

From: Improving Customer Expereince as CAP Goal Workshop [Training@CustomerExperience-CAPgoal.org]
Sent: 10/9/2018 3:03:53 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] Is Your Agency Meeting the Customer Service CAP Goal?

Additional Speakers Announced:
Workshop to Improve Customer Experience
Please Forward to Others in Your Agency -

Improving Government Customer Experience:
Meeting the Administration's Cross Agency
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Training Workshop

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for government's customers:
Best Practices from the Public and Private Sectors

Wednesday October 24, 2018
Willard InterContinental Hotel
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info@PotomacForum.org
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Additional Speakers - Just Announced:
Rosettta Lue
Senior Contact Center Advisor
Office of Information & Technology (OIT)
Department of Veterans Affairs

Marcy Jacobs
Executive Director
Digital Service

Department of Veterans Affairs

Speakers:

Anahita Reilly
Chief Customer Officer
General Services Administration

Karen Evan
Assistant Secretary for the Office of Cybersecurity, Energy Security, and Emergency Response (CESER)
Department of Energy
Former Federal Chief Information Officer (invited)

Robert Shea
Principal
(Former OMB Associate Director for Administration and Government Performance)

Martha Dorris
Principal
Dorris Consulting International
(Former GSA Director of Strategic Programs, Integrated Technology Service)

Zachary Trojak
Principal - Public Sector
Medallia
(Customer Experience Organization to create a world where companies are loved by customers and employees)

(Additional Government Speakers to be Announced Soon)

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2800 Eisenhower Avenue , Alexandria , Virginia, 22314 , USA

Message

From: Improving Customer Experience in Gov Training [PotomacForum@GovCustomerExperience.org]
Sent: 10/12/2018 12:31:03 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] Registration Open: How to Improve Customer Experience Workshop & Meeting the OMB Goals

Additional Speakers Announced:
Workshop to Improve Customer Experience
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Improving Government Customer Experience: Meeting the Administration's Cross Agency Performance Goals Training Workshop

How to measure, modify, and improve the experience for government's customers: Best Practices from the Public and Private Sectors

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Willard InterContinental Hotel
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Additional Speakers - Just Announced:
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Executive Director
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Karen Evan
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Former Federal Chief Information Officer (invited)

Robert Shea
Principal
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Martha Dorris
Principal
Dorris Consulting International
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Zachary Trojak
Principal - Public Sector
Medallia
(Customer Experience Organization to create a world where companies are loved by customers and employees)

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2800 Eisenhower Avenue , Alexandria , Virginia, 22314 , USA

Message

From: Ann Dermody [updates@cqrollcall.com]
Sent: 10/16/2018 2:34:01 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: 5 Questions to Answer Before You Build your Advocacy Coalition

CQ Roll Call - Marketing Email Template

CQ Ignite

5 Questions to Answer Before You Build your Advocacy Coalition

Among the best ways to enhance the effectiveness of your organization's advocacy is to find other groups with related concerns and similar goals. By building an advocacy coalition, associations and nonprofits can mix-and-match proficiencies with partner groups to better engage public officials and influence policymakers.

In other words, there is strength in numbers and diversity.

We've compiled **5 questions to answer** to identify your allies and convince them that your concerns align enough to team up.

READ MORE

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Message

From: Brian Wynne Ex. 6
Sent: 10/12/2018 12:19:24 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Wheeler, Andrew [wheeler.andrew@epa.gov]
Subject: Wynne's are coming- stay tuned

Lot of interest in our story. My family vs. a bunch of coal lobby stooges. I like my chances.

R/

Brian Wynne

Sent from my iPhone

Message

From: Ryan Jackson Ex. 6
Sent: 10/10/2018 5:21:23 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Ex. 6
Attachments:

Ryan Jackson
(202) 679-1469

Ex. 6

Message

From: Brent Fewell [brent.fewell@earthandwatergroup.com]
Sent: 10/2/2018 4:19:54 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Leopold, Matt (OGC) [Leopold.Matt@epa.gov]; Ross, David [Ross.David@epa.gov]
Subject: FL Water Quality
Attachments: ATT00001.txt

Ryan, got a few minutes to chat?

https://www.tcpalm.com/story/news/local/indian-river-lagoon/health/2018/09/30/erin-brockovich-fight-toxic-algae-florida/1447388002/

Brent Fewell, Esq. | Earth & Water Law Group
1455 Pennsylvania Ave., NW, Suite 400, Washington, DC 20004
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Message

From: Dawn Carpenter [dcarpenter@gdgllc.us]
Sent: 10/3/2018 11:18:36 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Touching base

Mr. Jackson,

We met last night through mutual friends, Colby, Dana Hudson and Jeff Williams at Bullfeathers. You had asked me to reach out to you because you thought that I may be of assistance with helping to establish plain speech narratives on certain topics. (I believe I helped you with an issue last night and you liked how I thought/spoke about the subject at hand.) After thinking about it today, I would enjoy the opportunity to explore this idea. Please let me know how I can facilitate this discussion with you.

Kind regards,

Dawn

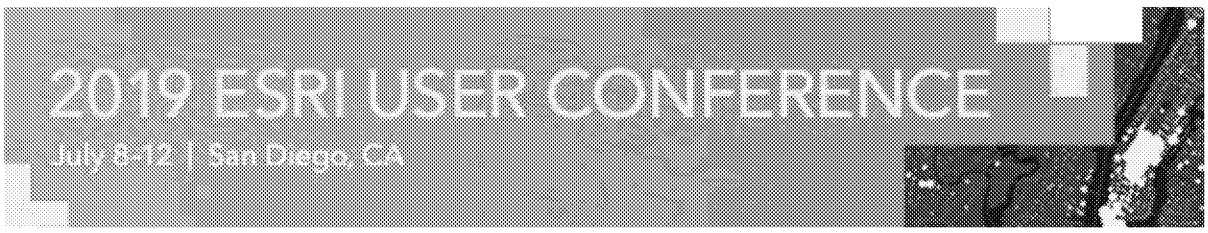
Dawn Carpenter

Director of Training
Guardian Defense Group, LLC
www.gdgllc.us
Ex. 6

Message

From: Esri User Conference [newsletter@esri.com]
Sent: 10/4/2018 3:57:42 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: The 2019 Esri UC Call for Presentations Is Open

View email in web browser.



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The Esri User Conference (Esri UC) presents a unique opportunity to share, collaborate, and learn from over 18,000 fellow GIS users.

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Be the inspiration your peers leverage to accomplish great things in their own GIS work.

The deadline for presentation submissions is November 12, 2018.

Learn More

The most valuable part of the UC comes from learning about the GIS platform, as well as the best practices, from the presenters. They showcase the capabilities of the platform in the industry our company is in (telecommunications). The presentations provided a lot of valuable information that will make our implementation of the Esri platform much more effective.

Marcus Vowell
Sr. Business Analyst, Uniti Group

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Message

From: Gadhia, Ami [agadhia@aap.org]
Sent: 10/12/2018 3:44:06 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Willis, Sharnett [Willis.Sharnett@epa.gov]
Subject: Re: Meeting - can we move it to 10/12?

Ryan and Sharnett,

Just circling back on scheduling.

Thanks,

Ami

Ami V. Gadhia
Director, Federal Advocacy & Regulatory Affairs
American Academy of Pediatrics

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Friday, October 5, 2018 9:24:43 AM
To: Gadhia, Ami
Cc: Willis, Sharnett
Subject: RE: Meeting - can we move it to 10/12?

Great, it's not what you told me yesterday. I'll get back with you on a time.

From: Gadhia, Ami [mailto:agadhia@aap.org]
Sent: Friday, October 5, 2018 9:08 AM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Cc: Willis, Sharnett <Willis.Sharnett@epa.gov>
Subject: Re: Meeting - can we move it to 10/12?

Ryan,

We are in regular contact with OCHP. Two of our pediatricians are on the CHPAC, which you mentioned, and attend its meetings. We have a history of participation on CHPAC. We also have regular contact with OCHP staff and Dr. Etzel is well known to the AAP and vice versa with EPA OCHP. In addition, I attended a meeting with Administrator Pruitt in May 2017 with our CEO and the chair of our Council on Environmental Health, Dr. Jennifer Lowry. You were also at that meeting, as was Dr. Etzel.

October 18th would work on our end, any time between 11:30 and 5.

Ami V. Gadhia
Director, Federal Advocacy & Regulatory Affairs
American Academy of Pediatrics

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Thursday, October 4, 2018 4:32:16 PM

To: Gadhia, Ami
Cc: Willis, Sharnett
Subject: RE: Meeting - can we move it to 10/12?

I'm sorry Friday October 12 is not convenient for attendees within EPA I would like to invite. We will need to move to the next week possibly October 18.

However, I would imagine that you or your organization would rather like to attend the FACA session hosted by our Children's Health Office being held Oct 11-12 here in Washington since you have not met with our children's health office for the past 2 years. The following is a link to information about it and attached is the itinerary to date. In fact, I'm surprised you and your organization would not already know Dr. Michael Firestone, the acting director of our children's health office. He has been the senior scientist for the office for the past 18 years having worked at EPA for 35 years.

https://www.epa.gov/children/childrens-health-protection-advisory-committee-chpac.

Thanks,

Ryan.

From: Gadhia, Ami [mailto:agadhia@aap.org]
Sent: Thursday, October 4, 2018 12:28 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Meeting - can we move it to 10/12?

Ryan,

Could we move our meeting from 10/11 at 2pm to any time on Friday, 10/12? One of the attendees has chemotherapy on the 11th and is unavailable all day.

Thanks,

Ami

Ami V. Gadhia
Director, Federal Advocacy and Regulatory Affairs
American Academy of Pediatrics
601 13th Street NW, Suite 400N
Washington, DC 20005
(202) 347-8600
@AmerAcadPeds

Message

From: ECOS [ecos@ecos.org]
Sent: 10/5/2018 7:54:41 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: ECOS Engages in Oil & Gas Conversation, Welcomes New Montana Member, & More

ECOS Engages in Oil & Gas Conversation, Welcomes New Montana Member, & More

ECOSWIRE | Vol. 20 No. 39 View this email in your browser

ECOSWIRE

Friday, October 5, 2018

Vol. 20 No. 39

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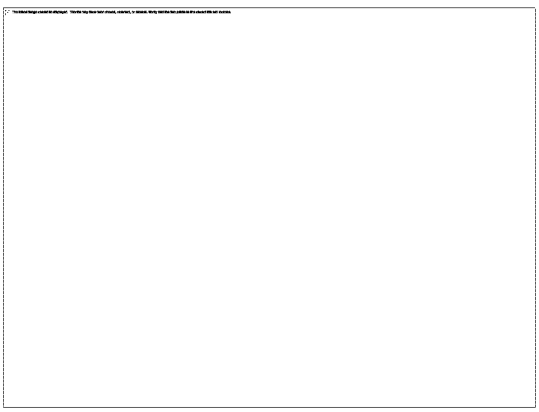
- ECOS Seeks Date Check for 2019 Fall Meeting
- State News You Can Use
- U.S. EPA News
- Upcoming Events

ECOS Executive Director Briefs Oil and Gas Regulators on SGC Activities

Area of Focus: *Shale Gas Caucus*



On October 1, ECOS Executive Director Sam Sankar spoke at the Interstate Oil and Gas

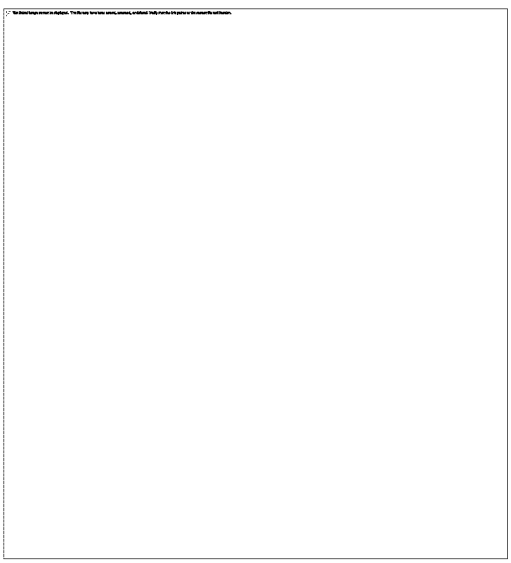
Compact Coalition (IOGCC) Annual Conference in Coeur D'Alene, Idaho to discuss collaboration opportunities with ECOS and its Shale Gas Caucus (SGC). The IOGCC works with its member states to efficiently maximize oil and natural gas resources through regulatory practices while promoting protection of public health and the environment.

In his presentation, Sankar highlighted ECOS activities such as e-MATRIX and the cross-media webinar and project series, implementation of the U.S. EPA/ECOS/IOGCC Oil and Natural Gas Roundtable goals set earlier this year, and the Interstate Technology and Regulatory Council's new methane technology document (see next story).

Sankar used short videos to demonstrate the E-MATRIX and ECOSResults webpages, and recapped the webinar series that examines produced water, methane reduction, and alternative compliance pathways for air. This series is being produced through a partnership among the ECOS SGC, the Environmental Defense Fund (EDF), EDF+Business, and Southwestern Energy. See the upcoming events section for details on the next webinar on **October 24**. [Poole/Parisien]

ITRC Issues Guidance Documents on Methane and Stormwater

Areas of Focus: *ITRC and Shale Gas Caucus*

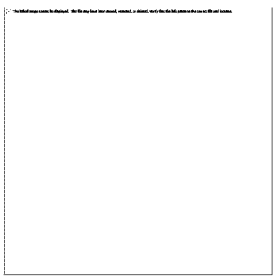


The Interstate Technology and Regulatory Council (ITRC) is pleased to announce two new technical-regulatory guidance documents: *Evaluation of Innovative Methane Detection Technologies* and *Stormwater Best Management Practices Performance Evaluation*.

The methane guidance document provides an overview of existing and emerging methane detection technologies and their applications. The guidance enables users to evaluate, compare, and select suitable technologies to detect/quantify methane emissions from segments of the oil and gas supply chain. Users can learn how to comply with existing and forthcoming leak regulations, assist with inventory monitoring and reporting, and enhance safety. The document, which will help inform ECOS Shale Gas Caucus policy efforts on alternative compliance pathways for air technologies, will be presented on an October 24 SGC webinar (see the upcoming events section).

The stormwater guidance document offers details on post-construction best management practice (BMP) lifecycle processes including contracting, cost consideration, installation factors such as construction challenges, inspection checklists, quality control, and record drawings. Data and information from existing publicly available BMP performance programs have been incorporated into an online BMP Screening Tool. Using site-specific pollutant treatment requirements and installation considerations, the tool identifies suitable BMPs for a given site. [Olonoff]

Mathieus Named Interim Director of Montana DEQ



George Mathieus

Montana Governor Steve Bullock has tapped George Mathieus to succeed Montana Department of Environmental Quality Director Tom Livers on an interim basis. As recently reported in *ECOSWIRE*, Livers departed last month to head the state's Budget Office.

Mathieus has served since 2015 as DEQ's Deputy Director. Prior to that, he was Division Administrator of Planning, Prevention, and Assistance and Bureau Chief of Water Quality

Planning. He began his career with the state in 1993, eventually working as a hydrologist and fisheries program manager for the Montana Department of State Lands. In 2002 he accepted a position as a water quality planner at DEQ.

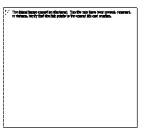
He attended the University of Montana School of Forestry, studying chemistry, physics, soils, and limnology (lakes and fresh waterbodies), leading to a forest hydrology emphasis in graduate school. He also served in the U.S. Army. [Parisien]

U.S. DOE Releases Interpretation of High-Level Radioactive Waste

This week U.S. Department of Energy (DOE) released a pre-publication copy of a *Federal Register* Request for Comment on the interpretation of high-level radioactive waste. This definition is most relevant to Idaho, South Carolina, and Washington, where management of wastes from nuclear weapons production may be affected by this definition. However, other states may want to review this notice, as definitional changes may affect transportation and long-term storage decisions that result in impacts to your state.

This notice will be open for comment for 60 days after it is published in the *Federal Register* next week. ECOS' Federal Facilities Forum will discuss the notice. If you would like to participate, email Carolyn Hanson of ECOS. [Hanson]

ECOS Seeks Date Check for 2019 Fall Meeting



ECOS is finalizing a contract for its 2019 ECOS Fall Meeting in Seattle,Washington on **September 24-26**. If you have a conflict with these dates, please email Megan Swanson by **October 9.** [Swanson]

State News You Can Use

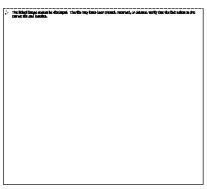
Arkansas Partners with Bipartisan Policy Center to Educate Stakeholders about ACE

Idaho and Utah Partner on Process Improvement under ECOS BPI Mentoring Program

U.S. EPA News

Koch's Dunlap Appointed to U.S. EPA ORD

U.S. EPA has appointed David Dunlap, a chemical engineer with Koch Industries, to serve as deputy chief of its Office of Research and Development (ORD). The position does not require a Senate confirmation. Dunlap will succeed Richard Yamada, who served for 15 months in the role. [Longsworth]



Upcoming Events

Webinars

U.S. EPA on Grants for Lead Testing in Schools

The Water Infrastructure Improvements for the Nation (WIIN) Act of 2016 authorized U.S. EPA to establish the Lead Testing in School and Child Care Program Drinking Water grant. The new grant program aims to assist states and tribes with voluntary testing for lead in drinking water at schools and child care facilities. The program includes $20 million in funding for states, with $1.2 million set aside specifically for tribal schools. States and tribes interested in participating in the grant program must submit letters of intent to EPA by **January 11, 2019**.

To learn more about the grant program and what to include in the letter of intent, states are encouraged to attend a webinar on **October 10 at 3-4 p.m. Eastern**.

For more information about the WIIN grant program and the upcoming webinars, see here. [Swanson]

ITRC on Petroleum Vapor Intrusion, PFAS, and More

The Interstate Technology & Regulatory Council (ITRC) invites your participation in several upcoming training opportunities:

- Petroleum Vapor Intrusion - **October 10-11**, Seattle, Washington
- Light Non-Aqueous Phase Liquids (LNAPL) - **October 12**, St. Louis, Missouri
- PFAS Training
    - **October 12** in Montclair, New Jersey
    - **November 4** in Sacramento, California
    - **January 10, 2019** in Atlanta, Georgia [Olonoff]

U.S. EPA on Water Reuse

U.S. EPA's Office of Research and Development (ORD) will host its monthly tools and

resources webinar on **October 17 at 3-4 p.m. Eastern**. Given increasing pressures on water resources, many communities are developing centralized systems for planned water reuse. ORD is working with the National Blue Ribbon Commission for Onsight Non-Potable Water Systems (ONWS), a coalition of state and local groups established to advance best management practices to support the use of ONWSs. This webinar will highlight the key issues limiting adoption of these ONWSs, and will summarize the work to date and ongoing collaboration.

To register for the webinar, see here. [Longsworth]

U.S. EPA on Harmonizing Recycling Programs

Why are some materials accepted in one community but not in another? What materials belong in curbside recycling? The Recycling Partnership has worked with the City of Milwaukee and the surrounding Waukesha County to develop harmonized recycling communication tools. This effort demonstrated that when regional recycling efforts are coordinated and complementary, program participants are less confused and less likely to throw something in the bin that does not belong there. Eliminating contamination from the bin is critical in today's recycling markets.

Join U.S. EPA's Sustainable Materials Management Web Academy Webinar on **October 18 at 1-2:30 p.m. Eastern** to learn how these Wisconsin communities partnered with state environmental officials and others to create tools and coordinate recycling efforts.
To register, see here. [Longsworth]

ECOS and U.S. EPA on Compliance Research for Effective Government

ECOS and U.S. EPA are hosting a new webinar series entitled *Compliance Research for Effective Government*. The series will help state and EPA program administrators understand how collaboration with academics can identify effective and measurable approaches to compliance. The first webinar featured the Ohio Signage at Outfalls Study with presenters Brian Hall of the Ohio Environmental Protection Agency and Dr. Jay Shimshack of the University of Virginia. The future webinar schedule is:

- **October 23, 2-3:30 p.m. Eastern: Two Uses of Data Analytics**: one to predict air quality and inform the public and the other to improve compliance. Daniel Dix, Minnesota Pollution Control Agency, and Christina Seybolt, University of Chicago.
- **November 8, 1-2 p.m. Eastern: Compliance Interventions on the Behaviors of Third Party Lead Contractors.** Andrew Gosden, Maryland Department of the Environment, and Dr. Ben Meiselman, Johns Hopkins University.
- **November 29, 2-3 p.m. Eastern: Compliance Assurance Toolbox.** David Hindin, Office of Compliance, Office of Enforcement and Compliance Assurance, U.S. EPA, and Sam Sankar, ECOS.
- **December 11, 1-2 p.m. Eastern: New Hampshire Hazardous Waste Generator Training Program.** Tim Prospert, New Hampshire Department of Environmental Services, and Dr. Sarah Strafford, College of William and Mary.

Please register for the webinars here. For more information, please contact Sonia Altieri of ECOS. [Altieri]

ECOS Shale Gas Caucus on Novel Air Leak Detection Approaches

The ECOS Shale Gas Caucus (SGC) will host a webinar on **October 24 at 2-3 p.m. Eastern** on novel leak detection approaches for methane and volatile organic compounds (VOCs). The session aims to stimulate dialogue on the potential value of novel detection for super-emitters, given innovation in continuous and aerial monitoring.

Moderated by SGC Co-Chairs Martha Rudolph of Colorado and Dave Glatt of North Dakota, the webinar will feature speakers with the Interstate Technology and Regulatory Council, EDF+Business, and other organizations.

An agenda and call information will be distributed to SGC members. Please contact Lia Parisien of ECOS for additional information. [Parisien]

U.S. EPA on Water Quality Standards

The U.S. EPA Water Quality Standards Academy provides technology transfer and implementation information to WQS professionals associated with the federal, state, tribal, and local agencies as well as the private sector. It will hold a winter session in the

Washington, DC area on **December 10-14**. Registration closes on **October 18**, or when capacity is reached.

Please click here to register. [Piper]

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Message

From: Brian Wynne Ex. 6
Sent: 10/11/2018 2:39:26 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Wheeler, Andrew [wheeler.andrew@epa.gov]
Subject: RE: Brian Wynne, brother of Drew- We can't be stopped

I am going to take this whole retial industry down, brick by brick. You backed the wrong horse.

https://www.bloomberg.com/news/articles/2018-10-11/autozone-ppg-halt-sale-of-paint-strippers-with-toxic-chemicals

Message

From: Ryan Ruotolo, IBM [Ryan.Ruotolo@IBM.com]
Sent: 10/16/2018 2:10:36 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Join IBM Watson Supply Chain for our MFT & B2B Federal User Group

This message contains graphics. If you do not see the graphics, click here to view.

IBM Federal User Group Can't see this email? View online

Hello,

OPM mandates that **all federal agencies use IBM Connect Direct** to securely transfer employee information back and forth, which means your agency already uses a component of the **Watson Supply Chain suite**!

I'm reaching out to invite you to join **IBM Watson Supply Chain clients** and **IBM experts** for our next user group meeting on **Tuesday, November 6, 2018.**

The location is at the **IBM Hamilton Square** office at 60014th St NW Suite 356, Washington, DC.

You can register **here** or reply to my email and I'll register for you.

Discover the many ways attending your local user group meeting can help you:

- Understand how IBM **can assist in solving** your MFT / B2B Electronic Data Integration requirements
- Learn about the **latest features to enhance** your current IBM MFT/B2B environment
- **Collaborate** with fellow users
- Build your **professional network**
- Hear **success stories** from your peers

This is an **invitation only** event focused on the most up to date information on MFT & B2B Integration. All attendees will learn about current trends from IBM experts and how to overcome any challenges with MFT & B2B Integration.

This will be most relevant to current clients and others who are most interested in

learning more about MFT & B2B Integration technology. Lunch will be served during a dynamic group discussion.

Lastly, if you're not able to make the user group, **please reach out if I can set up a brief meeting** to show you how we've helped other agencies modernize their B2B and MFT processes and how we can do the same for you!

Regards,
Ryan Ruotolo

CONTACT ME

Solutions Sales, US Federal
Watson Customer Engagement
Phone:(202) 815-9856
Email: Ryan.Ruotolo@IBM.com

Click here to unsubscribe

Message

From: Malmen, Jeff [JMalmen@idahopower.com]
Sent: 10/4/2018 8:34:42 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Following up on our Meeting

Mr. Jackson:

I am writing to follow up on our meeting of July 26th where we discussed a letter from Idaho Governor C.L. "Butch" Otter regarding a water quality issue the state has had pending in front of the EPA for 2309 days now.

Has the agency been able to make any progress on that issue?

Thanks,

Jeff L. Malmen
SVP, Public Affairs
Idaho Power Company

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Message

From: William Reilly Ex. 6
Sent: 10/3/2018 10:29:31 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Binder, Gordon [gordon.binder@wwfus.org]
Subject: Re: Reilly request for Acting Administrator Wheeler's email

Thanks Ryan

Sent from my iPhone

On Oct 2, 2018, at 5:34 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> I'm sorry for the extreme delay.
>
> Yes, please reach him directly at adm15.arwheeler.email@epa.gov. Have to love the email addresses OEI comes up with for archival purposes.
>
> Additionally, this really is an internal email which only the senior leadership has so we can, of course, conduct business. So it's tightly held, but this is the one which gets directly to him.
>
> Thanks again for the time the other day.
>
> Ryan.
>
> ---
>
> **From:** Binder, Gordon [mailto:gordon.binder@wwfus.org]
> **Sent:** Wednesday, September 12, 2018 12:47 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Cc:** William Reilly Ex. 6
> **Subject:** Reilly request for Acting Administrator Wheeler's email
>
> Ryan, if possible can Bill Reilly get an email address for him?
>
> Thanks,
>
> Gordon

Message

From: Deziel, Dennis (DR) [DRDeziel@dow.com]
Sent: 10/2/2018 7:34:04 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Beck, Nancy [Beck.Nancy@epa.gov]; McIntosh, Chad [mcintosh.chad@epa.gov]; Cook, Steven [cook.steven@epa.gov]
Subject: RE: Plastic Waste/Marine Debris Meeting Request

Sounds good, thanks Ryan.

Nancy, Chad, Steven – let me know how you'd like to proceed with scheduling, if possible.

I have removed Peter from the email chain for simplicity sake since this would be a meeting with The Dow Chemical Company. Dennis

Dennis Deziel
Director, Federal Government Affairs
The Dow Chemical Company
500 North Capitol Street, NW Suite 200
Washington DC 20001
(202) 429-3420 (office) Ex. 6
E-Mail: DRDeziel@dow.com

WORLDWIDE PARTNER

From: Jackson, Ryan [mailto:jackson.ryan@epa.gov]
Sent: Tuesday, October 02, 2018 3:05 PM
To: Deziel, Dennis (DR) <DRDeziel@dow.com>
Cc: Beck, Nancy <Beck.Nancy@epa.gov>; McIntosh, Chad <mcintosh.chad@epa.gov>; Cook, Steven <cook.steven@epa.gov>; Wright, Peter <wright.peter@epa.gov>
Subject: RE: Plastic Waste/Marine Debris Meeting Request

Thanks. I will be out of the office those two days but our OCSPP, OITA, and OLEM offices (cc'd) can meet with you folks on EPA actions including international ones.

From: Deziel, Dennis (DR) [mailto:DRDeziel@dow.com]
Sent: Tuesday, October 2, 2018 1:50 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Plastic Waste/Marine Debris Meeting Request

Ryan,

Finding solutions re plastic waste and marine debris is an important priority for Dow. We would love to collaborate with EPA in any way possible to address the issue. I will have a couple of executives in town on Oct 15-16 and I would love to meet with you and your leadership team, including Nancy Beck, Chad Macintosh and Steve Cook. Looking for 30 minutes if possible.

Thank you for your consideration. Dennis

Dennis Deziel

Director, Federal Government Affairs
500 North Capitol St NW, Suite 200, Washington, D.C. 20001
+1-202-429-3420 Ex. 6 Drdeziel@dow.com

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WORLDWIDE PARTNER

Message

From: Brian Wynne Ex. 6
Sent: 10/10/2018 12:26:35 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Wheeler, Andrew [wheeler.andrew@epa.gov]
Subject: RE:Drew Wynne he died one year ago

My brother died one year ago this week. Do your job! Send the rule to OMB. I know why you are delaying.

Brian Wynne

Sent from my iPhone

Message

From: Public Sector Women in the Workplace [PublicSectorWiW@McKinsey.com]
Sent: 10/12/2018 3:32:00 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Reminder: Register for the Public Sector Women in the Workplace Event

McKinsey&Company

PUBLIC SECTOR

Women in the Workplace

Monday, October 29

Dear Ryan Jackson,

There's still time to register for McKinsey & Company's second annual Public Sector Women in the Workplace report launch event on **Monday, October 29, 2018 from 5:30-7:30 PM** at the Dupont Circle Hotel in Washington, DC.

Click here to register for the event.

Each year, McKinsey teams up with LeanIn.org to conduct a comprehensive study to shed light on the challenges and opportunities facing women in the workplace—including the unique perspectives of women in the public sector.

Register now to reserve your spot for a panel discussion and networking reception featuring dynamic female government leaders and their allies. Full agenda and additional event details to follow.

Pursuant to 5 CFR § 2635.204(g), we believe that this event falls within the "Widely Attended Gathering" exception, which, subject to a determination of agency interest and a written authorization by your agency designee, serves as an exception to certain government ethics restrictions.

Each portion of the agenda is an integral part of the event during which we would welcome your viewpoint and participation in the exchange of ideas. We recommend that you coordinate with your ethics official for official confirmation of your agency determination. We are happy to provide additional cost information and/or breakdown, if helpful.

Message

From: Lorman Live Webinars [customerservice@lormaneducationwebinar.com]
Sent: 10/12/2018 12:01:56 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Water Well Design and Site Selection. - Register Today

Upcoming Live Webinar

Water Well Design and Site Selection

Gain an understanding of the causes of poor well performance and the approaches used to prevent or correct poor well performance.

Course Type: Live Webinar
Date & Time: Oct 23 @ 1 pm ET
Credit Approved: AIA, AICP, ENG

Problems with well performance are usually preventable, often start with well construction and development, and are then exacerbated by water quality conditions, well operation and rehabilitation efforts. Discuss the key factors affecting well performance including well design, initial screen development, biological and mechanical plugging, and well rehabilitation methods. An asset management based approach is described that helps prioritize maintenance decisions and long term well field operation.

Over the past several years there has been significant research done worldwide related to optimizing well performance. This research has included looking at the mechanisms involved with biological and mechanical plugging of aquifers, and the effectiveness of various rehabilitation technologies. The topic will

also discuss several studies in Europe that looked at the mechanisms associated with poor well performance and innovative approaches being used to prevent or correct poor well performance.

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Cheers,
The LormanTeam

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Lorman Education Services | 2510 Alpine Rd. | Eau Claire, WI | 54703
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Message

From: Holland, Luke (Inhofe) [Luke_Holland@inhofe.senate.gov]
Sent: 10/5/2018 1:06:27 PM
To: 'Barbic, Ken - OSEC, Washington, DC' [Ken.Barbic@osec.usda.gov]; Jackson, Ryan [jackson.ryan@epa.gov]
CC: Wright, Jennie (Inhofe) [Jennie_Wright@inhofe.senate.gov]
Subject: FW: Letter from 20 Senators to President Trump re E15 Waiver
Attachments: 2018.10.04 Letter to President Trump re E15 Waiver FINAL.pdf

In case this is helpful for a meeting between your principals and POTUS today.

Luke

From: Wright, Jennie (Inhofe)
Sent: Thursday, October 4, 2018 3:41 PM
To: Brooke, Francis J. EOP/WHO [Ex. 6]; Joseph.G.Lai [Ex. 6]
Cc: Holland, Luke (Inhofe) <Luke_Holland@inhofe.senate.gov>
Subject: Letter from 20 Senators to President Trump re E15 Waiver

Hello,

Please see the attached letter to President Trump from 20 senators regarding a potential E15 year-round waiver. Please let me know if you have any questions.

Sincerely,
Jennie H. Wright
Legislative Counsel
U.S. Senator James M. Inhofe
205 Russell Senate Office Building
Washington, DC 20510
(202) 224-4721 | Main
(202) 228-0380 | Fax

United States Senate

WASHINGTON, DC 20510

October 4, 2018

The President
The White House
1600 Pennsylvania Ave NW
Washington, DC 20500

Dear Mr. President:

In recent months, media outlets reported that the Environmental Protection Agency (EPA) is considering regulatory action to expand the sale of gasoline with 15 percent ethanol by volume (E15) year-round by waiving certain Clean Air Act (CAA) requirements related to Reid Vapor Pressure (RVP). However, a one-sided approach to addressing concerns related to the Renewable Fuel Standard (RFS) that favors only one industry stakeholder is misguided. We are concerned that doing so would do nothing to address the policies impacting refinery jobs, could hurt millions of consumers whose vehicles and equipment are not compatible with higher ethanol blended gasoline, and risk worsening air quality. We write to express our strong opposition to this approach.

As you know, in an effort to address evaporative emissions from motor vehicles and off-road equipment, as part of the 1990 CAA amendments, Congress established a maximum RVP for gasoline of 9.0 psi for the high ozone season, often referred to as the summertime driving season.[1] Recognizing that gasoline's volatility (or tendency to evaporate) increases with the blending of ethanol, the 1990 CAA amendments also provided an RVP limitation for fuel blends containing gasoline and 10 percent ethanol of 1.0 psi higher.[2] This "one pound waiver" applies only to fuel containing gasoline and 10 percent ethanol.

In 2010 and 2011, the EPA issued two partial CAA waivers permitting the use of E15 for model year 2001 and newer light duty motor vehicles.[3] The research to support the Agency's decisions was based on the impact of E15 on emissions control systems, and those results were inappropriately assumed to determine the impact on engine and fuel system durability. Subsequent research revealed that millions of vehicles approved to use E15 by the EPA are susceptible to engine and fuel system damage from E15 fuel.[4] Automobile manufacturers have cautioned consumers not to use the fuel in vehicles not designed to use it. Additionally, consumers, using lawn equipment, motorcycles, boats, and other small engines not approved by EPA to use E15, do not have the benefit of a robust misfueling prevention system.

Significantly, the EPA premised the original E15 waiver on retaining the existing CAA RVP limits, as the Agency had previously determined it lacked the legal authority to grant an RVP

---

[1] 42 U.S.C. Section 7545(h)(1).
[2] 42 U.S.C. Section 7545(h)(4).
[3] 75 Fed. Reg. 68094 (November 4, 2010); 75 Fed. Reg. 4662 (January 26, 2011).
[4] https://crcao.org/reports/recentstudies2013/CRC%20664%20%5bAVFL-15a%5d/AVFL%2015a%20%5bCRC%20664%5d%20Final%20Report%20only.pdf

waiver to gasoline ethanol blends beyond 10 percent ethanol, noting the "significant potential" for higher blends to increased emissions and risk compliance with air quality standards:

> *Additionally, as explained in the misfueling mitigation measures proposed rule, EPA interprets the 1.0 psi waiver in CAA section 211(h) as being limited to gasoline-ethanol blends that contain 10 vol% ethanol. Therefore, given the significant potential for increased evaporative emissions at higher gasoline volatility levels, and the lack of data to resolve how this would impact compliance with the emissions standards, today's waiver is limited to E15 with a summertime RVP no higher than 9.0 psi.*[5]

The Agency reinforced this determination eight months later when it declared "the text of section 211(h)(4) and this legislative history supports EPA's interpretation, adopted in the 1991 rulemaking, that the 1 psi waiver only applies to gasoline blends containing 9–10 vol% ethanol."[6]

In conclusion, a decision to grant such a waiver goes against the Agency's long standing interpretation as well as a plain reading of the CAA. We urge you to engage in a collaborative and transparent process with robust engagement on any RFS reform efforts.

We look forward to working with you to address these issues to the benefit of all stakeholders and consumers.

Sincerely,

James M. Inhofe
United States Senator

Benjamin L. Cardin
United States Senator

John Cornyn
United States Senator

Robert Menendez
United States Senator

John Barrasso, M.D.
United States Senator

Tom Udall
United States Senator

Shelley Moore Capito
United States Senator

Joe Manchin III
United States Senator

[5] 75 Fed. Reg. 68094, 68096 (November 4, 2010).
[6] 76 Fed. Reg. 44406, 44434 (July 25, 2011).

Orrin G. Hatch
United States Senator

Susan M. Collins
United States Senator

Michael B. Enzi
United States Senator

Johnny Isakson
United States Senator

Roger F. Wicker
United States Senator

John Boozman
United States Senator

Pat Toomey
United States Senator

Bill Cassidy, M.D.
United States Senator

James Lankford
United States Senator

Steve Daines
United States Senator

John Kennedy
United States Senator

Cindy Hyde-Smith
United States Senator

Message

From: Brent Fewell [brent.fewell@earthandwatergroup.com]
Sent: 10/11/2018 4:36:02 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: Hill Rollout

Want to see if Wheeler is available - L Graham is lead

Get Outlook for iOS

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Thursday, October 11, 2018 12:34 PM
To: Brent Fewell
Cc: Jeff Kupfer
Subject: RE: Hill Rollout

I'm sorry?

From: Brent Fewell [mailto:brent.fewell@earthandwatergroup.com]
Sent: Thursday, October 11, 2018 12:12 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Cc: Jeff Kupfer <jeff.kupfer@gmail.com>
Subject: Hill Rollout

You got a couple minutes to discuss Hill rollout next Thursday

Get Outlook for iOS

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, September 12, 2018 12:01 PM
To: Brent Fewell; Molina, Michael
Subject: RE: House Dinner - Sep. 26

We'll know by Thursday afternoon.

From: Brent Fewell [mailto:brent.fewell@earthandwatergroup.com]
Sent: Wednesday, September 12, 2018 10:06 AM
To: Jackson, Ryan <jackson.ryan@epa.gov>; Molina, Michael <molina.michael@epa.gov>
Subject: House Dinner - Sep. 26

I have a list of invitees for the Sep. 26 dinner- invitations will be going out today. Want to make sure Andrew is still available that evening. Time to chat?

Brent

Brent Fewell, Esq. | Earth & Water Law Group
1455 Pennsylvania Ave., NW, Suite 400, Washington, DC 20004
(202) 280-6362 (o) Ex. 6 www.earthandwatergroup.com

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Message

From: Russell, Richard (EPW) [Richard_Russell@epw.senate.gov]
Sent: 10/12/2018 11:50:13 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Leggett, Matt (EPW) [Matt_Leggett@epw.senate.gov]; Lyons, Troy [lyons.troy@epa.gov]
Subject: Re:

Yeah. Ds caved on judges quicker than expected to leaving early. I'll talk to MF today and get a read on who/what caused hold. Lot of odd last minute holds last night. All DOE noms stopped at last minute. Want to get all your guys through in LD.

Richard Russell
Staff Director
Committee on Environment & Public Works

On Oct 12, 2018, at 7:44 AM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> Sure no worries. Kind of snuck up on me anyway because I thought I had one more week. Tried to throw a Hail Mary last night.
>
> Well, Troy and I will get with the Democrats to see who's the issue and why. Hopefully by lame duck we are hot lining both Chad and Peter. I'm closing on the Peter deal. Glad there's a lot of pounds of flesh in my ass. I've needed them on these deals.
>
> Ryan Jackson
> Chief of Staff
> U.S. EPA
> 202-564-6999
>
> On Oct 12, 2018, at 7:34 AM, Russell, Richard (EPW) <Richard_Russell@epw.senate.gov> wrote:
>
> > Heard of no R hold. We hotlined him right after we reported him. I'll get a readout but think that at least one D didn't let any environmental noms through. CEQ also didn't make it.
> >
> > Richard Russell
> > Staff Director
> > Committee on Environment & Public Works
> >
> > On Oct 12, 2018, at 6:51 AM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
> >
> > > Has chad McIntosh cleared the republican cloakroom or is there a republican hold?

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

Message

From: Chris McCloskey [chris.mccloskey@dalecarnegie.com]
Sent: 10/3/2018 1:36:38 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Your Free Invitation: Leading Change Workshop

Not rendering correctly? View this email as a web page here.

Good Morning Ryan,

Dale Carnegie would like to invite you to a complimentary session for federal leaders and professionals that focuses on Leading Change Effectively. Understand how you influence the strategy, the work, and the people of your agency in order to more effectively initiate and drive change.

For additional information or to register for this Leading Change Effectively complimentary workshop, please click here. Seating is limited so register today!

We have seats left in the October 24th In-Person sessions in Washington, DC!

9:00 AM – 11:00 AM, Morning Session
1:00 PM – 3:00 PM, Afternoon Session

Location:
1050 Connecticut Ave, NW, Ste. 500
Washington, DC 20036
(Red Line: Farragut North Metro Stop)

Learning objectives include:

- Avoid the most common change leadership mistakes
- Recognize the elements and apply a model for change engagement
- Define the type of change currently occurring in the organization
- Identify ways to lead others and manage ourselves during organizational change

We will incorporate principles for leading organizational change, leading individuals during times of change, and managing our own reactions to change.

Make sure to reserve your complimentary seat today!

With Kind Regards,

Chris McCloskey & Sandy Herman
Dale Carnegie - Federal
301.621.4161
federalsolutions@dalecarnegie.com
GSA Schedule #: GS-10F-0329K

Dale Carnegie 1200 G St., NW, Suite 800 Washington, DC 20005 US

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Message

From: Maxine Joselow [mjoselow@eenews.net]
Sent: 9/28/2018 2:03:59 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Sean Reilly [sreilly@eenews.net]
CC: Konkus, John [konkus.john@epa.gov]
Subject: RE: Newest mural

Wow, thanks for letting us know, Ryan! Glad you liked it. I've let our graphics editor know that her work was appreciated.

Best,
Maxine

From: Jackson, Ryan [mailto:jackson.ryan@epa.gov]
Sent: Friday, September 28, 2018 9:39 AM
To: Maxine Joselow <mjoselow@eenews.net>; Sean Reilly <sreilly@eenews.net>
Cc: Konkus, John <konkus.john@epa.gov>
Subject: Newest mural

We liked your graphic so much that we are looking to redecorate the 5th floor.

Thanks.

Ryan Jackson
Chief of Staff
U.S. Environmental Protection Agency
(202) 564-6999

Message

From: Michael K. Henry [mhenry@alpinegroup.com]
Sent: 10/11/2018 12:40:15 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE:

Thanks for the time tonight!

For your contacts, my mobile is Ex. 6

mike

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, October 10, 2018 1:17 PM
To: Michael K. Henry <mhenry@alpinegroup.com>
Subject:

I can't find a phone number for you in my office contacts. Can you give me a shout when you can? Ex. 6

Ryan Jackson
Chief of Staff
U.S. Environmental Protection Agency
(202) 564-6999

Message

From: Michael McKenna [mike@mwrstrat.com]
Sent: 10/2/2018 9:34:57 PM
To: Dickerson, Aaron [dickerson.aaron@epa.gov]
CC: Molina, Michael [molina.michael@epa.gov]
Subject: meeting request

Mr. Dickerson –

I am writing on behalf of a friend of mine, Mr. Bob Cleaves, who is President of the Biomass Power Association.

Bob would like to visit with the Acting Administrator to discuss RFS issues. As always, sooner is better, but I appreciate the demands on the Administrator's time and attention.

I can be reached at this email address (obviously) and on the cell at Ex. 6

Thank you!

Mike McKenna

Message

From: American Security Today [twaitt@americansecuritytoday.com]
Sent: 10/8/2018 11:25:07 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: 20 Killed in Deadly Limo Crash, MISafeKid Recovers 123 Kids, Is Your Fed Facility EO Compliant? Smart Patrolling

20 Killed in Deadly Limo Crash, MISafeKid Recovers 123 Kids, Is Your Fed Facility EO Compliant? Smart Patrolling

Cutting-Edge Products and Technologies to help Keep Our Nation Safe, One City at a Time

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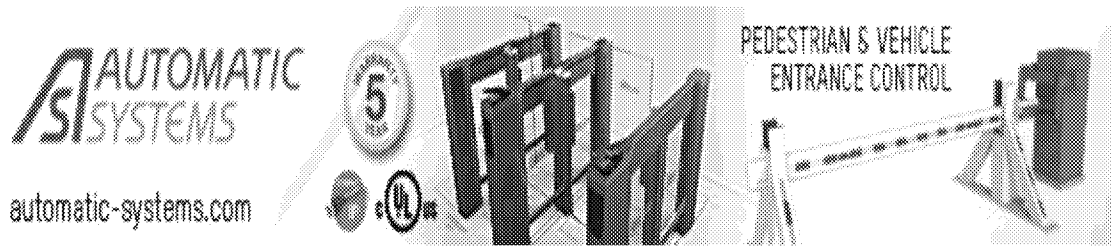
THE NEW FACE OF HOMELAND SECURITY

AMERICAN SECURITY TODAY

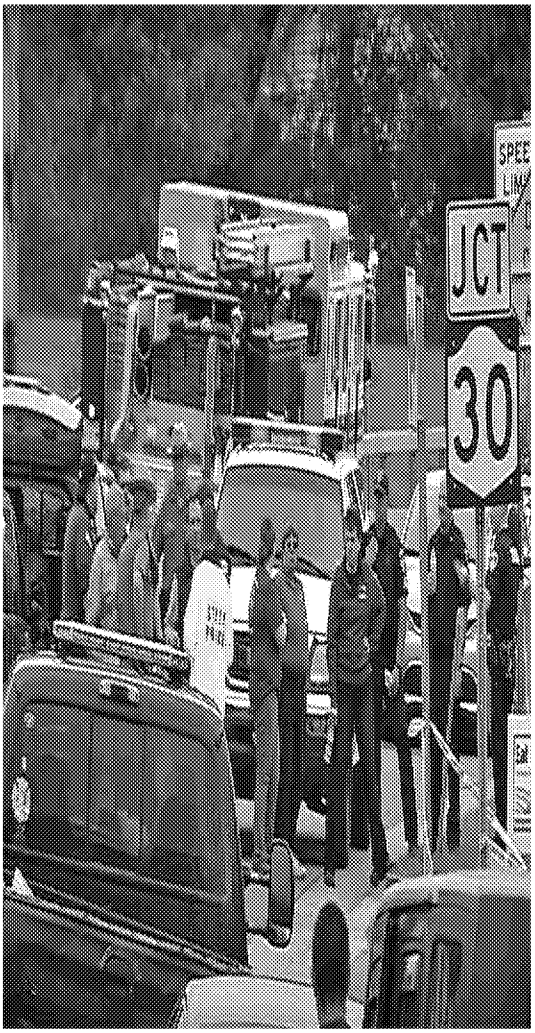
DAILY NEWS ALERTS

October 8, 2018



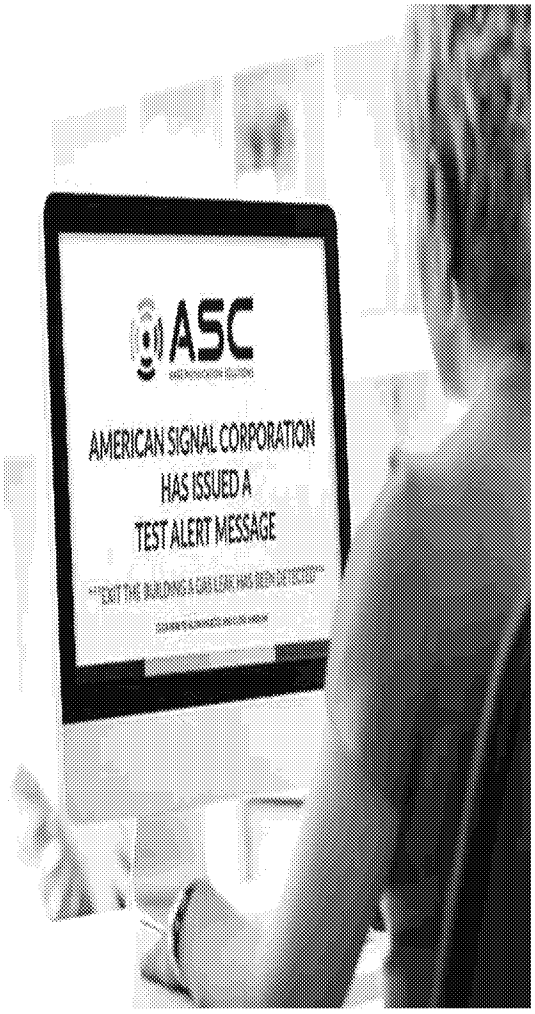
Limo Horror: 20 Die in Worst US Road Crash in Decade (Multi-Video)

A limo loaded with revelers **headed to a 30th birthday party** ***blew a stop sign & slammed into an SUV***, **killing all 18** people **in the limo plus** two pedestrians in the **deadliest US** **transport accident since 2009**, officials & relatives... ***Read More***



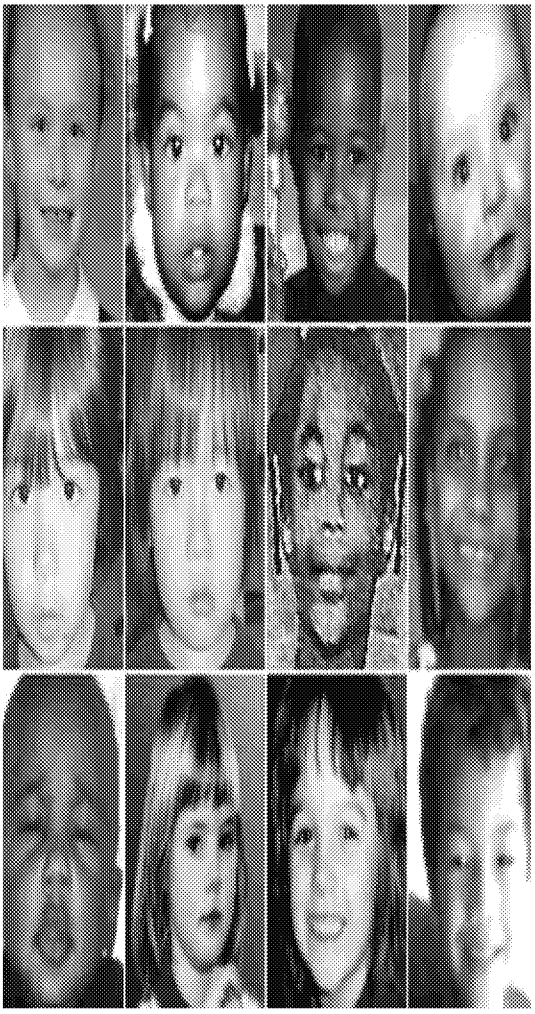
ASC Aware in 2018 'ASTORS' Homeland Security Awards

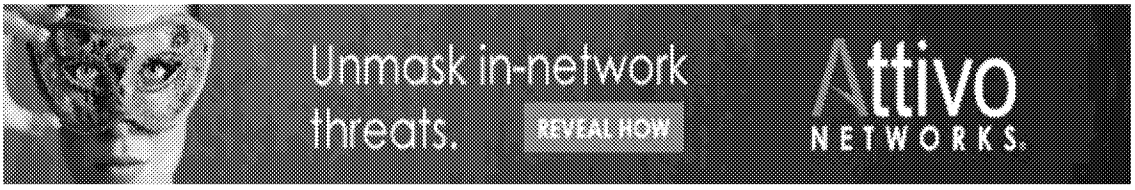
American Signal Corporation (ASC) answers the call for preparedness with the ASC AWARE notification system, *ensuring* ***any internet-enabled device connected*** *to your server* is **ready to receive notice of a threat if or when** one... ***Read More***



USMS Child Recovery Unit Recovers 123 Kids in Operation MISafeKid

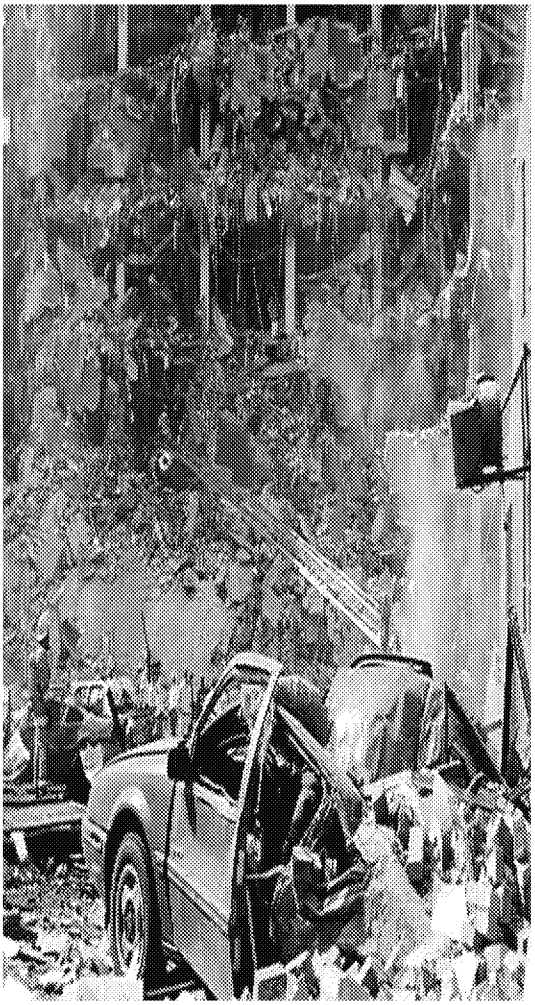
Over 1,400 children are missing in MI & ***740+ just from Wayne County***. **Law enforcement officials** working together to *actively* ***bring that number down*** **combed through neighborhoods & knocked on doors look-ing for kids who've gone**... ***Read More***





Is Your Fed Facility in Compliance with EO 12977? (Learn More, Video)

Six months after the **Oklahoma City bombing** of the **Alfred P. Murrah Federal Bldg, President Clinton** issued **Executive Order 12977 creating the *Interagency Security Committee*** (ISC) to address **gov't-wide security for federal facili**... ***Read More***



New Guided Carl-Gustaf Munition Demo'd for US Army (Video)

Saab & Raytheon received a US Army contract to demo a **new guided munition** for the **Carl-Gustaf** *with **three all-up-round test firings against threat-representative targets*** to answer **SOCOM's Req** to increase **capabilities of the multi-role**... *Read More*

PureTech SYSTEMS
Automated Audio Talkdown
PDF

Smart Patrolling by Utility & Sony to be Unveiled at IACP (Learn More)

Utility & Sony are providing **Law Enforcement with Smart Patrolling Solutions** pow-ered by **AI** as an add-on to the **Rocket IoT™ Vehicle video systems**, ***freeing*** *officers from* ***keying in lic plate numbers*** & **minimizing driver distraction**... ***Read More***

Army Awards FLIR $28.M for Next-Gen Chemical Detector (Video)

A **modified version** of the **FLIR Griffin G510** *will form the basis of **FLIR's MPCAD** solution* & will **provide the warfighter with field con-firmation capabilities** & **better enable Joint Forces** to **combat & interdict chemical weapons of mass destruct**... ***Read More***

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Message

From: Claudia Hosky [claudia@fedinsidernews.com]
Sent: 10/2/2018 7:24:18 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Webinar on Thursday: Delivering IT Modernization, 10/4, Complimentary, 1 CPE

Moving to the Cloud: Delivering on the MGT Act
Complimentary Video Webinar, Thurs 10/4, CPEs

Hi Ryan,

Since the Modernizing Government Technology Act was signed into law in December, government agencies have undergone massive transformations to meet new mandates of enhancing mission effectiveness, reducing cyber risk, and modernizing IT.

Register now for this exciting 1-hour video webinar to explore:

1. MGT Act goals, benchmarks, and vision,
2. New approaches government is taking in technology modernization through migrating to the cloud, and
3. The impact of federal cybersecurity standards on cloud adoption.

COMPLIMENTARY REGISTRATION:
https://goto.webcasts.com/starthere.jsp?ei=1212865&tp_key=f6c3d39e13&sti=JangoB

ALTERNATE LINK:www.fedinsider.com or call 202-237-0300

WEBINAR TOPIC
Moving to the Cloud: Delivering on the MGT Act

DATE: THURS, 10/4
TIME: 2:00 PM ET / 11:00 AM PT
DURATION: 1 Hour
CREDIT: 1 CPE from the George Washington University, CEPL
COST: Complimentary

DISTINGUISHED SPEAKERS
- **GARY WASHINGTON**, CIO, USDA
- **DOMINIC SALE**, Asst. Commissioner of Operations, FAS Technology Transformation Services, GSA
- **PAMELA WALKER**, VP, Federal Public Sector, IT Alliance for the Public Sector
- **MIKE WILKERSON**, Executive Director, Sales Engineering, Rubrik
- **REBECCA FITZHUGH**, Principal Technologist, Rubrik
- **FRANCIS ROSE** (Moderator), Host of Government Matters, ABC7 and WJLA 24/7 News

PRESENTED BY: FedInsider News, The George Washington University CEPL, Government Matters, and Rubrik

Can't attend, but still interested? Register now to be notified when the archive is ready. Find and register for upcoming and archived webinars at www.fedinsider.com .

Live captioning provided for accessibility for all webinars.

Looking forward to meeting you online!

Claudia M. Hosky
Publisher, FedInsider
Work: (202) 237-0300
Claudia@hosky.com

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Message

From: Binder, Gordon [gordon.binder@wwfus.org]
Sent: 10/2/2018 9:35:00 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Automatic reply: Reilly request for Acting Administrator Wheeler's email

I'll be out of the office at meetings the rest of the week and out Monday for the holiday, returning Tuesday morning/9th. I'll get back to you as soon as I can.

Gordon Binder

Message

From: Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]
Sent: 10/3/2018 4:48:56 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Repko, Mary Frances (EPW) [mary_frances_repko@epw.senate.gov]
CC: Lyons, Troy [lyons.troy@epa.gov]
Subject: RE: Carper_Letter_Grassroots.pdf

Thank you - let us take a look at this and be back in touch soon.

Michal Ilana Freedhoff, Ph.D.
Director of Oversight
Committee on Environment and Public Works Democratic Staff

-----Original Message-----
From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, October 3, 2018 12:46 PM
To: Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
Cc: Lyons, Troy <lyons.troy@epa.gov>
Subject: Carper_Letter_Grassroots.pdf

Third installment.

So we have provided the amounts to tribes, Chad's letter, and if this meets the concerns will date and send the attached.

Will you hotline Chad McIntosh?

Message

From: Brent Fewell [brent.fewell@earthandwatergroup.com]
Sent: 10/11/2018 4:34:09 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Automatic reply: Hill Rollout

I am currently out of the office with limited access to email. I'll respond to your email as soon as I'm able, and apologize in advance if my response time is slower than normal.

Message

From: Beau Greenwood [BGreenwood@croplifeamerica.org]
Sent: 10/10/2018 7:20:43 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Fred Bosco [FBosco@croplifeamerica.org]; Mary Jo Tomalewski [mjtomalewski@croplifeamerica.org]
Subject: Meeting request

Hi Ryan. Wanting to check with you regarding your availability to meet with the new CropLife America CEO? I'd appreciate the opportunity to introduce you to Chris Novak, who recently joined CLA in August.

What's your availability to meet on either October 24 or 25?

Happy to discuss in greater detail. I look forward to hearing from you.

Regards, Beau.

Beau Greenwood
Executive Vice President
CropLife America
Washington, DC

Message

From: JW Hackett Ex. 6
Sent: 10/8/2018 2:35:51 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re:

I am excited about it and hope you are having a good weekend.

All the Best,

J.W.

On Fri, Oct 5, 2018 at 8:04 PM Jackson, Ryan <jackson.ryan@epa.gov> wrote:
We are going to make this happen. Eager to have you on board.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Oct 5, 2018, at 8:08 PM, JW Hackett Ex. 6 wrote:

No, but I am available any time they are available. Thank you for your help.

All the Best,

J.W.

On Fri, Oct 5, 2018, 5:48 PM Jackson, Ryan <jackson.ryan@epa.gov> wrote:

JW, I know that Jim spoke with you really recently. Have you received a call from Justina Fugh, our ethics attorney?

Ryan Jackson

Chief of Staff

U.S. Environmental Protection Agency

(202) 564-6999

Message

From: Improving Customer Experience in Gov Training [PotomacForum@GovCustomerExperience.org]
Sent: 10/3/2018 1:01:51 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] Improving Customer Experience and Meeting Your Goals

Additional Speakers Announced:
Workshop to Improve Customer Experience
Please Forward to Others in Your Agency -

Improving Government Customer Experience: Meeting the Administration's Cross Agency Performance Goals Training Workshop

How to measure, modify, and improve the experience for government's customers: Best Practices from the Public and Private Sectors

Wednesday October 24, 2018
Willard InterContinental Hotel
Washington, D.C.

Workshop For Government Employees Only
No Press or Industry Permitted

Sponsored by:
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info@PotomacForum.org
(703) 683-1613

New Speakers - Just Announced:
Rosettta Lue
Senior Contact Center Advisor

Office of Information & Technology (OIT)
Department of Veterans Affairs

Marcy Jacobs
Executive Director
Digital Service
Department of Veterans Affairs

Speakers:

Anahita Reilly
Chief Customer Officer
General Services Administration

Karen Evan
Assistant Secretary for the Office of Cybersecurity,
Energy Security, and Emergency Response (CESER)
Department of Energy
Former Federal Chief Information Officer (invited)

Robert Shea
Principal
(Former OMB Associate Director for Administration and
Government Performance)

Martha Dorris
Principal
Dorris Consulting International
(Former GSA Director of Strategic Programs,
Integrated Technology Service)

Zachary Trojak
Principal - Public Sector
Medallia
(Customer Experience Organization to create a world
where companies are loved by customers and employees)

(Additional Government Speakers to be Announced Soon)

Early Bird and Reduced Registration Until October 5th

"Send a Team" Discounts for Multiple Attendees from the Same
Government Office

Overview:

Trust in government is at an all-time low. That's one reason federal agencies are being charged with the most ambitious agenda to improve the way government's customers experience and benefit from its many services. This workshop exposes you to the best customer experience improvement practices in private and public sector organizations and offers insights into the initiatives being waged across government to drive improvements in customer satisfaction.

The Administration's Cross Agency Performance Goal, Improving Customer Experience with Federal Services, promises to "transform the customer experience by improving the usability and reliability of our Federal Government's most critical digital services; create measurable improvements in customer satisfaction by using the principles and practices proven by leading private sector organizations; increase trust in the Federal Government by improving the experience citizens and businesses have with Federal services whether online, in-person, or via phone; and leverage technology to break down barriers and increase communication between Federal agencies and the citizens they serve." But it's easier said than done.

This workshop will provide agency leaders and managers tools they can use to make a difference not only at their agencies, but for the American citizens as well.

Workshop for Government Employees Only to Encourage Candid Discussion
Press and Industry Not Permitted to Attend

Why You Should Attend:

- **To better position your program or agency to improve the customer experience for the citizens it serves**
- **To provide information to help meet the Administration's Cross Agency Performance Goal, Improving Customer Experience with Federal Services**

What You Will Learn:

- **Public and private sector best practices in improving customer experience**
- **Congressional and Executive Branch initiatives to drive improved**
- **Tools to begin a customer experience improvement initiative at agencies**
- **Employee engagement approaches to build a customer-centered culture**

Who Should Attend:

- Leaders or managers of programs with internal or external customer interaction
- Leaders or managers in programs charged with improving customer experience in federal departments or agencies
- All CXOs - as they interact with the public directly and through their organizations
- Inspector Generals who review efforts to meet the goals of the President's Management Agenda and Goals
- Agency Communications executives and staff (appointed and career)
- All program managers who interact with the public and other organizations
- Auditors
- Risk management and internal controls steering committee members
- Inspectors General and staff
- Chief Financial Officers and staff
- Chief Procurement and Acquisition Officers and staff
- Risk management staff
- Chief Human Capital Officers, HR managers, and staff

Early Bird Reduced Registration Until October 5th
Special "Send-A-Team" Registration Fees
For Multiple Students from the Same Government Office

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2800 Eisenhower Avenue , Alexandria , Virginia, 22314 , USA

Message

From: Goeas, Lisa (Ernst) [Lisa_Goeas@ernst.senate.gov]
Sent: 10/9/2018 1:58:51 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: Good morning

Sure Ex. 6

Thanks,

Lisa

Lisa Goeas
Chief of Staff

Office of Senator Joni Ernst (IA)
111 Russell Senate Office Building
Washington, DC 20510

202 224-6313 – office
Ex. 6

-----Original Message-----
From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Tuesday, October 9, 2018 9:52 AM
To: Goeas, Lisa (Ernst) <Lisa_Goeas@ernst.senate.gov>
Subject: Re: Good morning

Yes. Will you shoot me your cell?

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

> On Oct 9, 2018, at 9:47 AM, Goeas, Lisa (Ernst) <Lisa_Goeas@ernst.senate.gov> wrote:
>
> Hey Ryan...I'm not getting any info from White House on E15 announcement today. Do you have anything you can share?
>
> Thanks,
>
> Lisa
>
> Sent from my iPhone

Message

From: Michael Hoffman [newsletter@governmentcio.com]
Sent: 10/3/2018 3:57:25 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: State of Cyber CXO Tech Forum is Tomorrow

Ryan,

Join us tomorrow for our CXO Tech Forum on the future of security on Oct. 4 featuring DHS Undersecretary Christopher Krebs, NSA Deputy CIO Mark Hakun, former DHS Secretary Tom Ridge, and the executive directors of the U.S. Digital Service.

Learn how agencies and government leaders are quickly changing and adopting a cyber culture focused on security, without dampening innovation as agencies like yours look to modernize their IT infrastructure and deliver the best services for the citizens they serve.

View the full agenda and register at https://governmentciomedia.com/cxo-tech-forum-state-cyber?mc_cid=8c0171322a&mc_eid=[UNIQID]. Tickets are free for government and military. Be sure to spread the word to others who may have an interest!

The forum will take place from 8 a.m. to 11 a.m. on top of CEB Tower in Arlington, Va., at the brand new Observation Deck overlooking DC's skyline and monuments. Make sure to get there early as breakfast will be served on the building's outdoor patio on the 32nd floor.

See you there!

Best,

Michael Hoffman
President
GovernmentCIO Media

SPEAKERS

* DHS Under Secretary Christopher Krebs

* Former DHS Secretary and Pennsylvania Governor Tom Ridge

* NSA Deputy CIO Mark Hakun

* Eric Sanders, Chief, Risk Management Division, National Geospatial-Intelligence Agency

* U.S. Digital Service Executive Director for VA Marcy Jacobs

* U.S. Digital Service Executive Director for DHS Stephanie Neill

* Defense Digital Service Expert Alexander Romero

* ID Technologies VP for Technology Dylan Conner

* Insight Venture Partners Venture Partner Nick Sinai

DETAILS

Date: October 4, 2018

Time: 8 to 11 a.m.

Location: Observation Deck at CEB Tower
1201 Wilson Blvd #214, Arlington, VA 22209

Metro: Rosslyn Station (Orange/Silver/Blue Lines)

Parking: Garage located under building.

Free for government and military attendees

Register: https://governmentciomedia.com/cxo-tech-forum-state-cyber?mc_cid=8c0171322a&mc_eid=[UNIQID]

==========
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Message

From: David Schwietert [DSchwietert@autoalliance.org]
Sent: 9/24/2018 2:40:16 PM
To: Wheeler, Andrew [wheeler.andrew@epa.gov]; Jackson, Ryan [jackson.ryan@epa.gov]; Wehrum, Bill [Wehrum.Bill@epa.gov]; Gunasekara, Mandy [Gunasekara.Mandy@epa.gov]; Lewis, Josh [Lewis.Josh@epa.gov]
Subject: Auto Alliance testimony - CAFE/GHG Field Hearings

https://autoalliance.org/2018/09/24/alliance-remarks-nhtsa-epa-hearings-fuel-economy-standards/

Alliance remarks for NHTSA/EPA hearings on fuel economy standards:
September 24, 2018

Fresno, CA: Steve Douglas, Senior Director, Energy & Environment, Auto Alliance
Dearborn, MI: Chris Nevers, Vice President, Energy & Environment, Auto Alliance

Thank you for the opportunity to speak on our priorities today. We are still working on detailed comments to respond to the Administration's notice of proposed rulemaking. So today, I will focus on important themes that will appear in our comments.

The Alliance and our members appreciate the Administration's efforts to restart the midterm review and continue a single national program for CAFE and greenhouse gas standards. After all, standards must reflect the most up-to-date information to guide compliance. The notice of proposed rulemaking certainly provides stakeholders with a wide range of alternatives on which they can provide robust comments.

First, let me say climate change is real and automakers are taking action to reduce carbon emissions from new vehicles. Automakers are also committed to continued improvements in fuel economy. Today, consumers have more choice in energy-efficient vehicles than ever before. About 500 models are on sale that achieve 30 MPG or more on the highway, and 80 of those models achieve 40 MPG or more. Consumers can choose from 45 hybrid-electric models and another 50 plug-in electric and fuel-cell models. And more electrified vehicles are on their way to market.

As we have often stated, automakers support continued improvements in fuel economy but future standards must account for marketplace realities like consumer acceptance.

Consumer acceptance – which includes affordability – plays a critical role in determining the sustainability of future standards and performance. No one wins if our customers are not buying the new highly efficient products offered in our showrooms. The standards must account for consumer willingness and ability to pay for newer technologies in order for all the benefits of new vehicles to be realized.

Maintaining One National Program for the regulation of fuel economy and greenhouse gases is important to automakers. We urge EPA and NHTSA to continue to work with all stakeholders, including California, to develop a lasting rule that enables manufacturers to plan and build a single fleet of vehicles for the U.S.

I would like to turn now to flexibilities. Flexibilities can reduce fuel use and emissions and at the same time reduce compliance costs, and that helps keep new vehicles affordable to more Americans.

The Alliance supports the ability to incentivize certain technologies, such as electrification, that could prove a key factor in meeting EPA and California's long-term greenhouse gas goals. The Alliance also supports the continuation and expansion of flexibilities such as accounting for the benefits of air conditioning system

efficiency improvements, accounting for new refrigerants with lower greenhouse gas impacts, and fully acknowledging the benefits of technologies that improve efficiency beyond what is measured in laboratory testing.

In closing, automakers support continued improvements in fuel economy while balancing priorities like affordability, safety, jobs, and the environment. We urge California and the federal government to find a common-sense solution that sets continued increases in vehicle efficiency standards while also meeting the needs of America's drivers. One National Program enables us to keep new vehicles affordable, so more Americans can replace older vehicles with models that are cleaner, safer, and more energy-efficient.

# # #

David Schwietert
Executive Vice President, Federal Government Relations & Public Policy
P: 202-326-5521 | dschwietert@autoalliance.org

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Message

From: John Blount [john.blount@ervinhillstrategy.com]
Sent: 10/5/2018 6:26:43 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Helping a friend
Attachments: Amanda L Kasper Resume_September 2018.pdf

Ryan: Attached hereto is my friend Amanda Kasper's resume. You and Colby discussed this health position at EPA on Tuesday. One thing that strikes me about Amanda is her sense of loyalty to her colleagues and managers. In this day and age, that means a lot to me, as I am sure it does to you. I am happy to forward such an outstanding vitae to you for your consideration.

All my best,

John

John Blount
SVP, Global Government Affairs
Ervin | Hill Strategy
410 First Street, SE
Suite 300
Washington, D.C. 20003
Ex. 6

AMANDA L. KASPER

Ex. 6

LIFE SCIENCES PROFESSIONAL WITH DEEP EXPERTISE IN CLINICAL AND TRANSLATIONAL RESEARCH

EXPERIENCE MANAGING AND FOSTERING PARTNERSHIPS BETWEEN ACADEMIA, INDUSTRY, NIH/FEDERAL INSTITUTIONS

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Clinical Research Management	*Team Management*	*Client Relationship Management*
Business Development	*Complex Project Management*	*Strategic Plan Development*

PROFESSIONAL EXPERIENCE

HURON CONSULTING GROUP | Washington, DC | 2018

Executive Director, Research Office

- Responsible for regulatory, operational, and financial research administration outsourcing services including Centers for Medicare & Medicaid Services Clinical Trial Coverage Analysis development, clinical trial contract/agreement negotiation, clinical trial management system calendar and budget builds
- Responsible for building and managing client relationships
- Identified market prospects to support business development opportunities
- Led and managed a diverse team of professionals by fostering a collaborative team culture

CHILDREN'S NATIONAL MEDICAL CENTER | Washington, DC | 2008—2018

Director of Operations, Clinical and Translational Science Institute at Children's National (CTSI-CN) | 2012—2018

- Responsible for the overall strategic and operational project, program, and portfolio management of the CTSI-CN grant ($25 million award), a Clinical and Translational Science Award (CTSA) from NIH's National Center for Advancing Translational Sciences (NCATS)
- Optimized the research infrastructure that supported clinical and translational research at Children's National and the George Washington University
- Responsible for intra- and inter-institutional coordination, NIH grantsmanship, communication and marketing, and assurance of operational compliance with institutional, federal, and grant guidelines/regulations (OMB Circular A-110, OMB Circular A-133, Clinicaltrials.gov)
- Oversaw CTSI-CN programs and prioritized resource allocation in a complex matrix environment with competing priorities to ensure operational efficiency
- Guaranteed ongoing local programmatic excellence, rigorous program evaluation, and consistent quality of finance and administration, communications, and systems; recommended timelines and resources needed to achieve strategic goals
- Led, coached, developed, and retained CTSI-CN's high-performance senior management team (95% retention rate)
- Participated in CTSA committees and activities advising institutional leadership on trends and policies affecting research operations
- **Key accomplishments:**
  - Streamlined integrated workflows for processes and procedures, building on the principles of Lean Six Sigma
  - Improved the quality and efficiency of clinical research through the development of a comprehensive, competency-based Good Clinical Practice (GCP) training
  - Developed comprehensive clinical research staff onboarding curriculum
  - Enhanced research participant recruitment efforts implementing tools such as i2b2, Endeca, TriNetX, and PowerTrials
  - Co Chair, Administrative and Strategic Core, Institute for Advanced Clinical Trials for Children (I-ACT for Children), September 2017 – January 2018
  - Co Chair, Rare Disease Institute Clinical Research Committee, Children's National, August 2017 – January 2018
  - Member, CTSA Consortium Scientific Review Committee, November 2014 – January 2018
  - Member, CTSI-CN Advisory Committee to the Investigational Drug Service Pharmacy, April 2013 – April 2014
  - Member, CTSI-CN Executive Committee, August 2012 – January 2018
  - Member, CTSI-CN Steering Committee, September 2012 – January 2018

Clinical Research Manager, Hematology | 2010—2012

Clinical Research Coordinator, Hematology | 2008—2010

- Managed hematology clinical research studies (30+) and supervised hematology clinical research staff (5 principal investigators, 4 clinical research coordinators, other study staff) to ensure compliance with protocols, SOPs, GCP, and ICH guidelines. Studies ranged from Phase 1 clinical trials to post authorization safety surveillance and registry studies. Key sponsors were Biogen Idec, Wyeth/Pfizer, Novo Nordisk, American Thrombosis and Hemostasis Network, NIH, and the CDC
- Initiated and executed IRB and sponsor regulatory submissions

Ex. 6

- Responsible for research participant recruitment and data collection
- Trained clinical staff (20) in study procedures and conducted ongoing quality control of study procedures and documentation
- Assisted with Maternal and Child Health Board grant submissions and prepared quarterly and annual reports for industry and federal funders (CDC, NIH, HRSA)
- **Key accomplishments:**
  - Member, Center for Cancer and Blood Disorders, Clinical Operations Committee, February 2011 – May 2012
  - Member, CTSI-CN Clinical Research Coordinator Training, Special Interest Group (SIG), November 2010 – January 2018
  - Member, Service Excellence Trainer, Children's National Medical Center, September 2010 – May 2012
  - Member, Children's Oncology Group, Quality Assurance, Children's National Medical Center, December 2009 – May 2010

THE GEORGE WASHINGTON UNIVERSITY, MEDICAL FACULTY ASSOCIATES | Washington, DC | 2004—2008
Clinical Research Coordinator, Oncology

- Initiated and executed IRB and sponsor regulatory document submissions
- Assisted in the development of research support procedures and policies
- Reviewed, evaluated, and negotiated protocol budgets with study sponsors
- Conducted research subject interviews and data collection as specified in the research protocol. Studies ranged in size from phase II/III/IV clinical trials (consortia and industry sponsored) to registry studies

EDUCATION

JACK WELCH MANAGEMENT INSTITUTE | Washington, DC | Healthcare MBA | Expected graduation 2020

THE GEORGE WASHINGTON UNIVERSITY SCHOOL OF PUBLIC HEALTH | Washington, DC | *MPH in Maternal and Child Health* | 2008

UNIVERSITY OF CONNECTICUT (STORRS) SCHOOL OF FAMILY STUDIES | Storrs, CT | *BS in Human Development & Family Studies* | 2004

CERTIFICATIONS

- Issues and Trends in Regulatory Science, GW Summer Institute, July 2016
- The Lean Healthcare Certificate Program, Healthcare Performance Partners, February 2014
- Shipping of Category A & B Substances, Mayo Medical Laboratories, February 2012
- Certified Clinical Research Professional (CCRP), Society of Clinical Research Associates (SoCRA), February 2011
- Shipping Biological Substances, Infectious Substances and Related Hazards, International Air Transportation Agency (IATA), January 2008
- Biomedical Research Human Subjects Training, CITI Program, May 2007
- Good Clinical Practice (GCP), CITI Program, May 2007 (renewed annually)

PUBLICATIONS AND PRESENTATIONS

- Harry P. Selker, M.D., M.S.P.H., John B. Buse, M.D., Ph.D., Robert M. Califf, M.D., Robert Carter, M.D., Dan M. Cooper, M.D., Jonathan Davis, M.D., Daniel E. Ford, M.D., Pietro Galassetti, M.D., Ph.D., Lisa Guay-Woodford, M.D., Gordon S. Huggins, M.D., **Amanda Kasper, M.P.H.**, Karl Kieburtz, M.D., M.P.H., Aaron Kirby, M.Sc., Andreas K. Klein, M.D., Joel Kline, M.D., Robert T. O' Neill, Ph.D., Marie Rape, R.N., B.S.N., Douglas J. Reichgott, M.S., Svetlana Rojevsky, M.S., Gary E. Rosenthal, M.D., Eric P. Rubinstein, J.D., M.P.H., Amy Shepherd, M.P.H., Mark Stacy, M.D., Norma Terrin, Ph.D., Mark Wallace, M.D., and Lisa Welch, Ph.D. **CTSA Consortium Consensus Scientific Review Committee (SRC) Working Group Report on the SRC Processes.** Clinical and Translational Science. 16 JUL 2015 | DOI: 10.1111/cts.12306
- Shirey-Rice J, Mapes B, Basford M, Zufelt A, Wehbe F, Harris P, Alcorn M, Allen D, Arnim M, Autry S, Briggs MS, Carnegie A, Chavis-Keeling D, De La Pena C, Dworschak D, Earnest J, Grieb T, Guess M, Hafer N, Johnson T, **Kasper A,** Kopp J, Lockie T, Lombardo V, McHale L, Minogue A, Nunnally B, O'Quinn D, Peck K, Pemberton K, Perry C, Petrie G, Pontello A, Posner R, Rehman B, Roth D, Sacksteder P, Scahill S, Schieri L, Simpson R, Skinner A, Toussant K, Turner A, Van der Put E, Wasser J, Webb CD, Williams M, Wiseman L, Yasko L, Pulley J. **The CTSA Consortium's Catalog of Assets for Translational and Clinical Health Research (CATCHR).** Clin Transl Sci/Wiley Periodicals, Inc, January 23, 2013
- **Kasper A,** Davis M, Guelcher C, Issadore J, Guerrera M. **MRI Evaluation of Joints in Patients with Hemophilia Improves Detection of Arthropathy.** Presented at APHON, October 2010

ED_002480_00059476-00002

Message

From: Lorman Education [customerservice@lormaneducationservices.com]
Sent: 10/4/2018 7:43:35 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Water Well Design and Site Selection

Water Well Design and Site Selection

October 23, 2018 | 1pm EST

Register Now

Gain an understanding of the causes of poor well performance and the approaches used to prevent or correct poor well performance.

Problems with well performance are usually preventable, often start with well construction and development, and are then exacerbated by water quality conditions, well operation and rehabilitation efforts. Discuss the key factors affecting well performance including well design, initial screen development, biological and mechanical plugging, and well rehabilitation methods. An asset management based approach is described that helps prioritize maintenance decisions and long term well field operation.

Over the past several years there has been significant research done worldwide related to optimizing well performance. This research has included looking at the mechanisms involved with biological and mechanical plugging of aquifers, and the effectiveness of various rehabilitation technologies. The topic will also discuss several studies in Europe that looked at the mechanisms associated with poor well performance and innovative approaches being used to prevent or correct poor well performance.

Register for this live webinar and learn:

- to discuss well design and construction.
- to identify pros and cons of development options.
- to explain well rehabilitation.
- to review recent studies related to improving and maintaining well performance.

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Lorman Education Services | 2510 Alpine Rd. | Eau Claire, WI | 54703
This commercial email was sent to jackson.ryan@epa.gov. Unsubscribe. Call 1-866-352-9539 for assistance.

Message

From: Bennett, Tate [Bennett.Tate@epa.gov]
Sent: 9/25/2018 3:30:21 PM
To: Letendre, Daisy [letendre.daisy@epa.gov]; REisenberg@nam.org; lberkeyames@nam.org
CC: Kundinger, Kelly [kundinger.kelly@epa.gov]; Gordon, Stephen [gordon.stephen@epa.gov]; Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: Boeing Next Week + Manufacturing Day

Hey Ross. Give me a shout when you can- Ex. 6

-----Original Message-----
From: Letendre, Daisy
Sent: Tuesday, September 25, 2018 11:18 AM
To: REisenberg@nam.org; Bennett, Tate <Bennett.Tate@epa.gov>; lberkeyames@nam.org
Cc: Kundinger, Kelly <kundinger.kelly@epa.gov>; Gordon, Stephen <gordon.stephen@epa.gov>; Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Boeing Next Week + Manufacturing Day

Ross and Tate - forgive me if I'm duplicating efforts here but I wanted to make sure that EPA and NAM had looped up regarding the acting administrators visit to Boeing's HQ next week. We want to make sure that the visit gets appropriate recognition as being part of manufacturing day events!

Thanks - let me know how I can be helpful on these efforts.

Sent from my iPhone

Message

From: Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]
Sent: 9/27/2018 8:46:19 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Repko, Mary Frances (EPW) [mary_frances_repko@epw.senate.gov]
CC: Lyons, Troy [lyons.troy@epa.gov]
Subject: RE: Chad McIntosh

Thanks for this.

Michal Ilana Freedhoff, Ph.D.
Director of Oversight
Committee on Environment and Public Works Democratic Staff

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Thursday, September 27, 2018 3:41 PM
To: Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>
Cc: Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>; Lyons, Troy <lyons.troy@epa.gov>
Subject: RE: Chad McIntosh

I expect to have revisions to the letter from OW very soon.

From: Repko, Mary Frances (EPW) [mailto:mary_frances_repko@epw.senate.gov]
Sent: Wednesday, September 26, 2018 2:01 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Cc: Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>; Lyons, Troy <lyons.troy@epa.gov>
Subject: Re: Chad McIntosh

Thanks RJ,

We appreciate your work on this.

-MF

Mary Frances Repko
Minority Staff Director
U.S. Senate Committee on Environment and Public Works

On Sep 26, 2018, at 2:00 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> Got it. All over this. Thanks for the response.
>
> ---
>
> **From:** Freedhoff, Michal (EPW) [mailto:Michal_Freedhoff@epw.senate.gov]
> **Sent:** Wednesday, September 26, 2018 1:40 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>; Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>
> **Cc:** Lyons, Troy <lyons.troy@epa.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
> **Subject:** RE: Chad McIntosh
>
> Ryan:

Thanks very much for this. Here is what we think we need to resolve this and move forward.

1. A letter committing to do the following:
    a. Annual tribal consultations in each region
    b. Participation in annual tribal meetings such as the National Congress of American Indians annual conference
    c. Hire a Native American special advisor

2. The draft letter on drinking water technical assistance you sent is helpful, but as drafted, does not address Congress's underlying concern, which is that the technical assistance is not being provided in the manner viewed by the states to be the most helpful (which is onsite rather than more remote webinars etc). Could information be added to the letter that includes:
    a. Where and in what format is onsite technical assistance/onsite technicians/circuit riders being provided?
    b. The letter states that EPA understand the challenges small systems face and goes on to say that it considered input from communities on the type of assistance that would be most effective.
        i. When, how and from who was this input collected?
        ii. What did these participants indicate in terms of what type of assistance is preferred?
    c. How will EPA make sure providing onsite technical assistance is a priority for the awardees of the grants?

Thanks again

Michal

Michal Ilana Freedhoff, Ph.D.
Director of Oversight
Committee on Environment and Public Works Democratic Staff

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, September 19, 2018 8:23 AM
To: Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
Cc: Lyons, Troy <lyons.troy@epa.gov>
Subject: Chad McIntosh

Good morning from Halifax where part of the G7's focus is on marine litter. Administrator Wheeler will cite to a number of things the US is doing to address that but will reference the Save Our Seas Act as an upcoming new step in that work. We'll highlight his remarks on social media too for the Committee and Senators Whitehouse and Sullivan.

So last we spoke, we discussed pathways ahead to confirm Peter Wright and Chad McIntosh. Taking it one step at a time, the items we discussed for Chad were addressing the Senators' letter concerning the implementation of the S. 611, the Grassroots Rural and Small Community Water Systems Assistance Act, now Public Law 114-98, authored by Senators Wicker and Cardin, Chad's plan to meet with tribes, and the status of STAG grants and funding for tribes.

- Attached is a DRAFT version of a response to the Senators concerning the implementation of the Grassroots legislation outlining how grants were awarded with an emphasis on on-site technical assistance and circuit riders as referenced in the legislation. It is draft because I want to ensure

I'm outlining everything done to date, the amounts awarded and to what organization, and see if this answers questions about its implementation.

- Attached is also a historical breakdown of grants awarded to states and tribes including grants awarded to states and tribes to date this year. This information is from OARM's Office of Grants and Debarment current as of last week.

- Finally, we talked about Chad's commitment to meet with tribes. He fully expects to fulfill that role. Before joining EPA and upon retiring from Ford, Ex. 6
Ex. 6
Ex. 6 However, when he returns would a letter from him to Senator Carper describing his plan if confirmed suffice? I can get that, but it may take another couple of weeks I think.

Those were the three elements that I believed were necessary to get Chad hotlined through the Democratic cloakroom and on an upcoming list of nominees which could be confirmed by consent. Of course, Chad has already been hotlined through the Republican cloakroom.

Will you review the attached and let me know if adding a letter from Chad to Senator Carper about his outreach to tribes if confirmed works to get him hotlined and confirmed by consent?

Thanks,

Ryan.

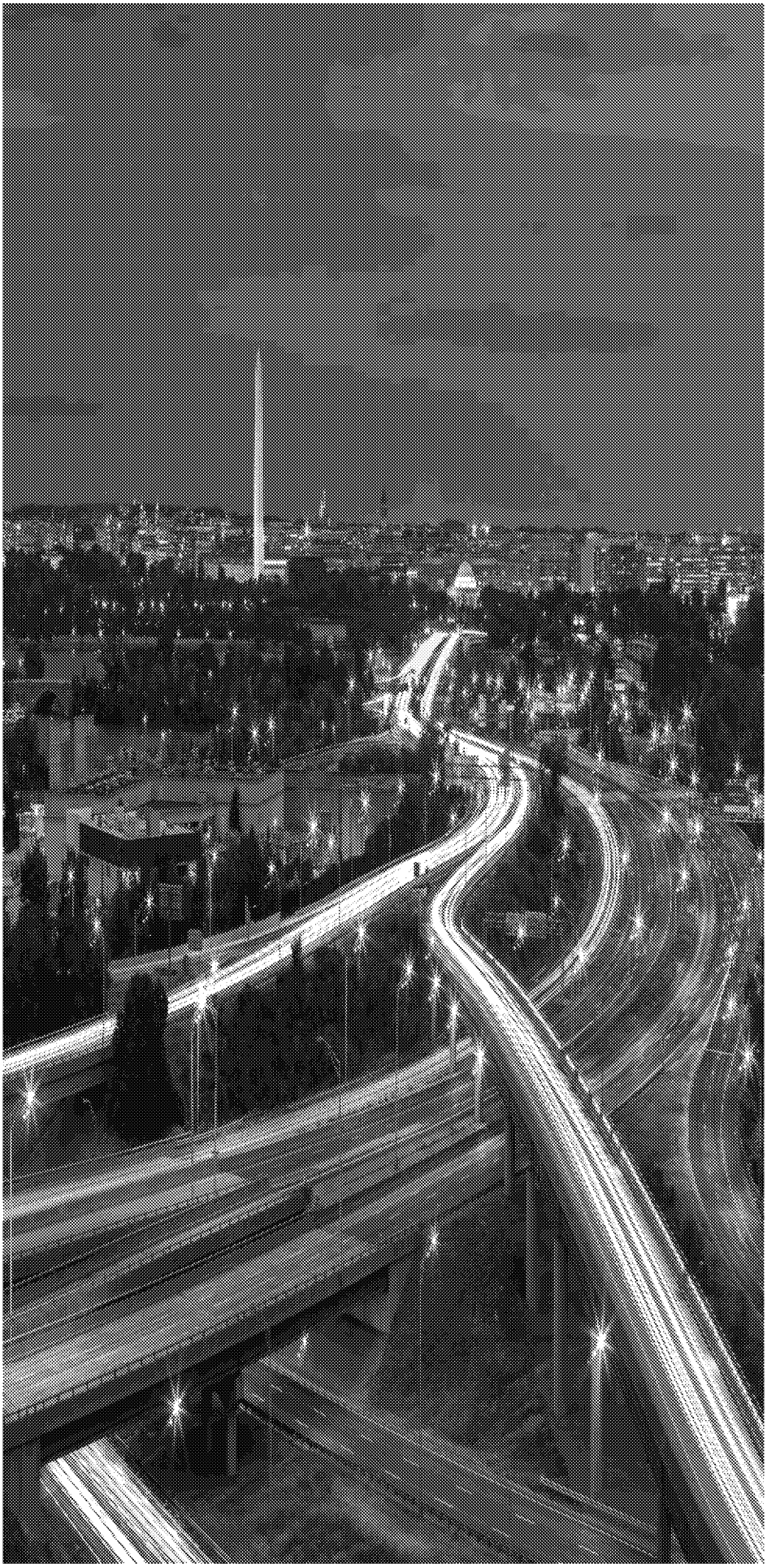
Ryan Jackson
Chief of Staff
U.S. Environmental Protection Agency
(202) 564-6999

Message

From: Brian Strosser [dlt-solutions@dlt.com]
Sent: 10/5/2018 6:06:21 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Start Planning Now for 2019 Success

To view this email as a web page, click here

5 Ways Federal Agencies Can Plan Now for Next Year's Busy Buying Season



Hi Ryan,

The 2018 Federal Fiscal Year has finally ended, but have you wondered what can you do to get ahead of the game on 2019 year-end spending? Here are five things you can do now to ensure a less harried busy buying season next year and a more effective use of taxpayer dollars.

Read the Blog

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Message

From: Peggy Strand Ex. 6
Sent: 9/26/2018 11:01:17 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Thank you

Ryan:

On behalf of the Mississippi Levee Board, thank you for meeting with representatives of the Delta yesterday. I appreciate your willingness to listen to our discussion of the flood control problem and possible ways to address it.

I retired from Venable recently but, with folks at the firm, I continue to assist a few of my prior clients, such as the Levee Board. Please feel free to contact me if you have any questions about the Yazoo Pumps.

With kind regards,

Peggy Strand

Margaret Strand Consulting LLC

Ex. 6

Message

From: Ghanta, Venu G [Venu.Ghanta@duke-energy.com]
Sent: 9/21/2018 6:19:05 PM
To: Cook, Steven [cook.steven@epa.gov]; Wright, Peter [wright.peter@epa.gov]; Breen, Barry [Breen.Barry@epa.gov]; Jackson, Ryan [jackson.ryan@epa.gov]; Glenn, Trey [Glenn.Trey@epa.gov]; Cheatham, Reggie [cheatham.reggie@epa.gov]
Subject: RE: Update on Sutton plant

All-

Duke Energy's SVP for Coal Combustion Products, George Hamrick, will be providing an update at 3:30 on the conditions at our Sutton plant. Please join if interested. Below is the news release we put out earlier today...

Venu Ghanta
Federal Regulatory Affairs Director
325 7th Street NW, Suite 300, Washington, DC 20004
Office: 202-824-8013
Ex. 6

Cape Fear River flooding damages Sutton Lake, causes safe shutdown of natural gas plant

- There is an adequate energy supply to serve residential customers
- **Site personnel mobilizing resources and activating response plans**

CHARLOTTE, N.C. – Cape Fear River flooding conditions at the company's L.V. Sutton plant in Wilmington, N.C. have caused breaches in the cooling lake dam surrounding the cooling lake and caused the company to shut down the 625-megawatt natural gas plant there.

The rising river continues to overtop the north end of the cooling lake dam, a surface that is protected by a layer of compacted soil and cement. Water is now exiting the cooling lake through breaches - one large and several smaller - on the southern end of the impoundment. The cooling lake water also flowed into the natural gas plant footprint. Duke Energy photos illustrate the situation at the site this morning. (See photos under "Photo Downloads" at https://news.duke-energy.com/media-kit.)

There are two coal ash basins at the site. The company believes that ash in the 1971 ash basin remains in place behind a steel wall separating the excavation area from the cooling lake. That wall is submerged by flood water, but the earthen portion of the basin dam is about two feet above water

and stable. There is no visible ash in the cooling lake, and prior to flooding the ash level was at least five feet below the top of the steel wall.

Cenospheres are moving from the 1971 ash basin to the cooling lake and into the Cape Fear River. Cenospheres are lightweight, hollow beads comprised of alumni and silica that are a byproduct of coal combustion.

Water is more than 10 feet from the earthen dike of the 1984 basin. It is stable and has not been affected. The lined landfill, where most of the site's ash is disposed, has not been affected by the cooling lake and repairs from the hurricane are underway.

Site personnel are supplementing on-site supplies with large stone and other materials, engineering experts are moving to the site and personnel continue to develop and activate repair plans.

Given the historic level of flooding on the river, there is little to no chance that cooling lake water will contribute to a measurable change to water levels in the area.

Sutton Lake is an 1,100-acre man-made reservoir constructed in 1972 to supply cooling water to the Sutton power plant. The cooling lake does not store coal ash.

Duke Energy
Headquartered in Charlotte, N.C., Duke Energy (NYSE: DUK) is one of the largest energy holding companies in the U.S., with approximately 29,000 employees and a generating capacity of 49,500 megawatts.

The company's Electric Utilities and Infrastructure unit serves approximately 7.6 million retail electric customers in six states – North Carolina, South Carolina, Florida, Indiana, Ohio and Kentucky.

Its Gas Utilities and Infrastructure unit distributes natural gas to approximately 1.6 million customers in five states – North Carolina, South Carolina, Tennessee, Ohio and Kentucky. Its Commercial Renewables unit operates a growing renewable energy portfolio across the U.S.

More information about the company is available at duke-energy.com. The Duke Energy News Center includes news releases, fact sheets, photos, videos and other materials. Duke Energy's illumination features stories about people, innovations, community topics and environmental issues. Follow Duke Energy on Twitter, LinkedIn, Instagram and Facebook.

###

Message

From: Sears, Devin [DSears@kellencompany.com]
Sent: 9/27/2018 6:25:44 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Method 24 -- Alternative Testing
Attachments: ATT00001.txt

Hi Ryan,

Hope you're doing well! I'm not sure if you remember me, but I used to work for Jim Ervin and Senator Manchin. I'm now at Kellen, where I lead our government relations efforts. I have been working with the Roof Coatings Manufacturers Association on a Method 24 issue, and we have been working with EPA staff in N.C. If you have a moment, I'd like to discuss our efforts with you . If you have a moment to schedule a brief call, please let me know!

Thank you,
Devin

Devin Sears | Government Affairs Manager
529 14th Street, NW, Suite 750, Washington, DC 20045
Direct +1.202.207.1109
dsears@kellencompany.com
www.kellencompany.com

Message

From: Kozeny, Jill (Grassley) [Jill_Kozeny@grassley.senate.gov]
Sent: 10/4/2018 2:55:30 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: hi, Ryan

I left a message with your assistant just now. I need to talk with you right away. (Rep.) David Young called Sen. Grassley's LD this morning to ask if it was true that Grassley was holding out for e50. That's not true. We reported to The White House on Monday afternoon all the feedback that we got from the groups. They are supportive of e15, no caveats. There is no effort to not accept a deal. Please call me when you're able to talk. Thanks very much for your accessibility. – Jill, Ex. 6

Jill Kozeny
Chief of Staff to U.S. Sen. Chuck Grassley
135 Hart Senate Office Building
202-224-1308 office
Ex. 6
jill_kozeny@grassley.senate.gov

Message

From: Amy Harder [amy@axios.com]
Sent: 3/25/2019 9:59:33 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Washington's empty messaging fight over the Green New Deal

Washington's empty messaging fight over the Green New Deal

View this email in your browser

http://axios.link/VbiR

ICYMI from last week:

Record investment pours into carbon tech company

Natural gas company backs carbon tax that'll cost it millions

Washington's empty messaging fight over the Green New Deal

Politicians and activists aren't letting facts or details get in the way of a political messaging fight over climate change.

Why it matters: Washington isn't known for nuance these days, but the lack of substance in the debate over the Green New Deal is extraordinary. What will it really cost? Will it hurt poor people or help them? There's little substance to tell us — but that won't stop everyone from fighting about it anyway.

Driving the news: The Senate is set to hold a procedural vote this week to begin debating the Green New Deal. Democrats are expected to vote "present" to show unity and oppose Republicans' efforts to highlight divisions on the left about the proposal.

Where it stands: The backers of the Green New Deal, which include youth-led activist groups like the Sunrise Movement, have amassed an impressive amount of support for the proposal from Democratic presidential candidates and congressional progressives, in particular Rep. Alexandria Ocasio-Cortez (D-N.Y.), whose attention guarantees limelight.

- The 14-page non-binding resolution calls on Congress to pass a 10-year plan to reach net-zero U.S. greenhouse gas emissions while also creating government-run health care and job guarantee programs.
- By its own definition, the plan is meant to be purely symbolic. Yet it features specific, extremely ambitious goals while leaving out the hard stuff, like actual policy designs, how to pay for it and how to keep energy costs in check.

- Ocasio-Cortez said last week that yet-to-be-determined piecemeal bills would fit together to achieve the overall goals.

The intrigue: The New Consensus, a new nonprofit pivotal in shaping the Green New Deal working with Ocasio-Cortez's office, is working on a report to release early next year that will be the policy nuts and bolts of the plan. One of its experts, Rhiana Gunn-Wright, said they're getting input now from people affected by climate change and acting on it, particular low-income and minority people. She concedes it's leaving a void in the meantime.

"I think the idea is you never let your message get too far out ahead of the substance and we have definitely created a vacuum and left space for people to fill with what they think the Green New Deal is based on their assumptions and past experiences. It's certainly a danger, but it's a danger worth taking by ensuring we get frontline voices in."
Rhiana Gunn-Wright, The New Consensus

The other side: Republicans have not put forth substantive alternative ideas, instead lambasting the proposal as a socialist takeover attempt, with one going so far to say it's tantamount to genocide. Conservative pundits and politicians cite a study by right-leaning think tank American Action Forum to say the proposal's costs could reach an annual $93 trillion by adding up the assumed costs of individual pillars.

Between the lines: That number is baseless — because so little data is available to model. Progressive activists are demanding that lawmakers support the Green New Deal, but at the same time they don't have details available because it's not a bill.

- That's like buying a house without an inspection. You shouldn't do that, but sometimes you give into pressure.

What they're saying: Both backers of the Green New Deal and their conservative detractors say they're looking out for America's poor. For now, both have little substance to back up their positions because — once again — details are scarce.

- Gunn-Wright has argued that combining broader economic provisions, like a jobs guarantee, with reducing emissions ensures that the policies work together addressing climate change and income inequality.
- "We've done a damn good job advancing the Green New Deal to the point it's at today," said Corbin Trent, spokesman for Ocasio-Cortez. "We're going to work to further advance and work out the details of implementation."
- Lacking their own policy, Republicans argue generally that the proposal would hike energy costs, which hit poorer people more because they direct a bigger percentage of their income to electricity and gasoline.

Reality check: Details hurt political messaging and detract from rallying cries, which are important in their own right. But details are unavoidable when talking about real-life impacts. Economists say the specific type of climate policy — be it a tax or mandate and potential accompanying measures — make all the difference for how people fare.

- Gilbert Metcalf, an economics professor at Tufts University, says the Green New Deal could protect lower income households — or it could hurt them. It depends on, you know, what it actually is.
- "Any program could hurt the poor if not designed with their concerns in mind," Metcalf told me. "If the Green New Deal relies heavily on regulation and the use of clean-energy tax subsidies, then I worry it could inadvertently hurt lower-income families. But if a carbon tax or cap-and-trade system is the backbone of the proposal, I'm less worried."

What's next: This week's Senate debate is designed to maximize political messaging and minimize substance. Non-election years like this used to be rare windows when Congress actually considered policy.

Amy
energy reporter, Axios
202.906.9629
@AmyAHarder

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mailchimp

Message

From: Lynn L. Bergeson [lbergeson@lawbc.com]
Sent: 10/2/2018 2:49:50 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Stack Testing
Attachments: IL EPA Letter - Stack Test Results - 27 Sept 2018.pdf

As promised.

LYNN L. BERGESON
MANAGING PARTNER
BERGESON & CAMPBELL PC
2200 Pennsylvania Avenue, N.W. Suite 100W | Washington, D.C. 20037
T: 202-557-3801 | F: 202-557-3836 [Ex. 6] lawbc.com

From: Hoffman, Kathy [mailto:KHoffman@sterigenics.com]
Sent: Tuesday, October 02, 2018 10:49 AM
To: Lynn L. Bergeson
Subject: RE: Stack Testing

Attached are the stack testing results sent to IL EPA and US EPA.

Kathy

From: Lynn L. Bergeson [mailto:lbergeson@lawbc.com]
Sent: Tuesday, October 02, 2018 7:14 AM
To: Hoffman, Kathy
Subject: Stack Testing

Ryan is asking me when the stack testing will be completed. What is the answer?

LYNN L. BERGESON
MANAGING PARTNER
BERGESON & CAMPBELL PC
2200 Pennsylvania Avenue, N.W. Suite 100W | Washington, D.C. 20037
T: 202-557-3801 | F: 202-557-3836 [Ex. 6] lawbc.com

This e-mail and any files transmitted with it may contain privileged and/or confidential information. If you believe this e-mail or any of its attachments were not intended for you, you must not use, distribute, forward, print or copy this e-mail or any attached files. If you have received this e-mail in error, please notify the sender by reply e-mail and then immediately delete the email and all attachments.

Sterigenics®
A Sotera Health company

September 27, 2018

Mr. Alec Messina
Director
Illinois Environmental Protection Agency (IL-EPA)
1021 North Grand Avenue East
Post Office Box 19276
Springfield, IL 62794-9276

Re: Sterigenics U.S., LLC Permit # 95120085

Dear Mr. Messina:

As requested in your September 25, 2018 letter, Sterigenics is providing the final results from the recent stack tests at our Willowbrook facilities to the Illinois EPA. Stack testing was conducted at the Sterigenics Willowbrook 1 and Willowbrook 2 facilities on September 20 and 21, 2018 to test the recent equipment upgrades that control the backvent process emissions. The two-day testing was conducted by a third-party, independent tester and witnessed by representatives from the IL-EPA, U.S. Environmental Protection Agency (EPA), Tri-State Fire Department and the Village of Willowbrook.

The final test results for the Willowbrook 1 and 2 facilities are summarized in the attached two tables. The test results show that all test measurements taken in the outlets of the two emissions control systems were below the detection limit of the stack testing measurement equipment. These tests were taken while the sterilization chamber back vents were exhausting to the emission controls. Using the determined quantification limit of the measurement equipment, control efficiencies were calculated to be 99.6061 and 99.5606 for the Willowbrook 1 and 2 facilities, respectively.

The final reports for these stack tests are underway and should be complete soon.

If you have any questions, please feel free to contact me.

Regards,

KA Hoffman

Kathleen Hoffman
SVP, Global EH&S and Technical Services

2015 Spring Road Ste 650 Oak Brook, IL 60523
630.928.1700 | sterigenics.com

TABLE 1
ETHYLENE OXIDE CONTROL EFFICIENCY – BACKVENT OF AN ETHYLENE OXIDE EMISSION CONTROL DEVICE OPERATED BY STERIGENICS, INC. IN WILLOWBROOK, ILLINOIS (PLANT 1) ON SEPTEMBER 21, 2018

RUN NUMBER	INJECTION TIME	INLET ETO CONC. (PPM)[1]	OUTLET ETO CONC. (PPM)[2]	ETO CONTROL EFFICIENCY
1[3]	914	11.5	<0.10 (ND[4])	99.1304
1	915	542	<.0.10 (ND)	99.9815
1	916	38.9	<0.10 (ND)	99.7429
1	917	34.5	<0.10 (ND)	99.7101
1	918	27.6	<0.10 (ND)	99.6377
1	919	26.8	<0.10 (ND)	99.6269
1	920	27.0	<0.10 (ND)	99.6296
1	921	23.1	<0.10 (ND)	99.5671
1	923	25.4	<0.10 (ND)	99.6063
1	924	24.0	<0.10 (ND)	99.5833
1	925	23.7	<0.10 (ND)	99.5781
1	926	23.5	<0.10 (ND)	99.5745
1	927	23.2	<0.10 (ND)	99.5690
2[5]	931	24.0	<0.10 (ND)	99.5833
2	932	22.5	<0.10 (ND)	99.5556
2	933	42.3	<0.10 (ND)	99.7636
2	934	31.3	<0.10 (ND)	99.6805
2	935	28.8	<0.10 (ND)	99.6528
2	936	28.7	<0.10 (ND)	99.6516
2	937	28.5	<0.10 (ND)	99.6491
2	939	26.7	<0.10 (ND)	99.6255
2	940	26.8	<0.10 (ND)	99.6269
2	941	26.4	<0.10 (ND)	99.6212
2	942	26.9	<0.10 (ND)	99.6283
2	943	25.0	<0.10 (ND)	99.6000
2	944	25.2	<0.10 (ND)	99.6032
3[6]	953	23.1	<0.10 (ND)	99.5671
3	954	22.8	<0.10 (ND)	99.5614
3	955	27.8	<0.10 (ND)	99.6403
3	956	26.0	<0.10 (ND)	99.6154
3	957	23.8	<0.10 (ND)	99.5798
3	958	23.0	<0.10 (ND)	99.5652
3	1000	22.3	<0.10 (ND)	99.5516
3	1001	22.8	<0.10 (ND)	99.5614
3	1002	22.8	<0.10 (ND)	99.5614
3	1003	23.4	<0.10 (ND)	99.5726
3	1004	21.7	<0.10 (ND)	99.5392
3	1006	21.7	<0.10 (ND)	99.5392
TIME-WEIGHTED AVERAGE:		**39.36**	**0.1000**	**99.6061**

REQUIRED CONTROL EFFICIENCY: 99%

[1] PPM = parts per million by volume
[2] 0.10 ppm is the quantification limit for the detector used at the outlet
[3] Backvent Phase Test Run #1 started at 9:13, ended at 9:28.
[4] ND = Below Detection Limit
[5] Backvent Phase Test Run #2 started at 9:30, ended at 9:45.
[6] Backvent Phase Test Run #3 started at 9:52, ended at 10:07.

TABLE 1
ETHYLENE OXIDE CONTROL EFFICIENCY – BACKVENT OF AN ETHYLENE OXIDE EMISSION CONTROL DEVICE OPERATED BY STERIGENICS, INC. IN WILLOWBROOK, ILLINOIS (PLANT 2) ON SEPTEMBER 20, 2018

RUN NUMBER	INJECTION TIME	INLET ETO CONC. (PPM)[1]	OUTLET ETO CONC. (PPM)[2]	ETO CONTROL EFFICIENCY
1[3]	1539	7.94	<0.10 (ND[4])	98.7406
1	1540	8.41	<.0.10 (ND)	98.8109
1	1541	213	<0.10 (ND)	99.9531
1	1542	30.4	<0.10 (ND)	99.6711
1	1544	22.3	<0.10 (ND)	99.5516
1	1545	22.2	<0.10 (ND)	99.5495
1	1546	21.8	<0.10 (ND)	99.5413
1	1547	19.7	<0.10 (ND)	99.4924
1	1548	18.8	<0.10 (ND)	99.4681
1	1549	20.3	<0.10 (ND)	99.5074
1	1550	19.3	<0.10 (ND)	99.4819
1	1552	19.8	<0.10 (ND)	99.4949
2[5]	1617	13.0	<0.10 (ND)	99.2308
2	1618	545	<0.10 (ND)	99.9817
2	1619	50.0	<0.10 (ND)	99.8000
2	1620	22.0	<0.10 (ND)	99.5455
2	1621	22.8	<0.10 (ND)	99.5614
2	1622	19.7	<0.10 (ND)	99.4924
2	1623	20.0	<0.10 (ND)	99.5000
2	1625	20.5	<0.10 (ND)	99.5122
2	1626	19.8	<0.10 (ND)	99.4949
2	1627	19.5	<0.10 (ND)	99.4872
2	1628	21.3	<0.10 (ND)	99.5305
2	1629	19.4	<0.10 (ND)	99.4845
2	1630	19.7	<0.10 (ND)	99.4924
3[6]	1651	20.6	<0.10 (ND)	99.5146
3	1652	246	<0.10 (ND)	99.9593
3	1653	40.1	<0.10 (ND)	99.7506
3	1654	34.2	<0.10 (ND)	99.7076
3	1655	30.8	<0.10 (ND)	99.6753
3	1657	31.6	<0.10 (ND)	99.6835
3	1658	33.1	<0.10 (ND)	99.6979
3	1659	31.5	<0.10 (ND)	99.6825
3	1700	31.8	<0.10 (ND)	99.6855
3	1701	29.4	<0.10 (ND)	99.6599
3	1703	31.5	<0.10 (ND)	99.6825
3	1704	30.1	<0.10 (ND)	99.6678
TIME-WEIGHTED AVERAGE:		**49.39**	**0.1000**	**99.5606**

REQUIRED CONTROL EFFICIENCY: 99%

[1] PPM = parts per million by volume
[2] 0.10 ppm is the quantification limit for the detector used at the outlet.
[3] Backvent Phase Test Run #1 started at 15:38, ended at 15:53.
[4] ND = Below Detection Limit
[5] Backvent Phase Test Run #2 started at 16:16, ended at 16:31.
[6] Backvent Phase Test Run #3 started at 16:50, ended at 17:05.

Message

From: info@depausa.org [info@depausa.org]
Sent: 9/25/2018 6:50:49 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: NOV. 4 & 5: DEPA FALL MEETING
Attachments: Ryan Jackson Invite 9.25.18.pdf

Dear Mr. Jackson,

The Domestic Energy Producers Alliance (DEPA) invites you to join us for our Fall Board Meeting on November 4th and 5th.

We are hosting the top 50 leaders from the domestic oil and gas industry—who represent 31 independent organizations—at the Brown Palace in Denver, CO. Please find the event schedule below.

Sunday, November 4th

2:05 PM Broncos vs. Texans game at the Sports Authority Field at Mile High

6 - 9 PM Reception at the Brown Palace

Monday, November 5th at Noble Energy

7:30 AM Breakfast

8:30 - 9:30 AM DEPA Board Meeting

9:30 AM - 12 PM Meetings

We would be honored if you could be the keynote speaker at one our scheduled times shown above. However, we can also accommodate a time convenient for you. I have attached this request in a formal invite for your reference.

Thank you for your consideration, Mr. Jackson.

We hope you will be able to join us.

Sincerely,

Jerry R. Simmons
Executive Director
Domestic Energy Producers Alliance (DEPA)

DEPA
DOMESTIC ENERGY PRODUCERS ALLIANCE

September 25, 2018

The Honorable Ryan Jackson, Chief of Staff
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W. 1101A
Washington, DC 20460

Dear Mr. Jackson,

The Domestic Energy Producers Alliance (DEPA) invites you to join us for our Fall Board Meeting on November 4th and 5th.

We are hosting the top 50 leaders from the domestic oil and gas industry—who represent 31 independent organizations—at the Brown Palace in Denver, CO. Please find the event schedule below.

Sunday, November 4th

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8:30 - 9:30 AM DEPA Board Meeting

9:30 AM - 12 PM Meetings

We would be honored if you could be the keynote speaker at one our scheduled times shown above. However, we can also accommodate a time convenient for you.

Thank you for your consideration, Mr. Jackson.

We hope you will be able to join us.

Sincerely,

Jerry R. Simmons
Executive Director
Domestic Energy Producers Alliance (DEPA)

PO Box 53038 Oklahoma City, OK 73152 405.669.6646 www.depausa.org

Message

From: Gadhia, Ami [agadhia@aap.org]
Sent: 10/1/2018 8:27:10 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Laris, Zach [zlaris@aap.org]
Subject: RE: Letter to EPA Acting Administrator Wheeler re: EPA OCHP
Attachments: EPA OCHP Letter 10012018 FINAL updated.pdf

Dear Ryan:

Please refer to this version of the letter. Apologies for any confusion.

Ami

From: Gadhia, Ami
Sent: Monday, October 1, 2018 3:30 PM
To: 'Ryan Jackson' <jackson.ryan@epa.gov>
Cc: Gadhia, Ami <agadhia@aap.org>; Laris, Zach <zlaris@aap.org>
Subject: Letter to EPA Acting Administrator Wheeler re: EPA OCHP

Dear Ryan:

Please find attached a letter to Acting Administrator Wheeler re: recent troubling reports about the Office of Children's Health Protection. The letter also requests a meeting with the Acting Administrator.

Sincerely,

Ami Gadhia

Ami V. Gadhia
Director, Federal Advocacy and Regulatory Affairs
American Academy of Pediatrics
601 13th Street NW, Suite 400N
Washington, DC 20005
(202) 347-8600
@AmerAcadPeds

October 1, 2018

Andrew R. Wheeler, JD, MBA
Acting Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Acting Administrator Wheeler:

The undersigned groups write with great concern about the news reports[i] that Dr. Ruth Etzel, director of the Environmental Protection Agency (EPA) Office of Children's Health Protection (OCHP), has been placed on administrative leave.

Established in 1997, OCHP is the only office within EPA dedicated to the health of children. Children are not little adults, and OCHP, as well as its pediatrician leadership, have the expertise to inform EPA policymaking so that it adequately protects children. Without this office and pediatric expertise, we are concerned that EPA policy could inadvertently harm or exclude children.

By placing Dr. Etzel on leave, the EPA has sent a signal that children's health is not a priority for the agency. We are particularly perplexed that this move has happened mere days before the start of Children's Health Month. The undersigned groups ask that EPA immediately clarify what action it has taken with regards to Dr. Etzel and with regards to OCHP, and make no further attempts to dismantle, re-organize, diminish, or otherwise reduce the abilities and authorities of OCHP.

In addition, by this letter the undersigned organizations formally request a meeting with you and the heads of our organizations. To arrange this meeting, please contact Ami Gadhia at the American Academy of Pediatrics, at agadhia@aap.org or (202) 347-8600.

Sincerely,

Academic Pediatric Association
African American Health Alliance
Alaska Community Action on Toxics
Allergy & Asthma Network
Alliance of Nurses for Healthy Environments
American Academy of Allergy, Asthma & Immunology
American Academy of Pediatrics
American Academy Pediatrics, Maryland Chapter
American Academy of Pediatrics, Pennsylvania Chapter
American Pediatric Society

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American Public Health Association
As You Sow
Association of Public Health Laboratories
Asthma and Allergy Foundation of America
Black Millennials for Flint
Breast Cancer Coalition of Rochester
Breast Cancer Prevention Partners
California Brain Tumor Association
California Safe Schools
Center for Climate Change and Health
Center for Environmental Health
Central California Asthma Collaborative
Ceres Community Project
Child Care Aware® of America
Childhood Lead Action Project
Children's Environmental Health Network
Children's Hospital of Philadelphia
Clean Water Action
Climate for Health
Coalition to Prevent Lead Poisoning
Collaborative for High Performance Schools
Collaborative on Health and the Environment
Columbia Center for Children's Environmental Health
Daily Acts Organization
Earthjustice
ecoAmerica
Ecology Center
Emory University Nell Hodgson Woodruff School of Nursing
Environmental Defense Fund
Environmental Health Strategy Center
Environmental Health Student Association
Environmental Health Watch
Environmental Integrity Project
Environmental Working Group

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First Focus
Green & Healthy Homes Initiative
Health Care Without Harm
Healthy Babies Bright Futures
Healthy Building Network
Healthy Children Project
Healthy Schools Network
Icahn School of Medicine at Mount Sinai
Institute of Neurotoxicology & Neurological Disorders
International Society for Children's Health and the Environment
International Society of Environmental Epidemiology
Johns Hopkins Bloomberg School of Public Health
Johns Hopkins Department of Environmental Health and Engineering
Lead Safe Mama, LLC
Learning Disabilities Association of America
Learning Disabilities Association of Illinois
Learning Disabilities Association of Maine
Learning Disabilities Association of Minnesota
Learning Disabilities Association of South Carolina
Learning Disabilities Association of Tennessee
Learning Disabilities Association of Utah
Learning Disabilities Association of Western New York
Learning Disabilities of America of Texas
March of Dimes
Maryland Institute for Applied Environmental Health
Moms Clean Air Force
National Association of County and City Health Officials
National Association of Pediatric Nurse Practitioners
National Center for Healthy Housing
National Resource Center for Health and Safety in Child Care and Early Education
Natural Resources Defense Council
Northeast Ohio Black Health Coalition
Ohio Environmental Council

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Ohio Healthy Homes Network

Oregon Environmental Council

Oregon Physicians for Social Responsibility

Parents For Students Safety

Pediatric Public Health Initiative

Pennsylvania Head Start Association

Pesticide Action Network

Physicians for Social Responsibility

Physicians for Social Responsibility, Tennessee Chapter

Physicians for Social Responsibility, Los Angeles

Physicians for Social Responsibility Maine Chapter

Physicians for Social Responsibility, Pennsylvania Chapter

Physicians for Social Responsibility, Wisconsin Chapter and the Wisconsin Environmental Health Network

Physicians for Social Responsibility, Philadelphia

Physicians for Social Responsibility, San Francisco Bay Area Chapter

Physicians for Social Responsibility, Colorado Chapter

Physicians for Social Responsibility, Florida Chapter

Pioneer Valley Asthma Coalition

Prevention Institute

Public Health Institute

Rachel Carson Council

Rachel's Network

Racial and Ethnic Health Disparities Coalition

Revitalize Community Development Corporation

Riley Asthma Program

Safer Chemicals Healthy Families

Safer States

Sears-Swetland Family Foundation

Sierra Club

Society for Public Health Education

Sonoma County Conservation Action

Southern Adirondack Child Care Network

Southwest Minnesota Housing Partnership

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The Great Lakes Center for Children's Environmental Health
Toxics Information Project
Trust for America's Health
UCLA Center for Occupational and Environmental Health
UCLA Fielding School of Public Health
UCSF School of Nursing California Childcare Health Program
Union of Concerned Scientists
Virginia Clinicians for Climate Action
WE ACT for Environmental Justice
Women for a Healthy Environment
350 Bay Area

---

[i] *"E.P.A. Places the Head of Its Office of Children's Health on Leave," available at* https://www.nytimes.com/2018/09/26/climate/epa-etzel-children-health-program.html.

ED_002480_00060109-00005

Message

From: Ann Dermody [updates@cqrollcall.com]
Sent: 10/2/2018 2:33:07 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] How to Increase Advocacy Participation by 116% and Grow Your Membership List in 10 Days

CQ Roll Call - Marketing Email Template

CQ Advocate Acquisition

How to Increase Advocacy Participation by 116% and Grow Your Membership List in 10 Days

We have a success story to tell you:

When the Farm Bureau faced a tough regulatory battle earlier this year, they knew which U.S. senators they needed to target in a grassroots campaign. But they lacked members in enough regions in those states to move the needle.

By redefining their strategy, they were able to successfully acquire **5,800 new advocates in 10 days to take action on their campaign, representing a 116% increase** over their existing regional presence.

How did they pull it off, and what strategy did they employ? A little something we call the C-A-M-P Method. We walk you through it step-by-step in our new blog post.

(Hint: it doesn't involve purchasing lists — or magic.)

READ MORE

CQ
1625 Eye Street NW, Washington DC 20006
202-650-6500
An Economist Group business

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This email was sent to jackson.ryan@epa.gov. You may change your email subscription settings at any time by clicking **here**.

Message

From: sreece@depausa.org [sreece@depausa.org]
Sent: 9/20/2018 7:54:57 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: 'Pete Regan 2/26/70' [pregan@depausa.org]
Subject: RE: 9AM Meeting

Good afternoon Mr. Jackson,
DEPA wants to make you aware of our upcoming board meeting in Denver, CO November 4th - 5th. Would you and/or Administrator Wheeler be available to attend in person or over the phone/video conference? I will send you a formal invite soon. I just wanted to send a quick e-mail to get it on the calendar if possible. Please call me or e-mail with any questions or concerns you may have.

Thank you for your consideration,
Sarah

Sarah Reece
Domestic Energy Producers Alliance (DEPA)
PO Box 53038
Oklahoma City, OK 73152
Work (405) 669-6646
sreece@depausa.org
www.depausa.org

From: sreece@depausa.org <sreece@depausa.org>
Sent: Tuesday, July 17, 2018 9:32 PM
To: 'Jackson, Ryan' <jackson.ryan@epa.gov>
Cc: 'Pete Regan 2/26/70' <pregan@depausa.org>
Subject: RE: 9AM Meeting

Mr. Jackson,
We appreciate the efforts on your part to try and accommodate us. We understand completely. We look forward to the EPA being a part of the program next year.

Thank you for your consideration,
Sarah

Sarah Reece
Domestic Energy Producers Alliance (DEPA)
PO Box 53038
Oklahoma City, OK 73152
Work (405) 669-6646
sreece@depausa.org
www.depausa.org

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Tuesday, July 17, 2018 6:06 PM
To: sreece@depausa.org
Cc: Pete Regan 2/26/70 <pregan@depausa.org>
Subject: RE: 9AM Meeting

I'm sorry, we are unable to host this on this trip. We have experienced a number of changes which we are continuing to respond to, and I don't have someone who's available to appropriately respond to this. I don't want to prolong it, but I will be happy to make this up on the next fly in. I apologize for the inconvenience.

From: sreece@depausa.org [mailto:sreece@depausa.org]
Sent: Tuesday, July 17, 2018 4:44 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Cc: Pete Regan 2/26/70 <pregan@depausa.org>
Subject: 9AM Meeting

Good afternoon Mr. Jackson,
DEPA would be honored to be able to keep our original meeting time slot from 9-9:30AM on Thursday, July 19th at the EPA building.

I look forward to hearing back from you,
Sarah

Sarah Reece
Domestic Energy Producers Alliance (DEPA)
PO Box 53038
Oklahoma City, OK 73152
Work (405) 669-6646
sreece@depausa.org
www.depausa.org

Message

From: Rozsa, Gabe [Gabe.Rozsa@prime-policy.com]
Sent: 10/1/2018 8:28:55 PM
To: Konkus, John [konkus.john@epa.gov]; Bennett, Tate [Bennett.Tate@epa.gov]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Molina, Michael [molina.michael@epa.gov]
Subject: Today's Event
Attachments: DERA Conferee Letter Supporting FY2019 Funding.docx; epa dera event - kids, andy and dale in front of bus.jpg; epa dera event - looking under the bus.jpg

John and Tate,

Please let me know if you are able to forward any press or the video feed from today's great event. I am attaching a couple of photos we took. Thank you for all your help.

As I mentioned to Acting Administrator Wheeler, I would love to get the broader DERA Coalition members together to meet with him or his senior staff about the continuing need for the program. This is a coalition that includes the very diverse group of organizations and companies who signed on to the attached letter we sent to the Conferees on the Interior and Environmental Appropriations bill for FY2019 in support of DERA funding.

Gabe

Gabe Rozsa
Managing Director
1110 Vermont Avenue, NW | Suite 1000 | Washington, DC 20005
Office 202 530 4843 | Fax: 202 530 4800 | Ex. 6
www.prime-policy.com

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September 12, 2018

Dear :

As part of a uniquely broad coalition of interests, we are writing to ask for your support of the House funding level for the Diesel Emissions Reduction Act (DERA) program as you work to resolve differences between the chambers in the Interior and Environmental Agencies Appropriations Act for fiscal year 2019. The Senate bill provides $50 million and the House $100 million, an increase over the current year level of $75 million. Congress has provided increases in the program for four years in a row for DERA and we believe additional capacity exists to improve air quality by advancing technologies that significantly reduce emissions from heavy-duty diesel vehicles and equipment. Because EPA and the states can do more, we respectfully request your support for a further increase in appropriations for this worthwhile program. Specifically, we are seeking an increase to the House level of $100 million.

Since implementation, DERA has become one of the most cost-effective federal clean air programs. EPA estimates every $1 in federal assistance is met with another $3 in non-federal matching funds, including significant investments from the private sector, and generates $5 to $21 in health and economic benefits. States benefit because 30 percent of the funding goes to support state programs.

DERA also provides grants and rebates to incentivize equipment and vehicle owners to install retrofit technologies on existing heavy-duty diesel vehicles and engines, or replace engines and equipment, reducing emissions by as much as 90 percent. EPA's most recent estimates were completed in 2016 and reflect only the first five years of the program. Even with this limited sampling, the positive results were impressive. EPA estimated that just from 2009 to 2013 the program upgraded nearly 73,000 vehicles or pieces of equipment, and saved over 450 million gallons of fuel. In that report, EPA estimated that total lifetime emission reductions achieved through DERA funding are 14,700 tons of particulate matter (PM) and 335,200 tons of oxides of nitrogen (NOx). These reductions created up to $12.6 billion of health benefits. Significant funding since then continues to add to these totals, reflective of the tremendous progress that continues to be made. In short, the program continues to help improve air quality at the nation's schools, construction sites, highways, railyards, and ports.

The program has enjoyed overwhelming bipartisan support in the Committee and in Congress and we are hopeful of such support this year as well. The DERA program is voluntary and has adopted many cost saving administrative practices, such as the inclusion of a rebate program applicable to school buses and construction equipment that speeds the delivery of program funds with a minimum amount of red tape. The program effectively cleans our air and underpins employment in innovative industries. It is a true win-win-win.

The DERA program is still needed to help speed adoption of highly cost-effective emission control technologies for vehicles in the legacy fleet of millions of diesel vehicles which do not meet the most recent emission control standards. It is our hope that for FY 2019, Congress will provide additional funding in line with the most recent authorization target level and the House-passed level of $100 million.

Because the DERA program goes hand-in-glove with effective state and local air programs, the DERA Coalition also urges that funding for DERA not come at the expense of critical funding for state and local air quality grants. State and local governments hold primary responsibility for preventing and controlling air pollution and rely on these grants to carry out their core obligations under the Clean Air Act, including monitoring air quality, assessing emissions impacts, developing comprehensive state implementation plans, permitting, and inspecting sources, enforcing laws and regulations, and conducting public education and outreach.

Thank you for your consideration.

Sincerely,

Advanced Engine Systems Institute - American Association of Port Authorities – Association of American Railroads - American Highway Users Alliance – American Lung Association – American Power Group - American Trucking Associations - Associated General Contractors of America - Clean Air Task Force - Corning Incorporated - Cummins Inc. - Diesel Technology Forum - Emission Control Technology Association – Environmental Defense Fund - Greyhound Lines, Inc - Manufacturers of Emission Controls Association – Motor and Equipment Manufacturers Association - NAFA Fleet Management Association –National Association of State Directors of Pupil Transportation Services – National Electrical Manufacturers Association - National School Transportation Association - Navistar – Thomas Built Buses - Truck and Engine Manufacturers Association - Umicore Autocat, Inc. - United Motorcoach Association – Volvo Group North America

Message

From: Bloomberg Government [bbg_gov@info.bgov.com]
Sent: 10/1/2018 11:01:28 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: How the Air Force Is Saving With Amazon

Bloomberg Government Technocrat

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What's New This Week:
A Prime Way to Procure

The government can learn a lot from the private sector when it comes to using technology in innovative ways. J at Tinder's new "Swipe the Vote" campaign, designed to educate young voters and get them to the polls this No The social dating app may not be an obvious choice for increasing voter turnout, but it's an ingenious way of dr civic engagement among 18-to-24-year-olds.

Speaking of matchmaking, federal agencies have warmed to the idea of collaborating with (and learning from) t private sector companies to improve their own practices. The Air Force launched a pilot program with Amazon six bases around the country to buy small quantities of everyday products from the Amazon Business e-comme portal. While there are some concerns about the pilot's lack of transparency, the Air Force is impressed with the so far.

The pilot is taking place while the General Services Administration is implementing its own governmentwide e- commerce program specified under a provision in the 2018 National Defense Authorization Act. Critics, as we'v frequently reported at Technocrat, claim the Seattle-based e-commerce giant is getting preferential treatment a unfair advantage in federal procurement–dubbing the provision an "Amazon amendment."

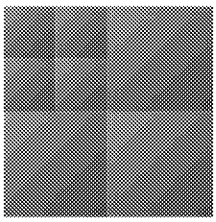
BGOV's Chris Cornillie and Sam Skolnik explain more in this week's exclusive story.

Moving on to other news…Quantum research in the U.S. just got a boost thanks to a $250 million investment fr government agencies. The Department of Energy will put $218 million toward 85 research projects at universiti

national labs, while the National Science Foundation plans to spend $31 million on quantum sensing, computin communications. The projects will have a “science first” approach that focuses on basic research instead of act commercial uses for quantum tech, since it’s still too early to tell what those uses will be.

The announcement goes hand-in-hand with the White House’s newly released strategy for strengthening U.S. leadership in quantum information science, a field of research that centers on next-gen supercomputing techno Meanwhile, Congress is working on draft legislation that would give U.S. tech companies $1.3 billion in addition funding to build powerful “quantum computers”—an effort based partly on concern over growing competition fro China.

There’s more where that came from, so keep reading!



Bloomberg Government

Next.2018

Save The Date For A First Look At Tech And Government Post-Election: What Changed

Join Bloomberg Government this November 13-15 for critical conversations about the intersection of innova technology, and policy one week after the midterm elections.

This year Next.2018 is expanding to the InterContinental at The Wharf in D.C., and will bring together busir leaders, tech pioneers, and Capitol Hill policy makers to discuss emerging technologies that change the wa live, the complex relationship between Capitol Hill and Big Tech, the impact of the digital revolution on rura underserved communities, and the disruption that machine learning and AI can bring to employment.

Join the conversation this November. To register, click here.

Get Smart

“E-commerce marketplaces generally operate according to economies of scale. The more products one the more interest and demand it receives from consumers…That’s why you see one predominant suppl each major market, whether it’s Alibaba in China, Flipkart in India, or Amazon in the U.S.”

—Cooper Smith, Amazon expert at Gartner Inc.

Read more in this week's exclusive from Bloomberg Government.

Beyond Legacy

White House Refreshes Cloud Strategy
The White House is shifting from “cloud first” to “cloud smart” to close some gaps in policies that allow for faste
adoption, according to federal CIO Suzette Kent. Agencies will have to take various actions to implement the st
over the next 18 months. Read more.

New Agency Gets Centers of Excellence Support
Housing and Urban Development will become the second agency to work with the General Services Administra
high-profile initiative called the Centers of Excellence. The agency will embark on a "discovery sprint" to assess
modernization needs and challenges. Read more.

Strategy & Leadership

Bill Seeks to Reauthorize Federal CIO Role
Rep. Will Hurd introduced a bill that would elevate the authority of the U.S. federal CIO. The goal, according to
more than just renaming an office. He said there needs to be a clear statement that the federal CIO is in charge
coordinating IT policy across the government. Read more.

Defense Innovation Unit Hires Former Symantec CEO
Symantec’s former CEO Michael Brown spent two decades running companies in Silicon Valley. Now Brown ha
job with the Pentagon’s Defense Innovation Unit, where he wants to create “the ideal exchange” and get acces
the leading technologies. Read more.

Eye on Security

Frequent IRS Data Breaches Raise Red Flags
Congress has probed the IRS over its online taxpayer authentication efforts and recurrent data breaches in rec
years. The agency was also criticized for having numerous public-facing web applications, which open up many
avenues for fraud. Read more.

Marine Corps Searches for Cyber Talent
All Marine applicants will be given a cyber test starting in October. Those who do well on the test—which will in
questions on networking, software programming, and compliance—could move into the newly established cybe

operations occupational field. Read more.

Next Tech

Lawmakers Urge U.S. to Keep AI Edge
The federal government needs to step up its artificial intelligence game or risk facing heightened national secur threats. A new congressional report calls for more funding for AI research, especially as global powers increase investment in the technology. Read more.

DOD Picks Team to Lead AI Research
The Department of Defense wants researchers to build frameworks where humans and machines can collabora teammates. The agency just selected a team of such researchers from the U.S. and UK to lead a multimillion-d initiative focused on artificial intelligence. Read more.

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Message

From: Ann Dermody [updates@cqrollcall.com]
Sent: 10/4/2018 2:23:00 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: How to Avoid Missing Stuff in State Bills

CQ Roll Call - Marketing Email Template

CQ State

Here's a secret: lawmakers miss stuff in state bills all the time — and so do you.

Stories about state legislators being asleep at the wheel grab headlines on a regular basis. Even people who draft (and vote on) legislation for a living routinely overlook key provisions, or fail to grasp a provision's full impact before it's too late.

Looked at from the macro scale of 50 independent legislatures, the sheer volume of laws flowing from state capitols makes it difficult to stay aware of what gets added to each bill, nonetheless identify along the way which newly added provision will have an unexpectedly outsize impact. It can be an embarrassing mistake to make -- and a costly one.

Keep reading for tips on how to avoid missing crucial information in state legislation...

READ MORE

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1625 Eye Street NW, Washington DC 20006

202-650-6500
An Economist Group business

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This email was sent to jackson.ryan@epa.gov. You may change your email subscription settings at any time by clicking **here**.

Message

From: Michael K. Henry [mhenry@alpinegroup.com]
Sent: 10/3/2018 8:07:38 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: Meeting Request

Understood. Happy to work with you.

On Oct 3, 2018, at 3:58 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> I'll give you a call but we can't do the 19th. It's due to a very recent change that can't be helped.
>
> **From:** Michael K. Henry [mailto:mhenry@alpinegroup.com]
> **Sent:** Wednesday, October 3, 2018 1:37 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Subject:** RE: Meeting Request
>
> Sorry, that is what the string below carried. We had confirmed a meeting for 11a on the 19th last week. Aaron canceled it on Monday. Stuff comes up, and I am not trying to be difficult, but this effort approaching the 6 month mark and I just want to bring the plane in for a landing.
>
> Thank you for the help – I know you have a lot on your plate!!
>
> mike
>
> **From:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Sent:** Wednesday, October 3, 2018 1:32 PM
> **To:** Michael K. Henry <mhenry@alpinegroup.com>
> **Subject:** RE: Meeting Request
>
> On it.
>
> Do they have a request in for October 19?
>
> **From:** Michael K. Henry [mailto:mhenry@alpinegroup.com]
> **Sent:** Wednesday, October 3, 2018 1:14 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Subject:** RE: Meeting Request
>
> Sorry, misread your note on my phone – thought you were referring to the 19….
>
> I have lost track of the bidding, since May, but I am hoping to lock a date and hold the meeting. This is very important to Honeywell – which is why I made it clear that it could be a CEO level meeting, as schedules align. To that point, if Andy is on the road a lot this month, we would be willing to try and connect outside DC. If in the Northeast or Louisiana, something could work on their end.
>
> Thank you for engaging to help!
>
> mike

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, October 3, 2018 12:59 PM
To: Michael K. Henry <mhenry@alpinegroup.com>
Subject: Re: Meeting Request

What day are you talking about?

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Oct 3, 2018, at 12:53 PM, Michael K. Henry <mhenry@alpinegroup.com> wrote:

> Not at all. Our CEO couldn't make 11a, so we offered 3p or later if you wanted him. We confirmed 11a with the business President and other senior leaders. If 11a works, we are good to go.
>
> On Oct 3, 2018, at 12:49 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>
>> You guys cancelled the meeting for Oct 1. There has been one other time we had to reschedule.
>
>> Ryan Jackson
>> Chief of Staff
>> U.S. EPA
>> 202-564-6999
>
>> On Oct 3, 2018, at 11:23 AM, Michael K. Henry <mhenry@alpinegroup.com> wrote:
>
>> Ryan-
>
>> Can I get a little help? We have been pursuing a meeting with Andy since May 1st - when he was Deputy Administrator.

While I appreciate the early delays and those that come with his transition to acting Administrator, this back and forth is increasingly frustrating. Several times, we have locked a meeting weeks in advance. As the date approaches, it gets canceled and we repeat the cycle of days and weeks passing to set a new meeting. See sting below as the most recent example.

To summarize the request, Honeywell's senior management (CEO and/or business President - in addition to Global GR) wants to come in and discuss a billion dollar investment to produce mobile refrigerant. I'm happy to pass more details, but that is the short of it.

I'm not sure the issue creating these delays, as I know Andy has approved the meeting, its been cleared and announced at senior staff meetings. For some reason, the execution appears to be the problem.

Any help will be appreciated!!

Mike

Begin forwarded message:

> **From:** "Dickerson, Aaron" <dickerson.aaron@epa.gov>
> **Date:** October 1, 2018 at 7:18:18 PM EDT
> **To:** Katherine Ambrose <kambrose@alpinegroup.com>
> **Cc:** "Michael K. Henry" <mhenry@alpinegroup.com>, "Molina, Michael" <molina.michael@epa.gov>
> **Subject: RE: Meeting Request**
>
> Katherine
>
> Unfortunately, Acting Administrator Wheeler will now be out of town on October 19 and he will not be able to meet with Honeywell. I know we have been trying to arrange this meeting for a while so would Honeywell be interested in meeting with our Assistant Administrator for Air and Radiation, Bill Wehrum?
>
> ---
>
> **From:** Katherine Ambrose [mailto:kambrose@alpinegroup.com]
> **Sent:** Friday, September 28, 2018 6:35

PM
To: Dickerson, Aaron <dickerson.aaron@epa.gov>
Cc: Michael K. Henry <mhenry@alpinegroup.com>; Woodward, Cheryl <Woodward.Cheryl@epa.gov>
Subject: RE: Meeting Request

Aaron,

Thank you so much for arranging the 19th.

At this time, we have received word from Honeywell that 11am is confirmed for a meeting with the Business President and other senior leaders within the company. In the days since Tuesday, the CEO has had a change on his schedule, and cannot make an 11am meeting. He could attend any meeting that is 3pm or later on the 19th, if there was any flexibility to move this arrangement. If so, please let me know.

However, to be clear, we are incredibly grateful for you and Cheryl and all of your efforts thus far – if 11am if the only time available, then the Business President and other senior leaders are looking forward to the conversation. We can confirm that at this time, but we wanted to make sure that you were aware of the attendees and the conflict that just arose.

As Mike can attest to, we are very sorry for any and all inconveniences this may cause for the Acting Administrator. Again, we are very grateful for your patience with us!

Please let me know if I can answer any questions.

Thank you,
Katherine

From: Dickerson, Aaron <dickerson.aaron@epa.gov>
Sent: Thursday, September 27, 2018 4:27 PM

To: Katherine Ambrose <kambrose@alpinegroup.com>
Cc: Michael K. Henry <mhenry@alpinegroup.com>; Woodward, Cheryl <Woodward.Cheryl@epa.gov>
Subject: RE: Meeting Request

Hi Katherine

It looks like we can now make 11:00am -11:30am work on October 19. Can you send me the complete attendee list?

Message

From: Lauren Claffey [lauren@claffeycommunications.com]
Sent: 9/28/2018 1:26:15 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Hello!

Great seeing you last night and **Ex. 6** I'll shoot you a text as well but wanted to make sure you have my contact info. Don't hesitate to let me know if you need anything!

Best,
Lauren Claffey
Claffey Communications
706-830-5180

Message

From: Lorman Education [customerservice@lormaneducationservices.com]
Sent: 10/4/2018 6:46:51 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Coordinating Emergency Response When Disaster Strikes

ONDEMAND WEBINAR

Coordinating Emergency Response When Disaster Strikes

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Despite over 50 years of emergency management experience, many jurisdictions are still unsure if their plans are adequate to deal with disaster. This is largely a result of focusing on the development of plans that address various phases of response rather building overall organizational resilience. This OnDemand Webinar considers emergency response in the context of a jurisdiction-wide emergency management program and demonstrates the linkages between response and other components of the program. At the same time, it offers practical tips for coordinating response operations by focusing on critical tasks within the incident management team. You will gain a deeper understanding of the concepts behind emergency response and will be better able to assess and simplify your emergency plans.

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Message

From: Comte, Angeleine [AComte@AdvaMed.org]
Sent: 9/25/2018 2:23:08 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Letter Regarding Ethylene Oxide and Sterigenics International
Attachments: AdvaMed EPA EtO Letter.pdf

Good morning Mr. Jackson,

I wanted to flag this letter from AdvaMed CEO, Scott Whitaker, to the Acting Administrator.

Thank you,

Angie

From: Comte, Angeleine
Sent: Monday, September 24, 2018 6:17 PM
To: Wheeler.andrew@Epa.gov
Subject: Letter Regarding Ethylene Oxide and Sterigenics International

Acting Administrator Wheeler:

On behalf of AdvaMed, please see the attached letter regarding ethylene oxide and the U.S. Department of Health and Human Services Agency for Toxic Substances and Disease Registry's Aug. 21 report concerning Sterigenics International Inc. in Willowbrook, Illinois.

Thank you,

Angie

Angie Comte
Coordinator, Government Affairs

AdvaMed – Advanced Medical Technology Association
701 Pennsylvania Ave. NW, Suite 800
Washington, DC 20004
(202) 469-7102
Acomte@AdvaMed.org
www.AdvaMed.org

AdvaMed
Advanced Medical Technology Association

September 24, 2018

Mr. Andrew Wheeler
Acting Administrator
Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004

Dear Acting Administrator Wheeler:

I am writing on behalf of AdvaMed members regarding the U.S. Department of Health and Human Services Agency for Toxic Substances and Disease Registry's Aug. 21 report concerning Sterigenics International Inc. in Willowbrook, Illinois. As you consider responding to the recent report, we ask that you please keep in mind the effect that any long-term disruption of ethylene oxide sterilization would have on patient access to life-changing technology.

AdvaMed is a trade association that represents the world's leading innovators and manufacturers of medical devices, diagnostic products, and health information systems. Together, our members, most with fewer than 100 employees, support nearly 2 million jobs nationwide, produce $150 billion in direct economic output, and manufacture much of the life-enhancing health care technology available in the United States and around the world.

At its core, our industry shares in your mission to protect and advance the human condition, and we support the Agency's mission to ensure safe environments for all Americans. Our members have invested hundreds of millions of dollars to improve workplace safety and environmental health. Through the implementation of new technology, our members have continued to reduce employee exposure and emissions of toxic substances to facilitate compliance with current OSHA and NESHAP regulations. We are equally committed to guaranteeing safe devices for patients, as well as a safe environment for manufacturers' employees and their surrounding communities.

Ethylene oxide (EtO) is critical to ensuring the safety of devices for clinicians and patients, and we understand that EtO's application as a sterilant for health care products accounts for less than 1% of all EtO usage globally. Many of our members

701 Pennsylvania Ave, N.W. | Suite 800 | Washington, D.C. 20004-2654
T – 202.783.8700 | F – 202.783.8750 | AdvaMed.org

manufacture devices that cannot be sterilized by other means due to their complex nature, including pacemakers, implantable defibrillators, and combination products (devices that contain drugs). The Willowbrook Sterigenics facility, like many EtO sterilization process plants, is the sole sterilization facility for a number of medical device types. A disruption in production at this facility would halt sterilization of those products and result in an abrupt stop in the supply chain for those devices. Identifying a different facility, filing for use, and validating sterilization cycles at that facility can take months. This cessation could result in limited access to critical medical technology for millions of patients and lead to poorer health outcomes.

In 2014, AdvaMed expressed concerns to the EPA regarding the Agency's risk estimates of ethylene oxide and the Integrated Risk Information System (IRIS) Evaluation of the Inhalation Carcinogenicity of Ethylene Oxide (revised external draft-August 2014). Along with the American Chemistry Council and the Ethylene Oxide Sterilization Association Inc., we questioned the reliability and accuracy of the assessment and omission of several studies deemed relevant by the Science Advisory Board. It is our understanding that this IRIS assessment is the basis for the concern raised with regard to the Willowbrook Sterigenics facility.

We have the utmost respect for the Agency and know that it will act in the best interest of the environment and all Americans. In doing so, please consider the essential role the Willowbrook Sterigenics facility, and EtO in general, holds in the medical technology supply chain. Closure of this plant could affect access to important devices and thousands of Americans who benefit from medical technology.

Thank you for your attention to this matter

Sincerely,

Scott Whitaker
President & CEO
AdvaMed

CC: US Health & Human Services Secretary Alex Azar
US Food and Drug Administration Commissioner Scott Gottlieb

ED_002480_00060323-00002

Message

From: Deziel, Dennis (DR) [DRDeziel@dow.com]
Sent: 10/3/2018 1:31:28 AM
To: Cook, Steven [cook.steven@epa.gov]; McIntosh, Chad [mcintosh.chad@epa.gov]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Stewart, Lakita [Stewart.Lakita@epa.gov]
Subject: Re: Plastic Waste/Marine Debris Meeting Request

Thank you Steve

Get Outlook for iOS

From: Cook, Steven <cook.steven@epa.gov>
Sent: Tuesday, October 2, 2018 9:05 PM
To: McIntosh, Chad
Cc: Deziel, Dennis (DR); Jackson, Ryan; Beck, Nancy; Stewart, Lakita
Subject: Re: Plastic Waste/Marine Debris Meeting Request

Dennis - I will work with OITA on the scheduling. Look forward to the discussion

Steven

Sent from my iPhone

On Oct 2, 2018, at 5:02 PM, McIntosh, Chad <mcintosh.chad@epa.gov> wrote:

> Dennis — per our call, Lakita Stewart will help arrange a time that we can get together. We can coordinate with the OLEM and Water also. Great to talk with you .
>
> Chad
>
> Sent from my iPad
>
> On Oct 2, 2018, at 3:35 PM, Deziel, Dennis (DR) <DRDeziel@dow.com> wrote:
>
>> Sounds good, thanks Ryan.
>>
>> Nancy, Chad, Steven – let me know how you'd like to proceed with scheduling, if possible.
>>
>> I have removed Peter from the email chain for simplicity sake since this would be a meeting with The Dow Chemical Company. Dennis
>>
>> **Dennis Deziel**
>> Director, Federal Government Affairs
>> The Dow Chemical Company
>> 500 North Capitol Street, NW Suite 200
>> Washington DC 20001
>> (202) 429-3420 (office) Ex. 6
>> E-Mail: DRDeziel@dow.com
>> *<image006.png>*

From: Jackson, Ryan [mailto:jackson.ryan@epa.gov]
Sent: Tuesday, October 02, 2018 3:05 PM
To: Deziel, Dennis (DR) <DRDeziel@dow.com>
Cc: Beck, Nancy <Beck.Nancy@epa.gov>; McIntosh, Chad <mcintosh.chad@epa.gov>; Cook, Steven <cook.steven@epa.gov>; Wright, Peter <wright.peter@epa.gov>
Subject: RE: Plastic Waste/Marine Debris Meeting Request

Thanks. I will be out of the office those two days but our OCSPP, OITA, and OLEM offices (cc'd) can meet with you folks on EPA actions including international ones.

From: Deziel, Dennis (DR) [mailto:DRDeziel@dow.com]
Sent: Tuesday, October 2, 2018 1:50 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Plastic Waste/Marine Debris Meeting Request

Ryan,

Finding solutions re plastic waste and marine debris is an important priority for Dow. We would love to collaborate with EPA in any way possible to address the issue. I will have a couple of executives in town on Oct 15-16 and I would love to meet with you and your leadership team, including Nancy Beck, Chad Macintosh and Steve Cook. Looking for 30 minutes if possible.

Thank you for your consideration. Dennis

Dennis Deziel
Director, Federal Government Affairs
500 North Capitol St NW, Suite 200, Washington, D.C. 20001
+1-202-429-3420 Ex. 6 Drdeziel@dow.com

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Message

From: Charles Brittingham [cbrittingham@cassidy.com]
Sent: 9/26/2018 11:53:39 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: Meeting Request for Wednesday October 3, 2018

Any movement on a meeting for the 3rd?

Charles
Sent from my iPhone

On Sep 24, 2018, at 6:29 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

Yeah, let me see what we can do on this. Definitely someone in the water office.

From: Charles Brittingham [mailto:cbrittingham@cassidy.com]
Sent: Monday, September 24, 2018 5:17 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: FW: Meeting Request for Wednesday October 3, 2018
Importance: High

RJ –

Do you or anyone on your team (maybe Lee Forsgren) have availability on October 3rd for a meeting between officials from the Port of Corpus Christi and your team regarding the Deepwater Port License Application for Texas Gulf Terminals, Inc. I have attached the actual FR notice for reference. Currently, their entire day on the 3rd is wide-open for a meeting time. If it's not you, can you point me in the right direction.

EPA will have a role in the issuance of the license and requisite permits. The Port would like to express their opinions and concerns to EPA before y'all start coordinating with MARAD on the EIS.

Email/call me if you have questions.

Thanks bud. Ex. 6

Charles

Charles Brittingham, II
Senior Vice President
Cassidy & Associates
202-585-2479 (desk)
Ex. 6

Message

From: Noronha, Gabriel (Armed Services) [Gabriel_Noronha@armed-services.senate.gov]
Sent: 9/30/2018 5:29:10 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: John Bonsell mtg

That works. Thank you!

From: Jackson, Ryan [mailto:jackson.ryan@epa.gov]
Sent: Sunday, September 30, 2018 1:27 PM
To: Noronha, Gabriel (Armed Services) <Gabriel_Noronha@armed-services.senate.gov>
Subject: Re: John Bonsell mtg

That's fine. We were going to meet for lunch at 116 so I can just meet him over there when he's finished?

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Sep 30, 2018, at 1:13 PM, Noronha, Gabriel (Armed Services) <Gabriel_Noronha@armed-services.senate.gov> wrote:

> Hi Ryan,
> I'm covering for John's special assistant, Gabriel, while he's out on leave. I see you're on the calendar for 10/4 at 11:30am. Would you mind coming in at 12pm instead? John now has a meeting with Sen. Ernst at 11:30. Let me know if that would work for you.
>
> Thank you,
> Katie Magnus

Message

From: Noronha, Gabriel (Armed Services) [Gabriel_Noronha@armed-services.senate.gov]
Sent: 9/30/2018 5:27:47 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Automatic reply: John Bonsell mtg

I am out of the office on leave from Friday, September 28th to Thursday, October 4th.

However, this email will be monitored by Katie Magnus (Katie_Magnus@armed-services.senate.gov), who will be at desk and will respond on my behalf and can be reached at my normal number (202-224-8627).

If you need to reach me while I am out of the office, I am available at Ex. 6

Message

From: Chris Kelley [KelleyC@api.org]
Sent: 10/3/2018 7:58:17 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Will Hupman [HupmanW@api.org]
Subject: Good meeting you and Intro

Ryan,

It was good to meet you last night and you've got a great friend in John Blount. He's been very helpful to me on several issues over the years and is a great guy.

Thanks also for your conversation about several ongoing oil and natural gas issues that you're well familiar with. I focus on trade and international issues for API and I'd be glad to help with anything you need on those fronts.

I'd also like to introduce you to my colleague, Will Hupman, copied here who handles downstream issues and EPA related that is fuels/additive for us. I'm sure you two have crossed paths before but an extra introduction never hurts.

Thanks again for the opportunity to chat and please let me know if I can ever be helpful to you.

Chris

Chris Kelley
Director – Federal Relations

Direct: 202-682-8406 | KelleyC@api.org | API | 1220 L Street NW | Washington, DC 20005

energy API

AMERICAN PETROLEUM INSTITUTE

Message

From: Ghanta, Venu G [Venu.Ghanta@duke-energy.com]
Sent: 9/20/2018 6:42:57 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Wright, Peter [wright.peter@epa.gov]; Breen, Barry [Breen.Barry@epa.gov]; Cook, Steven [cook.steven@epa.gov]; Glenn, Trey [Glenn.Trey@epa.gov]
Subject: FW: FINAL - Rising Cape Fear River overtops cooling lake at Duke Energy's Sutton Plant

FYI

Rising Cape Fear River overtops cooling lake at Duke Energy's Sutton Plant

CHARLOTTE, N.C. – The rising Cape Fear River is overtopping the cooling lake at the L.V. Sutton Plant in Wilmington, N.C.

Aerial photographs taken this morning of the cooling lake showed some erosion on the interior slope of the berm, a surface that is protected by a layer of compacted soil and cement. The company is using drones to monitor the situation.

Two large 24-inch valves have been opened to release water from the lake. Given the historic level of flooding on the Cape Fear River, there is little to no chance that lake water will contribute to a measurable change in water levels in the area.

Duke Energy photos illustrate the situation at the site this morning. (See photos under "Photo Downloads" at https://news.duke-energy.com/media-kit.) In addition, initial test results announced Wednesday demonstrate that lake water quality is good, so a release should not affect river water quality.

Sutton Lake is an 1,100-acre man-made reservoir constructed in 1972 to supply cooling water to the Sutton power plant. The cooling lake does not store coal ash.

"We have deployed numerous resources to assess the situation and have positioned repair materials so we can rapidly respond once the river conditions are safe to do so," said George Hamrick, a senior vice president with Duke Energy. "We continue to work closely with local emergency management and other officials as the situation evolves."

Sutton's ash basins are currently not affected by this incident. The 625-megawatt natural gas combined cycle plant at Sutton also continues to operate safely, and the company will evaluate continued plant operations. Sutton's 575-megawatt coal plant was retired in 2013 and the units were demolished in 2017.

Additional updates on Sutton and H.F. Lee
Importantly, Duke Energy's coal ash basins continue to operate safely.

Earlier in the week, the historic rainfall caused several areas of significant erosion at the Sutton coal ash landfill currently under construction.

As previously shared, flooding has caused the river to flow across three forested, inactive ash basins at the H.F. Lee site in Goldsboro. Those basins are normally dry, covered in forest and vegetation and do not impound water. Visual inspections with the environmental regulator today show that some cenospheres were released during the flooding; cenospheres are lightweight, hollow beads

comprised primarily of alumina and silica that are a byproduct of coal combustion. It also appears that only a small amount of coal ash has been displaced, similar to the impact in the wake of Hurricane Matthew. Crews will continue to monitor the situation.

Conditions at other Duke Energy plants are improving as rivers and flooding recede.

Duke Energy
Headquartered in Charlotte, N.C., Duke Energy (NYSE: DUK) is one of the largest energy holding companies in the U.S., with approximately 29,000 employees and a generating capacity of 49,500 megawatts.

The company's Electric Utilities and Infrastructure unit serves approximately 7.6 million retail electric customers in six states – North Carolina, South Carolina, Florida, Indiana, Ohio and Kentucky.

Its Gas Utilities and Infrastructure unit distributes natural gas to approximately 1.6 million customers in five states – North Carolina, South Carolina, Tennessee, Ohio and Kentucky. Its Commercial Renewables unit operates a growing renewable energy portfolio across the U.S.

More information about the company is available at duke-energy.com. The Duke Energy News Center includes news releases, fact sheets, photos, videos and other materials. Duke Energy's illumination features stories about people, innovations, community topics and environmental issues. Follow Duke Energy on Twitter, LinkedIn, Instagram and Facebook.

###

Message

From: Charles Brittingham [cbrittingham@cassidy.com]
Sent: 9/24/2018 10:59:44 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: Meeting Request for Wednesday October 3, 2018

Thanks man, I appreciate it very much.

Charles Brittingham, II
SVP, Cassidy & Associates
Ex. 6

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Monday, September 24, 2018 6:30 PM
To: Charles Brittingham <cbrittingham@cassidy.com>
Subject: RE: Meeting Request for Wednesday October 3, 2018

Yeah, let me see what we can do on this. Definitely someone in the water office.

From: Charles Brittingham [mailto:cbrittingham@cassidy.com]
Sent: Monday, September 24, 2018 5:17 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: FW: Meeting Request for Wednesday October 3, 2018
Importance: High

RJ –

Do you or anyone on your team (maybe Lee Forsgren) have availability on October 3rd for a meeting between officials from the Port of Corpus Christi and your team regarding the Deepwater Port License Application for Texas Gulf Terminals, Inc. I have attached the actual FR notice for reference. Currently, their entire day on the 3rd is wide-open for a meeting time. If it's not you, can you point me in the right direction.

EPA will have a role in the issuance of the license and requisite permits. The Port would like to express their opinions and concerns to EPA before y'all start coordinating with MARAD on the EIS.

Email/call me if you have questions.

Thanks bud. Ex. 6

Charles

Charles Brittingham, II
Senior Vice President
Cassidy & Associates
202-585-2479 (desk)
Ex. 6

Message

From: Customer Experience & PMA Workshop [Training@CustomerExperienceInGov.org]
Sent: 10/2/2018 2:01:43 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] Workshop: Customer Experience - Meeting the PMA Goals

Additional Speakers Announced:
Workshop to Improve Customer Experience
Please Forward to Others in Your Agency -

Improving Government Customer Experience: Meeting the Administration's Cross Agency Performance Goals Training Workshop

How to measure, modify, and improve the experience for government's customers: Best Practices from the Public and Private Sectors

Wednesday October 24, 2018
Willard InterContinental Hotel
Washington, D.C.

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New Speakers - Just Announced:
Rosettta Lue
Senior Contact Center Advisor
Office of Information & Technology (OIT)
Department of Veterans Affairs

Marcy Jacobs
Executive Director
Digital Service
Department of Veterans Affairs

Speakers:

Anahita Reilly
Chief Customer Officer
General Services Administration

Karen Evan
Assistant Secretary for the Office of Cybersecurity, Energy Security, and Emergency Response (CESER)
Department of Energy
Former Federal Chief Information Officer (invited)

Robert Shea
Principal
(Former OMB Associate Director for Administration and Government Performance)

Martha Dorris
Principal
Dorris Consulting International
(Former GSA Director of Strategic Programs, Integrated Technology Service)

Zachary Trojak
Principal - Public Sector
Medallia
(Customer Experience Organization to create a world where companies are loved by customers and employees)

(Additional Government Speakers to be Announced Soon)

Early Bird and Reduced Registration Until October 5th

"Send a Team" Discounts for Multiple Attendees from the Same Government Office

Overview:

Trust in government is at an all-time low. That's one reason federal agencies are being charged with the most ambitious agenda to improve the way government's customers experience and benefit from its many services. This workshop exposes you to the best customer experience improvement practices in private and public sector organizations and offers insights into the initiatives being waged across government to drive improvements in customer satisfaction.

The Administration's Cross Agency Performance Goal, Improving Customer Experience with Federal Services, promises to "transform the customer experience by improving the usability and reliability of our Federal Government's most critical digital services; create measurable improvements in customer satisfaction by using the principles and practices proven by leading private sector organizations; increase trust in the Federal Government by improving the experience citizens and businesses have with Federal services whether online, in-person, or via phone; and leverage technology to break down barriers and increase communication between Federal agencies and the citizens they serve." But it's easier said than done.

This workshop will provide agency leaders and managers tools they can use to make a difference not only at their agencies, but for the American citizens as well.

Workshop for Government Employees Only to Encourage Candid Discussion
Press and Industry Not Permitted to Attend

Why You Should Attend:

- **To better position your program or agency to improve the customer experience for the citizens it serves**

- **To provide information to help meet the Administration's Cross Agency Performance Goal, Improving Customer Experience with Federal Services**

What You Will Learn:

- **Public and private sector best practices in improving customer experience**
- **Congressional and Executive Branch initiatives to drive improved**
- **Tools to begin a customer experience improvement initiative at agencies**
- **Employee engagement approaches to build a customer-centered culture**

Who Should Attend:

- Leaders or managers of programs with internal or external customer interaction
- Leaders or managers in programs charged with improving customer experience in federal departments or agencies
- All CXOs - as they interact with the public directly and through their organizations
- Inspector Generals who review efforts to meet the goals of the President's Management Agenda and Goals
- Agency Communications executives and staff (appointed and career)
- All program managers who interact with the public and other organizations
- Auditors
- Risk management and internal controls steering committee members
- Inspectors General and staff
- Chief Financial Officers and staff
- Chief Procurement and Acquisition Officers and staff
- Risk management staff
- Chief Human Capital Officers, HR managers, and staff

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Special "Send-A-Team" Registration Fees
For Multiple Students from the Same Government Office

Workshop Limited to Government Employees Only
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2800 Eisenhower Avenue , Alexandria , Virginia, 22314 , USA

Message

From: ECOS [ecos@ecos.org]
Sent: 9/28/2018 4:54:53 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Emerging Contaminants the Focus of Various ECOS Gatherings, News from Rhode Island and Maine, & More

Emerging Contaminants the Focus of Various ECOS Gatherings, News from Rhode Island and Maine, & More

ECOSWIRE | Vol. 20 No. 38

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ECOSWIRE

Friday, September 28, 2018

Vol. 20 No. 38

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EELC Meets on Emerging Contaminants, Permitting, QAPPs, and More

EELC Members Convene in Washington, DC.

The E-Enterprise for the Environment Leadership Council (EELC) this week held its semiannual meeting in Washington, DC, led for the states by Jim Macy of Nebraska as the new EELC State Co-Chair and ECOS Vice President. Members heard about recent U.S. EPA work to more quickly and uniformly determine if emerging contaminants should be elevated for response. They also discussed state efforts to respond quickly to emerging contaminants and collaborate with federal partners to reach decisions. Members agreed to explore a common framework that can be applied in a variety of circumstances building on these individual efforts.

Other significant topics included state and EPA permitting modernization. EPA highlighted recent work to clear its permit backlog, and Bob Zimmerman of Delaware shared state

initiatives to address common challenges such as incomplete applications, as well as state efforts to track and publish permit timeliness. EPA noted that it has developed a series of three letters to inform Office of Water permit applicants of missing information and encourage them to withdraw their applications if information cannot be provided in a timely way. The EELC agreed to identify short-term actions to collaboratively advance activities.

In other discussions, EELC members discussed principles for an enterprise-wide architecture to help inform future state, tribal, and federal technology investments and design. Members also heard a report on a September process improvement event on EPA review of Quality Assurance Project Plans (QAPPs). There was robust discussion of the need for consistency across Regions and certainty around EPA timeliness. A number of actions are planned.

During the meeting, ECOS President Becky Keogh of Arkansas appointed ECOS Past President Todd Parfitt of Wyoming to another term on the EELC. One EELC state vacancy remains. Please contact Beth Graves to express interest in serving. [Graves]

Join ECOS on Social Media

Did you know that *ECOSWIRE* isn't your only source of news on state innovations, ECOS and U.S. EPA activities, and more? Connect with us on Twitter, Facebook, LinkedIn, and Vimeo for daily news and updates! [Parisien/Duke]

ECOS Holds First PFAS Caucus Call, Seeks Steering Group Participation

ECOS this week held the first call of its PFAS (Per- and Polyfluoroalkyl Substances) Caucus, which serves as a forum for state and federal agency officials and media associations and NGOs to exchange information and experiences on policy and regulation

and identify information gaps. The Caucus heard from Co-Chair Peter Walke of Vermont, Tracie White of Colorado, Mike Wimsatt of New of New Hampshire, and ECOS Executive Director Sam Sankar.

Within the caucus, ECOS will assemble a steering committee comprised of no more than one participant from each state and from each of the state media associations. The steering group will coordinate caucus actions and ensure that the caucus serves as the consolidated entity among organizations to avoid duplicative work. If you are interested in representing your state on the steering committee, please contact Sarah Grace Longsworth of ECOS.

ECOS also held a PFAS Coordinating Committee call this week with federal and state environmental agency leaders. Notes are available here.

For more details on ECOS' PFAS activities, see here. [Longsworth]

U.S. EPA Issues Final TSCA Framework Rule, Takes Steps in Identifying Next Chemicals for Evaluation

U.S. EPA yesterday issued a final fees rule under the amended Toxic Substances Control Act (TSCA). The rule will direct fees collected from chemical manufacturers to the agency to develop risk evaluations for existing chemicals, collect and review toxicity and exposure data, review confidential business information, and make timely and transparent determinations about new chemicals entering the marketplace. Under this rule, affected businesses will begin incurring fees on October 1. The fees rule is the last of four framework rules under the amended TSCA.

EPA will host a series of webinars on making TSCA submissions and paying fees under this final rule. Learn more about and register for the **October 10, 24, and November 7** webinars here.

EPA also released today its near-term approach to identify chemicals that could be included in the next group of risk evaluations under TSCA. By December 2019, the agency must designate at least 20 chemical substances as high-priority for risk evaluation and 20

chemical substances as low-priority, for which risk evaluation is not needed. The document also includes longer term strategies for managing the larger TSCA chemical landscape of more than 40,000 active chemicals. EPA has 73 open, chemical-specific public dockets for the remaining chemicals from the 2014 TSCA Workplan for Chemical Assessments.

For more information on identifying potential chemicals for prioritization, see here. [Longsworth]

State News You Can Use

Rhode Island Undertakes Timber Harvesting Project to Protect Habitat and Water

Maine Awards First-Time Grants to Support Recycling and Organics Management

ERIS

Environmental Research Institute of the States

U.S. EPA Seeks States Interested in Prize Challenge on Nutrients and HABs

As part of its effort to promote innovation and support state science and policy, U.S. EPA's Office of Research and Development (ORD) is proposing a state nutrient and harmful algal bloom-related issues challenge. ORD is looking for one or two (or a coalition of) interested states to collaborate on problem identification and challenge design beginning this winter. EPA will provide $64,000 in prize funding, as well as in-kind support from ORD and EPA's Office of Water and regional offices.

If your state is interested in participating in this challenge opportunity, please email Sarah Grace Longsworth of ECOS. [Longsworth]

ITRC

Interstate Technology and Regulatory Council

ITRC PFAS Team Makes Significant Headway

ITRC PFAS Team members meet in San Antonio.

More than a hundred team members attended the Interstate Technology & Regulatory Council's PFAS (per- and polyfluoroalkyl substances) Team Fall Meeting in San Antonio, Texas earlier this month.

At the meeting, team subgroups convened to work on individual sections of a technical and regulatory document. They also made significant progress on an upcoming fact sheet on aqueous film forming foam and risk communications toolkit.

Team leaders presented new initiatives to the larger group, including upcoming PFAS Training events. [Singh]

Upcoming Events

Webinars

ITRC Training Webinar on Integrated DNAPL Site Characterization

The Interstate Technology & Regulatory Council (ITRC) will hold a training course on Integrated DNAPL Site Characterization on **October 2 at 1-3:15 p.m. Eastern**.

Sites contaminated with dense nonaqueous phase liquids (DNAPLs) and DNAPL mixtures present significant environmental challenges. After attending this training, participants will be able to identify what site conditions must be considered when developing an informative DNAPL conceptual site model; define an objectives-based DNAPL characterization strategy; understand what tools and resources are available to improve the identification, collection, and evaluation of appropriate site characterization data; and navigate the DNAPL characterization tools table and select appropriate technologies to fill site-specific data gaps.

Learn more and register here. [Olonoff]

ITRC on Petroleum Vapor Intrusion, PFAS, and More

The Interstate Technology & Regulatory Council (ITRC) invites your participation in several upcoming training opportunities:

- Petroleum Vapor Intrusion - **October 10-11**, Seattle, Washington
- Light Non-Aqueous Phase Liquids (LNAPL) - **October 12**, St. Louis, Missouri
- PFAS Training
    - **October 12** in Montclair, New Jersey
    - **November 4** in Sacramento, California
    - **January 10, 2019** in Atlanta, Georgia [Olonoff]

U.S. EPA on Water Reuse

U.S. EPA's Office of Research and Development (ORD) will host its monthly tools and resources webinar on **October 17 at 3-4 p.m. Eastern**. Given increasing pressures on water resources, many communities are developing centralized systems for planned water reuse. ORD is working with the National Blue Ribbon Commission for Onsight Non-Potable Water Systems (ONWS), a coalition of state and local groups established to advance best management practices to support the use of ONWSs. This webinar will highlight the key issues limiting adoption of these ONWSs, and will summarize the work to date and ongoing collaboration.

To register for the webinar, see here. [Longsworth]

U.S. EPA on Harmonizing Recycling Programs

Why are some materials accepted in one community but not in another? What materials belong in curbside recycling? The Recycling Partnership has worked with the City of Milwaukee and the surrounding Waukesha County to develop harmonized recycling communication tools. This effort demonstrated that when regional recycling efforts are coordinated and complementary, program participants are less confused and less likely to throw something in the bin that does not belong there. Eliminating contamination from the bin is critical in today's recycling markets.

Join U.S. EPA's Sustainable Materials Management Web Academy Webinar on **October 18 at 1-2:30 p.m. Eastern** to learn how these Wisconsin communities partnered with state environmental officials and others to create tools and coordinate recycling efforts.
To register, see here. [Longsworth]

ECOS and U.S. EPA on Compliance Research for Effective Government

ECOS and U.S. EPA are hosting a new webinar series entitled *Compliance Research for Effective Government*. The series will help state and EPA program administrators understand how collaboration with academics can identify effective and measurable approaches to compliance. The first webinar featured the Ohio Signage at Outfalls Study with presenters Brian Hall of the Ohio Environmental Protection Agency and Dr. Jay Shimshack of the University of Virginia. The future webinar schedule is:

- **October 23, 2-3:30 p.m. Eastern: Two Uses of Data Analytics**: one to predict air quality and inform the public and the other to improve compliance. Daniel Dix, Minnesota Pollution Control Agency, and Christina Seybolt, University of Chicago.
- **November 8, 1-2 p.m. Eastern: Compliance Interventions on the Behaviors of Third Party Lead Contractors.** Andrew Gosden, Maryland Department of the Environment, and Dr. Ben Meiselman, Johns Hopkins University.
- **November 29, 2-3 p.m. Eastern: Compliance Assurance Toolbox.** David Hindin, Office of Compliance, Office of Enforcement and Compliance Assurance, U.S. EPA, and Sam Sankar, ECOS.
- **December 11, 1-2 p.m. Eastern: New Hampshire Hazardous Waste Generator Training Program.** Tim Prospert, New Hampshire Department of Environmental Services, and Dr. Sarah Strafford, College of William and Mary.

For more information, please contact Sonia Altieri of ECOS. [Altieri]

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Message

From: Edward Calabrese [edwardc@schoolph.umass.edu]
Sent: 3/24/2019 7:29:00 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: new paper
Attachments: regulation-LNT.pdf

Ryan:

See the attached new paper.

Ed Calabrese

HEALTH & MEDICINE

The Troubled History of Cancer Risk Assessment

The Linear-No-Threshold paradigm, which asserts there are no safe exposure levels, is the product of flawed and corrupted science.

BY EDWARD J. CALABRESE

When crafting regulations on exposure to carcinogens and other dangers, policymakers often vow to "follow the science" on what is safe and what is unsafe. But what if that science is flawed or grounded in questionable judgments—or worse?

In 1956, a National Academy of Sciences (NAS) panel formally recommended to the U.S. Government that it change how it assesses risk from ionizing radiation. That sounds innocuous enough, but the Biological Effects of Atomic Radiation (BEAR) I Genetics Panel's proposed change was momentous: switching from a threshold model in which exposure is deemed safe if kept below a certain level, to a linear model in which no exposure is considered safe. This recommendation would ultimately be accepted by leading regulatory and advisory bodies in the United States and internationally, and extended to other prospective hazards like chemical carcinogens.

As the saying goes, "As the twig is bent, so grows the tree." All subsequent cancer risk assessments in the United States and throughout the world would inherit the risk assessment paradigm from the NAS BEAR I Genetics Panel. But was this change sound?

X-RAY MUTATIONS

The NAS BEAR I Genetics Panel based its recommendation mainly on a strongly held belief that all radiation-induced mutation was unrepairable, irreversible, cumulative, and linear in the matter of dose response. However, the empirical evidence for this view was weak and equivocal. Yet the recommendation had considerable authority because the panel was deemed by opinion leaders, including the *New York Times*, as a virtual genetics "dream team" that included a Nobel laureate, a future laureate, and others of high achievement and prestige.

The origin of the Linear-No-Threshold (LNT) belief was borne in the judgment and passion of Hermann Muller, who was the first to claim that X-rays induced gene mutations. Muller had indeed made a momentous breakthrough in late 1926 when he found a way to produce quickly copious transgenerational phenotypic changes (e.g., alterations in size, color, or shape) in fruit flies, which he interpreted as being the result of gene mutation. This was something that no one else had done. Muller believed that he had discovered the long-sought mechanism of evolution, as he claimed that he had produced the "artificial transmutation of the gene." He even introduced the term "point mutation" (i.e., very small mutational gene change) into the geneticist's lexicon.

Muller rushed to publish his discovery after only the first of the three seminal experiments that would ultimately earn him a Nobel Prize. However, the first article, published in the journal *Science*, offered no data, instead presenting a discussion of his observations. Several months later and with considerable suspense, he unveiled the data at a large conference in Berlin, to great acclaim. (The relevance of all this will be explained below.) His star rose meteorically and he became the clarion of "the new genetics" that gained insight into evolution as well as medical concerns resulting from excessive use of X-rays.

Just when the initial commotion settled down, Muller made headlines a second time, in 1930, when he announced that the nature of the dose response for X-ray-induced mutation was linear, all the way down to a single ionization. That is, he claimed, there is no safe exposure. He thought this idea was basic, a universal concept, occurring in all life, including the plant, microbe, and animal domains, and called it the "Proportionality Law."

EDWARD J. CALABRESE is professor of toxicology at the University of Massachusetts, Amherst.

PHOTO BY HULTON DEUTSCH / GETTY IMAGES

MOUSE EXPERIMENTS SUPPORTING LNT

Muller's gene mutation breakthrough and his formulation of its implications in the Proportionality Law would lead several highly prestigious geneticist and physicist colleagues to provide a mechanism (i.e., gene target theory) of the X-ray-induced gene mutation Proportionality Rule. A 1935 paper presented the "linear non-threshold – single hit model" and applied it to mutation; it would later be applied to cancer. The NAS BEAR Genetics Panel would use this model in its 1956 recommendation.

The model was reaffirmed 16 years later with the next NAS committee, then called the U.S. Biological Effects of Ionizing Radiation (BEIR) Genetics Subcommittee. However, instead of using data from Muller's fruit flies, this committee based the LNT model on the massive mouse model experiments of William Russell of the Oak Ridge National Laboratory. Russell used over 2 million mice in his studies, a size that will likely never be approached again. The findings and the linearity recommendation became the basis for the Environmental Protection Agency's adoption of the LNT model and its regulatory applications to radiation and chemicals. This reflected the belief that cancer was mediated by a commonly shared mutation mechanism.

The BEIR recommendation has been the "gold standard" for exposure regulation, providing the assurance that linearity was "real" because of the limitations of epidemiological studies to confidently resolve dose-response relationships in the low-dose zone. In many ways, the Russell findings became the toxicology and risk assessment version of the Rosetta Stone. They offered a reliable translation of experimental and epidemiological studies to the language of human risk assessment.

MULLER'S MISTAKE

The above summary is the "official" history of cancer risk assessment offered in most toxicology texts. However, several historical revelations have emerged over the past few years that have turned this entire story upside down. Those revelations affect the reputations of some very prestigious scientists, the validity of a Nobel Prize, and the scientific foundations of cancer risk assessment worldwide.

The problems with the "authoritative" cancer risk assessment story start with its foundation. Muller's claim to have induced gene *mutation* has been found to

Hermann Muller preparing one of his genetic experiments exposing fruit flies to X-rays.

be incorrect. He actually induced massive gene *deletions*, affecting chromosome (rather than a gene change) transgenerational phenotypic changes. This criticism of his work was raised while Muller was still alive, but he was able to stifle it. However, modern DNA/nucleotide analysis studies have shown the relevance of this criticism.

Muller's mistakes on the gene mutation interpretation invalidated the 1935 LNT–single hit model that was based on the assumption of gene mutation. Muller mistook an observation (i.e., transgenerational phenotypic changes) for a mechanism (gene mutation), conflating the two. He made a big mistake and perpetuated it for decades, with profound consequences because it infected cancer risk assessment principles and practices.

Fruit flies and a cover-up / The story would grow even more bizarre, involving the atomic bomb–making Manhattan Project of World War II. While the Manhattan Project primarily focused on the bomb, it also had a genetics component designed to assess the effects of ionizing radiation on heredity. That work was conducted at the University of Rochester under the direction of world-renowned geneticist Curt Stern. Muller, then at Amherst College, was a paid consultant.

The flies did not cooperate, showing a threshold reponse in the most extensive study ever conducted on the topic. These findings shocked Stern and his team, threatening to turn their scientific views and world upside down.

The project included a new fruit fly experiment to confirm Stern and Muller's belief in linearity. However, the flies did not co-operate, showing a threshold response in the most extensive study ever conducted on the topic. The findings shocked Stern and his research team, threatening to turn their scientific views and world upside-down.

Stern and co-author Ernst Caspari did write a manuscript presenting the new data, but they directed the scientific community not to accept or use their findings, even though they came from what was clearly the best study yet done on the subject. A reading of preserved letters and memos between the two and other colleagues reveals their fear that the new findings would invalidate the LNT– single hit model. Their work became an effort to "save the hit model" rather than follow the data.

Five weeks before he received his Nobel Prize, Muller received the Stern–Caspari manuscript. He soon wrote Stern acknowledging the great threat the findings posed for the LNT – single hit model and strongly requested the study be repeated. He also admitted that he could find no problem with Caspari as a researcher or with the study.

Despite the new findings, Muller announced at his Nobel lecture that the threshold model should be trashed and replaced with the LNT – single hit model, knowing full well that a better study did not support that claim. Needless to say, he didn't share that information with his Nobel audience. In effect, this started Muller on the road to deliberate deceit and deception, along with Stern, to ensure the acceptance of the LNT – single hit model.

Muller's public deceptions did not stop with his Nobel lecture. He would publish several dishonest and incorrect articles to further the LNT position, all under the watchful eyes of Stern, Caspari, and others. They simply let their Nobel laureate colleague mislead the scientific community and the general public.

PANEL PROBLEMS

The 1956 NAS BEAR I Genetics Panel also exhibited some novel, odd, and troubling features.

First, it was not funded by the U.S. Government, but by the Rockefeller Foundation. Second, the president of the NAS was Detlev Bronk, who also was president of the Rockefeller Institute for Medical Research. In essence, Bronk decided to fund himself. Third, he appointed the chair of the NAS BEAR Genetics Panel, Warren Weaver, who was not a geneticist but a mathematician and who had long worked for the Rockefeller Foundation. Weaver had funded essentially most of the genetic researchers in the United States and elsewhere. Fourth, Weaver and Bronk selected the panel and stacked it with LNT believers, clearly ignoring other geneticists with differing views. Fifth, Weaver selected eight geneticists who had no prior publications on the effects of radiation on mutations. Sixth, during a panel session, Weaver tempted panel members with vast sums of research dollars—a seeming bribe. Seventh, panelist James Crow persuaded his colleagues to alter the research record on two specific matters in order to ensure the likelihood of having the LNT recommendation accepted.

LNT would soon become the law of the land, so to speak, and helped to lead the environmental revolution of the 1960s and 1970s. However, Oak Ridge Labs' Russell reported in December 1958 that the BEAR Panel was wrong when it assumed that all ionizing radiation-induced genetic damage was irreversible and cumulative. He convincingly showed that thresholds could occur at low dose rates, probably because of a DNA repair process. That finding shocked Muller and others. Russell's suggestion on DNA repair was confirmed several years later in research that would earn the 2015 Nobel Prize.

These findings set the stage for the next battle. In 1972, the BEIR Committee acknowledged that the 1956 BEAR Genetics Panel had been wrong and that dose rate, not total dose, was the

key factor for mutation and cancer risk assessment. Russell had shown that at an ionizing radiation exposure rate some 27,000 times above the background exposure, female mice showed a clear threshold—that is, no increase in mutations. While the male mice showed a strong trend in the threshold direction in the same experiment as the females, they had not yet achieved the safe threshold dose. Nonetheless, the BEIR NAS Committee retained the LNT model, relying only on the male mice data.

QUIET REVERSAL

This is where things stood for 25 years, until another Oak Ridge Lab geneticist, Paul Selby (a former student and colleague of Russell), discovered several data problems with the Russell control group. Selby dug into the issue, finding more problems with the research—enough to challenge the key scientific findings. Because of the great sensitivity and significance of these developments, he went to the very top of the Department of Energy and presented his data challenging the Russell findings.

The DOE quietly convened an external panel to evaluate the Selby claims while giving Russell a chance to defend himself. In the end, the panel sided with Selby; Russell had made a major error with his control group data. Russell and Selby both published these revelations in the scientific literature, though they differed on the size of the errors. The corrections were so scholarly written that one could not easily detect the magnitude and significance of the controversy and the underlying hostilities that had emerged. The write-up was amazingly tame and clinical.

These findings sat quietly for another two decades until I came upon them. After obtaining many of the details of the DOE hearing and other information, including a long series of telephone interviews (about 12 hours in total) with Selby, I applied the appropriate correction to the 1972 data used by BEIR to sustain LNT. I found that had the data been corrected at the time of the BEIR I recommendation, it would have supported a threshold rather than the LNT model. Thus, these new findings call into question the "gold standard" that has been guiding U.S. cancer risk assessment since 1977.

CONCLUSION

The story of cancer risk assessment as told by regulatory agencies such as the EPA is really a profound example of flawed science—the product of errors, deception, perverse incentives from academic grants, and ideology. A major remaining question is whether our regulatory agencies can honestly and objectively confront this history and make the needed corrections, or will they simply preserve the historical "lie" that they and society have long been living. If they do the latter, it will continue the harm to both science and public welfare.

The proposals before Congress have long-term effects on our nation's budget — and potentially yours.

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the numbers behind proposed legislation and regulation

Message

From: Lee Fuller [lfuller@ipaa.org]
Sent: 9/25/2018 1:32:38 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: IPAA Meeting Request

Ryan,

Sorry for the delay but I was traveling yesterday and needed feedback from others.

From IPAA's standpoint the following days are targets: October 10-12 and October 16-19. The afternoon of October 9 is also posssible; I'm in the Oil and Gas Extraction Wastewater Study meeting at EPA that day and I don't know when it ends.

Thanks. Let me know what additional information you need.

Lee

Get Outlook for iOS

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Sunday, September 23, 2018 4:11 PM
To: Lee Fuller
Subject: RE:

Will you shoot me any convenient times and dates?

-----Original Message-----
From: Lee Fuller [mailto:lfuller@ipaa.org]
Sent: Sunday, September 23, 2018 7:05 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Re:

Not to my knowledge.

Sent from my iPhone

> On Sep 23, 2018, at 5:14 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>
> Lee, have we gotten back with you regarding a meeting for Barry?
>
>
>
>
>
>
>
> Ryan Jackson
> Chief of Staff

> U.S. EPA
> 202-564-6999
>

Message

From: Ghanta, Venu G [Venu.Ghanta@duke-energy.com]
Sent: 9/21/2018 4:32:39 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Glenn, Trey [Glenn.Trey@epa.gov]; Breen, Barry [Breen.Barry@epa.gov]; Wright, Peter [wright.peter@epa.gov]; Cook, Steven [cook.steven@epa.gov]
Subject: FW: Sutton News Release

Importance: High

FYI-News release will be issued shortly. We are setting up a briefing for later today with more info...

Cape Fear River flooding damages Sutton Lake, causes safe shutdown of natural gas plant

- • **There is an adequate energy supply to serve residential customers**
- • **Site personnel mobilizing resources and activating response plans**

CHARLOTTE, N.C. – Cape Fear River flooding conditions at the company's L.V. Sutton plant in Wilmington, N.C. have caused breaches in the cooling lake surrounding the cooling lake and caused the company to shut down the 625-megawatt natural gas plant there.

The rising river continues to overtop the north end of the cooling lake dam, a surface that is protected by a layer of compacted soil and cement. Water is now exiting the cooling lake through breaches - one large and several smaller - on the southern end of the impoundment. The cooling lake water also flowed into the natural gas plant footprint. Duke Energy photos illustrate the situation at the site this morning. (See photos under "Photo Downloads" at https://news.duke-energy.com/media-kit.)

There are two coal ash basins at the site. The company believes that ash in the 1971 ash basin remains in place behind a steel wall separating the excavation area from the cooling lake. That wall is submerged by flood water, but the earthen portion of the basin dam is about two feet above water and stable. There is no visible ash in the cooling lake, and prior to flooding the ash level was at least five feet below the top of the steel wall.

Cenospheres are moving from the 1971 ash basin to the cooling lake and into the Cape Fear River. Cenospheres are lightweight, hollow beads comprised of alumni and silica that are a byproduct of coal combustion.

Water is more than 10 feet from the earthen dike of the 1984 basin. It is stable and has not been affected. The lined landfill, where most of the site's ash is disposed, has not been affected by the cooling lake and repairs from the hurricane are underway.
Site personnel are supplementing on-site supplies with large stone and other materials, engineering experts are moving to the site and personnel continue to develop and activate repair plans.

Given the historic level of flooding on the river, there is little to no chance that cooling lake water will contribute to a measurable change to water levels in the area.

Message

From: McIntosh, Chad [mcintosh.chad@epa.gov]
Sent: 10/2/2018 9:02:14 PM
To: Deziel, Dennis (DR) [DRDeziel@dow.com]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Cook, Steven [cook.steven@epa.gov]; Stewart, Lakita [Stewart.Lakita@epa.gov]
Subject: Re: Plastic Waste/Marine Debris Meeting Request

Dennis — per our call, Lakita Stewart will help arrange a time that we can get together. We can coordinate with the OLEM and Water also. Great to talk with you .

Chad

Sent from my iPad

On Oct 2, 2018, at 3:35 PM, Deziel, Dennis (DR) <DRDeziel@dow.com> wrote:

> Sounds good, thanks Ryan.
>
> Nancy, Chad, Steven – let me know how you'd like to proceed with scheduling, if possible.
>
> I have removed Peter from the email chain for simplicity sake since this would be a meeting with The Dow Chemical Company. Dennis
>
> **Dennis Deziel**
> Director, Federal Government Affairs
> The Dow Chemical Company
> 500 North Capitol Street, NW Suite 200
> Washington DC 20001
> (202) 429-3420 (office) Ex. 6
> E-Mail: DRDeziel@dow.com
> *<image006.png>*
>
> ---
>
> **From:** Jackson, Ryan [mailto:jackson.ryan@epa.gov]
> **Sent:** Tuesday, October 02, 2018 3:05 PM
> **To:** Deziel, Dennis (DR) <DRDeziel@dow.com>
> **Cc:** Beck, Nancy <Beck.Nancy@epa.gov>; McIntosh, Chad <mcintosh.chad@epa.gov>; Cook, Steven <cook.steven@epa.gov>; Wright, Peter <wright.peter@epa.gov>
> **Subject:** RE: Plastic Waste/Marine Debris Meeting Request
>
> Thanks. I will be out of the office those two days but our OCSPP, OITA, and OLEM offices (cc'd) can meet with you folks on EPA actions including international ones.
>
> ---
>
> **From:** Deziel, Dennis (DR) [mailto:DRDeziel@dow.com]
> **Sent:** Tuesday, October 2, 2018 1:50 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Subject:** Plastic Waste/Marine Debris Meeting Request
>
> Ryan,

Finding solutions re plastic waste and marine debris is an important priority for Dow. We would love to collaborate with EPA in any way possible to address the issue. I will have a couple of executives in town on Oct 15-16 and I would love to meet with you and your leadership team, including Nancy Beck, Chad Macintosh and Steve Cook. Looking for 30 minutes if possible.

Thank you for your consideration. Dennis

Dennis Deziel

Director, Federal Government Affairs
500 North Capitol St NW, Suite 200, Washington, D.C. 20001
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Message

From: Amy Harder [amy@axios.com]
Sent: 9/24/2018 9:14:30 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Earth's climate-change liposuction: Sucking carbon from the air

Earth's climate-change liposuction: Sucking carbon from the air

View this email in your browser

http://axios.link/SDC4

Plus, ICYMI:

Exclusive: Exxon, Chevron join global industry group on climate
Tale of 4 states: America's changing power mix
Bill Gates: GMO's can help farmers adapt to climate change

Cheers,

Amy

Earth's climate-change liposuction: Sucking carbon from the air

Addressing climate change isn't just about moving to cleaner forms of energy anymore. It's about literally taking out some of the heat-trapping gases already in our skies.

Why it matters: There is so much buildup of carbon dioxide in the atmosphere, scientists say we've reached a point that some needs to be removed to limit Earth's temperature rise and avoid the worst impacts of a warmer world. Technology exists to do it, but it's costly, zany-sounding and not well known. That's starting to change now.

"The big story is you can't get there simply by lowering carbon emissions. I think that window has closed. That's a pretty revolutionary concept."
— Andrew Steer, World Resources Institute President

Driving the news: A seminal report to be released Oct. 8 by a United Nations scientific body is expected to underscore the need for transformative technologies in order to keep global temperatures from rising more than 1.5 degrees Celsius relative to more than a century ago.

- The report is expected to include an emphasis on removing carbon dioxide already emitted into the atmosphere, according to multiple people familiar with it. The National Academy of Sciences is also set to release influential reports in this area in the weeks after.

Momentum among foundations, universities and other experts in this space is growing rather suddenly. That's notable, given that it's addressing what is a centuries-long problem.

Among the stakeholders ramping up work in the past several months:

- Columbia University
- Energy Futures Initiative, the think tank led by Ernest Moniz, President Obama's energy secretary
- University of Michigan
- The World Resources Institute, environmental think tank
- Rhodium Group, consulting and analysis firm
- Bipartisan Policy Center, centrist think tank
- Carbon180, a newly rebranded nonprofit
- The Linden Trust, a foundation
- ClimateWorks Foundation

"If you're not tackling carbon, you're not actually tackling the problem. Everything else we've done so far has been a bank shot. Now is the time to step up."

— Julio Friedmann, former Obama official and lead of Columbia University's new initiative

Removing CO2 from the air can be done a few different ways, including planting trees that naturally soak up carbon dioxide. A leading line of research is backing technology capturing far more CO2 faster than trees ever could. A small handful of companies around the world are pursuing this. Two examples:

- Last year, Switzerland-based Climeworks opened its first commercial-scale plant that captures CO2 from the air.
- Canada-based Carbon Engineering, whose investors include Bill Gates, is planning to build its first commercial plant by early next year. Its CEO Steve Oldham told me recently to stay tuned for potential news soon on

new partnerships, including possibly with oil and gas companies, though he wouldn't disclose any more details.

Two of the biggest considerations with capturing carbon are the cost to do it, and then what to do with it once you've caught it.

On the capture cost:

- The current cost to capture a ton of CO2 anywhere between $600 and $800, according to Climeworks. But estimates by that company and Carbon Engineering project that cost could drop to below $100 for commercial scale projects in the next several years.

On what to do with it:

- In theory, captured carbon dioxide can be turned into almost anything, including building material like carbon fiber and cement, shoes, transportation fuel and even beer.
- Carbon Engineering is focusing on making fuel, which it says is is currently 25% more expensive to produce than a comparative gallon of diesel.
- Climeworks says its CO2 can be adapted for various uses, and it's in the process of making beverage-grade CO2 available to sell in the coming months for things like beer.

If only tackling climate change could be as easy as drinking a pint. The problem with putting CO2 to use as a product is that the sheer volume of carbon the world needs to capture far outweighs the world's appetite for beer--and a lot of other products.

That's why storing it underground — sometimes after using it to (ironically) extract oil — and even underwater are likely to be necessary parts of the equation.

What's next: There needs to be a business case for capturing CO2. That means turning what has long been seen as a waste product — carbon dioxide — into a product that can make money.

Putting a price on carbon emissions, such as through a tax, is the simplest way to do that. But absent comprehensive policy on that front either nationally or even globally, a patchwork is emerging. Two things to watch:

1. To what degree California's recently adopted aggressive clean-energy law provides economic incentives for companies like Carbon Engineering. The new law mandates that 100% of its electricity come from carbon-free sources by 2045. An executive order calls on its entire economy to becomecarbon-neutral in that same time frame.
2. Whether Congress passes bipartisan legislation encouraging government investment and coordination for technologies sucking CO2 from the sky and related efforts.

Amy
energy reporter, Axios
202.906.9629
@AmyAHarder

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Message

From: Michael Falcone [washpostlive@washpost.com]
Sent: 9/21/2018 4:32:30 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: 9/27: Experts talk economics of the airline industry at Wash Post

Dear Ryan,

Please join us on **Thursday, September 27,** to hear **Sen. Edward J. Markey (D-Mass.),** a member of the U.S. Senate Subcommittee on Aviation Operations, Safety, and Security, and other leaders in the aviation community talk about the most important issues affecting the economics of the industry. These experts will discuss the rising cost of jet fuel, energy policy, what's next for aircraft and airports and other innovations that will transform the way we travel.

Register here to attend.

Speakers include:
- **Sen. Edward J. Markey (D-Mass.),** Member, U.S. Senate Subcommittee on Aviation Operations, Safety, and Security
- **Laurent Rouaud,** Chief Marketing Officer, GE Aviation
- **Kristin Slyker,** Vice President, Connected Aircraft, Honeywell Aerospace
- **David Silver,** Vice President, Civil Aviation, Aerospace Industries Association

The program will also include a sponsored segment featuring **Heather Wingate,** Senior Vice President of Government Affairs at Delta Air Lines.

I hope to see you at The Post for this event.

Best,
Michael Falcone
Executive Producer, Washington Post Live

Thursday, September 27
Doors open: 8:30 a.m.
Program: 9:00-10:30 a.m

The Washington Post
1301 K St NW
Washington, D.C. 20071

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Message

From: Ghanta, Venu G [Venu.Ghanta@duke-energy.com]
Sent: 9/22/2018 5:45:45 PM
To: Wright, Peter [wright.peter@epa.gov]; Breen, Barry [Breen.Barry@epa.gov]; Jackson, Ryan [jackson.ryan@epa.gov]; Glenn, Trey [Glenn.Trey@epa.gov]; Cook, Steven [cook.steven@epa.gov]
Subject: Fwd: Sutton Plant Update: Conditions remain stable

FYI-This went out on the wire earlier...

Sutton Plant Update: Conditions remain stable

CHARLOTTE, N.C. – Aerial and ground level inspections of Duke Energy's L.V. Sutton Plant in Wilmington confirm that conditions at the plant are stable during ongoing historic flooding caused by Hurricane Florence.

The Cape Fear River continues to overtop the northern section of a cooling lake dam and is exiting through a breach on the southern end of the cooling lake impoundment. Given the historic level of flooding on the river, the water moving both into and out of the lake will not contribute to a measurable change to water levels in the area.

The company is bringing in additional construction materials from across the state to repair the breach as soon as flood waters recede and it is safe to do so.

On Friday, flood waters entered the natural gas plant prompting employees to safely shut down the facility. There is an adequate power supply to serve customers.

There are two coal ash basins at the site, and their dams remain stable. Ash in the 1971 basin that was being excavated is being contained by a steel wall, and the 1984 basin has not been affected.

With ash basins stable, engineers at the site are focused on a repair plan that also preserves as much water as possible in Sutton Lake to support future plant operations and recreation as it recovers from flooding.

As announced yesterday, cenospheres are moving into the Cape Fear River. Cenospheres are lightweight, hollow beads comprised of alumina and silica that are a byproduct of coal combustion. Importantly, cenospheres have different chemical makeup than fly ash, bottom ash, boiler slag and other materials, which are the focus of regulation and concern.

Water sampling is being conducted to determine if there is any impact to water quality and the company continues to provide regular updates to local, state and federal regulators. Water sampling, transportation and analysis in our state-certified lab takes approximately 24 hours to complete.

Duke Energy photos illustrate the situation at the site this morning. (See photos and videos under "Photo Downloads" at https://news.duke-energy.com/media-kit.)

Sutton Lake is an 1,100-acre man-made reservoir constructed in 1972 to supply cooling water to the Sutton power plant. The cooling lake does not store coal ash.

The company is already repairing the lined landfill, where most of the site's ash is disposed, following damage from the hurricane.

Update on H.F. Lee

As previously shared, flooding has caused the river to flow across three forested, inactive ash basins at the H.F. Lee site in Goldsboro. Those basins are normally dry, covered in forest and vegetation and do not impound water.

Ongoing visual inspections show that some cenospheres were released during the flooding. It also appears that only a small amount of coal ash has been displaced, similar to the impact in the wake of Hurricane Matthew in 2016. Crews will continue to monitor the situation.

Safe basin closure

The ash basins at Sutton are being excavated as part of an aggressive plan to safely close the basins across the state. Material at Sutton is being moved to a lined landfill on plant property that was applauded by environmental groups when the decision was announced.

Duke Energy

Headquartered in Charlotte, N.C., Duke Energy (NYSE: DUK) is one of the largest energy holding companies in the U.S., with approximately 29,000 employees and a generating capacity of 49,500 megawatts.

The company's Electric Utilities and Infrastructure unit serves approximately 7.6 million retail electric customers in six states – North Carolina, South Carolina, Florida, Indiana, Ohio and Kentucky.

Its Gas Utilities and Infrastructure unit distributes natural gas to approximately 1.6 million customers in five states – North Carolina, South Carolina, Tennessee, Ohio and Kentucky. Its Commercial Renewables unit operates a growing renewable energy portfolio across the U.S.

More information about the company is available at http://duke-energy.com. The Duke Energy News Center includes news releases, fact sheets, photos, videos and other materials. Duke Energy's illumination features stories about people, innovations, community topics and environmental issues. Follow Duke Energy on Twitter, LinkedIn, Instagram and Facebook.

###

Message

From: McIntosh, Chad [mcintosh.chad@epa.gov]
Sent: 10/2/2018 8:55:58 PM
To: Deziel, Dennis (DR) [DRDeziel@dow.com]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Cook, Steven [cook.steven@epa.gov]
Subject: Re: Plastic Waste/Marine Debris Meeting Request

Dennis — I would love to meet with you regarding marine litter and plastic waste and discuss what the EPA is doing internationally. Unfortunately, I will also be out of town on the 15th and 16th. Could we work for another time or call?

Thanks Chad

Sent from my iPad

On Oct 2, 2018, at 3:35 PM, Deziel, Dennis (DR) <DRDeziel@dow.com> wrote:

> Sounds good, thanks Ryan.
>
> Nancy, Chad, Steven – let me know how you'd like to proceed with scheduling, if possible.
>
> I have removed Peter from the email chain for simplicity sake since this would be a meeting with The Dow Chemical Company. Dennis
>
> **Dennis Deziel**
> Director, Federal Government Affairs
> The Dow Chemical Company
> 500 North Capitol Street, NW Suite 200
> Washington DC 20001
> (202) 429-3420 (office) Ex. 6
> E-Mail: DRDeziel@dow.com
> *<image006.png>*
>
> ---
>
> **From:** Jackson, Ryan [mailto:jackson.ryan@epa.gov]
> **Sent:** Tuesday, October 02, 2018 3:05 PM
> **To:** Deziel, Dennis (DR) <DRDeziel@dow.com>
> **Cc:** Beck, Nancy <Beck.Nancy@epa.gov>; McIntosh, Chad <mcintosh.chad@epa.gov>; Cook, Steven <cook.steven@epa.gov>; Wright, Peter <wright.peter@epa.gov>
> **Subject:** RE: Plastic Waste/Marine Debris Meeting Request
>
> Thanks. I will be out of the office those two days but our OCSPP, OITA, and OLEM offices (cc'd) can meet with you folks on EPA actions including international ones.
>
> ---
>
> **From:** Deziel, Dennis (DR) [mailto:DRDeziel@dow.com]
> **Sent:** Tuesday, October 2, 2018 1:50 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Subject:** Plastic Waste/Marine Debris Meeting Request
>
> Ryan,
>
> Finding solutions re plastic waste and marine debris is an important priority for Dow. We would love to collaborate with EPA in any way possible to address the issue. I will have a couple of executives in town

on Oct 15-16 and I would love to meet with you and your leadership team, including Nancy Beck, Chad Macintosh and Steve Cook. Looking for 30 minutes if possible.

Thank you for your consideration. Dennis

Dennis Deziel

Director, Federal Government Affairs
500 North Capitol St NW, Suite 200, Washington, D.C. 20001
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Message

From: Morgan, Chip [cmorgan@deltacouncil.org]
Sent: 9/27/2018 4:05:06 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: What a friend you are

Thanks for your time
Alex told us that he preferred that we get RD to call you and that he would speak with you about that

We are proceeding on this course

You were kind to give us so much time, my friend

We will stay in touch

Thanks and so proud of you

Chip

Message

From: Hayly Humphreys Ex. 6
Sent: 9/25/2018 5:18:38 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Letter from office manager
Attachments: Humphreys Compensation Letter.pdf

Hi Ryan,

Thanks so much for taking the time to speak with me yesterday. Per our discussion, I am passing along the letter from our office manager.

Please let me know if you need any additional information.

Thank you again!

_____
Hayly Humphreys
Ex. 6

BOB CORKER
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United States Senate

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Committees:
Banking, Housing, and Urban Affairs
Budget
Foreign Relations
Special Committee on Aging

September 25, 2018

To Whom It May Concern,

Hayly Humphreys has been a member of Senator Corker's personal office staff since June 23, 2014. Her compensation for the calendar year of 2018 is Ex. 6 Hayly also receives a Ex. 6 An additional benefit Ex. 6 Ex. 6 Please contact me at 202-228-5771 or david_dudik@corker.senate.gov if you have any questions or need additional information.

Sincerely,

David Dudik
Operations Director
United States Senator Bob Corker

Message

From: Improving Customer Experience in Gov Training [PotomacForum@GovCustomerExperience.org]
Sent: 9/20/2018 5:02:09 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] Just Announced: New Workshop to Meet the PMA Customer Experience Goals

Just Announced: Workshop to Meet PMA Cross Agency Performance Goals
Please Forward to Others in Your Agency -

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Current Speakers:

Anahita Reilly

Chief Customer Officer
General Services Administration

Karen Evan
Assistant Secretary for the Office of Cybersecurity,
Energy Security, and Emergency Response (CESER)
Department of Energy
Former Federal Chief Information Officer (invited)

Robert Shea
Principal
(Former OMB Associate Director for Administration and
Government Performance)

Martha Dorris
Principal
Dorris Consulting International
(Former GSA Director of Strategic Programs,
Integrated Technology Service)

Zachary Trojak
Principal - Public Sector
Medallia
(Customer Experience Organization to create a world
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(Additional Government Speakers to be Announced Soon)

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Overview:

Trust in government is at an all-time low. That's one reason federal agencies are being charged with the most ambitious agenda to improve the way government's customers experience and benefit from its many services. This workshop exposes you to the best customer experience improvement practices in private and public sector organizations and offers insights into the initiatives being waged across government to drive improvements in customer satisfaction.

The Administration's Cross Agency Performance Goal, Improving Customer Experience with Federal Services, promises to "transform the customer experience by improving the usability and reliability of our Federal Government's most critical digital services; create measurable improvements in customer satisfaction by using the principles and practices proven by leading private sector organizations; increase trust in the Federal Government by improving the experience citizens and businesses have with Federal services whether online, in-person, or via phone; and leverage technology to break down barriers and increase communication between Federal agencies and the citizens they serve." But it's easier said than done.

This workshop will provide agency leaders and managers tools they can use to make a difference not only at their agencies, but for the American citizens as well.

Workshop for Government Employees Only to Encourage Candid Discussion
Press and Industry Not Permitted to Attend

Why You Should Attend:

- **To better position your program or agency to improve the customer experience for the citizens it serves**
- **To provide information to help meet the Administration's Cross Agency Performance Goal, Improving Customer Experience with Federal Services**

What You Will Learn:

- **Public and private sector best practices in improving customer experience**
- **Congressional and Executive Branch initiatives to drive improved**
- **Tools to begin a customer experience improvement initiative at agencies**
- **Employee engagement approaches to build a customer-centered culture**

Who Should Attend:

- Leaders or managers of programs with internal or external customer interaction
- Leaders or managers in programs charged with improving customer experience in federal departments or agencies
- All CXOs - as they interact with the public directly and through their organizations
- Inspector Generals who review efforts to meet the goals of the President's Management Agenda and Goals
- Agency Communications executives and staff (appointed and career)
- All program managers who interact with the public and other organizations
- Auditors
- Risk management and internal controls steering committee members
- Inspectors General and staff
- Chief Financial Officers and staff
- Chief Procurement and Acquisition Officers and staff
- Risk management staff
- Chief Human Capital Officers, HR managers, and staff

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Special "Send-A-Team" Registration Fees
For Multiple Students from the Same Government Office

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Thank You.

This email was sent to: jackson.ryan@epa.gov

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This email was sent by: **Potomac Forum, Ltd.**
2800 Eisenhower Avenue , Alexandria , Virginia, 22314 , USA

Message

From: Ari Natter (BLOOMBERG/ NEWSROOM:) [anatter5@bloomberg.net]
Sent: 9/27/2018 7:36:51 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: Can you say if this EE story about science advisors office is true?

10-4. I appreciate the help.

Ari Natter
Reporter
Bloomberg News
202-807-2243 office
Ex. 6
@AriNatter
Stories: bloom.bg/2mBBE2I

From: jackson.ryan@epa.gov At: 09/27/18 15:35:20
To: Ari Natter (BLOOMBERG/ NEWSROOM:)
Subject: RE: Can you say if this EE story about science advisors office is true?

On the record.

If the NYT prints anything different they are choosing to lie.

From: Ari Natter (BLOOMBERG/ NEWSROOM:) [mailto:anatter5@bloomberg.net]
Sent: Thursday, September 27, 2018 3:34 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: RE: Can you say if this EE story about science advisors office is true?

Thank you sir. Is that on the record, or do you prefer background?

Ari Natter
Reporter
Bloomberg News
202-807-2243 office
Ex. 6
@AriNatter
Stories: bloom.bg/2mBBE2I

From: jackson.ryan@epa.gov At: 09/27/18 15:32:51

To: Ari Natter (BLOOMBERG/ NEWSROOM:)
Subject: RE: Can you say if this EE story about science advisors office is true?

Not at all. EPA's Office of Research and Development career leadership developed a plan to combine offices with similar functions in order to reduce redundancies in ORD operations. ORD is now in the process of briefing the Administrator on those plans and held a town hall in September to announce the result of their work and proposed plan to staff. One of the suggestions was combining the Office of Science Advisor with the Office of Science Policy, currently two separate offices within the ORD structure. The fact of the matter is that the Senate confirmed Assistant Administrator for ORD has customarily served as the EPA Science Advisor which will continue to be the case.

From: Ari Natter (BLOOMBERG/ NEWSROOM:) [mailto:anatter5@bloomberg.net]
Sent: Thursday, September 27, 2018 3:28 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Can you say if this EE story about science advisors office is true?

See below. I think NYT has a story out too. Thanks man!

EPA is reshuffling its science, human resources and regional offices, leaving staffers worried about the quality of the agency's work and about their careers.

Top EPA officials yesterday informed staff that they plan to eliminate the agency's science adviser's office and merge those positions into a division within EPA's larger science shop, the Office of Research and Development, according to an employee who attended the meeting. EPA is also planning to combine its human resources office with its information technology division, sources told E&E News.

Ari Natter
Reporter
Bloomberg News
202-807-2243 office
Ex. 6
@AriNatter
Stories: bloom.bg/2mBBE2I

From: jackson.ryan@epa.gov At: 08/14/18 11:17:57

To: Ari Natter (BLOOMBERG/ NEWSROOM:)
Subject: Re: you around?

Let me check and get back with you.

Ryan Jackson

Chief of Staff

U.S. EPA

202-564-6999

On Aug 14, 2018, at 11:17 AM, Ari Natter (BLOOMBERG/ NEWSROOM:) <anatter5@bloomberg.net> wrote:

> Wednesday evening or sometime during the day Thursday. That work?

Ari Natter
Reporter
Bloomberg News
202-807-2243 office

Ex. 6

@AriNatter
Stories: bloom.bg/2mBBE2I

From: jackson.ryan@epa.gov At: 08/14/18 11:14:40

To: Ari Natter (BLOOMBERG/ NEWSROOM:)
Subject: Re: you around?

Sure. When works for you?

Ryan Jackson

Chief of Staff

U.S. EPA

202-564-6999

On Aug 14, 2018, at 10:33 AM, Ari Natter (BLOOMBERG/ NEWSROOM:) <anatter5@bloomberg.net> wrote:

Hey man --

Just sent you a text too...Any chance your around this week and have time

for a quick meet up?

Thank you sir!

From: Ari Natter (BLOOMBERG/ NEWSROOM:) At: 06/06/18 17:27:29

To: jackson.ryan@epa.gov
Subject: What's up with this?

Message

From: Repko, Mary Frances (EPW) [mary_frances_repko@epw.senate.gov]
Sent: 9/20/2018 1:14:54 PM
To: Lyons, Troy [lyons.troy@epa.gov]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]
Subject: Re: Chad McIntosh

Yes, we did receive this. We are reviewing, and Michal will get back as soon as possible. Ex. 6
Ex. 6

Mary Frances Repko
Minority Staff Director
U.S. Senate Committee on Environment and Public Works

On Sep 20, 2018, at 9:11 AM, Lyons, Troy <lyons.troy@epa.gov> wrote:

Wanted to follow up on this to see if you all had feedback

From: Jackson, Ryan
Sent: Wednesday, September 19, 2018 8:23 AM
To: Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
Cc: Lyons, Troy <lyons.troy@epa.gov>
Subject: Chad McIntosh

Good morning from Halifax where part of the G7's focus is on marine litter. Administrator Wheeler will cite to a number of things the US is doing to address that but will reference the Save Our Seas Act as an upcoming new step in that work. We'll highlight his remarks on social media too for the Committee and Senators Whitehouse and Sullivan.

So last we spoke, we discussed pathways ahead to confirm Peter Wright and Chad McIntosh. Taking it one step at a time, the items we discussed for Chad were addressing the Senators' letter concerning the implementation of the S. 611, the Grassroots Rural and Small Community Water Systems Assistance Act, now Public Law 114-98, authored by Senators Wicker and Cardin, Chad's plan to meet with tribes, and the status of STAG grants and funding for tribes.

- Attached is a DRAFT version of a response to the Senators concerning the implementation of the Grassroots legislation outlining how grants were awarded with an emphasis on on-site technical assistance and circuit riders as referenced in the legislation. It is draft because I want to ensure I'm outlining everything done to date, the amounts awarded and to what organization, and see if this answers questions about its implementation.

- Attached is also a historical breakdown of grants awarded to states and tribes including grants awarded to states and tribes to date this year. This information is from OARM's Office of Grants and Debarment current as of last week.

- Finally, we talked about Chad's commitment to meet with tribes. He fully expects to fulfill that role. Before joining EPA and upon retiring from Ford, Chad and his wife moved from Detroit to Conway, SC. So, he's in the process of ensuring everything is taken care of with his family and property. However, when he returns would a letter from him to Senator Carper describing his plan if confirmed suffice? I can get that, but it may take another couple of weeks I think.

Those were the three elements that I believed were necessary to get Chad hotlined through the Democratic cloakroom and on an upcoming list of nominees which could be confirmed by consent. Of course, Chad has already been hotlined through the Republican cloakroom.

Will you review the attached and let me know if adding a letter from Chad to Senator Carper about his outreach to tribes if confirmed works to get him hotlined and confirmed by consent?

Thanks,

Ryan.

Ryan Jackson
Chief of Staff
U.S. Environmental Protection Agency
(202) 564-6999

Message

From: Russell, Richard (EPW) [Richard_Russell@epw.senate.gov]
Sent: 9/23/2018 9:53:38 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Lyons, Troy [lyons.troy@epa.gov]; Palich, Christian [palich.christian@epa.gov]
Subject: Re: Wednesday's hearing at EPW

Thanks. Helpful.

Richard Russell
Staff Director
Committee on Environment & Public Works

On Sep 23, 2018, at 5:32 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> Administrator Wheeler just returned from the environmental minister's G7 in Halifax, Nova Scotia where the US left supporting the negotiated and attached innovation challenge. The EPA invited ACC, TNC, and the Oceans Conservancy to participate with us and contribute to the innovation challenge. Representatives of each organization attended, participated, and met with Wheeler during the trip. Wheeler also took the opportunity in the general session to mention a number of ways the US and US industry and NGOs are working to address marine litter including new focus specifically from the Save Our Seas Act by Senators Sullivan and Whitehouse making its way through Congress presently.
>
> Ryan Jackson
> Chief of Staff
> U.S. Environmental Protection Agency
> (202) 564-6999
>
> <G7 Innovation Challenge_FINAL.PDF>

Message (Digitally Signed)

From: Fisher, Ryan A SES USARMY HQDA ASA CW (US) Ex. 6
Sent: 9/19/2018 3:54:32 PM
To: Adcock, Rebeckah - OSEC, Washington, DC [Rebeckah.Adcock@osec.usda.gov]; Jackson, Ryan [jackson.ryan@epa.gov]
CC: Townsend-Treleaven, Regena L CIV USARMY HQDA ASA CW (US) Ex. 6
Luzzatto, Matthew W LTC USARMY HQDA ASA CW (US) Ex. 6
Subject: RE: [Non-DoD Source] New dates
Attachments: smime.p7s

Rebeckah,

I've cc'd Regena Townsend-Treleaven and LTC Matt Luzzatto in our office, both of whom are charged with getting Mr. James where he needs to be. One of them will correct me if I'm wrong, but October 29 and 30 currently appear to be open on Mr. James' schedule.

Ryan

Ryan A. Fisher | Principal Deputy Assistant Secretary of the Army (Civil Works)
108 Army Pentagon, Ex. 7(F) Washington, DC 20310-0108
Ex. 6

From: Adcock, Rebeckah - OSEC, Washington, DC <Rebeckah.Adcock@osec.usda.gov>
Sent: Wednesday, September 19, 2018 11:48 AM
To: Fisher, Ryan A SES USARMY HQDA ASA CW (US) Ex. 6 Jackson, Ryan <jackson.ryan@epa.gov>
Subject: [Non-DoD Source] New dates

All active links contained in this email were disabled. Please verify the identity of the sender, and confirm the authenticity of all links contained within the message prior to copying and pasting the address to a Web browser.

For water focused event in CA – my boss is very focused for have all four principals involved to address demonstrate interagency efforts onRural Prosperity < Rural%20Prosperity > .

Would your bosses be available for an event on Oct 29 or 30?

Thanks, Reb

Rebeckah Freeman Adcock

Senior Advisor to the Secretary
Office of the Secretary

United States Department of Agriculture
Office: 202-720-3631
Rebeckah.Adcock@osec.usda.gov < Caution-mailto:Rebeckah.Adcock@osec.usda.gov >

Message

From: Ghanta, Venu G [Venu.Ghanta@duke-energy.com]
Sent: 9/19/2018 8:14:40 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Glenn, Trey [Glenn.Trey@epa.gov]; Wright, Peter [wright.peter@epa.gov]; Breen, Barry [Breen.Barry@epa.gov]; Cook, Steven [cook.steven@epa.gov]
Subject: FINAL NEWS RELEASE - Update on Sutton Plant following Hurricane Florence

FYI

Update on Sutton Plant following Hurricane Florence

- **Tests show water quality remains protected at Sutton Plant following Hurricane Florence**
- **Company continues to monitor river levels near Sutton Lake**

CHARLOTTE, N.C. – Water samples collected from various locations demonstrate that coal ash released from a landfill under construction has not impacted water quality in Sutton Lake in Wilmington, N.C.

In addition, the company continues to monitor water levels in the Cape Fear River, which flows near Sutton Lake, a cooling pond built by the company to support plant operations. Before, during and after the storm, the company has been managing water levels inside the cooling pond, performing maintenance and conducting regular inspections to help ensure it operates safely. That work continues as the river levels continue to fluctuate.

Lake water quality remains good
Earlier in the week, Hurricane Florence, which produced a historic rainfall totaling more than 30 inches at the plant, caused several areas of significant erosion at the coal ash landfill currently under construction.

Based on the company's current estimate, water and approximately 2,000 cubic yards of soil and ash eroded from the landfill. Much of the nonhazardous material, which would fill about two-thirds of an Olympic-sized swimming pool, was captured in a perimeter ditch around the landfill, and cleanup work has already begun. As the company has previously reported, a very small amount of ash made its way off plant property to an adjacent industrial site, which is being cleaned up.

During the hurricane, while erosion was continuing at the landfill, the company began collecting water samples at various locations on the property and near the outfall to the river. Initial test results clearly demonstrate that the presence of coal ash constituents decreased as the water made its way to Sutton Lake. The company continues to gather water samples and share those with regulators.

Site inspections have identified cenospheres in Sutton Lake, but water sample results show no evidence of a coal ash impact to the lake or the water entering the river. Cenospheres are lightweight, hollow beads comprised primarily of alumina and silica that are a byproduct of coal combustion. Sample results are consistent with recent years of data. Water quality remains well within state permit standards designed to protect people and the environment. Complete test results can be found here.

Aerial view
Duke Energy photos provide views of the facility and show that most of the ash stayed in place or moved to other cells within the landfill footprint and sediment pond. (See photos under "Photo Downloads" at https://news.duke-energy.com/media-kit.)

Once construction is completed, the landfill sections will be permanently capped with a waterproof, synthetic barrier and closed with soil and vegetation so erosion of this nature is much less likely to occur.

The company took a number of steps before the storm to prepare, including positioning field staff, equipment and materials at sites. Our strong progress in ash basin closure was instrumental in lowering ash basin water levels to better accommodate significant rainfall.

Ash basins operate safely
Importantly, Duke Energy's coal ash basins continue to operate safely. As the company has previously reported, three small inactive basins at the H.F. Lee Plant in Goldsboro are flooded, which was expected. Because they are covered in forest and vegetation, it is expected that minimal amounts of ash could be displaced, and crews continue to actively survey that area. Conditions at other plant locations are improving as rivers and flooding recede.

Duke Energy
Headquartered in Charlotte, N.C., Duke Energy (NYSE: DUK) is one of the largest energy holding companies in the U.S., with approximately 29,000 employees and a generating capacity of 49,500 megawatts.

The company's Electric Utilities and Infrastructure unit serves approximately 7.6 million retail electric customers in six states – North Carolina, South Carolina, Florida, Indiana, Ohio and Kentucky.

Its Gas Utilities and Infrastructure unit distributes natural gas to approximately 1.6 million customers in five states – North Carolina, South Carolina, Tennessee, Ohio and Kentucky. Its Commercial Renewables unit operates a growing renewable energy portfolio across the U.S.

More information about the company is available at duke-energy.com. The Duke Energy News Center includes news releases, fact sheets, photos, videos and other materials. Duke Energy's illumination features stories about people, innovations, community topics and environmental issues. Follow Duke Energy on Twitter, LinkedIn, Instagram and Facebook.

###

Randy Wheeless, APR
Duke Energy | Corporate Communications
w: 704.382.8379 | c: 704.564.3556
24-hour Media Line: 800.559.3853
Follow on Twitter @DE_RandyW

Message

From: Laine Striegel [lstriegel@guidepost-strategy.com]
Sent: 9/26/2018 2:22:38 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Larissa Martin [lmartin@guidepost-strategy.com]
Subject: RE: API CEO Meeting Request - Acting Administrator Wheeler

Good Morning Ryan –

I hope you're well. Is there any update on the below request by chance? This is regarding a potential meeting for the new CEO of API, Mike Sommers with Administrator Wheeler.

Thanks!
Laine

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, September 12, 2018 4:16 PM
To: Laine Striegel <lstriegel@guidepost-strategy.com>
Cc: Larissa Martin <lmartin@guidepost-strategy.com>
Subject: Re: API CEO Meeting Request - Acting Administrator Wheeler

Yes. We'll be able to get back with you tomorrow. We hold weekly meetings with Wheeler usually early in the week by this week of Thursday due to conflicts and travel. We set up timing then and can get back with you.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Sep 12, 2018, at 3:54 PM, Laine Striegel <lstriegel@guidepost-strategy.com> wrote:

> Hi Ryan –
>
> I apologize for the out of the blue email, but was wondering if you would be able to help pass along a scheduling item?
>
> We had submitted the below request on behalf of API to meet with Acting Administrator Wheeler, but hadn't heard back from the scheduling team. Are these the proper contacts? If not, would you mind forwarding this to the proper folks?
>
> We appreciate any assistance you can provide here. And again, do apologize for reaching out like this.
>
> Please let us know if there is any additional information you need.
>
> Thanks so much!

Laine

From: Laine Striegel
Sent: Saturday, September 8, 2018 3:50 PM
To: 'Ford, Hayley' <ford.hayley@epa.gov>; 'Dickerson, Aaron' <dickerson.aaron@epa.gov>
Cc: Larissa Martin <lmartin@guidepost-strategy.com>
Subject: API CEO Meeting Request - Acting Administrator Wheeler

Good Afternoon,

On behalf of the new President & CEO of API, Mike Sommers, I would like to request an introductory meeting with Acting Administrator Andrew Wheeler. Mike's schedule is flexible to what works best for the Acting Administrator, but in the next couple of weeks would be ideal.

Thank you for considering our request! If you are not the proper contact to field scheduling requests, would you be able to pass this along to the correct staff? Please let us know if there is any additional information you need. I have included Mike's bio below for reference as well.

Best,
Laine

MIKE SOMMERS

Mike Sommers is the 15th chief executive of the American Petroleum Institute since its founding almost a century ago. API is the largest national trade association representing all aspects of America's oil and natural gas industry.

Before being named API's president and CEO, Sommers led the American Investment Council, a trade association representing many of the nation's leading private equity and growth capital firms and other business partners.

Sommers spent two decades in critical staff leadership roles in the U.S. House of Representatives and the White House, including chief of staff for Speaker of the House John A. Boehner (R-Ohio) and Special Assistant to President George W. Bush at the National Economic Council.

Sommers has been instrumental in crafting landmark legislation, including leading efforts to pass the Troubled Asset Relief Program through Congress, brokering a resolution between the administration and Congress ahead of the fiscal cliff in 2013, leading efforts to pass the Bipartisan Budget Agreement of 2015 and trade promotion authority in 2015.

Sommers is a native of Naperville, Illinois, and a graduate of the honors program at Miami University in Oxford, Ohio, where he was awarded the President's Distinguished Service Medal - the highest honor given to a Miami undergraduate. He is married to Jill Sommers, a former Commissioner at the Commodity Futures Trading Commission (CFTC). They have three children and live in Alexandria, Virginia.

Laine Evans Striegel
<image001.jpg>
Ex. 6
Email: LStriegel@GuidePost-Strategy.com
www.guidepost-strategy.com

Message

From: Hyde, David [david.hyde@aia-aerospace.org]
Sent: 9/19/2018 3:28:40 PM
To: Letendre, Daisy [letendre.daisy@epa.gov]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Bolen, Brittany [bolen.brittany@epa.gov]; Riegle, Leslie [leslie.riegle@aia-aerospace.org]
Subject: FW: Smart Sectors Event w/ Administrator Wheeler

Hi Daisy,

Could you please add Leslie Riegle, Assistant Vice President of Civil Aviation, to the list to attend on behalf of AIA please. Let me know if you need any further information.

Kind Regards,

David

David Hyde
Director, Environmental Policy
Civil Aviation
703 358 1085 Direct
david.hyde@aia-aerospace.org
www.aia-aerospace.org

Aerospace Industries Association
1000 Wilson Boulevard, Suite 1700
Arlington, VA 22209-3928

Please consider the environment before printing this e-mail.

From: Letendre, Daisy <letendre.daisy@epa.gov>
Sent: Tuesday, September 18, 2018 2:41 PM
To: Letendre, Daisy <letendre.daisy@epa.gov>
Cc: Jackson, Ryan <jackson.ryan@epa.gov>; Bolen, Brittany <bolen.brittany@epa.gov>
Subject: Smart Sectors Event w/ Administrator Wheeler

Smart Sector Partners –

On behalf of the U.S. Environmental Protection Agency's (EPA) Acting Administrator Andrew Wheeler, we would like to invite the principal of your organization – or his/her designee – to attend our second annual EPA Smart Sectors roundtable. This event marks one year of Smart Sectors' work, and Acting Administrator Wheeler would like to share with you successes from the last year, engage in meaningful dialogue about agency priorities, and discuss environmental improvements across manufacturing sectors.

WHO: EPA Acting Administrator Andrew Wheeler and EPA's Smart Sectors Program Partners
Attendees may bring an additional representative.
WHAT: A roundtable meeting highlighting Smart Sectors Program successes and open discussion
WHEN: Tuesday, October 2, 2018 at 11:00AM
WHERE: U.S. EPA Headquarters – Rachel Carson Green Room
RSVP BY: September 27, 2018 to Letendre.Daisy@epa.gov

SCHEDULE

10:30 – 11:00AM
Coffee and Conversation

Open Press
11:00AM
Remarks from Acting Administrator Wheeler

Closed Press
11:20AM – Business Portion of Meeting*

12:00PM – Meeting Wraps

We will be following up with many of you individually in order to inform the business portion of the meeting.

Daisy C. Letendre
Senior Advisor for Policy and Strategic Communications
U.S. Environmental Protection Agency
Office of the Administrator
Office of Policy
202.564.0410 (O)
Ex. 6

Message

From: Charles Brittingham [cbrittingham@cassidy.com]
Sent: 9/24/2018 9:17:09 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: FW: Meeting Request for Wednesday October 3, 2018
Attachments: TGTI Application FR Notice.pdf

Importance: High

RJ –

Do you or anyone on your team (maybe Lee Forsgren) have availability on October 3rd for a meeting between officials from the Port of Corpus Christi and your team regarding the Deepwater Port License Application for Texas Gulf Terminals, Inc. I have attached the actual FR notice for reference. Currently, their entire day on the 3rd is wide-open for a meeting time. If it's not you, can you point me in the right direction.

EPA will have a role in the issuance of the license and requisite permits. The Port would like to express their opinions and concerns to EPA before y'all start coordinating with MARAD on the EIS.

Email/call me if you have questions.

Thanks bud. Wedding is right around the corner….

Charles

Charles Brittingham, II
Senior Vice President
Cassidy & Associates
202-585-2479 (desk)
Ex. 6

4. Research and Demonstration Capacity

The proposal should demonstrate the applicant's capability and capacity (either internally or through external sources) to conduct research, analysis, and demonstration projects related to mobility management and transportation coordination in support of the CCAM and its members.

5. Management Approach

The proposal must include an effective project management plan to administer and manage the NCMM and must demonstrate that the applicant has the technical capacity to carry out the plan. FTA will evaluate the applicant's:

a. Technical capacity to administer and manage the services proposed;

b. Total budget and staffing;

c. Evidence of understanding of the NCMM mission and comprehensive technical approach to delivering the NCMM;

d. Plan for evaluation and data collection;

e. Plan for effective and meaningful stakeholder engagement; and

f. Plan for coordinating with FTA and other CCAM member staff.

F. Federal Award Administration

1. Federal Award Notices

Final award decisions will be made by the Administrator of the Federal Transit Administration. In making these decisions, the Administrator will take into consideration:

a. Recommendations of the review panel;

b. past performance of the applicant regarding programmatic and grants management compliance;

c. the reasonableness of the estimated cost to the government considering the available funding and anticipated results; and

d. the likelihood that the proposed project will result in the transportation outcomes expected.

The FTA will notify the successful organization and may announce the selection on its website *https://www.transit.dot.gov*. Following notification, the successful entity will be required to submit its application through the FTA Transit Award Management System (TrAMS). The FTA will work with the successful applicant to develop a detailed cooperative agreement. The FTA will award and manage a cooperative agreement through TrAMS.

2. Award Administration

a. Grant Requirements: The successful applicant will apply for a cooperative agreement through TrAMS and adhere to the customary FTA grant requirements of Section 5314, Technical Assistance and Workforce Development. There is no pre-award authority for this project. Discretionary grants and cooperative agreements greater than $500,000 will go through the Congressional notification and release process. Assistance regarding these requirements is available from FTA.

b. Standard Assurances: The applicant assures that it will comply with all applicable Federal statutes, regulations, executive orders, FTA circulars, and other Federal administrative requirements in carrying out any project supported by the FTA grant. The applicant acknowledges that it is under a continuing obligation to comply with the terms and conditions of the cooperative agreement issued for its project with FTA. The applicant understands that Federal laws, regulations, policies, and administrative practices might be modified from time to time and that modifications may affect the implementation of the project. The applicant agrees that the most recent Federal requirements will apply to the project, unless FTA issues a written determination otherwise. The applicant must submit the Certifications and Assurances before receiving a cooperative agreement if it does not have current certifications on file.

3. Reporting

Post-award reporting requirements include submission of Federal Financial Reports and Milestone Progress Reports in TrAMS on a monthly or quarterly basis, as determined by the FTA Project Manager. Documentation is required for payment. Additional reporting may be required specific to the National Center for Mobility Management and the recipient may be expected to participate in events or peer networks related to mobility management and coordinated transportation. The Federal Financial Accountability and Transparency Act (FFATA) requires data entry at the FFATA Sub Award Reporting System (*http://www.FSRS.gov*) for all sub-awards and sub-contracts issued for $25,000 or more, as well as addressing executive compensation for both grantee and sub-award organizations.

Additionally, FTA is required to report to Congress every year on the value of Section 5314 investments. Applicants will be required to provide details indicating the need, problem, or opportunity addressed by activities of the program. The national significance and relevance to the public transportation industry must also be clearly detailed.

4. Legal Capacity

Applicants must certify that there are no legal issues which would impact their eligibility and authority to apply for FTA funds, or prevent their acceptance of FTA funds.

G. Federal Awarding Agency Contacts

For further information concerning this notice, please contact the Technical Assistance program manager Carl Ringgold by phone at 202–366–6508, or by email at *carl.ringgold@dot.gov*. A TDD is available for individuals who are deaf or hard of hearing at 800–877–8339.

K. Jane Williams,

Acting Administrator.

[FR Doc. 2018–16689 Filed 8–3–18; 8:45 am]

BILLING CODE P

DEPARTMENT OF TRANSPORTATION

Maritime Administration

[Docket No. MARAD–2018–0114]

Deepwater Port License Application: Texas Gulf Terminals, Inc.

AGENCY: Maritime Administration, Department of Transportation.

ACTION: Notice of application.

SUMMARY: The Maritime Administration (MARAD) and the U.S. Coast Guard (USCG) announce they have received an application for the licensing of a deepwater port and that the application contains all required information. This notice summarizes the applicant's plans and the procedures that will be followed in considering the application.

DATES: The Deepwater Port Act of 1974, as amended, requires any public hearing(s) on this application to be held not later than 240 days after publication of this notice, and a decision on the application not later than 90 days after the final public hearing.

ADDRESSES: The public docket for MARAD–2018–0114 is maintained by the U.S. Department of Transportation, Docket Management Facility, West Building, Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590.

The license application is available for viewing at the *Regulations.gov* website: *http://www.regulations.gov* under docket number MARAD–2018–0114.

We encourage you to submit comments electronically through the Federal eRulemaking Portal at *http://www.regulations.gov*. If you submit your comments electronically, it is not necessary to also submit a hard copy. If

you cannot submit material using *http://www.regulations.gov,* please contact either Mr. Roddy Bachman, USCG or Mr. Wade Morefield, MARAD, as listed in the following **FOR FURTHER INFORMATION CONTACT** section of this document. This section provides alternate instructions for submitting written comments. Additionally, if you go to the online docket and sign up for email alerts, you will be notified when comments are posted. Anonymous comments will be accepted. All comments received will be posted without change to *http://www.regulations.gov* and will include any personal information you have provided. The Federal Docket Management Facility's telephone number is 202–366–9329, the fax number is 202–493–2251.

FOR FURTHER INFORMATION CONTACT: Mr. Roddy Bachman, U.S. Coast Guard, telephone: 202–372–1451, email: *Roddy.C.Bachman@uscg.mil* or Mr. Wade Morefield, Maritime Administration, telephone: 202–366–7026, email: *Wade.Morefield@dot.gov.* For questions regarding viewing the Docket, call Docket Operations, telephone: 202–366–9826.

SUPPLEMENTARY INFORMATION:

Receipt of Application

On July 9, 2018, MARAD and USCG received an application from Texas Gulf Terminals, Inc. (TGTI) for all Federal authorizations required for a license to own, construct, and operate a deepwater port for the export of oil authorized under the Deepwater Port Act of 1974, as amended, 33 U.S.C. 1501 *et seq.* (the Act), and implemented under 33 Code of Federal Regulations (CFR) parts 148, 149, and 150. After a coordinated completeness review by MARAD, the USCG, and other cooperating Federal agencies, it was determined that the application was complete and contains all information necessary to initiate processing of the application.

Background

The Act defines a deepwater port as any fixed or floating manmade structure other than a vessel, or any group of such structures, that are located beyond State seaward boundaries and used or intended for use as a port or terminal for the transportation, storage, and further handling of oil or natural gas for transportation to, or from, any State. A deepwater port includes all components and equipment, including pipelines, pumping or compressor stations, service platforms, buoys, mooring lines, and similar facilities that are proposed as part of a deepwater port to the extent they are located seaward of the high water mark.

The Secretary of Transportation delegated to the Maritime Administrator authorities related to licensing deepwater ports (49 CFR 1.93(h)). Statutory and regulatory requirements for processing applications and licensing appear in 33 U.S.C. 1501 *et seq.* and 33 CFR part 148. Under delegations from, and agreements between, the Secretary of Transportation and the Secretary of Homeland Security, applications are jointly processed by MARAD and USCG. Each application is considered on its merits.

In accordance with 33 U.S.C. 1504(f) for all applications, MARAD and the USCG, working in cooperation with other Federal agencies and departments considering a deepwater port application shall comply with the requirements of the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 *et seq.*). The U.S. Environmental Protection Agency (EPA), the U.S. Army Corps of Engineers (USACE), the National Oceanic and Atmospheric Administration (NOAA), the Bureau of Ocean Energy Management (BOEM), the Bureau of Safety and Environmental Enforcement (BSEE), and the Pipeline and Hazardous Materials Safety Administration (PHMSA), among others, are cooperating agencies and will assist in the NEPA process as described in 40 CFR 1501.6; may participate in scoping meeting(s); and will incorporate the Environmental Impact Statement (EIS) into their permitting processes. Comments addressed to the EPA, USACE, or other federal cooperating agencies will be incorporated into the Department of Transportation (DOT) docket and considered as the EIS is developed to ensure consistency with the NEPA process.

All connected actions, permits, approvals and authorizations will be considered in the deepwater port license application review.

MARAD, in issuing this Notice of Application pursuant to section 1504(c) of the Act, must designate as an ''Adjacent Coastal State'' any coastal state which (A) would be directly connected by pipeline to a deepwater port as proposed in an application, or (B) would be located within 15 miles of any such proposed deepwater port (see 33 U.S.C. 1508(a)(1)). Pursuant to the criteria provided in the Act, Texas is the designated Adjacent Coastal State for this application. Other states may apply for Adjacent Coastal State status in accordance with 33 U.S.C. 1508(a)(2).

The Act directs that at least one public hearing take place in each Adjacent Coastal State, in this case, Texas. Additional public meetings may be conducted to solicit comments for the environmental analysis to include public scoping meetings, or meetings to discuss the Draft EIS and the Final EIS.

MARAD, in coordination with the USCG, will publish additional **Federal Register** notices with information regarding these public meeting(s) and hearing(s) and other procedural milestones, including the NEPA environmental review. The Maritime Administrator's decision, and other key documents, will be filed in the public docket.

The Deepwater Port Act imposes a strict timeline for processing an application. When MARAD and USCG determine that an application is complete (*i.e.,* contains information sufficient to commence processing), the Act directs that all public hearings on the application be concluded within 240 days from the date the Notice of Application is published.

Within 45 days after the final hearing, the Governor of the Adjacent Costal State, in this case the Governor of Texas, may notify MARAD of their approval, approval with conditions, or disapproval of the application. MARAD may not issue a license without the explicit or presumptive approval of the Governor of the Adjacent Coastal State. During this 45-day period, the Governor may also notify MARAD of inconsistencies between the application and State programs relating to environmental protection, land and water use, and coastal zone management. In this case, MARAD may condition the license to make it consistent with such state programs (33 U.S.C. 1508(b)(1)). MARAD will not consider written approvals or disapprovals of the application from the Governor of the Adjacent Coastal State until after the final public hearing is complete and the 45-day period commences.

The Maritime Administrator must render a decision on the application within 90 days after the final hearing.

In accordance with section 1504(d) of the Act, MARAD designates an application area encompassing the TGTI deepwater port that is a circle having a 12.7 nautical mile radius centered at latitude 27°28′42.60″ N and longitude 97°00′48.43″ W. Any person interested in applying for the ownership, construction, and operation of a deepwater port within this designated application area must file with MARAD (see **FOR FURTHER INFORMATION CONTACT**) a notice of intent to file an application not later than 60 days after the date of publication of this notice.

Should a favorable record of decision be rendered and license be issued, MARAD may include specific conditions related to design, construction, operations, environmental permitting, monitoring and mitigations, and financial responsibilities. If a license is issued, USCG in coordination with other agencies as appropriate, would oversee the review and approval of engineering, design, and construction; operations/security procedures; waterways management and regulated navigation areas; maritime safety and security requirements; risk assessment; and compliance with domestic and international laws and regulations for vessels that may call on the port. The deepwater port would be designed, constructed and operated in accordance with applicable codes and standards.

In addition, installation of pipelines and other structures may require permits under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act, which are administered by the USACE.

Permits from the EPA may also be required pursuant to the provisions of the Clean Air Act, as amended, and the Clean Water Act, as amended.

Summary of the Application

TGTI is proposing to construct, own, and operate a deepwater port terminal in the Gulf of Mexico to export domestically produced crude oil. Use of the DWP would include the loading of various grades of crude oil at flow rates of up to 60,000 barrels per hour (bph). Approximately eight Very Large Crude Carrier (VLCC) vessels (or equivalent volumes) would be loaded per month from the proposed deepwater port. Loading of one VLCC vessel is expected to take 48 hours, including vessel approach, mooring, cargo transfer, and vessel departure.

The overall project would consist of three distinct, but interrelated components: (1) The "offshore" component; (2) the "inshore" component; and (3) the "onshore" component.

The proposed deepwater port (offshore component) would be located approximately 12.7 nautical miles off the coast of North Padre Island (Kleberg County, TX) and consists of 14.71 miles of two new parallel 30-inch diameter crude oil pipelines, which terminate at a single point mooring (SPM) buoy. The SPM buoy system would be positioned in water depths of approximately 93 feet and consist of a pipeline end manifold, catenary anchor leg mooring system, and other associated equipment. The SPM would be located in BOEM lease block number 823 at latitude 27°28′42.60″ N and longitude 97°00′48.43″ W.

The inshore components associated with the proposed project include 5.74 miles of two new parallel 30-inch diameter pipelines and onshore valve stations used to connect the onshore project components to offshore project components. The inshore portions of the proposed pipeline infrastructure cross the Laguna Madre Bay complex, the Gulf Intracoastal Waterway, and extend across North Padre Island to the mean high tide line located at the interface of North Padre Island and the Gulf of Mexico. The inshore project components include the installation of an onshore valve station on North Padre Island to allow for the isolation of portions of the proposed pipeline infrastructure for servicing, maintenance, and inspection operations.

Onshore components associated with the proposed project include the construction and operation of an onshore storage terminal facility (OSTF), booster station, and approximately 6.36 miles of two new parallel 30-inch diameter pipelines located within Nueces and Kleberg Counties, TX. The OSTF would occupy approximately 150 acres in Nueces County, TX and would consist of all necessary infrastructure to receive, store, measure and transport crude oil through the proposed inshore and deepwater port pipeline infrastructure. The proposed booster station would occupy approximately 8.25 acres in Kleberg County, TX and would consist of the necessary pumping infrastructure to support the transport of crude oil from the OSTF to the deepwater port. Onshore pipeline infrastructure would extend from the OSTF to the landward side of the mean high tide line located at the interface of the western shoreline of the Laguna Madre.

Privacy Act

In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its administrative and rulemaking processes. DOT posts comments, without edit, to *www.regulations.gov,* as described in the system of records notice, DOT/ALL–14 FDMS, accessible through *www.dot.gov/privacy.* To facilitate comment tracking and response, we encourage commenters to provide their name, or the name of their organization; however, submission of names is completely optional. Whether or not commenters identify themselves, all timely comments will be fully considered. If you wish to provide comments containing proprietary or confidential information, please contact the agency for alternate submission instructions.

(Authority: 33 U.S.C. 1501, *et seq.;* 49 CFR 1.93(h))

Dated: July 31, 2018.

By Order of the Maritime Administrator.

T. Mitchell Hudson, Jr.,

Secretary, Maritime Administration.

[FR Doc. 2018–16673 Filed 8–3–18; 8:45 am]

BILLING CODE 4910–81–P

DEPARTMENT OF VETERANS AFFAIRS

Disciplinary Appeals Board Panel

AGENCY: Department of Veterans Affairs

ACTION: Notice with request for comments.

SUMMARY: Section 203 of the Department of Veterans Affairs Health Care Personnel Act of 1991 (Pub. L. 102–40), dated May 7, 1991, revised the disciplinary grievance and appeal procedures for employees. It also required the periodic designation of employees of the Department who are qualified to serve on Disciplinary Appeals Boards. These employees constitute the Disciplinary Appeals Board Panel from which Board members in a case are appointed. This notice announces that the roster of employees on the Panel is available for review and comment. Employees, employee organizations, and other interested parties shall be provided, without charge, a list of the names of employees on the Panel upon request and may submit comments concerning the suitability for service on the Panel of any employee whose name is on the list.

DATES: Names that appear on the Panel may be selected to serve on a Board or as a grievance examiner after September 5, 2018.

ADDRESSES: Requests for the list of names of employees on the Panel and written comments may be directed to: Secretary of Veterans Affairs, Department of Veterans Affairs, 810 Vermont Avenue NW, Washington, DC 20420. Requests and comments may also be faxed to (202) 495–5200.

FOR FURTHER INFORMATION CONTACT: Jennifer Hayek, Employee Relations & Performance Management Service, Office of Human Resources Management, Department of Veterans Affairs, 810 Vermont Avenue NW, Mailstop 051, Washington, DC 20420. Ms. Hayek may be reached at (440) 525–5493.

SUPPLEMENTARY INFORMATION: Public Law 102–40 requires that the

Message

From: Larissa Fair [Lfair@citizensfor.com]
Sent: 9/14/2018 3:15:00 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Register Now for National Clean Energy Week

Empty Bee Template

NATIONAL clean Energy WEEK

SEPTEMBER 24 - 28, 2018

Thank you again for your participation with National Clean Energy Week (NCEW). We are excited to have you take part in the week's events.

As honored speakers and guests, please take advantage of registering early for our official NCEW Welcome Reception, Symposium, and Young Professionals Happy Hour. View the full week's events here.

If you have questions about registration, please contact Larissa Fair at lfair@citizensfor.com.

New speakers for the Symposium are being confirmed, and an agenda will be announced shortly. For the latest, follow us on Twitter and Facebook and via the #NCEW18 hashtag.

REGISTRATION IS OPEN

WELCOME RECEPTION *(Monday, September 24, Honeywell 101 Constitution Ave.)* This is a VIP networking event featuring our sponsors, Steering Committee Members, and other invited guests. Thank you to **Honeywell** for hosting our event in their Innovation Center. Space is limited, so please register early. **REGISTER HERE.**

POLICY MAKERS SYMPOSIUM *(Wednesday, September 26, The National Press Club)* This event features energy experts and advocates at the

forefront of today's clean energy policy making. Thank you to our Symposium Sponsor, **Apex Clean Energy**. **REGISTER HERE.**

YOUNG PROFESSIONALS HAPPY HOUR *(Thursday, September 27, The Dubliner)* This event is open to young professionals in the clean energy sector. Thank you to our event sponsors, **CRES Forum, Clean Energy Leadership Institute (CELI)**, and **Young Professionals in Energy (YPE)**. Space is limited, so please register early. **REGISTER HERE.**

NCEW official events comply with House and Senate gift rules, and Executive Branch gift regulations. Registration is required for all official NCEW events and subject to credentialing and approval as needed.

Special thanks to NCEW Sponsors

CLEARPATH

AWEA AMERICAN WIND ENERGY ASSOCIATION

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energy API AMERICAN PETROLEUM INSTITUTE

APEX CLEAN ENERGY Symposium Sponsor

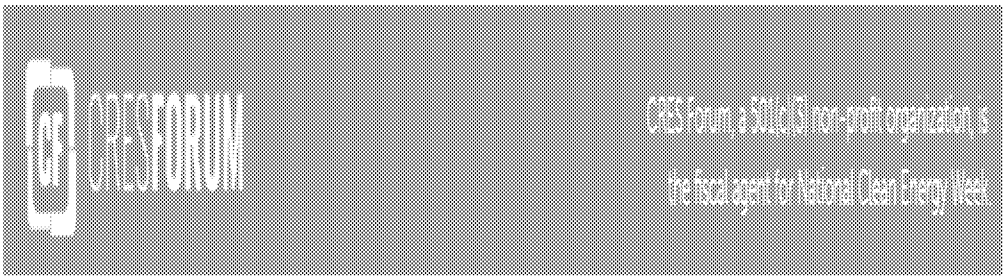
Become a NCEW Sponsor

National Clean Energy Week's 2018 Steering Committee includes: The Alliance to Save Energy, American Council on Renewable Energy (ACORE), American Gas Association (AGA), American Petroleum Institute (API), American Wind Energy Association (AWEA), Advanced Energy Economy (AEE), Biomass Power Association (BPA), Business Council for Sustainable Energy (BCSE), Center for Liquefied Natural Gas (CLNG), Clean Energy Business Network (CEBN), Citizens for Responsible Energy Solutions Forum (CRES Forum), Energy Storage Association (ESA), National Hydropower Association (NHA), Nuclear Energy Institute (NEI), and the Solar Energy Industries Association (SEIA).

GET INVOLVED WITH NCEW

VISIT THE WEBSITE **SCHEDULE** **SPONSORSHIP**

Citizens for Responsible Energy Solutions Forum
601 Pennsylvania Ave. NW
Suite 900
Washington DC, 20004
www.cresforum.org



Unsubscribe

Message

From: Stephanie Meadows [Meadows@api.org]
Sent: 3/22/2019 7:18:05 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] API-IPAA Letter of Support for SOGRE Approach to the RCRA Subtitle D Consent Decree
Attachments: API-IPAA Letter Supporting SOGRE Proposal.pdf

Dear Mr. Jackson:

On March 13, 2019 the Groundwater Protection Council (GWPC) and the Interstate Oil and Gas Compact Commission (IOGCC) sent a letter to Administrator Wheeler offering to assist EPA with its evaluation of the sufficiency of state regulations relating to the management of oil and gas production wastes under RCRA Subtitle D. The American Petroleum Institute (API) and the Independent Petroleum Association of America (IPAA) support the initiative set forth by the GWPC and IOGCC and wanted to make you aware that we sent our own letter to the Administrator this afternoon. A copy of our joint letter of support is attached.

Please let me know if you have any questions or would like to discuss this further.

Thank you.

Stephanie

Stephanie R. Meadows
Manager
American Petroleum Institute
Upstream and Industry Operations
200 Massachusetts Avenue, NW
Washington, DC 20001
USA
Phone: 202-682-8578
www.api.org

March 22, 2019

The Honorable Andrew Wheeler
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Wheeler:

The consent decree driven deadline is approaching for the U.S. Environmental Protection Agency (EPA) to decide whether it needs to take steps under Subtitle D of the Resource Conservation and Recovery Act (RCRA) with regard to oil and gas production wastes. The American Petroleum Institute (API) and the Independent Petroleum Association of America (IPAA) continue to believe that state regulatory programs properly and effectively manage these wastes. Consequently, the two organizations believe EPA should conclude that additional federal action under Subtitle D is unnecessary and could be counterproductive.

State primacy in managing oil and gas production wastes has been well established since EPA recognized their effective programs in its 1998 Regulatory Determination that Subtitle C regulation of these wastes was inappropriate. States continue to demonstrate their commitment to maintaining their primary role. In this regard, API and IPAA strongly support the initiatives set forth in the letter submitted to you by the Interstate Oil & Gas Compact Commission (IOGCC) and the Ground Water Protection Council (GWPC) through their joint effort, the State Oil and Gas Regulatory Exchange (Exchange). Their offer to use the Exchange to assist EPA by compiling data and information on recent state actions to strengthen their regulatory programs and to update that information annually will provide EPA with the material it needs to conclude that federal action is unwarranted and provide the ongoing flow of material to allow EPA meet its triennial requirement to make future Subtitle D determinations.

Resolving this issue now by supporting this state-based effort will prevent further efforts to inappropriately push EPA into actions that interfere with the state-federal relationship that has worked effectively since the 1988 Regulatory Determination. This reliable understanding of the regulatory balance is important for American oil and natural gas producers who need a stable regulatory framework to plan and execute the development of American resources.

Thank you.

Erik Milito
Vice President
Upstream and Industry Operations
American Petroleum Institute

Lee O. Fuller
Executive Vice President of Government Relations
Independent Petroleum Association of America

Message

From: Renjel, Louis E. [Louis.Renjel@duke-energy.com]
Sent: 9/19/2018 7:21:38 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Fwd: Important update on Sutton Plant following Hurricane Florence
Attachments: Sutton News Update_091918.pdf; ATT00001.htm

FYI

Will be released around 3:30PM EST. Please call with any questions.

24-Hour: 800.559.3853

Sept. 19, 2018

Update on Sutton Plant following Hurricane Florence

- Tests show water quality remains protected at Sutton Plant following Hurricane Florence
- Company continues to monitor river levels near Sutton Lake

CHARLOTTE, N.C. – Water samples collected from various locations demonstrate that coal ash released from a landfill under construction has not impacted water quality in Sutton Lake in Wilmington, N.C.

In addition, the company continues to monitor water levels in the Cape Fear River, which flows near Sutton Lake, a cooling pond built by the company to support plant operations. Before, during and after the storm, the company has been managing water levels inside the cooling pond, performing maintenance and conducting regular inspections to help ensure it operates safely. That work continues as the river levels continue to fluctuate.

Lake water quality remains good

Earlier in the week, Hurricane Florence, which produced a historic rainfall totaling more than 30 inches at the plant, caused several areas of significant erosion at the coal ash landfill currently under construction.

Based on the company's current estimate, water and approximately 2,000 cubic yards of soil and ash eroded from the landfill. Much of the nonhazardous material, which would fill about two-thirds of an Olympic-sized swimming pool, was captured in a perimeter ditch around the landfill, and cleanup work has already begun. As the company has previously reported, a very small amount of ash made its way off plant property to an adjacent industrial site, which is being cleaned up.

During the hurricane, while erosion was continuing at the landfill, the company began collecting water samples at various locations on the property and near the outfall to the river. Initial test results clearly demonstrate that the presence of coal ash constituents decreased as the water made its way to Sutton Lake. The company continues to gather water samples and share those with regulators.

Site inspections have identified cenospheres in Sutton Lake, but water sample results show no evidence of a coal ash impact to the lake or the water entering the river. Cenospheres are lightweight, hollow beads comprised primarily of alumina and silica that are a byproduct of coal combustion. Sample results are consistent with recent years of data. Water quality remains well within state permit standards designed to protect people and the environment. Complete test results can be found here.

Aerial view

Duke Energy photos provide views of the facility and show that most of the ash stayed in place or moved to other cells within the landfill footprint and sediment pond. (See photos under "Photo Downloads" at https://news.duke-energy.com/media-kit.)

Once construction is completed, the landfill sections will be permanently capped with a waterproof, synthetic barrier and closed with soil and vegetation so erosion of this nature is much less likely to occur.

The company took a number of steps before the storm to prepare, including positioning field staff, equipment and materials at sites. Our strong progress in ash basin closure was instrumental in lowering ash basin water levels to better accommodate significant rainfall.

Ash basins operate safely

Importantly, Duke Energy's coal ash basins continue to operate safely. As the company has previously reported, three small inactive basins at the H.F. Lee Plant in Goldsboro are flooded, which was expected. Because they are covered in forest and vegetation, it is expected that minimal amounts of ash could be displaced, and crews continue to actively survey that area. Conditions at other plant locations are improving as rivers and flooding recede.

Duke Energy

Headquartered in Charlotte, N.C., Duke Energy (NYSE: DUK) is one of the largest energy holding companies in the U.S., with approximately 29,000 employees and a generating capacity of 49,500 megawatts.

The company's Electric Utilities and Infrastructure unit serves approximately 7.6 million retail electric customers in six states – North Carolina, South Carolina, Florida, Indiana, Ohio and Kentucky.

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DUKE ENERGY.

News Update

24-Hour: 800.559.3853
Sept. 19, 2018

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Message

From: Ray McAllister [RMcAllister@croplifeamerica.org]
Sent: 9/19/2018 2:43:21 AM
To: Letendre, Daisy [letendre.daisy@epa.gov]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Bolen, Brittany [bolen.brittany@epa.gov]; Chris Novak [novak@croplifeamerica.org]; Mary Jo Tomalewski [mjtomalewski@croplifeamerica.org]
Subject: Re: Smart Sectors Event w/ Administrator Wheeler

Daisy:

Could you let us know who all from CropLife America are on your Smart Sectors distribution list? Jay Vroom retired as CEO of CLA a month ago, and Chris Novak (copied here) is now serving in his place. Please add Chris to your distribution list.

Ray S. McAllister, PhD
Senior Director, Regulatory Policy
CropLife America
+1-202-872-3874 (office)
Ex. 6
ray@croplife.us

On Sep 18, 2018, at 2:40 PM, Letendre, Daisy <letendre.daisy@epa.gov> wrote:

Smart Sector Partners –

On behalf of the U.S. Environmental Protection Agency's (EPA) Acting Administrator Andrew Wheeler, we would like to invite the principal of your organization – or his/her designee – to attend our second annual EPA Smart Sectors roundtable. This event marks one year of Smart Sectors' work, and Acting Administrator Wheeler would like to share with you successes from the last year, engage in meaningful dialogue about agency priorities, and discuss environmental improvements across manufacturing sectors.

WHO: EPA Acting Administrator Andrew Wheeler and EPA's Smart Sectors Program Partners
Attendees may bring an additional representative.
WHAT: A roundtable meeting highlighting Smart Sectors Program successes and open discussion
WHEN: Tuesday, October 2, 2018 at 11:00AM
WHERE: U.S. EPA Headquarters – Rachel Carson Green Room
RSVP BY: September 27, 2018 to Letendre.Daisy@epa.gov

SCHEDULE
10:30 – 11:00AM
Coffee and Conversation

Open Press
11:00AM
Remarks from Acting Administrator Wheeler

Closed Press
11:20AM – Business Portion of Meeting*

12:00PM – Meeting Wraps

We will be following up with many of you individually in order to inform the business portion of the meeting.

Daisy C. Letendre
Senior Advisor for Policy and Strategic Communications
U.S. Environmental Protection Agency
Office of the Administrator
Office of Policy
202.564.0410 (O)
Ex. 6

Message

From: Bloomberg Government [bbg_gov@info.bgov.com]
Sent: 9/17/2018 11:00:50 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Inside DARPA's $2 Billion AI Plan

Bloomberg Government Technocrat

Sep

Learn More | View this em

What's New This Week:
Escaping Tech's 'Valley of Death'

All eyes were on Hurricane Florence last week, as it threatened to pound the Carolina coasts. Both NASA and NOAA released impressive images of the massive storm, captured by a fleet of weather satellites and astronau International Space Station. For first responders on land, monitoring areas where Florence touched down was challenging. That's when technology came to the rescue. A group of Purdue University researchers created an platform to help first responders monitor social media posts for people in need of help.

Meanwhile, something else was brewing in Washington. The House Homeland Security Committee pushed for series of bills that would provide protections against unmanned aircraft. The legislation would require the Depar Homeland Security to assess whether drones pose a threat to critical infrastructure.

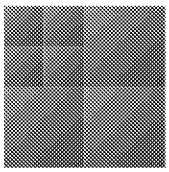
Speaking of autonomous things, the DARPA is investing $2 billion in artificial intelligence research and develop DARPA hopes to maintain its technological advantage by outspending U.S.'s international rivals. The move cor a few months after the Pentagon's decision to launch a $1.7 billion Joint Artificial Intelligence Center, or JAIC (pronounced "Jake"). Will this latest investment save innovations from the so-called "valley of death"—the gap l a product's development and launch where companies perish—and translate into innovation on the battlefield? still unclear.

BGOV's Chris Cornillie takes a closer look at DARPA's new initiative and Pentagon spending on AI-related proj this week's exclusive story.

DARPA has been quite busy. The defense agency also just awarded a contract to develop technologies that automatically locate and dismantle botnets before hackers can use them. Eventually DARPA wants to integrate technologies into a single system that can spot, raid, and neutralize botnet-infected devices without any involve from people. Sounds like it's all headed in the same direction: no humans required.

Leaders from across the government are generally optimistic about what AI and automation can do for an over federal workforce. But before AI can become a super helpful "co-worker" that handles time-consuming and labo intensive work, a major reskilling of federal employees is needed to use the technology.

Keep reading … there's more news where that came from.



Bloomberg Government

Next.2018

Save the Date For a First Look at Tech and Government Post-Election: What Changed?

Join Bloomberg Government this November 13-15 for critical conversations about the intersection of innova technology, and policy one week after the midterm elections.

This year Next.2018 is expanding to the InterContinental at The Wharf in D.C., and will bring together busir leaders, tech pioneers, and Capitol Hill policy makers to discuss emerging technologies that change the wa live, the complex relationship between Capitol Hill and Big Tech, the impact of the digital revolution on rural underserved communities, and the disruption that machine learning and AI can bring to employment.

Join the conversation this November. To register, click here.

Get Smart

"We want to explore how machines can acquire human-like communication and reasoning capabilities, with the recognize new situations and environments and adapt to them."

—Steven Walker, director of the Defense Advanced Research Projects Agency

Read more in this week's exclusive from Bloomberg Government.

Strategy & Leadership

GSA's Kelly Olson Lays Out Priorities
Just weeks into her tenure as acting director of the General Services Administration's Technology Transformati Service, Kelly Olson has several projects she wants to tackle first. One such priority is sustaining federal IT modernization progress made in the past year, she said. Read more.

New Federal Cyber Leaders Named
The federal cybersecurity landscape is experiencing a shift in leaders who manage, oversee, and secure gover networks, systems, and applications. Among them is Mark Kneidinger, who will join the new the National Risk Management Center as the deputy director. Read more.

Beyond Legacy

Campaign Finance Reporting May Get Update
It only took 15 years of trying, but the Senate may finally allow candidates to electronically file campaign spend reports. Lawmakers are working on reforming the current error-prone paper filing system that costs nearly $1 m operate each year. Read more.

Debate Over Government's ID Proofing Role Heats Up
In a post-Equifax-breach world, momentum is building around expanding the government's role in validating an guaranteeing digital identities. However, federal legacy IT systems could become a huge roadblock preventing agencies from taking a lead role in the digital space. Read more.

Eye on Security

GAO Not Happy with Cyber Progress
A new Government Accountability Office report revealed that agencies implemented only a third of the actions to improve the government's cybersecurity posture. Around the same time, the House passed four bills that ad some of the very same issues as the GAO report. Read more.

DHS Wants Better Mobile Security
The Department of Homeland Security relies heavily on mobile devices, unlike many other government agencie IT officer at DHS says the agency needs improved mobile security features, especially as hackers become mor sophisticated. Read more.

In the Cloud

Cloud Services Market to Hit All-Time High

Cloud services contract obligations are expected to reach $6.5 billion in 2018, based on historical spending at t in the fiscal year, according to BGOV analysis. Here's a breakdown of which agencies are spending the most. [more.

Intelligence Community Has Big Plans for IT Architecture

Simply moving to the cloud isn't enough to keep pace with ever-increasing data and individual agency needs. T why the Office of the Director of National Intelligence is working with agencies on plans to implement a commo reference architecture by May 2020. Read more.

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From: Bruce Fogerty [bruce.fogerty@earthx.org]
Sent: 9/20/2018 3:41:42 PM
To: Wheeler, Andrew [wheeler.andrew@epa.gov]
CC: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Heads up

Andrew-

On your main call in line the 202 564 4700# they are
Still indicating Scott Pruitt is the lead dog…

You might want to change the answering voicemail-

Cheers & Faith> bf

Bruce Fogerty
Business Development
Ex. 6
Bruce.Fogerty@earthx.org
EARTHx.ORG

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on behalf of Green Guy Media [talkwithgreenguy@gmail.com]
Sent: 9/19/2018 2:07:27 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: ♻ Green Guy Media Newsletter College Sustainability Summit Series -Colorado State University

♻ Green Guy Media Newsletter College Sustainability Summit Series -Colorado State University

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Volume 86 - September 19,2018

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Talk with Green Guy Show! Sunday, September 23rd, 9-10am EST.

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Register here for the 2018 AASHE Conference in Pittsburgh,PA Oct.2-5
aashe.org/conference

If your institution would like to participate in this national conversation and share your campus sustainability initiatives in our Series send inquiry to: talkwithgreenguy@gmail.com

- iHeartRadio

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Stay Connected!

Coming Events

Green Guy Media EcoEvent of the Week:
September 19th-23rd, HBCU Climate Change Conference
dscej.org/events

September 21st-22nd, Partnership for Southern Equity, Just Energy Summit
justenergysummit.org

September 29th- Oct.2nd, American Rainwater Catchment Systems Association Expo
bit.ly/2Mi9pPH

October 1st-31st, Atlanta Bike Challenge
lovetoride.net/atlanta

October 4th, Center for Hard to Recycle Materials
CHARMing Evening Fundraiser
livethrive.org/fundraiser

October 12th, USGBC Georgia Regenerative Design Summit
bit.ly/2N80mW3

Celebrate the life and legacy of Ray C.Anderson @ Serenbe October 14th register here:
raycandersonfoundation.org/rayday

October 14th-19th, Biomimicry Thinking
bit.ly/2LjKXgi

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From: ECOS [ecos=ecos.org@mail141.atl121.mcsv.net]
on behalf of ECOS [ecos@ecos.org]
Sent: 9/14/2018 5:39:49 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: ECOS Offers Resources for Dealing with Florence, Tracks Methane and Water Infrastructure Action, & More

ECOS Offers Resources for Dealing with Florence, Tracks Methane and Water Infrastructure Action, & More

ECOSWIRE | Vol. 20 No. 36

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ECOSWIRE

Friday, September 14, 2018

Vol. 20 No. 36

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- Need-to-Know News in Air, Chemicals and Emerging Contaminants, & Shale Gas Caucus
- E-Enterprise for the Environment
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Hurricane Hot Tips: ECOS Compiles Helpful Resources for Dealing with Florence

ECOS knows that many states in the East are dealing with the effects of Hurricane Florence. In light of the powerful storm, we pulled together resources that may be helpful for state regulators seeking information on effective and efficient debris management:

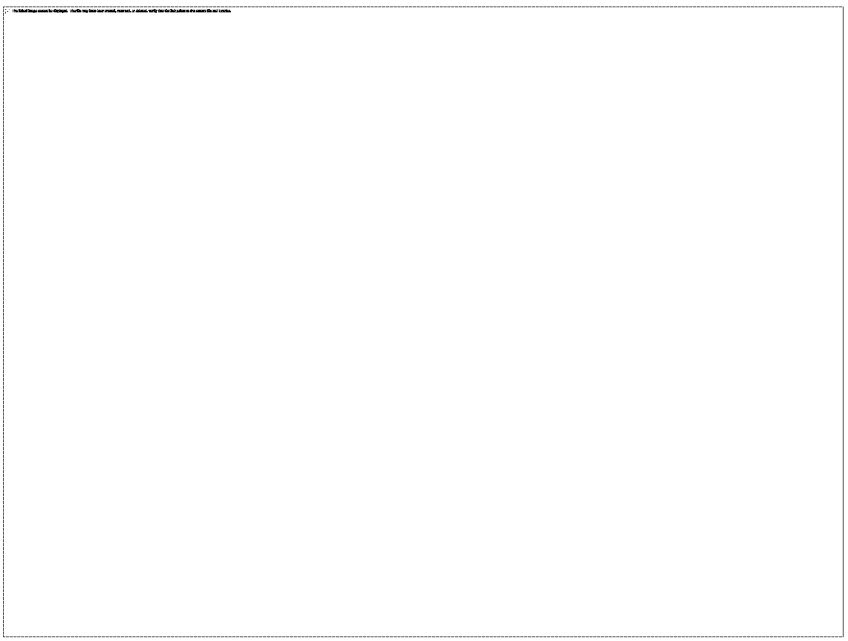
- ECOS Sustainable Materials Management Workgroup webinar on Disaster Debris: Planning and Relief (presentations by Louisiana, Texas, and U.S. EPA's Office of Resource Conservation and Recovery);
- Indiana Department of Environmental Management emergency debris fact sheet;
- Louisiana Department of Environmental Quality Chuck Carr Brown online demonstration of debris segregation in front of his own flooded home;
- Louisiana Department of Environmental Quality coastal adaptation plan, LA SAFE;
- Nebraska Department of Environmental Quality toolkit for storm recovery and flooding;
- District Department of the Environment Environmental Emergency Response Program;
- Texas Commission on Environmental Quality hurricane response protocol;
- North Carolina Department of Environmental Quality recovery information;
- EPA Natural Disaster FAQs; and
- EPA Region 5 Disaster Debris Recovery mapping tool. [Longsworth]

Action Requested: ECOS Seeks Input on Rural Waste Management Challenges & Best Practices

ECOS, in coordination with the U.S. EPA Office of International and Tribal Affairs and the National Tribal Caucus, is conducting a research project looking at waste management practices on rural and tribal lands. We will identify waste management projects and resources that address commonly shared challenges, highlight best practices, and encourage state-tribal partnerships.

If you have relevant projects or resources, please share a description with Megan Swanson of ECOS. Select projects will be featured in training calls with EPA, state, and tribal officials and featured in a report. [Swanson]

U.S. EPA Proposes Revisions to Obama-Era NSPS Rule for Methane



On September 11, U.S. EPA proposed revisions to the oil and gas industry New Source Performance Standards (NSPS) on methane to adjust certain requirements in the 2016 rule and address technical issues. Among the amendments are reduced monitoring

frequency at wellheads and compressor stations, a streamlined process for requesting alternative means of emissions limitations, and recognition of compliance with state methane programs as compliance with federal rules.

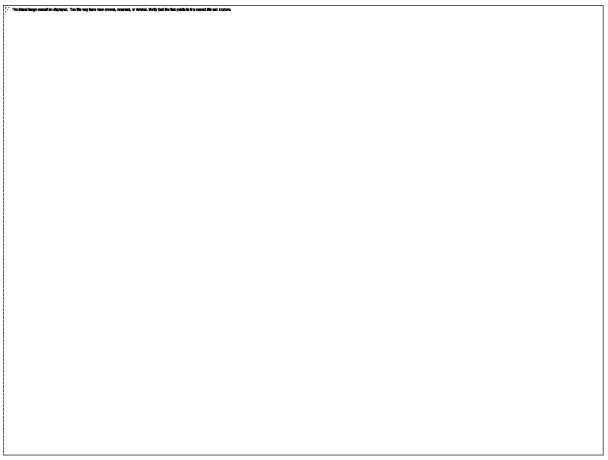
In the proposal, EPA indicates that the amendments would "significantly reduce regulatory burden" and "streamline requirements." Industry generally is welcoming the proposal, while environmental advocates maintain that the relaxed requirements will decrease health and environmental protection and allow methane leaks to persist.

EPA will take comment on the proposed rule for 60 days after the proposal is published in the *Federal Register* and will schedule a public hearing in Denver. In addition, EPA continues to consider other policy issues in the methane rule, including the regulation of greenhouse gases in the oil and gas sector, and plans to address these issues in a separate proposal later this year. [Poole]

U.S. EPA Issues Memo on Managing and Disposing of Collected Pharmaceuticals

Responding to state requests for information and assistance, U.S. EPA Acting Administrator Wheeler has issued a memo on how best to manage and dispose of household collected pharmaceuticals from take-back programs. The memo, *Management of Household Pharmaceuticals Collected by Law Enforcement during Take-Back Events and Programs*, outlines how law enforcement can safely dispose of unwanted household pharmaceuticals collected through take-back programs.

For more information, see the U.S. EPA press release. [Parisien]



House Unanimously Passes Water Resources Infrastructure Bill

On September 13, the U.S. House of Representatives unanimously approved bipartisan, comprehensive water resources infrastructure legislation that includes the Water Resources Development Act of 2018 (WRDA 2018).

The *America's Water Infrastructure Act of 2018* (S. 3021) resulted from negotiations among House and Senate committees with jurisdiction over various water resources and energy infrastructure issues. Title I of S. 3021 is WRDA 2018, which authorizes locally driven infrastructure improvements to water transportation and infrastructure to be carried out by the U.S. Army Corps of Engineers. Additional provisions address stormwater, wastewater, and drinking water infrastructure and hydropower development.

Click here for more information. [Parisien]

State News You Can Use

Iowa Recognized with National Award for Manure Management

Innovation

Missouri Offers Free Workshop on Water and Wastewater Infrastructure Financing

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Need-to-Know News in Air, Chemicals and Emerging Contaminants, & Shale Gas Caucus

U.S. EPA Announces Regional Haze Reform Roadmap

Area of Focus: *Air*

Over the next year, U.S. EPA's Office of Air and Radiation (OAR) will release a series of implementation tools and guidance documents that will help focus states' efforts and reduce the time and resources needed to meet the statutory and regulatory requirements under the regional haze program. According to EPA, this information will support states in their SIP development processes and provide key improvements for the upcoming second planning period.

EPA also will initiate a rulemaking to address certain aspects of its Regional Haze Rule. In addition, the agency plans to sign actions converting regional haze federal implementation plans into state implementation plans in Missouri, South Carolina, Tennessee, and West Virginia. [Poole]

Tests to Study PFAS and Hurricane Florence Interaction

Area of Focus: *Chemicals & Emerging Contaminants*, *PFAS*

Bloomberg Environment reports this week that researchers will monitor flooding from Hurricane Florence, which they say could exacerbate chemical contamination in communities along North Carolina's Cape Fear River.

A local water authority and scientists will study groundwater and surface water interactions to determine if per- and polyfluorinated substances (PFAS) concentrations in local aquifers rise with hurricane flooding. The storm will enable scientists to learn how contaminants move through the watershed during and following an extreme weather event; they will test if contaminated groundwater will mix with rivers and streams or whether overflowing rivers and streams will instead deposit into the aquifer. The tests will take a few weeks to complete.

The Cape Fear River is well-known to those dealing with PFAS, as a Chemours manufacturing plant in Fayetteville, North Carolina was sued last year for exposing the river and nearby communities to high levels of GenX, a PFAS it produced. [Longsworth]

U.S. EPA Plans October 9 Public Meeting on Produced Water Study

Shale Gas Caucus

U.S. EPA will host a public meeting on its ongoing Oil and Gas Extraction Wastewater Study on **October 9** at agency headquarters. At the meeting, EPA will report on what it has learned to date and provide stakeholders the opportunity to provide additional input.

The ECOS Shale Gas Caucus, which has focused on produced water for the past two years, has engaged with U.S. EPA on the study launched in May 2018 and is following its development. EPA initiated the study to evaluate approaches to managing both conventional and unconventional oil and gas extraction wastewaters generated at onshore facilities. The agency is addressing questions such as how existing federal approaches to produced water management under the Clean Water Act can interact more effectively with state and tribal regulations and requirements, and whether potential federal rules should be implemented that allow for broader discharge of treated produced water to surface waters.

For more information, click here. [Parisien]

E-Enterprise for the Environment

E-Enterprise

Featured Community Inventory Question: Share Your State's Story of Collaboration with a Central IT Division

Has your agency collaborated with your state's centralized IT organization? If so, head over to the E-Enterprise Community Inventory Platform (EECIP) and participate in a discussion thread on this topic, started by Chris Simmers of New Hampshire.

Here's an example provided by Simmers: The New Hampshire Division of Environmental Services (NHDES) worked with the state Chief Information Officer to migrate hosting for a statewide online forms solution to Amazon Web Services' government cloud. The migration accelerated NHDES' rollout of online forms and helped them serve as an example for other state agencies.

Do you have a success story to contribute? Jump to the conversation by clicking here, and first-time visitors to the inventory can register here. [McAleer]

Reminder: EE2018 Is Around the Corner!

The 2018 E-Enterprise National Meeting in Dallas, Texas is coming up on **October 23-25**! The meeting will feature valuable training opportunities, engaging speakers, interactive sessions, and more. Travel reimbursement is available through ECOS for a limited number of attendees from state agencies.

Visit the meeting website for free registration, lodging reservations, and more information. The deadline to reserve a room in the meeting block at the Dallas Addison Hotel is **October 1**. Pre-meeting discussions for some sessions will be held on the E-Enterprise Community Inventory Platform, so attendees should also be sure to sign up for that tool and enter their agency's E-Enterprise projects or Enterprise Services. [McAleer]

Career Opportunities

CASE Fellowship on Emerging Contaminants/Per- & Polyfluoroakyl Substances

The Connecticut Academy of Science and Engineering (CASE) is accepting applications for a two-year fellowship at the Connecticut Department of Energy and Environmental Protection, to begin between November 2018 and January 2019. The mission of the Connecticut Science and Technology Policy Fellowship Program is to provide opportunities for fellows and policymakers to learn from each other for the purpose of ensuring that science and technology are considered in the development of policy and legislation.

The deadline for applications is **December 3**. Learn more here. [Olonoff]

Upcoming Events

ITRC Training Classes and Webinars

The Interstate Technology and Regulatory Council (ITRC) invites your participation in several upcoming training opportunities:

- Geophysical Classification for Munitions Response - **September 18, 1-3:15 p.m. Eastern** Webinar
- Geospatial Analysis for Optimization at Environmental Sites - **September 20, 1-3:15 p.m. Eastern,** Webinar
- Petroleum Vapor Intrusion: Fundamentals of Screening, Investigation, and Management - **September 25, 1-3:15 p.m. Eastern,** Webinar
- Petroleum Vapor Intrusion - **October 10-11**, Seattle, Washington
- Managing PFAS Contamination at Your Site - **October 12**, Montclair, New Jersey

- Light Non-Aqueous Phase Liquids (LNAPL) - **October 12**, St. Louis, Missouri

U.S. EPA Webinar on SMM

U.S. EPA will hold its monthly Tools and Resources Webinar on **September 19 at 3-4 p.m. Eastern**. The focus will be on sustainable materials management (SMM) and EPA's new SMM Prioritization State Tool, which allows users to screen for potential impacts of goods and services, and distinguish between activities occurring within or outside of any particular state. To register, see here.

Rescheduled ECOS PFAS Caucus Call

ECOS will hold its first PFAS Caucus call on **September 25 at 3-4 p.m. Eastern** (note that the date has changed due to the impacts of Hurricane Florence on several states involved in this effort). The call will address the goals of the caucus and provide an opportunity to hear from states involved in recent regulatory and investigatory efforts.

The PFAS Caucus, ECOS' newest working group, promotes the exchange of information and best practices among state and federal agency staff. The calls will be held bimonthly on the months opposite the ECOS-U.S. EPA Office of Research and Development technical PFAS workgroup.

To get involved, email Sarah Grace Longsworth of ECOS. [Longsworth]

Compliance Research for Effective Government Webinar Series

ECOS and U.S. EPA are hosting a new webinar series entitled *Compliance Research for Effective Government*. The series will help state and EPA program administrators understand how collaboration with academics can identify effective and measurable approaches to compliance. The first webinar featured the Ohio Signage at Outfalls Study with presenters Brian Hall of the Ohio Environmental Protection Agency and Dr. Jay Shimshack of the University of Virginia. The future webinar schedule is:

- **October 4, 3-4 p.m. Eastern: Compliance Assurance Toolbox.** David Hindin, Office of Compliance, Office of Enforcement and Compliance Assurance, U.S. EPA, and Sam Sankar, ECOS.

- **October 23, 2-3:30 p.m. Eastern: Two Uses of Data Analytics**: one to predict air quality and inform the public and the other to improve compliance. Daniel Dix, Minnesota Pollution Control Agency, and Christina Seybolt, University of Chicago.
- **November 8, 1-2 p.m. Eastern: Compliance Interventions on the Behaviors of Third Party Lead Contractors.** Andrew Gosden, Maryland Department of the Environment, and Dr. Ben Meiselman, Johns Hopkins University.
- **December 11, 1-2 p.m. Eastern: New Hampshire Hazardous Waste Generator Training Program.** Tim Prospert, New Hampshire Department of Environmental Services, and Dr. Sarah Strafford, College of William and Mary.

For more information, please contact Sonia Altieri of ECOS. [Altieri]

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From: ClearPath Action [info@clearpathaction.org]
Sent: 3/22/2019 2:04:45 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: The Rundown - The Underrated Energy Storage Technology

|MC:SUBJECT|

Welcome to your Friday Rundown, for the week ending March 22. I'm your driver,

ClearPath Communications Director Darren Goode.

Was this email forwarded to you? **Sign up here**.

As always, thanks for reading.

JAY FAISON: CLIMATE CHANGE IS REAL, GREEN NEW DEAL ISN'T

In a **new Fox News op-ed**, ClearPath Founder Jay Faison lays into the Green New Deal as a technological and political pipe dream that doesn't solve for the fact that global emissions are rising mainly because of China, India and other rapidly-developing nations.

But Jay also says Republicans and the public en masse must also address the elephant in the room: Climate change is real and industrial activity around the globe is

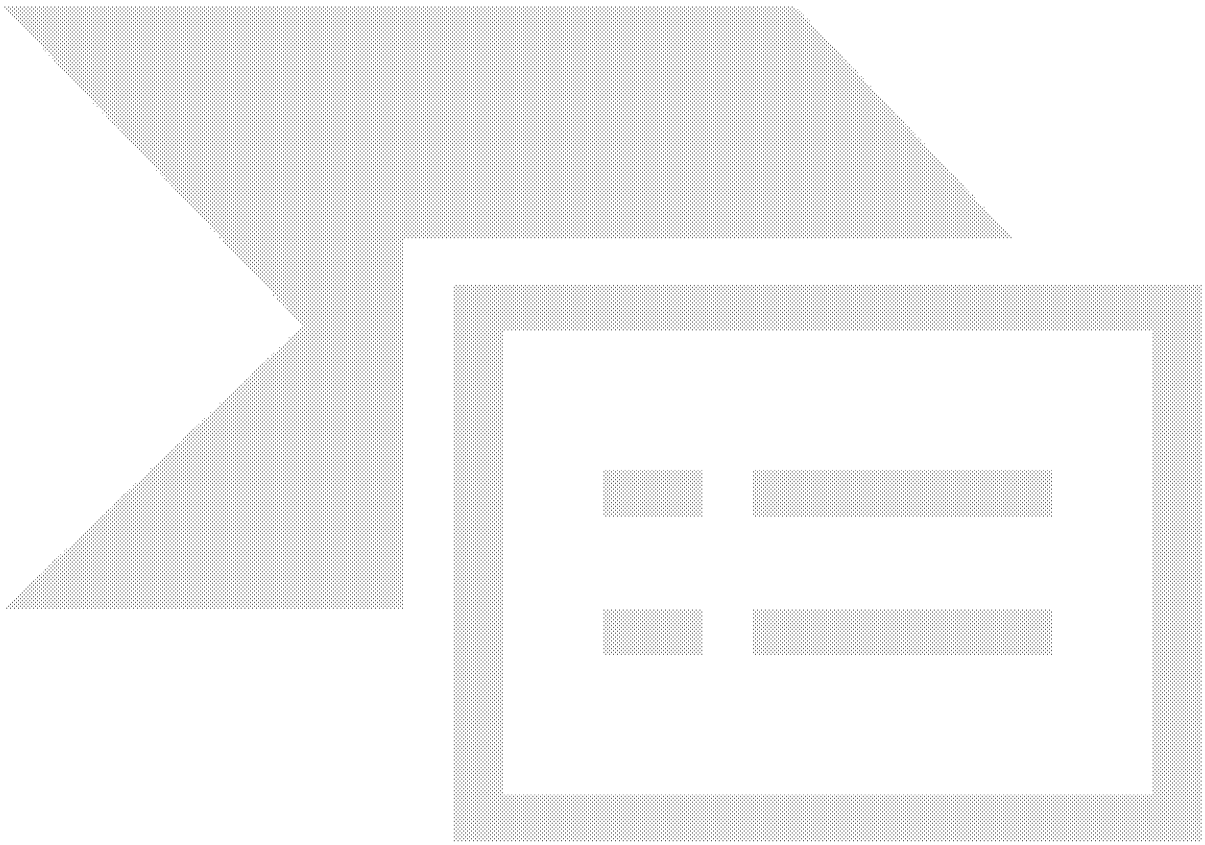
contributing to it.

The solution must be innovation.

"Any real progress in addressing climate change, especially in divided government, will depend on a realistic agenda built on pushing better technologies around the world that can expand quickly and affordably, give us a balanced mix of low-carbon sources, perform better, and are cheaper than the alternatives, so that the rapidly developing world chooses them instead of more emitting technologies," **Jay wrote**. "I don't know about you, but I'd rather those technologies be developed, commercialized and exported from the U.S. than elsewhere."

WHAT'S JAY TWEETING?

A lot about **what's happening in Louisiana** – from its vanishing coastline and impact from rising sea level, to its booming natural gas industry and how Rep. Garret Graves (R-La.) has the right perspective to lead Republicans on the new House climate select committee.



FORMER DOE, CEQ OFFICIALS JOIN CLEARPATH'S ADVISORY BOARD

ClearPath has added a trio of former senior Department of Energy and White House Council on Environmental Quality officials to its advisory board.

William Martin was deputy secretary of energy during the Reagan administration, as well as executive secretary of the U.S. National Security Council and special assistant to President Ronald Reagan.

Elizabeth Stolpe was associate director at CEQ under President George W. Bush, leading development and implementation of President Bush's market-based national air quality initiatives and regulatory activity at the Environmental Protection Agency.

Marty Hall is former chief of staff at CEQ under President George W. Bush, lead White

House liaison to the U.S. Senate during consideration of comprehensive 2007 energy legislation and deputy staff director for the Senate Environment and Public Works Committee.

RICH'S TAKE

"Bill, Elizabeth and Marty bring immense insight to our efforts to address climate change in a way that is pragmatic and fully utilizes the full range of federal tools to facilitate clean, reliable and affordable technologies," ClearPath Executive Director Rich Powell said. "Their deep resumes are also perfect complements to our vision of helping forge efforts that eschew top-down regulatory approaches in favor of collaborative efforts to spur U.S.-led innovation involving both government and the private sector."

THE UNDERRATED ENERGY STORAGE TECHNOLOGY

A variety of existing and advanced energy storage technologies are going to be needed to ensure reliability in fully taking on expected growth of renewables and other clean power on the grid. We detailed a few of these recently in our **Intro to Energy Storage**.

But we wanted to particularly highlight pumped hydro as an underappreciated option. Not only is it the most prevalent current technology by a LOT, but it could end up being cheaper and less carbon-intensive than batteries and other next-generation options.

The International Energy Agency **does predict** that annual additions of stationary batteries are expected to overtake pumped hydro storage by 2023 due to rapid cost reductions and technology progress. But IEA also predicts that pumped hydro will increase by almost one-fifth in the next 5 years, mostly in China, which needs it for system flexibility, particularly to reduce wind power curtailment and optimize coal and nuclear plant operations.

And a **group of German researchers** suggested that pumped hydro could be far cheaper (particularly comparing the steel and concrete in pumped hydro vs. raw materials needed for advanced batteries), a better overall investment and even less carbon-

intensive than battery cells and other storage options when comparing the possible raw materials and land needed (particularly if pumped hydro projects are part of a retrofitted existing dam).

This 2018 study was presented at HydroVision (the leading hydropower industry gathering), attracting the attention of the Department of Energy's Office of Energy Efficiency and Renewable Energy for additional research.

Congress **last year approved** legislation (H.R. 2880) led by Rep. Morgan Griffith (R-Va.) that would streamline the federal licensing process that can hold up the development of pumped storage hydropower facilities. Legislation this Congress from Rep. Doug Lamborn (R-Colo.) (**H.R. 537**) would authorize use of Bureau of Reclamation reservoirs to expand pumped hydro storage development.

The bottom line: With all the attention on cutting-edge storage and the need to go **beyond lithium ion**, don't forget about the old tried-and-true pumped hydro.

RELATED READ

Could pumped hydro storage help Southwestern Virginia reclaim energy hotbed role? - Energy News Network

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SCHWEIKERT SPOTLIGHTS NET POWER

Rep. David Schweikert (R-Ariz.) gave an **enthusiastic explanation** on the House floor last week of the "brilliant" Allam Cycle technology at the core of NET Power's zero-emission natural gas demonstration facility near Houston. "This technology isn't utopian, it's already running," he said.

NEWS NUGGETS

NuScale Power **announced a memorandum of understanding** (MOU) with Societatea Nationala Nuclearelectrica SA, Romania's sole nuclear power operator, to exchange business and technical information on NuScale's small modular reactor technology. The goal of the agreement is to evaluate the development, licensing and construction of NuScale SMRs for a potential similar long-term solution in Romania. Nuclear power

currently provides 20 percent of domestic energy in Romania.

THE PATH AHEAD

MONDAY Nuclear Innovation Week kicks off with a Capitol Hill discussion sponsored by the Nuclear Innovation Alliance and Atlantic Council's Global Energy Center: "The Geopolitics of Nuclear Energy: The Role of U.S. Government and Industry, Past and Present." **RSVP**

TUESDAY Energy Secretary Rick Perry **testifies** on DOE's budget request at the House Energy and Water Appropriations Subcommittee.

TUESDAY Nuclear Energy Institute CEO Maria Korsnick will provide an annual briefing on the state of the industry. **WATCH**

TUESDAY NEI hosts the **Nuclear R&D Summit**, featuring top government and private industry officials.

WEDNESDAY NEI hosts the **Nuclear Deployment Forum**, featuring top DOE nuclear official Ed McGinnis, ClearPath Energy Innovation Program Director Spencer Nelson, and other public and private-sector leaders.

THURSDAY The Carbon Utilization Research Council, Global CCS Institute and Carbon Capture Coalition host the first of a series of Carbon Lunches (co-sponsored by ClearPath and others), a set of educational briefings on carbon capture, use and storage. The initial briefing at the U.S. Capitol Visitor Center will feature senior officials

at the International Energy Agency, C2ES, Global CCS Institute and World Resources Institute. **RSVP**

APRIL 3 DOE and ClearPath host the next Atomic Wings advanced nuclear luncheon discussion.

APRIL 4 ARPA-E Innovation Showcase on the Hill, hosted by the Bipartisan Policy Center's American Energy Innovation Council. ARPA-E Acting Director Chanette Armstrong will give remarks. **RSVP**

MISS A WEEK?

RUNDOWN ARCHIVES

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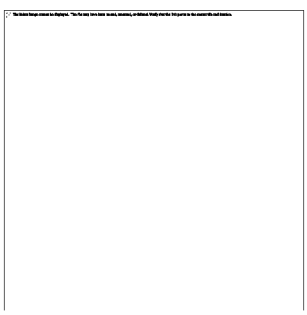

CLEAN ENERGY. THE CONSERVATIVE WAY.

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Message

From: Amy Harder [amy@axios.com]
Sent: 9/17/2018 9:59:53 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Energy: the essential and unappreciated risk we all take

Energy: the essential and unappreciated risk we all take

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Also, I have the exclusive on a new carbon management initiative at Columbia

University.

You are cordially invited to attend a lunch event 1-2:30pm ET (or by livestream here) Tuesday hosted by The Atlantic Council in DC, where I will be talking about the future of energy alongside two other reporters whose names you should know: our very own Axios' future editor Steve LeVine and Quartz reporter Akshat Rathi.

Cheers,

Amy

COLUMN / HARDER LINE

Energy: the essential and unappreciated risk we all take

Natural-gas explosions in Massachusetts and Hurricane Florence's threat of energy infrastructure remind us that energy can pose enormous, sometimes deadly, risks.

Why it matters: Energy is the thing we all need but don't notice until it's gone, expensive or going awry. Energy facilities — particularly nuclear plants — appear to be withstanding Florence well. We saw a tragically different outcome in Massachusetts Thursday, with one death and roughly two dozen injuries. They both inject a consciousness into our energy dependence we usually overlook.

Think about it:

- We drive gasoline-powered cars.
- We use plastics made from petroleum.
- We fly in jet fueled-planes.
- We live in homes with electricity. What kind? Most of us don't know or care.

- Our homes in America are increasingly powered by natural gas — particularly Massachusetts.
- We live in homes heated by natural gas.
- Some of us cook with natural-gas stoves.

But we don't actually think about this. We aren't thankful when the lights come on. Reporters don't bother writing stories about how nuclear power plants stood up well to hurricanes. As someone on Twitter told me last week, "Dog doesn't bite man is rarely newsworthy."

Honestly, I should have written this story when, in that not too-distant past, I accidentally left my gas-powered stove on just a touch and unknowingly filled my home with natural gas all day. Four fire trucks came. My neighbor darkly joked about the irony of an energy reporter dying of a natural gas explosion (I was not amused).

I didn't write a story, because I didn't explode and I carried on with my life like nothing happened. The moral of that story: I am just as bad as you, and I cover this most days of my life!

This lack of consciousness of energy makes the job of those who work in it unforgiving and unrelenting. You get no positive reinforcement for doing a job perfectly that we all rely on. Yet, in the rare times something goes wrong, you're suddenly the devil and the world should get rid of you yesterday.

Embedded in all of this is risk: how much we're willing to take and what tradeoffs we're willing to accept in order to minimize risk.

Some risk we're aware of and can choose: driving a car or flying in a plane. Then there's risk we may be unaware of or have no choice to avoid: natural gas exploding in our homes, or a nuclear plant 30 miles away at risk of melting down.

The risks of these are infinitesimal, but the fear is real. And, in rare moments they happen: Massachusetts gas explosions, Fukushima nuclear meltdown, BP oil spill.

For some context, in America:

- In 2017, eight people died related to pipeline incidents.
- Twice as many people died by lightning strikes last year.

Some folks might be thinking right about now, "Hey, you're forgetting renewables, they're the answer." Yes, they are part of it. Renewables aren't explosive (big plus), and their share of the world's electricity mix is growing fast.

But the world is still deeply dependent upon fossil fuels (81% to be exact), and tradeoffs exist with wind and solar (they need heck of a lot of land, for example, to match fossil fuels and nuclear).

So even while a transition is underway to safer forms of energy, it's critical to make sure the risk of our current dominant sources is as close to zero as possible. Lawmakers are already calling for hearings in response to the Massachusetts explosions.

A 2010 gas pipeline blast in San Bruno, Calif., which killed eight people, led to the inclusion of new safeguards, like automatic pipeline shutoff valves, in a 2011 pipeline safety reauthorization bill. But its implementation remains incomplete.

"When energy hurts somebody outside its immediate value chain, there's usually a policy response."
— Kevin Book, managing director, analysis firm ClearView Energy Partners

What's next: I would be remiss if I didn't mention the longest term, trickiest type of risks: Those posed by a warmer planet, which is occurring largely due to our dependence on fossil fuels.

Sea level rise, more extreme storms and more flooding all increase risks for average homeowners, businesses and energy infrastructure, wrote Edward Rust Jr., former longtime State Farm chief executive, in a New York Times op-ed earlier this month. He endorsed a carbon tax as one good way to reduce risk.

Amy
energy reporter, Axios
202.906.9629
@AmyAHarder

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Subject: Implementing Green Initiatives in Government

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You should walk away with a better understanding of various local, state, and federal green initiatives. These range among: providing for urban agriculture under zoning and health codes; addressing antiquated and potentially unhealthy water and sewer lines and plants and septic; alternative energy; efficient land use; financing to accommodate local and private, as well as public/private partnership projects; LEED issues; and responding to sea level rise. No single presentation can capture all of these issues, but this material provides significant points and resources to help develop integrated knowledge of various green issues.

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Message

From: ECOS [ecos@ecos.org]
Sent: 3/22/2019 6:19:01 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: WOTUS Comment Deadline Sticks, Nebraska Combines Agencies, & More

WOTUS Comment Deadline Sticks, Nebraska Combines Agencies, & More

ECOSWIRE | Vol. 21 No. 12

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ECOSWIRE

Friday, March 22, 2019

Vol. 21 No. 12

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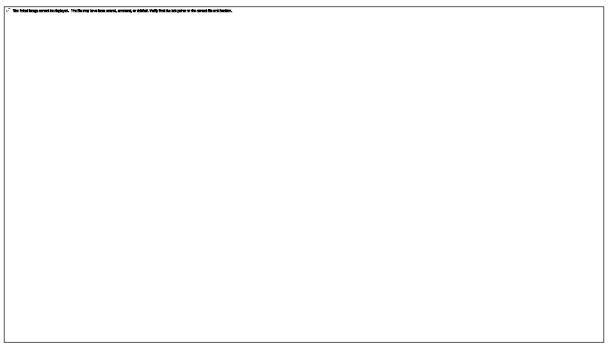
- ERIS
- Upcoming Events

WOTUS Comment Deadline Remains Unchanged



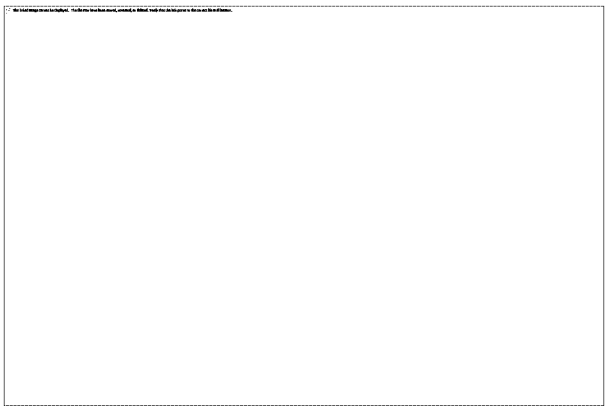
U.S. EPA and the Department of the Army announced this week that they will maintain the current **April 15** deadline for submitting comments on the proposed revised definition of Waters of the United States (WOTUS). The agencies expressed a desire to move quickly to restore “regulatory certainty and clarity” through the proposed rule.

Last month, ECOS and the Association of Clean Water Administrators, Association of State Wetlands Managers, and Association of Fish and Wildlife Agencies submitted a joint letter asking the agencies to push back the April 15 deadline by 60 days. The groups said this would ensure that states have sufficient time to provide thorough and useful comments, in light of the complexity of the rule's impacts and the delay in the public outreach hearings due to the partial government shutdown.

The proposed rule and supporting documents have been available on EPA's website since December 11, which will allow the public a total of 125 days to review, though the agencies were unavailable to answer questions or conduct outreach during the government shutdown at the beginning of the year.

Additional information on the agencies' proposal can be found here. Please reach out to Jack Bowles of EPA at (202) 564-3657 with any questions. [Piper]

ECOS Advocates for STAG Funding in Budget Comments



On March 15, ECOS submitted written testimony to the House Appropriations Committee, Subcommittee on Interior, Environment, and Related Agencies. The testimony addresses FY20 Appropriations for U.S. EPA, specifically regarding sustained State and Tribal Assistance Grants (STAG Categorical Grants) funding, rescissions of prior-year funds, and other key state-related funding issues.

"ECOS has documented that the federal government provides, on average, 27 percent of

our agencies' budgets," the testimony notes. "Without that money, state agencies would find it more challenging to properly administer federal environmental laws, improve public health, and protect the environment. ECOS therefore asks that Fiscal Year 2020 appropriations provide sustained support to programs that advance the well-being of our communities."

You can read the full testimony here. [McAleer]

ECHO Updates Improve Compliance Data

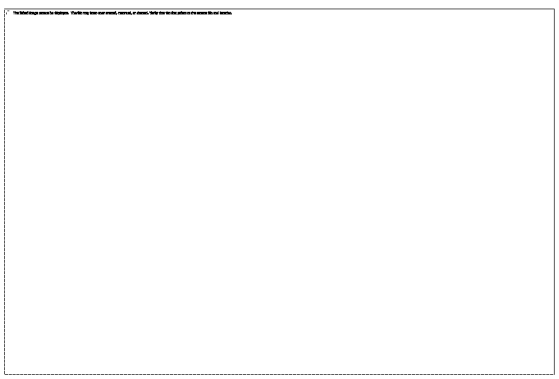
Last month, U.S. EPA implemented a collaborative state-EPA proposal to improve the transparency of facility compliance data on Enforcement and Compliance History Online (ECHO). The improved facility compliance information provides more precision by adding violation dates wherever possible and allowing users to toggle between monthly and quarterly views of the data.

The ECHO Detailed Facility Report and facility searches provide additional context, labeling, and an improved presentation of compliance history. The ECOS-facilitated State-EPA ECHO Case Study team crafted the proposal as part of its mission to respond to state agency comments about data presented on ECHO.

For more information please contact Rebecca Kane of EPA. [Piper/Kane]

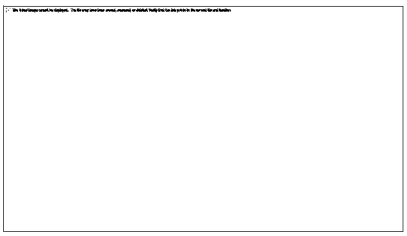
ECOS Issues New Draft Agenda for Spring Meeting

One Week Remains to Register at Regular Rate



ECOS today issued a new draft agenda for our wide-ranging April 7-10 Spring Meeting in Crystal City, Virginia on *Partnership in Action: Advancing Collaboration, Certainty, & Confidence*. The registration count currently stands at 176. If you haven't yet registered, do so by **March 29** to receive the regular rate.

See registration, hotel, and contact information here. [Parisien]



State News You Can Use

Nebraska DEQ to Become Nebraska Department of Environment & Energy

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U.S. EPA Approves Ohio Request to Ease Fish Consumption Restrictions

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Need-to-Know News in Environmental Justice, Water, & Chemicals and Emerging Contaminants

U.S. EPA Launches Environmental Justice Training for States

Area of Focus: Environmental Justice

U.S. EPA has announced training to build the capacity of states to integrate environmental justice (EJ) into their decision-making process. EPA will conduct a national webinar series over the next year developed in collaboration with state partners.

The five national training webinars will serve as an ongoing resource for state staff and others interested in developing their EJ expertise. Planned topics include identifying and prioritizing environmentally impacted and vulnerable communities, enhancing community involvement in the regulatory process, using an area-wide planning approach to promote equitable development, and applying EJ to state environmental impact assessments. To complement the online trainings, EPA Regions will conduct EJ training for their respective states.

"This new training will help states identify, prioritize, and address the needs of at-risk communities facing immediate environmental and public health challenges," said EPA Administrator Andrew Wheeler.

"South Carolina is proud to serve as a collaborative partner with the EPA as they unveil a new environmental justice training initiative for states," added ECOS member Myra Reece. "We are pleased the EPA is taking this important step to increase understanding of tools and resources that can be applied to address the needs of environmental justice communities."

For more information about the webinar series, click here. [Parisien]

U.S. EPA Proposes Requirements for Community Water Systems

Area of Focus: *Water*

This week, U.S. EPA released a pre-publication *Federal Register* notice that describes the requirements for certain community water systems to complete risk and resilience assessments and emergency response plans under America's Water Infrastructure Act (AWIA) of 2018. The notice also outlines how community water systems can certify the completion of these documents to EPA and informs community water systems of how to request the return of vulnerability assessments.

You can see information about the risk assessments and emergency response plan aspects of AWIA, and a copy of the pre-publication version of the *Federal Register* notice, here. [Piper]

U.S. EPA Publishes List for TSCA Prioritization

Area of Focus: *Chemicals and Emerging Contaminants*

On March 20, U.S. EPA published to the *Federal Register* its list of 40 chemicals to begin the prioritization process for reviewing chemicals currently in commerce under the amended Toxic Substances Control Act (TSCA). This publication activates a statutory requirement for EPA to complete the process in the next nine to 12 months, a step in which the agency will designate 20 chemicals as "high priority" and 20 chemicals as "low priority" for risk evaluation. When prioritization is complete, high priority-designated chemicals will undergo a three-year risk evaluation process to determine if the chemical presents an unreasonable threat to human health and the environment.

The public has 90 days to submit information on uses, hazards, and exposure of these 40 chemicals. The list of the chemicals and more information are here. [Longsworth]

U.S. EPA Announces Children's Health Grant Program

Area of Focus: *Chemicals and Emerging Contaminants*

U.S. EPA this week proposed a $50 million Healthy Schools Grant Program to expand the Administration's focus on evaluating and addressing risks to children's health. The program will provide schools funding to identify, prevent, reduce, and resolve environmental hazards like lead exposure, asthma triggers, pests, and toxic chemicals. The program will also support EPA's Federal Action Plan to Reduce Childhood Lead

Exposures and Associated Health Impacts (Lead Action Plan) unveiled by the agency and 16 other federal departments in December. [Longsworth]

ERIS

Environmental Research Institute of the States

U.S. EPA ORD Announces Second Annual Regional-State Science Networking Event

U.S. EPA's Office of Research and Development (ORD) is accepting nominations for its second annual Regional-ORD Community of Science Networking (ROCS-Net) program. The ROCS-Net event will be held **September 17-21** at the EPA facility in Research Triangle Park, NC, and will focus on research related to air quality and PFAS.

ROCS-Net is designed as an orientation program for regional and state scientists and engineers who have limited engagement with ORD and would benefit from a greater understanding of ORD capabilities. Participants visit an ORD research facility for discussions with ORD scientists about collaborative research opportunities, regional and state science priorities, and cross-cutting issues.

This year, ORD will support the participation of ten Regional participants (one per Region) and 20 state participants (two per Region). ORD has asked EPA Deputy Regional Administrators to identify Regional participants and chosen science issues, and then work with the states to identify the process for selecting the two state participants with similar science interests. Once selected, participants in each Region work together to develop an issue paper on the selected science issue ahead of the ROCS-Net event.

For questions, reach out to ORD State Liaison Lisa Matthews. [Longsworth]

Upcoming Events

ECOS

ECOS on U.S. EPA FY 20-21 National Program Guidance

ECOS has set dates for a series of calls for state officials, association staff, and U.S. EPA program offices on the agency's Fiscal Year (FY) 2020-2021 National Program Guidances (formerly known as National Program Manager Guidances). On the calls, senior U.S. EPA program staff will review the various goals and measures in the two-year strategic planning documents, explain major changes from the FY18-19 cycle, and give states an opportunity to ask questions.

On April 1, U.S. EPA will release the draft guidance documents on its website, beginning a 30-day public comment period. The timing of ECOS' NPG calls is as follows:

- Office of Water: **April 16 at 2-3 p.m. Eastern**
- Office of Air and Radiation: **April 24 at 2-3 p.m. Eastern**
- Office of Land and Emergency Management: **April 24 at 3-4 p.m. Eastern**
- Office of Enforcement and Compliance Assistance: **April 25 at 1:30-2:30 p.m. Eastern**

Please contact Owen McAleer of ECOS with any questions. [McAleer]

ECOS on Drinking Water Financing

On April 17 at 2-3:30 p.m. Eastern, ECOS will host a webinar to highlight three states' innovative uses of Drinking Water State Revolving Funds (DWSRF) to assist small water systems. The three featured programs help small and financially disadvantaged systems finance costly drinking water infrastructure projects and remain in compliance with state health regulations.

Presentations cover Alaska's Micro Loan Program, Connecticut's Emergency Power Generator and Small Loan Programs, and Oregon's Sustainable Infrastructure Planning Projects Program.
See this flyer for more information on the presentations. The webinar is the product of a research project to document state innovations in drinking water infrastructure financing. ECOS is working under a cooperative agreement with U.S. EPA's Office of Water.

Register here for the webinar, or contact Megan Swanson of ECOS for more information. [Swanson]

Other

U.S. EPA and Army Corps on WOTUS

U.S. EPA and Army Corps of Engineers are hosting various opportunities for state input on the proposed Waters of the U.S. Rule as part of the public review process. EPA and the Army will host half-day discussions for state officials, which will allow for state input on the proposed new definition and implementation considerations. Remaining state meetings follow:

March 26 in Albuquerque, New Mexico
Register for this meeting here.

April 3 in Seattle, Washington

Register for this meeting here. [Piper]

ITRC on PFAS Contamination

The Interstate Technology & Regulatory Council (ITRC) will hold an in-person training class on *PFAS Contamination* in Boston, Massachusetts on **March 29 at 8 a.m.-4:45 p.m.** Eastern. The training event will explore the key elements for characterizing and managing PFAS-impacted sites. Registration is free for state staff, and travel scholarships are available for state staff traveling more than 50 miles to attend.

Please contact Tadbir Singh of ITRC for more information. Learn more here. [Olonoff]

E-Enterprise Combined Air Emissions Reporting Team on CEDRI

The E-Enterprise Combined Air Emissions Reporting (CAER) Team will host a webinar on **April 1 at 3–4:30 p.m. Eastern** for states, EPA, and others to hear the latest updates to the Compliance and Emissions Data Reporting Interface (CEDRI) and the Facility Widget. This work will be helpful in the broader effort to develop a process for reporting to four air databases including the National Emissions Inventory (NEI) via delegated state programs, and direct reports to federal databases including the Toxics Release Inventory, Greenhouse Gas Reporting Program, and compliance reporting requirements for Part 60 and Part 63 regulations via CEDRI.The webinar will include information on the purpose of CEDRI, an overview of the Federal Registry System Risk and Technology Review project, and a demonstration of the facility widget used in submitting data to EPA.

Register here. [Poole]

ITRC on Integrated DNAPL Site Characterization

ITRC will hold a training course on Integrated DNAPL Site Characterization on **April 4 at 1-3:15 p.m. Eastern**.

Sites contaminated with dense nonaqueous phase liquids (DNAPLs) and DNAPL mixtures present significant environmental challenges. After attending this training, participants will be able to: identify what site conditions must be considered when developing an informative DNAPL conceptual site model; define an objectives-based DNAPL characterization strategy; understand what tools and resources are available to improve

the identification, collection, and evaluation of appropriate site characterization data; and navigate the DNAPL characterization tools table and select appropriate technologies to fill site-specific data gaps. [Olonoff]

Learn more and register here. [Olonoff]

U.S. EPA on ECHO behind the Scenes

U.S. EPA will hold a webinar on the Enforcement and Compliance History Online (ECHO) database on **April 9 1:30-2:30 pm Eastern.** During this webinar, EPA will go "behind the scenes" of ECHO, answering questions about environmental data such as:

- From which EPA program systems does ECHO retrieve data?
- How frequently are the data updated, and how do I make corrections?
- How can I download ECHO data?
- What are ECHO web services?

If you are interested in a specific topic or would like to suggest a question to answer during the webinar, please send feedback to ECHO Support. Every six months U.S. EPA will highlight a different feature of ECHO, and each webinar will be recorded and shared on the ECHO training page.

Register here. [Piper]

DoD on Cleanups

The 2019 Defense Environmental Restoration Program (DERP) Forum will be held on **May 7-9 in St. Louis, Missouri**. The Forum is designed to facilitate information-sharing relative to the DoD cleanup program, with a focus on active and Base Realignment and Closure installations. The Forum will allow DoD and its regulatory partners at the senior cleanup manager level to discuss cleanup issues and initiatives, and to exchange views and lessons learned. These discussions will enhance communications and strengthen partnerships to enable DoD to conduct and complete cleanup effectively. The forum's plenary session will be led by Maureen Sullivan, Office of the Deputy Assistant Secretary of Defense for Environment. View the agenda here.

Registration for state representatives is open on a first-come, first-served basis. State

attendees can use DSMOA funds to cover their attendance. After coordinating internally and with your DoD DSMOA point of contact to determine who from the state will be requesting DSMOA funding, you can register here using the pre-registration code **S123**. State attendees not requesting DSMOA funding can register here using the pre-registration code **X123**

Please contact Molly Olonoff for more information. [Olonoff]

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As honored speakers and guests, please take advantage of registering early for our official NCEW Welcome Reception, Symposium, and Young Professionals Happy Hour. View the full week's events here.

If you have questions about registration, please contact Larissa Fair at lfair@citizensfor.com.

New speakers for the Symposium are being confirmed, and an agenda will be announced shortly. For the latest, follow us on Twitter and Facebook and via the #NCEW18 hashtag.

REGISTRATION IS OPEN

WELCOME RECEPTION *(Monday, September 24, Honeywell 101 Constitution Ave.)* This is a VIP networking event featuring our sponsors, Steering Committee Members, and other invited guests. Thank you to **Honeywell** for hosting our event in their Innovation Center. Space is limited, so please register early. **REGISTER HERE.**

POLICY MAKERS SYMPOSIUM *(Wednesday, September 26, The National Press Club)* This event features energy experts and advocates at the

forefront of today's clean energy policy making. Thank you to our Symposium Sponsor, **Apex Clean Energy**. REGISTER HERE.

YOUNG PROFESSIONALS HAPPY HOUR *(Thursday, September 27, The Dubliner)* This event is open to young professionals in the clean energy sector. Thank you to our event sponsors, **CRES Forum, Clean Energy Leadership Institute (CELI)**, and **Young Professionals in Energy (YPE)**. Space is limited, so please register early. REGISTER HERE.

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To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: 3 Approaches that Keep You in a Congressional Staffer's Head

CQ Roll Call - Marketing Email Template

CQ Ignite

3 Approaches that Keep You in a Congressional Staffer's Head

Members of Congress receive millions of letters and emails each year, mostly about policy issues or position statements on behalf of groups and individuals.

While effective advocacy organization will correspond with congressional members and staff on a routine basis about legislation affecting their issue areas, they will also remain in steady contact, regardless of whether an immediate issue exists.

Here are **3 tactics you can employ right now** to remain top-of-mind with key staffers throughout the year.

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To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Agencies Spend Big This Month

Bloomberg Government Technocrat

Sep

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What's New This Week:
Spend IT Like It's Hot

Schools are back in session nationwide. (Sorry, kids!) It's also a busy time for the federal government, which is
midst of its "use it or lose it" end-of-year spending frenzy. With only a few months left in the current fiscal year,
the 10 highest-spending federal agencies have not used as much as 40 percent of their budgets, according to
report. But that's no excuse to waste government money, cautioned a bipartisan group of senators in letters se
CFOs at 13 agencies.

Agencies are expected to shell out $13.3 billion for unclassified information technology before the end of Septe
This is the month that typically sees the highest spending, as agencies try to clear their budgets. And the numb
lie! BGOV found that about a dozen agencies have 25 percent or more of their expected IT contract obligations
spend before the end of the month.

BGOV's Chris Cornillie breaks down that spending for each agency in this week's exclusive story.

Meanwhile, funds are tight for federal employees—that is, according to President Trump. As you know from las
he's planning a pay freeze for government workers next year. But not without criticism. A delegation of Democr
the Washington metropolitan area recently wrote a letter urging congressional leadership to at least consider th
Senate's proposed 1.9 percent raise. And they're not the first to speak out against the pay freeze.

Before you go—federal agencies could see higher IT costs and slower cloud adoption due to the president's pr
25 percent tariff on certain electronics manufactured in China. Citizens may also be affected since higher costs
lead to higher taxes or lower-quality customer experience, warned analysts at a technology think tank in a new

Get Smart

"With agencies increasingly focused on category management, federal technology leaders and contrac should expect the lion's share of year-end IT spending to flow through the so-called 'Best-In-Class' cor

— Chris Cornillie, federal market analyst with Bloomberg Government

Read more in this week's exclusive from Bloomberg Government.

Privacy Please

New Privacy Framework in Process
The National Institute of Standards and Technology will start gathering public feedback in October for a new pri framework. There's currently a lot of confusion around common language used for privacy controls and the age wants to make it clearer for companies. Read more.

All Eyes on Encryption
The U.S. is among a pact of five countries on a "collect it all" surveillance mission. The so-called "Five Eyes" gr calling on governments to demand that tech companies build backdoor access to their users' encrypted data— legislative measures. Read more.

Data (In)Security

DHS May Block Risky Contractors
The House just passed legislation that would give the Homeland Security Department more power to block con and subcontractors that are considered a security threat. The move comes after Congress acted in the past yea several companies from federal networks. Read more.

Top Five IAM Challenges
Identity and access management, or IAM, is necessary to protect against cyber threats and ensure the right pe have access to the right information. Here's a closer look at the biggest challenges surrounding IAM and what f leaders can do about it. Read more.

Next Tech

Communication Is Key for Media Agency
The Defense Imagery Management Operations Center (DIMOC) has the third largest inventory of media in gov
and is great at communicating with the world. But the agency wants to improve internal communications and fo
more on information sharing. Read more.

Inside DARPA's New AI Project
The Defense Advanced Research Projects Agency has launched the first research opportunity for a new progra
centered on artificial intelligence that can generate, test, and refine its own hypotheses. It could essentially crea
scientist from computer code. Read more.

Big Spenders

JEDI Saga Continues
The Defense Department has extended the proposals due date for its Joint Enterprise Defense Infrastructure c
contract, which is being protested by Oracle as we speak. Keeping track of all the deadlines and delays of this
billion contract is becoming quite a challenge. Read more.

Introducing $15.5B Federal Telecom Market
Since government telecom contracts are often baked into IT overall, it's hard to pinpoint the size of the federal t
market. The Defense Department has been the largest buyer, but several other agencies are also at the top of
according to BGOV's findings. Read more.

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Sent: 9/11/2018 2:46:51 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Exclusive AEI Invitation

Dear Mr. Jackson,

Based on your work in the state legislature, I want to invite to join our exclusive event for leaders across the country. This is a tremendous opportunity to hear from the nation's top policy experts, your fellow legislators, and non-profit and public sector leaders. Other state legislators from throughout the country have also been invited to attend our leadership development summit. This event will be held in Chicago, Illinois, from October 17–19, 2018. This summit is a part of AEI's Leadership Network programming and is designed for leaders from across the country representing the worlds of state and local policy, law, business, community organizations, and

non-profits. The program will encompass a series of bipartisan policy discussions and presentations from some of AEI's best scholars, including: AEI President Arthur Brooks on the art of persuasion; Jonah Goldberg on *Suicide of the West*, his 2018 *New York Times* bestseller; and Robert Doar on social welfare program reform. By attending this event, you will become a part of AEI's regional network of leaders. You can review the complete agenda here.

What: AEI Leadership Network Midwest Regional Summit. See agenda here and the marketing brochure here.
Where: Marriott Marquis—2121 South Prairie Avenue, Chicago, Illinois 60616
When: October 17–19, 2018. The event begins in the late afternoon on October 17 and concludes mid-morning on October 19. Please register by September 15 to guarantee a spot.
Who: The most talented leaders in state and local government, business, non-profit, and community organizations from throughout the country.
Why: We will provide policy and leadership training focused on increasing individual opportunity in our country. We will examine this issue through the lens of poverty alleviation, education, and free enterprise.
How: Register by clicking the button below. The registration fee for the event (which covers all of your meals and materials) is $149. The registration fee includes all five conference meals, two networking receptions, and several books. The room rate at the Marriott Marquis in $220. If participation costs are an issue for you, AEI has some funds available to assist you. You can learn more about how to request a stipend at this link.

REGISTER

If you have any additional questions, feel free to reach out to the AEI team at AEICoalitions@aei.org.

Best wishes,
Rachel

Rachel Ayerst Manfredi
Managing Director, Development and Strategic Initiatives
American Enterprise Institute
1789 Massachusetts Avenue, NW
Washington, DC 20036
202.862.7187 (office)
Ex. 6

AEI LEADERSHIP NETWORK Midwest

Save the Date

October 17–19, 2018
Chicago, Illinois

To register go to **www.aei.org/chicagosummit**

Message

From: Tom Gorman [tomg@chetu.com]
Sent: 9/18/2018 6:13:20 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: SPE ATCE Chetu has innovative solutions to bandwidth challenges

Hi Ryan,

Sorry to have missed each other at SEG. SPE is next week in Dallas and it would be good to catch up. Will you or any of your team be at the conference?

As a reminder, Chetu has over 1,400 developers on our team with no code or technology limitations. When can you tell me more about your company and the development team?

https://www.chetu.com/about-us.php

Tom Gorman

Chetu, Inc. est. 2000

Ex. 6 | Email: tomg@chetu.com
LinkedIn: https://www.linkedin.com/in/tom-gorman-053b9767

Ft Lauderdale (HQ) – Atlanta – Baltimore - Chicago - Dallas – Houston - Isle of Man - Indianapolis - Madison - Nashville - Las Vegas – Tampa - Amsterdam - Delhi

Chetu, Inc. (ASSAE-16 SOC 2 Certified Company)

Message

From: Brent Fewell [brent.fewell@earthandwatergroup.com]
Sent: 9/12/2018 2:05:42 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Molina, Michael [molina.michael@epa.gov]
Subject: House Dinner - Sep. 26
Attachments: ATT00001.txt

I have a list of invitees for the Sep. 26 dinner- invitations will be going out today. Want to make sure Andrew is still available that evening. Time to chat?

Brent

Brent Fewell, Esq. | Earth & Water Law Group
1455 Pennsylvania Ave., NW, Suite 400, Washington, DC 20004
(202) 280-6362 (o) Ex. 6 www.earthandwatergroup.com

LinkedIn

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Message

From: Amy Harder [amy@axios.com]
Sent: 9/10/2018 10:50:18 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Drilling and suburbia collide in Colorado fracking fight

Drilling and suburbia collide in Colorado fracking fight

View this email in your browser

axios.link/DLDY and copied below.

ICYMI my coverage from last week:

Washington governor offers hints on possible 2020 run
News you can use: Google launches new energy, water usage tool
Washington governor on carbon taxes, climate lawsuits & more
Exxon reasserts its methane position as EPA preps rollback

Cheers,

Amy

Drilling and suburbia collide in Colorado fracking fight

DENVER — A fight underway here in Colorado over a ballot initiative curtailing oil and gas drilling is NIMBYism at its most stark.

Why it matters: NIMBYism — "not in my backyard" opposition — is as old as time and often has a negative reputation. But in the case of Colorado, it shouldn't. It's the surprisingly simple result of a growing population and oil drilling encroaching on each other. It's a national symbol of both the economic benefits of drilling and its understandable drawbacks to nearby neighborhoods.

Driving the news: Coloradans are set to vote on a ballot initiative Election Day that would ban drilling within 2,500 feet — nearly a half-mile — from buildings and some green spaces. That's up from a current limit of 500 feet.
Internal polling conducted on behalf of the state's oil industry and not previously disclosed shows the initiative is likely to pass with around 60% support.

"You are at war. We have to crush this thing."
Chip Rimer, top executive at Houston-based Noble Energy

Rimer made those comments to fellow executives at an industry conference

last month in Denver. With backing from national industry groups, Colorado's oil sector is likely to spend upwards of $30 million to defeat the measure, according to one official involved.

- A state government agency study found the initiative could cut off as much as 85% of the state's future energy development on non-federal lands.
- Stocks of Colorado-focused producers, including Anadarko Petroleum, Noble Energy, Extraction Oil & Gas and PDC Energy plummeted on the news in late August that the initiative made the ballot.

The big picture: Rimer and other industry officials say it would effectively ban new development in the state, costing 150,000 jobs and putting at risk $1 billion in annual taxes. Backers of the initiative say the measure is important for residents' health and safety — and for addressing climate change.

Colorado is America's fifth-largest gas-producing state, and the seventh-largest for oil production. The state's tension over fracking, a controversial extraction technique for oil and gas, has been brewing for years and is reaching a fever pitch this election cycle.
By the numbers:

- Population along the Front Range just north of Denver has increased nearly 20% over the past decade, to more than 4.5 million people.
- Over that same time, Colorado's oil production has shot up nearly 500% and natural-gas production is up nearly 35%. Much of that growth is occurring in Front Range communities, including Broomfield.

"As the Denver-area population has grown, these neighborhoods have started moving toward oil and gas production," said Colorado energy lawyer Rebecca Watson. "But, oil and gas has also expanded towards this residential growth." Watson represents energy companies but isn't directly involved in the initiative fight.

Laurie Anderson is a Broomfield resident who says she'll be able to see more than a dozen wells outside her window from a planned development by Extraction Oil & Gas. She worries about truck noise, safety and air-pollution health effects like emissions from the greenhouse gas methane. Anderson is not opposed to all drilling, just drilling in neighborhoods.

"If the industry looked at this, and said 'you know, this is not the right thing to be doing,' it wouldn't be facing some of the criticism it's facing right now."
Laurie Anderson, Broomfield, Colo., resident

Discontent from people like Anderson is emboldened by backing from national environmental groups opposed to fossil fuels that see the measure as a key step toward addressing climate change.

- National activist groups 350.org and Food and Water Watch have both donated money, according to state election filings.
- "This is going to be one of the highest profile fights agains the fossil fuel industry in 2018," said 350.org spokesman Jamie Henn.

Extraction Oil & Gas is one company feeding the tension. Founded in 2012, Extraction operates on the Front Range, the same place as growing neighborhoods. Extraction's business model guarantees conflict.

According to two people familiar with Colorado's oil industry, Extraction goes above and beyond to accommodate affected neighborhoods, which frustrates other operators that think they set the bar too high. Yet, some affected residents have only animosity toward Extraction.

"They'll say they consider community input," Anderson said."I can absolutely guarantee they do not."

For the record: In an emailed comment, Extraction president Matt Owens said the company has taken significant steps to minimize residential disruption,

including extra quiet operations and systems that eliminate storage of oil onsite. "Extraction Oil & Gas has made it our mission to partner with the communities where we live and operate," Owens said. "And we strive to live that commitment each day."

What's next: The conventional wisdom among analysts following the initiative is that it'll fail, fueled by a well-funded industry campaign and bipartisan political opposition to the measure. Even Rep. Jared Polis, a Democrat who bankrolled one of the past anti-fracking efforts, is opposed to this year's measure as a candidate for governor.

But privately, industry officials are still worried — because conventional wisdom also said Donald Trump wouldn't win the 2016 presidential race and Brexit wouldn't pass.

Amy
energy reporter, Axios
202.906.9629
@AmyAHarder

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You can update your preferences or unsubscribe from this list

This email was sent to jackson.ryan@epa.gov

why did I get this? unsubscribe from this list update subscription preferences

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Message

From: Lyons, Troy [lyons.troy@epa.gov]
Sent: 9/13/2018 1:45:56 PM
To: Gillam, Laura Haynes (EPW) [Laura_Gillam@epw.senate.gov]
CC: 'Garvin, Shawn M. (DNREC)' [Shawn.Garvin@state.de.us]; 'Fees, David F. (DNREC)' [David.Fees@state.de.us]; Repko, Mary Frances (EPW) [mary_frances_repko@epw.senate.gov]; Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]; 'Barnekov-Short, Kristin (DNREC)' [Kristin.Bshort@state.de.us]; Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: connecting with EPA for meeting with Acting Administrator on 126 petitions

Many thanks, Laura.

I just left a meeting with the Admin and we are going to re-arrange his schedule so he can make the 2:00 call today with Sec Garvin and Bill Wehrum. Please let me know if you all need anything else!

From: Gillam, Laura Haynes (EPW) [mailto:Laura_Gillam@epw.senate.gov]
Sent: Thursday, September 13, 2018 9:43 AM
To: Lyons, Troy <lyons.troy@epa.gov>
Cc: 'Garvin, Shawn M. (DNREC)' <Shawn.Garvin@state.de.us>; 'Fees, David F. (DNREC)' <David.Fees@state.de.us>; Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>; 'Barnekov-Short, Kristin (DNREC)' <Kristin.Bshort@state.de.us>
Subject: RE: connecting with EPA for meeting with Acting Administrator on 126 petitions

Hi Troy, I'm reconnecting everyone on this email chain. It sounds like the Admin may be able to join the Wehrum call with the state today, but the hurricane is creating some issues for our folks. I'm reconnecting so you guys can figure all of it out. Thank you all again!

From: Gillam, Laura Haynes (EPW)
Sent: Friday, September 7, 2018 4:22 PM
To: 'Lyons, Troy' <lyons.troy@epa.gov>
Cc: Garvin, Shawn M. (DNREC) <Shawn.Garvin@state.de.us>; Fees, David F. (DNREC) <David.Fees@state.de.us>; Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>; Barnekov-Short, Kristin (DNREC) <Kristin.Bshort@state.de.us>
Subject: RE: connecting with EPA for meeting with Acting Administrator on 126 petitions

Hi Troy – I'd like to circle back on this request. As you remember, Acting Admin Wheeler told Senator Carper in the hearing he would personally meet with State of Delaware officials. Has a meeting been scheduled yet with DNREC and Acting Admin Wheeler? I know there has been some discussions on a meeting with Bill Wehrum, which would be good too. However, the Senator was very clear in his request that the Acting Administrator meet with our Delaware folks. It has been over a month, so I know the Senator will ask me soon if this has happened. Thank you! - Laura

---

From: Lyons, Troy <lyons.troy@epa.gov>
Sent: Wednesday, August 22, 2018 7:09 PM
To: Gillam, Laura Haynes (EPW) <Laura_Gillam@epw.senate.gov>
Cc: Garvin, Shawn M. (DNREC) <Shawn.Garvin@state.de.us>; Fees, David F. (DNREC) <David.Fees@state.de.us>; Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
Subject: Re: connecting with EPA for meeting with Acting Administrator on 126 petitions

Thanks, Laura!

Shawn—good seeing you at CBEC a few weeks ago. Hopefully I'll see you at ECOS and we can chat a little more.

If you could let me know your availability, we can make a meeting happen either by phone or in person.

Many thanks!

Troy

Sent from my iPhone

On Aug 22, 2018, at 12:06 PM, Gillam, Laura Haynes (EPW) <Laura_Gillam@epw.senate.gov> wrote:

> Shawn and Dave,
> I'm connecting you with Troy Lyons from EPA. EPA Acting Administrator Wheeler made a commitment to Senator Carper during the August 1st EPW hearing that he would meet with Delaware officials to discuss the state's good neighbor petitions before the agency made any final decision. Troy would like to help set up that meeting with you and the Acting Administrator. Thank you!
>
> - Laura

Message

From: Susan Tackish [tackishs@api.org]
Sent: 9/10/2018 10:30:55 PM
To: Dickerson, Aaron [dickerson.aaron@epa.gov]; Frank Macchiarola [MacchiarolaF@api.org]
CC: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: Meeting Request- Mike Sommers API
Attachments: EPA Meeting Request Form - Acting Administrator Wheeler.docx

Hi Aaron - attached is the completed form. Please let me know if you need anything further. Thanks, Susan

-----Original Message-----
From: Dickerson, Aaron [mailto:dickerson.aaron@epa.gov]
Sent: Monday, September 10, 2018 4:36 PM
To: Susan Tackish; Frank Macchiarola
Cc: Jackson, Ryan
Subject: RE: Meeting Request- Mike Sommers API

Hi Susan/Frank

Can you fill out the attached meeting request form and return to me? I will then be in touch regarding a possible meeting. Thank you.

Aaron Dickerson
Office of the Administrator
U.S. EPA

-----Original Message-----
From: Susan Tackish [mailto:tackishs@api.org]
Sent: Monday, September 10, 2018 4:31 PM
To: Frank Macchiarola <MacchiarolaF@api.org>; Dickerson, Aaron <dickerson.aaron@epa.gov>
Cc: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: RE: Meeting Request- Mike Sommers API

Aaron - below is my full contact information in the event you prefer to call. I look forward to hearing from you. Best, Susan

Susan A. Tackish
EA to the President & CEO

API | 1220 L Street, NW | Washington, DC 20005
202.682.8502 P | 202.682.8110 F | tackishs@api.org

-----Original Message-----
From: Frank Macchiarola
Sent: Monday, September 10, 2018 9:12 AM
To: Dickerson.aaron@epa.gov
Cc: Jackson.ryan@epa.gov; Susan Tackish
Subject: Meeting Request- Mike Sommers API

Aaron,
I am writing to request a meeting with Acting Administrator Wheeler for Mike Sommers, API's new President and CEO and me at your convenience. I am also copying Susan Tackish, Mike's Executive Assistant here.
Thank you for your consideration.
Best,
Frank Macchiarola

ACTING ADMINISTRATOR ANDREW WHEELER
MEETING REQUEST FORM
U.S. Environmental Protection Agency

Today's Date::	*September 10, 2018*
Proposed Meeting Date and Time:	*First available*
Requesting Individual / Affiliation:	*Mike Sommers, President & CEO, American Petroleum Institute (API)*
Location of meeting:	*EPA by default; if off-site, provide address, parking instructions, etc.*
Is the Above Date Flexible?	*Yes*
Purpose of the Meeting	*RFS/Regulatory Issues*
Does the topic of the meeting include any area under litigation? If so, name the litigation.	*No*
Role of the Acting Administrator:	*meeting participant*
List all attendees and their affiliation:	*Mike Sommers, President & CEO, API* *Frank Macchiarola, Group Director Downstream, API* *Will Hupman, Director of Federal Relations, API*
Requestor(s)' Relationship to EPA:	*none*
Does the organizer/host personally know the Acting Administrator? If so, what is the nature of the relationship and its length?	*Yes, professional relationship, 5 years*
Has the organizer/host met previously with the Acting Administrator? If so, which dates?	*No*
Point of Contact:	*Frank Macchiarola (Issues) 202-682-8167* *Susan Tackish (Schedule) 202-682-8502*

Please return this completed form to Aaron Dickerson at [HYPERLINK "mailto:dickerson.aaron@epa.gov"].

ED_002480_00061796-00001

ACTING ADMINISTRATOR ANDREW WHEELER
MEETING REQUEST FORM
U.S. Environmental Protection Agency

ED_002480_00061796-00002

Message

From: Lyons, Troy [lyons.troy@epa.gov]
Sent: 9/13/2018 1:44:01 PM
To: Gillam, Laura Haynes (EPW) [Laura_Gillam@epw.senate.gov]
CC: Repko, Mary Frances (EPW) [mary_frances_repko@epw.senate.gov]; Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]; Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: connecting with EPA for meeting with Acting Administrator on 126 petitions

I just left a meeting with the Administrator and we are moving around his schedule. He will join Bill's call today with Sec Garvin (2:00). I will send a note to the larger group to notify Sec Garvin so he is not caught off guard.

From: Lyons, Troy
Sent: Wednesday, September 12, 2018 9:55 PM
To: Gillam, Laura Haynes (EPW) <Laura_Gillam@epw.senate.gov>
Cc: Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
Subject: Re: connecting with EPA for meeting with Acting Administrator on 126 petitions

Absolutely. I will try my best to get everyone connected.

The state always gave the impression that a meet w Bill was acceptable, or else we would have worked to get sec garvin and the admin connected. I feel the need to convey this so you know we were not trying to slight the state, or sidestep the request.

Sent from my iPhone

On Sep 12, 2018, at 9:39 PM, Gillam, Laura Haynes (EPW) <Laura_Gillam@epw.senate.gov> wrote:

> I understand Troy, thank you for this email. I've talked to DNREC and they were moving forward with the call with Wehrum only because they thought the meeting with the Admin was no longer possible. DNREC really wants a chance to make their case directly with the Admin. And this was the Senator's request. So really appreciate working with our folks to make that happen. Thank you!
>
> Sent from my iPhone
>
> On Sep 12, 2018, at 9:24 PM, Lyons, Troy <lyons.troy@epa.gov> wrote:
>
>> Removed the Delaware reps to keep this within the Senate family. Happy to add them back in.
>>
>> Michal-thank you for flagging Laura's email for me this evening.
>>
>> Laura—I'm very sorry I'm just seeing this now. I was on the road w the Admin and this got lost in my inbox-no excuse but wanted you to know I wasn't intentionally ignoring.
>>
>> I believe a meeting is scheduled w Bill Wehrum and Sec Garvin tomorrow. From our communications w the state, this appeared to have satisfied the request. We obviously want to respect our commitment to the Senator. Please let me know if this does not suffice and I will try my best to make something happen by the end of the week.
>>
>> Sent from my iPhone

On Sep 7, 2018, at 4:22 PM, Gillam, Laura Haynes (EPW) <Laura_Gillam@epw.senate.gov> wrote:

> Hi Troy – I'd like to circle back on this request. As you remember, Acting Admin Wheeler told Senator Carper in the hearing he would personally meet with State of Delaware officials. Has a meeting been scheduled yet with DNREC and Acting Admin Wheeler? I know there has been some discussions on a meeting with Bill Wehrum, which would be good too. However, the Senator was very clear in his request that the Acting Administrator meet with our Delaware folks. It has been over a month, so I know the Senator will ask me soon if this has happened. Thank you! - Laura
>
> ---
>
> **From:** Lyons, Troy <lyons.troy@epa.gov>
> **Sent:** Wednesday, August 22, 2018 7:09 PM
> **To:** Gillam, Laura Haynes (EPW) <Laura_Gillam@epw.senate.gov>
> **Cc:** Garvin, Shawn M. (DNREC) <Shawn.Garvin@state.de.us>; Fees, David F. (DNREC) <David.Fees@state.de.us>; Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
> **Subject:** Re: connecting with EPA for meeting with Acting Administrator on 126 petitions
>
> Thanks, Laura!
>
> Shawn—good seeing you at CBEC a few weeks ago. Hopefully I'll see you at ECOS and we can chat a little more.
>
> If you could let me know your availability, we can make a meeting happen either by phone or in person.
>
> Many thanks!
>
> Troy
>
> Sent from my iPhone
>
> On Aug 22, 2018, at 12:06 PM, Gillam, Laura Haynes (EPW) <Laura_Gillam@epw.senate.gov> wrote:
>
> > Shawn and Dave,
> > I'm connecting you with Troy Lyons from EPA. EPA Acting Administrator Wheeler made a commitment to Senator Carper during the August 1st EPW hearing that he would meet with Delaware officials to discuss the state's good neighbor petitions before the agency made any final decision. Troy would like to help set up that

meeting with you and the Acting Administrator.
Thank you!

- Laura

Message

From: IAPMO Government Relations [Office_of_IAPMO_Government_Relations@iapmo.org]
Sent: 9/17/2018 4:51:33 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: IAPMO Enters Memorandum of Agreement with U.S. Commerce Department's International Trade Administration

INTERNATIONAL ASSOCIATION OF
PLUMBING AND MECHANICAL OFFICIALS

101 Constitution Avenue, NW Suite 825 East
Washington, D.C. 20001

Ph: 202.445.7514
http://www.iapmo.org/GR

IAPMO Enters Memorandum of Agreement with U.S. Commerce Department's International Trade Administration

Washington, D.C. (Sept. 17, 2018) — The International Association of Plumbing and Mechanical Officials (IAPMO), which strives to enhance public health and safety by working with government and industry representatives to implement comprehensive plumbing and mechanical systems worldwide, has entered in a Memorandum of Agreement (MOA) with the U.S. Department of Commerce's International Trade Administration (ITA) in support of the U.S. plumbing industry.

In particular, through this formalized strategic partnership, the partners will collaborate on a program of activities to increase U.S. plumbing exports to Southeast Asia by increasing adoption and use in that region of standards and conformity assessment methods commonly used by U.S. companies. IAPMO works to coordinate the development and promotion of plumbing and mechanical standards worldwide and has a robust presence in the Indo-Pacific. Advocacy for standards directly benefits the American companies that use them and aligns with ITA's mission to promote U.S. standards in export markets in order to boost the competitiveness of the U.S. industry.

"We have been fortunate to work with the Department of Commerce and ITA for many years — a relationship that has proven mutually beneficial," said IAPMO CEO GP Russ Chaney. "Together we have expanded market opportunities for the industry, increased standardization in new markets, and worked to protect the public's health and safety across the globe. Formalizing our working relationship as strategic partners makes perfect sense, and we are thrilled to take this relationship to the next level."

The U.S. plumbing sector is a $92 billion industry employing more than 500,000 people through more than 106,000 businesses. The U.S. plumbing manufacturing sector represents $8.4 billion of that and steadily growing, with domestic demand for plumbing products expected to rise 6.3 percent annually. Globally, U.S. plumbing manufacturers export to 198 markets worldwide to satisfy a $26 billion world plumbing market.

Through a 2013 memorandum of understanding between IAPMO and Indonesia's national standards body, a comprehensive body of regulations, released in March 2015 as SNI 8153:2015, *Plumbing Systems for Buildings*, was adopted as the technical basis for Indonesia's water/sanitation infrastructure. As a result of IAPMO's work, total annualized U.S. plumbing exports to Indonesia have increased by 85 percent over the pre-project period. IAPMO and ITA will coordinate outreach to U.S. government agencies on the benefits of encouraging code acceptance to support regional use of plumbing standards used by U.S. industry and U.S. plumbing product exports.

"The strategic partnership will help us to expand our existing collaboration with IAPMO in Southeast Asia," said ITA Executive Director for Asia Jim Golsen. "IAPMO's success and partnership with Commerce over the years makes

this an ideal partnership moving forward. Codes and standards are key to promoting economic integration and growth both in the United States and Southeast Asia."

IAPMO is the only standards development organization (SDO) or plumbing/construction industry organization to obtain recognition as a Strategic Partner with ITA, an exclusive designation that includes such brands as FedEx and UPS.

For more information, contact Hansen at (202) 445-7514 or dain.hansen@iapmo.org.

# # #

Sponsor of the Uniform Codes, IAPMO® – The International Association of Plumbing and Mechanical Officials – works in concert with government and industry for safe, sanitary plumbing and mechanical systems. Learn more about IAPMO at www.iapmo.org.

You will continue to receive e-mail notifications from us until such time as you unsubscribe. To make sure these e-mails are not sent to your bulk or junk mail folders, add news@iapmo.org to your address book. Requests for new subscriptions or change of e-mail address should be sent to news@iapmo.org. IAPMO does not knowingly participate in SPAM. We do not sell, rent or trade the names on our e-mail list; your e-mail address is only used to send messages from IAPMO. If you wish to be removed from this list, follow the link below and enter your e-mail address to be removed.

Click here to unsubscribe.

Message

From: John Bode [JBode@corn.org]
Sent: 9/10/2018 5:33:36 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Head's Up

Ryan,

Just sending a head's up to encourage you to watch out for pitfalls regarding the herbicide dicamba. While our friends in the crop protection industry are doing all they can to wave off the issue, the non-target damage to other crops and homeowner horticulture is heavy. I don't have a dog in the fight, but wanted to be sure that you are aware that non-target damage caused by dicamba is causing major controversy in rural America. Please take care in how EPA addresses the issue.

Best regards.

John W. Bode
President & CEO
Corn Refiners Association

CORN REFINERS ASSOCIATION

1701 Pennsylvania Avenue, N.W.
Suite 400
Washington, DC 20006
Direct: (202) 534-3499
Main: (202) 331-1634

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Message

From: Zack Colman [zcolman@eenews.net]
Sent: 9/10/2018 10:01:30 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: methane

Hey Ryan,

Is Coral's reporting correct? And this isn't going to include whether to regulate methane as a GHG, is it?

Thanks,
-Zack

--
Zack Colman
E&E News
White House correspondent
Ex. 6
o: 202-446-0408
twitter: @zcolman

Message

From: Laine Striegel [lstriegel@guidepost-strategy.com]
Sent: 9/17/2018 9:27:53 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Larissa Martin [lmartin@guidepost-strategy.com]
Subject: RE: API CEO Meeting Request - Acting Administrator Wheeler

Hey Ryan –

I'm sorry to bug you, as I'm sure things are pretty crazy for you guys. But just wanted to quickly check in and see if you had any update on this meeting request?

Really appreciate your help here.

Best,
Laine

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, September 12, 2018 4:16 PM
To: Laine Striegel <lstriegel@guidepost-strategy.com>
Cc: Larissa Martin <lmartin@guidepost-strategy.com>
Subject: Re: API CEO Meeting Request - Acting Administrator Wheeler

Yes. We'll be able to get back with you tomorrow. We hold weekly meetings with Wheeler usually early in the week by this week of Thursday due to conflicts and travel. We set up timing then and can get back with you.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Sep 12, 2018, at 3:54 PM, Laine Striegel <lstriegel@guidepost-strategy.com> wrote:

> Hi Ryan –
>
> I apologize for the out of the blue email, but was wondering if you would be able to help pass along a scheduling item?
>
> We had submitted the below request on behalf of API to meet with Acting Administrator Wheeler, but hadn't heard back from the scheduling team. Are these the proper contacts? If not, would you mind forwarding this to the proper folks?
>
> We appreciate any assistance you can provide here. And again, do apologize for reaching out like this.
>
> Please let us know if there is any additional information you need.

Thanks so much!
Laine

From: Laine Striegel
Sent: Saturday, September 8, 2018 3:50 PM
To: 'Ford, Hayley' <ford.hayley@epa.gov>; 'Dickerson, Aaron' <dickerson.aaron@epa.gov>
Cc: Larissa Martin <lmartin@guidepost-strategy.com>
Subject: API CEO Meeting Request - Acting Administrator Wheeler

Good Afternoon,

On behalf of the new President & CEO of API, Mike Sommers, I would like to request an introductory meeting with Acting Administrator Andrew Wheeler. Mike's schedule is flexible to what works best for the Acting Administrator, but in the next couple of weeks would be ideal.

Thank you for considering our request! If you are not the proper contact to field scheduling requests, would you be able to pass this along to the correct staff? Please let us know if there is any additional information you need. I have included Mike's bio below for reference as well.

Best,
Laine

MIKE SOMMERS

Mike Sommers is the 15th chief executive of the American Petroleum Institute since its founding almost a century ago. API is the largest national trade association representing all aspects of America's oil and natural gas industry.

Before being named API's president and CEO, Sommers led the American Investment Council, a trade association representing many of the nation's leading private equity and growth capital firms and other business partners.

Sommers spent two decades in critical staff leadership roles in the U.S. House of Representatives and the White House, including chief of staff for Speaker of the House John A. Boehner (R-Ohio) and Special Assistant to President George W. Bush at the National Economic Council.

Sommers has been instrumental in crafting landmark legislation, including leading efforts to pass the Troubled Asset Relief Program through Congress, brokering a resolution between the administration and Congress ahead of the fiscal cliff in 2013, leading efforts to pass the Bipartisan Budget Agreement of 2015 and trade promotion authority in 2015.

Sommers is a native of Naperville, Illinois, and a graduate of the honors program at Miami University in Oxford, Ohio, where he was awarded the President's Distinguished Service Medal - the highest honor given to a Miami undergraduate. He is married to Jill Sommers, a former Commissioner at the Commodity Futures Trading Commission (CFTC). They have three children and live in Alexandria, Virginia.

Laine Evans Striegel
<image001.jpg>
Ex. 6
Email: LStriegel@GuidePost-Strategy.com
www.guidepost-strategy.com

Message

From: Laine Striegel [lstriegel@guidepost-strategy.com]
Sent: 9/12/2018 8:21:01 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Larissa Martin [lmartin@guidepost-strategy.com]
Subject: RE: API CEO Meeting Request - Acting Administrator Wheeler

That is great! Thanks so much. Absolutely understand and appreciate it.

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, September 12, 2018 4:16 PM
To: Laine Striegel <lstriegel@guidepost-strategy.com>
Cc: Larissa Martin <lmartin@guidepost-strategy.com>
Subject: Re: API CEO Meeting Request - Acting Administrator Wheeler

Yes. We'll be able to get back with you tomorrow. We hold weekly meetings with Wheeler usually early in the week by this week of Thursday due to conflicts and travel. We set up timing then and can get back with you.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Sep 12, 2018, at 3:54 PM, Laine Striegel <lstriegel@guidepost-strategy.com> wrote:

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>
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> Laine
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Cc: Larissa Martin <lmartin@guidepost-strategy.com>
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Best,
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Laine Evans Striegel
<image001.jpg>
Ex. 6
Email: LStriegel@GuidePost-Strategy.com
www.guidepost-strategy.com

Message

From: Hannah Phan [Hannah.Phan@iogcc.state.ok.us]
Sent: 8/2/2018 8:57:47 PM
To: Wheeler, Andrew [wheeler.andrew@epa.gov]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Wagner, Kenneth [wagner.kenneth@epa.gov]; Traylor, Patrick [traylor.patrick@epa.gov]; Kenney, James [Kenney.James@epa.gov]; gerry baker [gerry.baker@iogcc.state.ok.us]
Subject: Invitation to the 2018 IOGCC Annual Conference
Attachments: Andrew Wheeler.pdf; IOGCC Annual Conference - DRAFT Agenda.pdf; IOGCC MOU 2016 2019.pdf; McCarthy TF designations.pdf

Sent on behalf of Mr. Gerry Baker, Associate Executive Director, Interstate Oil and Gas Compact Commission

Dear Acting Administrator Wheeler:

In previous correspondence, the Interstate Oil and Gas Compact Commission (IOGCC) has formally invited you to participate in its Annual Conference scheduled for September 30 through October 2 in Coeur d'Alene, Idaho. We would like to renew that invitation as well as request your assistance in fulfilling the mission of the IOGCC-U.S. EPA Task Force created by the attached Memorandum of Understanding.

The EPA has yet to name Task Force members who would be appropriate to represent the agency's views on the variety of important issues faced by both the state and federal regulators. I have enclosed for your information the letter announcing appointments of previous Task Force members.

A Task Force meeting has been scheduled for Coeur d'Alene and an agenda is in the preliminary planning stages. It would be helpful to have advice from Task Force members in the next three weeks to help round out topics for the group's discussion. If possible, we would appreciate a notice of your Task Force appointees by no later than Wednesday, August 8, 2018. If there is any way the IOGCC can be of assistance, please let me know. Thank you for your consideration.

Sincerely,
Gerry Baker
Associate Executive Director
Interstate Oil and Gas Compact Commission
Phone: Ex. 6
Email: gerry.baker@iogcc.state.ok.us

Hannah Phan
Executive Assistant to the Director
Administrative Operations Manager
Interstate Oil & Gas Compact Commission
P.O. Box 53127
Oklahoma City, Oklahoma 73152
Ex. 6 -Direct Phone Number
(405) 522-8380 – IOGCC Main Phone Number

Have you registered for the IOGCC 2018 Annual Conference in Coeur d'Alene, Idaho? Click the image below and register now!

2018 Annual Conference

Coeur d'Alene, Idaho
September 30 - October

Register Now!

INTERSTATE
Oil & Gas
COMPACT COMMISSION

P.O. Box 53127 Oklahoma City, Oklahoma 73152-3127
900 N.E. 23rd Street Oklahoma City, Oklahoma 73105
Phone: 405.525.3556 Fax: 405.525.3592 Web: iogcc.ok.gov

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Nebraska
Nevada
New Mexico
New York
North Dakota
Ohio
Oklahoma
Pennsylvania
South Dakota
Texas
Utah
Virginia
West Virginia
Wyoming

August 1, 2018

Andrew Wheeler
Acting Administrator
U.S. EPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N. W.
Mail Code: 1101A
Washington, DC 20460

Dear Acting Administrator Wheeler:

In previous correspondence, the Interstate Oil and Gas Compact Commission (IOGCC) has formally invited you to participate in its Annual Conference scheduled for September 30 through October 2 in Coeur d'Alene, Idaho. We would like to renew that invitation as well as request your assistance in fulfilling the mission of the IOGCC-U.S. EPA Task Force created by the attached Memorandum of Understanding.

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Sincerely,

Gerry Baker
Associate Executive Director
Interstate Oil and Gas Compact Commission
Phone: Ex. 6
Email: gerry.baker@iogcc.state.ok.us

Enclosure: IOGCC/EPA McCarthy Taskforce Designations; IOGCC/EPA MOU 2016-2019

CC: Ken Wagner; Ryan Jackson; Patrick Traylor; James Kenney

IOGCC ANNUAL CONFERENCE
Coeur d
September 30 October 2, 2018

TENTATIVE AGENDA

Not for Distribution
Please visit the IOGCC website for more details

SUNDAY, September 30

10:00 am	5:00 pm	Registration
1:00 pm	2:00 pm	Opening Remarks
2:00 pm	5:00 pm	Council of State & Provincial Regulatory Officials Roundtable • States First/SOGRE Updates
5:00 pm	6:00 pm	Networking Reception

MONDAY, October 1

7:30 am	8:30 am	Breakfast
7:30 am	4:00 pm	Registration
9:00 am	12:00 pm	General Session • Chairman • E.W. Marland Award
12:00 pm	1:30 pm	Lunch on your own
1:30 pm	2:45 pm	International Committee
1:30 pm	2:45 pm	Environment & Safety Committee
1:30 pm	2:45 pm	USEPA Taskforce Meeting
3:00 pm	4:30 pm	Public Outreach Committee
3:00 pm	4:30 pm	Legal & Regulatory Affairs Committee
3:00 pm	4:30 pm	Resolutions Committee

IOGCC ANNUAL CONFERENCE
Coeur d
September 30 October 2, 2018

TENTATIVE AGENDA

Not for Distribution
Please visit the IOGCC website for more details

TUESDAY, October 2

7:30 am	12:00 pm	Registration
7:30 am	8:30 am	Breakfast
8:30 am	10:00 am	Public Lands Committee
8:30 am	10:30 am	Energy Resources, Research and Technology Committee
10:15 am	11:30 am	Council of State Oil and Gas Attorneys Roundtable
11:30 am	1:00 pm	Lunch on Your Own
11:30 am	1:00 pm	Steering Committee
1:00 pm	3:00 pm	Business Session

Memorandum of Understanding

Between
Interstate Oil and Gas Compact Commission
and
U.S. Environmental Protection Agency

This is a Memorandum of Understanding (MOU) between the Interstate Oil and Gas Compact Commission (IOGCC) and the United States Environmental Protection Agency (EPA) regarding environmental regulatory oversight of oil and natural gas exploration and production activities.

Whereas, the IOGCC is a congressionally chartered organization of governors of the oil and natural gas producing states, with the responsibility to protect and develop the states' oil and gas resources, avoid waste of those resources and protect the environment, and

Whereas, the governors through the IOGCC seek to develop and conserve oil and gas resources in an efficient and effective manner, and

Whereas, the EPA is charged with protecting the nation's public health and environment, and

Whereas, this MOU between the IOGCC and EPA is intended to continue to facilitate more open and timely communication resulting in better integrated, transparent, and more collaborative protection of the environment.

Now, THEREFORE, the IOGCC and the EPA enter into this MOU, which renews the shared interests of the IOGCC and EPA and replaces the MOUs signed between IOGCC and EPA in December 2002, March 2005, May 2007, August 2011, and September 2013:

The purpose of this MOU is to improve regulatory cooperation among the states and EPA, in a manner that promotes protection of the environment in a cost-effective manner consistent with applicable requirements, minimizes duplication, increases efficiencies, enables the exchange of information and expertise, and increases communication.

Background: In some instances, the states and EPA have concurrent jurisdiction relating to a host of oil and gas regulatory efforts. In other instances, the states and EPA have independent authorities that may be complementary when effectively coordinated. IOGCC and EPA signed a MOU to facilitate this relationship in December 2002, which was renewed in March 2005, May 2007, August 2011, and September 2013.

The objectives of the MOU are to renew a joint Task Force to:

1. Continue long-term improvement in communication between the states and EPA.
2. Continue a high-level IOGCC/EPA relationship that is intended to foster environmental protection based on mutual understanding of each other's missions, responsibilities, and authorities.
3. Address through ad hoc, issue-oriented working subgroups, issues that may result from concurrent jurisdiction between the states and EPA.

4. Identify issues of concern between the states and EPA that then can be addressed in the short and long term.
5. Maintain a permanent means of consultation.
6. Identify and implement mutually beneficial joint activities.

Responsibilities of IOGCC and EPA:

1. IOGCC and EPA resolve to assemble a renewed Task Force to accomplish the objectives described herein and provide periodic reports of their findings and recommendations to the Administrator of the EPA, to the IOGCC Chairman and to the public.
2. The Task Force is to include senior representatives from state oil and gas commissions, the IOGCC, and EPA headquarters and regional offices; such representatives must be employees of a state, the IOGCC, or EPA.
3. IOGCC and EPA intend to identify areas of concern and recommend appropriate actions and solutions.
4. IOGCC and EPA intend to consult and coordinate with other state and federal agencies, Indian tribes, and other organizations as issues and solutions are developed.

Authorities and Limitations:

1. EPA enters into this MOU pursuant to section 104 of the Clean Water Act, section 103 of the Clean Air Act, section 8001 of the Solid Waste Disposal Act, and section 102(2)(G) of the National Environmental Policy Act.
2. Nothing in this MOU alters the responsibilities or statutory authorities of EPA or the individual states. This MOU does not supersede existing agreements or restrict any future agreements between EPA and the individual states or other state associations.
3. This MOU does not, in and of itself, obligate either party to expend funds. All commitments made by EPA are subject to the availability of appropriated funds. Any endeavor involving reimbursement, contribution, or financial assistance between the parties to this MOU will be handled according to applicable laws, regulations, and procedures, including policies relating to competition for contracts and assistance agreements, and subject to separate agreements. Neither party will submit a claim for compensation to the other party for activities carried out under this MOU.
4. Nothing in this MOU precludes individual MOUs between the IOGCC, state oil and gas regulatory agencies, and EPA regional offices.
5. This MOU is not legally binding on any party and does not create any rights or benefits, substantive or procedural, enforceable at law or in equity by any person against any party to the MOU.
6. Under Federal ethics rules, EPA may not endorse products or services provided by private entities. Nothing in this MOU constitutes an endorsement by either party of the products, services, and/or fundraising activities of the other. The IOGCC agrees not to make statements to the public at workshops and meetings, promotional literature, on its web site or through other media that imply that EPA endorses IOGCC or any service or product offered by it. In addition, IOGCC agrees not to make statements that imply that EPA supports IOGCC's efforts to raise public or private funds. Any statements or promotional materials prepared by IOGCC that describe this MOU must be approved in advance by EPA.

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This MOU is to take effect upon the signatures of the parties listed below and remains in effect for three years or until modified by mutual written consent. At the end of three (3) years, IOGCC and EPA agree to discuss an extension of the MOU for mutual benefit. Either party may terminate its participation in this MOU by providing written notice to the other party at least ninety (90) days prior to the desired termination date; otherwise this MOU expires on December 31, 2019.

SIGNED:

U.S. Environmental Protection Agency
Gina McCarthy, Administrator

Date: Sept 16, 2016

Mary Fallin

Interstate Oil and Gas Compact Commission
Governor Mary Fallin, State of Oklahoma
Chair of IOGCC

Date: September 6, 2016

ED_002480_00065628-00003

THE ADMINISTRATOR OF THE ENVIRONMENTAL PROTECTION AGENCY

WASHINGTON, D.C. 20460

The Honorable Gary Herbert
Governor
State of Utah
State Capitol, Suite 200
Salt Lake City, UT 84114

Dear Governor Herbert:

At the recent Interstate Oil and Gas Compact Commission business session held in Salt Lake City, representatives from IOGCC, a number of state oil and gas regulatory agencies, and the U.S. Environmental Protection Agency met to discuss how to enhance our ongoing relationship built around the Memorandum of Understanding signed by Alabama Governor Robert Bentley and me that covers the 2013 – 2016 time period. The joint IOGCC/EPA MOU Task Force provides a mechanism for better communication and collaboration between the states and federal government, which benefits the public and the regulated community.

Since the MOU Task Force was first created in 2003, there have been a number of technical and regulatory changes in the oil and natural gas sector. Great innovations and technical advances have made oil and natural gas exploration, development, and production feasible and profitable in new areas of our country. At the time of the initial MOU (2003 – 2005), most of the oil and natural gas activity took place in rural areas of the central and western states. The twin innovations of horizontal drilling and hydraulic fracturing have greatly increased oil and natural gas development in eastern states, in more urban and suburban settings, and have raised concerns about air emissions and potential impacts to drinking water supplies.

To reflect these differing circumstances, I have reviewed the EPA's representation to the MOU Task Force and make the following appointments. Please note that although these individuals (and their successors over time) will be EPA's formal representatives, staff from other EPA offices in Washington, DC, and in the regions and laboratories are fully engaged in ongoing discussions and will support the work of the Task Force as required.

Shawn Garvin, Regional Administrator, Region 3
Susan Hedman, Regional Administrator, Region 5
Ron Curry, Regional Administrator, Region 6
Shaun McGrath, Regional Administrator, Region 8
Teresa Marks, Principal Advisor to the Administrator on Unconventional Oil & Gas
Mark Rupp, Deputy Associate Administrator, Office of Intergovernmental Relations

This paper is printed with vegetable-oil-based inks and is 100-percent postconsumer recycled material, chlorine-free-processed and recyclable.

I have selected Teresa Marks, my Principal Advisor on Unconventional Oil & Gas, as EPA's official liaison to the IOGCC and EPA co-chair to the MOU Task Force. In her capacity as EPA co-chair, Ms. Marks will call on the headquarters program offices to participate in the Task Force meetings as necessary. Ron Curry, the Region 6 Administrator, will continue as the EPA alternative liaison to the IOGCC and be Ms. Marks' back-up as the EPA co-chair to the MOU Task Force.

I look forward to working with you and other member governors in protecting and developing the nation's oil and gas resources and doing so in a manner that protects public health and the environment. If you have further questions or concerns, please contact me or your staff may contact Mark Rupp, Deputy Associate Administrator for Intergovernmental Relations, at Rupp.Mark@epa.gov or at 202-564-7178.

Sincerely,

Gina McCarthy
Administrator

Message

From: Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]
Sent: 8/9/2018 4:30:22 PM
To: Lyons, Troy [lyons.troy@epa.gov]
CC: Repko, Mary Frances (EPW) [mary_frances_repko@epw.senate.gov]; Jackson, Ryan [jackson.ryan@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Frye, Tony (Robert) [frye.robert@epa.gov]
Subject: Re: Nominations

We are happy to talk, but both of us are out of the office this week. Want to schedule some time for next week?

Thanks
M

Sent from my iPhone

On Aug 9, 2018, at 12:22 PM, Lyons, Troy <lyons.troy@epa.gov> wrote:

> Mary Frances, Michal—hopefully you have been able to re-charge your batteries over this long August recess. I think there were a lot of constructive discussions during last week's hearing.
>
> Now that Chad McIntosh and Peter Wright have been approved by EPW I would like to find a way reach a time agreement on their nominations. Do you all have time next week for us to begin discussions on a path forward for Chad and Peter? You all have been good partners with us in finding agreements on our nominees, and I have no reason to believe we won't be able to do the same with Chad and Peter.
>
> Many thanks!
>
> Troy
>
> _____
> **Troy M. Lyons**
> Associate Administrator
> Office of Congressional & Intergovernmental Relations
> U.S. Environmental Protection Agency
> Ex. 6

Message

From: Edward Calabrese [edwardc@schoolph.umass.edu]
Sent: 8/10/2018 8:45:02 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: new paper on EPA proposal
Attachments: Dose Response-Model Uncertainty.pdf

Ryan:

See the attached new paper....please share with your colleagues.

Ed Calabrese

Check for updates

Dose-Response:
An International Journal
July-September 2018:1-4
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The EPA Cancer Risk Assessment Default Model Proposal: Moving Away From the LNT

Edward J. Calabrese[1], Jaap C. Hanekamp[2], and Dima Yazji Shamoun[3]

Abstract

This article strongly supports the Environmental Protection Agency proposal to make significant changes in their cancer risk assessment principles and practices by moving away from the use of the linear nonthreshold (LNT) dose–response as the default model. An alternate approach is proposed based on model uncertainty which integrates the most scientifically supportable features of the threshold, hormesis, and LNT models to identify the doses that optimize population-based responses (ie, maximize health benefits/minimize health harm). This novel approach for cancer risk assessment represents a significant improvement to the current LNT default method from scientific and public health perspectives.

Keywords

cancer risk assessment, model uncertainty, LNT, hormesis, threshold, dose–response, US EPA

Linear Nonthreshold—Its Corrupt History and Scientific Flaws

The proposal by the Environmental Protection Agency (EPA)[1] to no longer use the linear nonthreshold (LNT) as the default model in cancer risk assessment is long overdue. It has been extensively documented that: (1) The LNT model has been based on flawed science (ie, Hermann J. Muller never induced point mutations but rather large gene deletions and other gross chromosomal aberrations[2]; (2) the LNT model has incorrect scientific interpretations (ie, Muller incorrectly assumed that his transgenerational phenotypic changes in Drosophila were due to gene mutations)[2]; and (3) the LNT single-hit theory has been formulated under the incorrect assumption that the, Muller X-ray induced gene mutation theory was sound.[3]

Further, the history of LNT has been ripe with deliberate misrepresentations of the scientific record, including (1) the incorrect dismissal of the Caspari threshold findings by Stern and Muller (see study by Calabrese[4]) contradicting a copious research record and substantial private correspondence between Muller and Stern[4]; (2) Muller's powerfully influential comments in his Nobel Prize Lecture were deliberately deceptive[5,6]; (3) scientific misconduct by the entire membership of the US National Academy of Sciences (NAS) Biological Effects of Atomic Radiation (BEAR) I Genetics Panel which lead to governmental adoption of the LNT (ie, publishing deliberately false information in the journal *Science* to enhance the acceptance of LNT; NAS BEAR I Genetics Panel, 1956[4,7]); and (4) serious errors on mutation risks that were introduced into the key Biological Effects of Ionizing Radiation (BEIR) I Report in 1972[8] which were adopted by the EPA in 1975 to justify the adoption of LNT for chemicals and radiation.[9,10]

It is only recently that the BEIR I mistakes and their perpetuation to the present by other US NAS BEIR Committees and their risk assessment implications were reported. The LNT cancer risk assessment policy, procedures, and belief system are based therefore upon a newly recognized series of corrupt actions and mistakes by key national leaders principally in the radiation genetics domain. These controlling deceptions and

[1] Department of Environmental Health Sciences, University of Massachusetts, Amherst, MA, USA
[2] Science Department, University College Roosevelt, Middelburg, The Netherlands
[3] Economics Department, University of Texas at Austin, Austin, TX, USA

Received 24 May 2018; received revised 12 June 2018; accepted 12 June 2018

Corresponding Author:
Edward J. Calabrese, Department of Environmental Health Sciences, University of Massachusetts, Morrill I, N344, Amherst, MA 01003, USA.
Email: edwardc@schoolph.umass.edu

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errors have guided the US cancer risk processes from the mid-1950s to the present. As important as these documented errors and deceptions for the LNT model are, a vast scientific literature exists that refutes the low-dose predictions of the LNT model.[11-13,22] Also, LNT falls outside the empirical, as no experiment would actually be possible to causally connect the perturbation of some part of the DNA by 1 ionizing photon/1 genotoxic molecule that subsequently would develop, over the organism's lifetime, into some disorder such as cancer. Linear nonthreshold simply assumes this by default.[14]

Given the present EPA proposal, its major challenge is whether a cancer risk assessment default model is needed, and, if so, what should it be? A default model in cancer risk assessment gets around the practical impossibility of testing agents for cancer risk over a large number of doses and with very large number of animals. This issue was well demonstrated in the now famous Food and Drug Administration ED-01 study that utilized some 24 000 mice.[15] Such studies take too long, are too costly, and they reduce the possibility that other agents get tested, since vast resources would be directed to the massively larger study(ies). In addition, the ED-01 study still could not explore the potential of very low risks without even a more substantial addition of mice.

Based on the history of chronic animal testing and the realization that large experiments were not practical, the National Toxicology Program (NTP) adopted the long-standing historical modus operandi of using the simple few/high doses approach to hazard assessment based on the inadequate assumption that the LNT model could make accurate predictions in the low-dose zone. These few and excessively high doses, however, made it impossible to challenge the LNT predictions as a cancer risk assessment model. Thus, the NTP and the EPA worked together to create a system of evaluation in which the LNT model would become the default for essentially all animal model cancer risk assessments.

The history of EPA risk assessment regulations has been based either on epidemiological or on animal model studies. In either case, knowledge of the nature of the response at low doses affecting normal humans is limited. For most regulated chemicals, adequate epidemiological studies don't exist, and even "adequate" studies have important limitations. The reality of this situation has resulted in regulatory agencies, such as EPA, basing their human exposure standards on high dose/few dose animal studies with mice and rats, needing to extrapolate to humans, often across many orders of magnitude of dose (eg, the history of volatile organic contaminants regulation illustrates this point). The question is how does the EPA find a way out of this regulatory quagmire of using the historically corrupt and scientifically flawed LNT model? The answer is not in basing regulations on mechanistic in vitro studies as helpful as they are, nor on limited and inadequate epidemiological studies as useful as they are, nor on the few/high-dose animal model approach. None of these approaches individually or collectively can offer a solution to the issue of cancer risk assessment.

An Improved Default Model Approach: Model Uncertainty

The best answer, for the foreseeable future, from theoretical data support and public health perspectives is the use of dose–response model uncertainty, that is, using the leading dose–response models and determining where they optimally converge to yield the so-called regulatory sweet spot. This "sweet spot" is the dose where health benefits are optimized, and risks are minimized. The resultant of these converging science-driven processes will yield the optimal public health dose, with changes in dose going either up or down yielding less benefit/more public health harm, thus the sweet spot concept (note 1). In practice, this involves finding a practical and scientific means to integrate the threshold, LNT, and hormetic dose–response models, the 3 models with the most toxicological gravitas based on the peer-reviewed published literature. Each model has its strengths and limits, its advocates, and its detractors. In the interest of full disclosure, the authors strongly favor the hormesis model and feel it is far superior to the threshold model and even more so to the LNT model.[16-18] Nonetheless, it is argued here that the combination and integration of these 3 most substantial dose–response models into a dynamic risk assessment framework works best because it has the potential to integrate the best scientific features of the 3 models while limiting/minimizing the possibility of error.

This process describes/predicts what happens if hormesis is correct or incorrect and the same for the LNT as these 2 models provide the bounds of harm or benefit. The case for this integrated dose–response approach has been published in several peer-reviewed chemical and radiation health risk assessment publications.[4,19,20] Attractive features of this integrative approach are that the nadir of the hormetic dose response, based on a large number of studies in the hormetic database,[11] and the "safe" exposure estimate using the threshold dose–response model with a standard 100-fold uncertainty factor yield essentially the same value. Thus, these 2 models provide an agreement, although they offer a different toxicological interpretation (ie no effect/safe threshold interpretation versus beneficial hormetic interpretation). At this same dose, the LNT model was found to yield a cancer risk approximately 10^{-4} (or 1 per 10 000 people over an 80-year lifespan). This value represents a low risk within society, which is not detectable via epidemiological evaluation under the best of research conditions. It is also about 500-fold lower than the cancer risk from background (ie, spontaneous tumors). Figure 1 provides a description of the integration of the threshold, LNT, and hormesis models within a model uncertainty framework, showing the optimized dose (ie, the regulatory sweet spot). If the hormetic dose–response model predictions are correct, then the benefits to society in terms of disease reduction would be substantial. However, if hormesis was wrong and LNT is correct, the effects would be undetectable, again showing the regulatory sweet spot.

The integration of the 3 most credible scientific models within a model uncertainty suggests that more research still

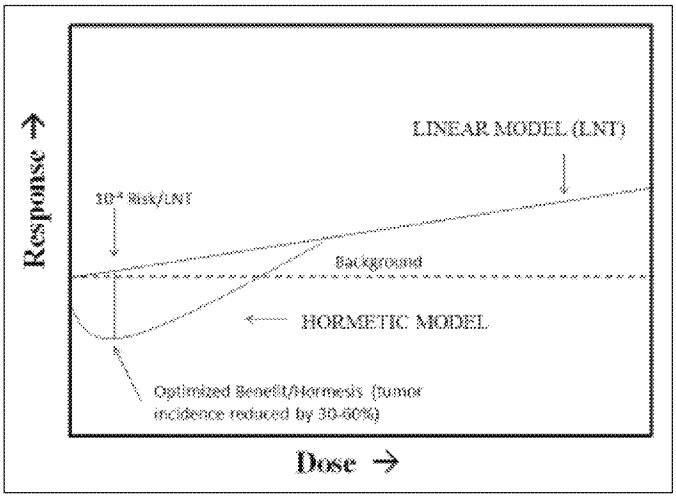

Figure 1. Integration of hormesis and LNT for risk assessment. LNT indicates linear nonthreshold.

needs to be undertaken to improve the reliability of model-based, low-dose estimates. It also raises the possibility that this general approach might be able to be refined and fine-tuned so as to be applied to specific agents. For example, it is possible/likely that the hormetic optima may vary somewhat depending on the specific agent. Despite the remaining uncertainties of this proposed model uncertainty and dose optimization regulatory sweet spot approach, it offers considerable scientific and societal advances over the present LNT model and should be adopted by the US EPA and other environmental regulatory agencies in other countries. It offers a strong scientific foundation, the integrated estimates of the 3 most evaluated models and it errs on the side of safety, while allowing society to capitalize on the potential of significant public health benefits. This perspective is far superior to the current LNT-default risk assessment both from scientific and from public health perspectives. The EPA proposal should be accepted and implemented across all programs involving risk assessment as soon as possible.

Authors' Note

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Acknowledgments

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Note

1. It is worth noting that the "optimal dose" or the "sweet spot" proposed in this article is only based on the dose–response science in cancer risk assessment. A work in progress by Dima Shamoun and Richard Williams expands on this idea of optimal dose by marrying economic analysis (in the form of benefit–cost analysis) with dose–response modeling. The idea is that the optimal dose occurs where the marginal cost is equal to the marginal benefit of the reduction in dose. This *economically* optimal dose would take into account regulatory costs, various administrative costs, compliance costs, and risk–risk trade-offs and health–health trade-offs. As a result of this comprehensive calculus, the economically optimal dose may occur at a dose higher than the optimal dose proposed here yet maximizing the net benefits of a risk-based regulation. See, for example, Keeney.[21]

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Message

From: Michael Pasko [mpasko@nmma.org]
Sent: 8/2/2018 8:50:54 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: Meeting request

Ryan—

Thanks so much for your help. We've been working with the scheduling team and are now locked in for a date later in August. Thanks again.

-Mike

Michael R. Pasko
Director, Federal Government Affairs

National Marine Manufacturers Association
650 Massachusetts Avenue, NW Suite 520 | Washington, DC 20001
o. 202-737-9760 | **nmma.org**

From: Michael Pasko
Sent: Monday, July 30, 2018 11:10 AM
To: 'Jackson, Ryan' <jackson.ryan@epa.gov>
Subject: RE: Meeting request

Hi Ryan—

Any news on a potential meeting? Thanks again for helping with this.

-Mike

Michael R. Pasko
Director, Federal Government Affairs

National Marine Manufacturers Association
650 Massachusetts Avenue, NW Suite 520 | Washington, DC 20001
o. 202-737-9760 | **nmma.org**

From: Michael Pasko
Sent: Monday, July 23, 2018 9:25 AM
To: 'Jackson, Ryan' <jackson.ryan@epa.gov>
Subject: RE: Meeting request

Thanks Ryan!

-Mike

Michael R. Pasko
Director, Federal Government Affairs

National Marine Manufacturers Association
650 Massachusetts Avenue, NW Suite 520 | Washington, DC 20001
o. 202-737-9760 | **nmma.org**

From: Jackson, Ryan [mailto:jackson.ryan@epa.gov]
Sent: Monday, July 23, 2018 9:24 AM
To: Michael Pasko <mpasko@nmma.org>
Subject: Re: Meeting request

We are on it. We'll get back with you very shortly.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Jul 23, 2018, at 9:15 AM, Michael Pasko <mpasko@nmma.org> wrote:

Hi Ryan—

Just wanted to follow-up here. Marty said to touch base with you on a meeting request. What's the best way to get some of our members in front of the Acting Administrator?

Thanks again.

-Mike

Michael R. Pasko
Director, Federal Government Affairs

National Marine Manufacturers Association
650 Massachusetts Avenue, NW Suite 520 | Washington, DC 20001
o. 202-737-9760 | **nmma.org**

From: Michael Pasko
Sent: Wednesday, July 18, 2018 4:54 PM
To: 'jackson.ryan@epa.gov' <jackson.ryan@epa.gov>
Subject: Meeting request

Ryan—

I understand you ran into Marty today and he told me that you would be a good point of contact to get a meeting set up with the Acting Administrator. Just let me know how best to facilitate this.

Thank you.

-Mike Pasko

Michael R. Pasko
Director, Federal Government Affairs

National Marine Manufacturers Association

650 Massachusetts Avenue, NW Suite 520 | Washington, DC 20001
o. 202-737-9760 | nmma.org

Message

From: Tomassi, Chris (Appropriations) [Chris_Tomassi@appro.senate.gov]
Sent: 8/12/2018 8:09:26 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Boyle, Garrett (Murkowski) [Garrett_Boyle@murkowski.senate.gov]; Lesofski, Emy (Appropriations) [Emy_Lesofski@appro.senate.gov]
Subject: Connecting You

Flag: Follow up

Emy and Garrett – LAM has always asked for a point of contact at EPA HQ to help move forward some of the Alaska priorities. Ryan Jackson – EPA's Chief of Staff – called me on Friday to let us know that he will be that point of contact. I let him know that I'm not long for the Senate and told him I'd connect him with the appropriate folks in the Chairman's world.

Ryan – Emy is handling the EPA account for Senator Murkowski during the Conference. I'm not sure who will handle it permanently, but she's a good point of contact on the issues now. Garrett is Senator Murkowski's LD and is very familiar with all of the AK issues of concern.

We recently met with Region 10 Administrator Chris Hladick, who provided us with a good update and positive progress on the issues I've noted below. Senator Murkowski was generally pleased with the progress, but the one issues that seems to be a bit stuck, unfortunately, is the Small, Remote Incinerator issue. I know Chairman Murkowski would appreciate your help in unsticking that one. AA Wehrum should be very familiar with it as well.

If anyone has any questions or needs more background, my personal email is Ex. 6 and my cell is Ex. 6 Ex. 6

Issues:

Fish Grinding: Chairman Murkowski has advocated for EPA to find a way to allow offshore seafood processors to continue to discharge waste on offshore vessels. After years of delay, it is our understanding that EPA has sent a permit to OMB that will allow for that to happen. It will be limited to the Bering Sea, which means it will solve the Alaska problem that you have sought to fix. OMB is going through a 90-day review and then EPA expects to publish the permit for comment.

Remote Generators in Rural Alaska: On behalf of the Tanana Chiefs Conference (TCC), Chairman Murkowski has advocated for the EPA to revise a rule that requires Model Year 2014 and later diesel generators to install particulate filters in rural Alaska. EPA recently gathered information from the Alaska Energy Authority and the Alaska Department of Environmental Conservation (ADEC) and planning to move forward with a rulemaking that will "provide regulatory relief" and be "technically and legally supportable." EPA does not yet have a timeframe for moving forward, but made its intentions clear to the TCC in a June 25, 2018 letter.

Fairbanks PM 2.5: EPA will again review an application from Fairbanks to move forward with additional wood stove change-out using the FY18 funding that you provided in the Omnibus. Fairbanks was awarded $4 million in FY17. Additionally, the EPA continues to work with ADEC on the State Implementation Plan (SIP) to meet the "serious" non-attainment designation. EPA is working to ensure that the plan has the most beneficial air quality impacts with the least cost. It is possible that some utilities may be required to provide mitigation funding in lieu of achieving the best available control technology (BACT). EPA is currently considering whether using this mitigation money for additional wood stove change-out will have the most beneficial impact on air quality.

Small, Remote Incinerators: It is my understanding that EPA's general counsel is interpreting the funding prohibition in the omnibus as a prohibition on doing any work to update the SRI rule. The basis of the language we included was technical assistance from EPA that specifically allowed for work to continue to find a solution. I recently sent a note to EPA reminding them that they had provided technical assistance and that Chairman Murkowski had received repeated

assurances from former-Administrator Pruitt and Assistant Administrator Bill Wehrum that they were working on the matter. We may need your help to ensure that a permanent fix can happen in a timely manner.

WIIN Act Grants: I have raised concern that some Alaskan communities who stand to benefit from the funding Chairman Murkowski provided to the EPA for its new Assistance to Small and Disadvantaged Communities grants need to be made aware when the grants are available and may need help in writing grant applications because it is a competitive process. At this stage, there is not a timeframe for EPA to begin the competitive process, but we have made headquarters very aware of this concern. Region 10 plans to work with the State of Alaska to ensure that Alaskan communities are able to apply when the funding is available.

Native Village of Kivalina (issue that has come about after the FY19 budget hearing): In 2015, the Kivalina Biochar Reactor was identified by the Kivalina City Council and the Kivalina Tribal Council as a method to provide innovative sanitation services to the community. With funding provided by Teck Alaska Red Dog Mine and the NANA Regional Corporation Economic Development Program, the Biochar unit was procured, transported during the open water season, and local operator training was conducted. However, for over 11 months the unit has sat unused due to EPA regulatory uncertainty. A recent EPA opinion determined that the unit should be regulated under the "very small municipal waste combustion units" provision of the Clean Air Act, which requires Kivalina to obtain a Title V operating permit that could cost up to $120,000 each year to maintain compliance. We have asked EPA to determine if there is a feasible exemption that will allow the unit to operate and have provided EPA with contact information for individuals who have been working on the Biochar Reactor since 2015. My understanding is that Region 10 is working on the matter, and Chairman Murkowski is hopeful that there is a feasible solution that will allow the unit to operate.

Chris Tomassi
Professional Staff
Senate Appropriations Committee
Subcommittee on Interior, Environment, and Related Agencies
Chris_Tomassi@appro.senate.gov

Message

From: Ex. 6
Sent: 8/13/2018 10:39:16 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Resume
Attachments: Ex. 6 resume 2018.docx

Hi Ryan,
Good talking to you last week. I appreciated hearing about the position. I would be an ideal person to bridge the gap between EPA's regulation folks and scientists. Particularly on the NOAA portfolio, I have identified and elevated areas where incorporating additional science could benefit the agency and, more importantly, the public. Making EPA's science more timely and relevant to the rulemaking process is the type of issue that I came to Washington to work on. I have a highly collaborative approach that is well-suited to creating a lasting change in how the braches of EPA work together.
Attached is my resume. Thank you for your consideration.
Ex. 6

Ex. 6

Ex. 6

Message

From: McClintic, Howard [McClintH@ctc.com]
Sent: 7/27/2018 4:24:28 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: FW: DRAFT Letter to Administrator Wheeler Our Science Committee's Report Is Pivotal to Eliminating the Linear No-Threshold (LNT) Methodology
Attachments: ATT00001.txt; FINAL LNT Presentation of Howard McClintic.pptx; Final Agenda fo meeting with EPA on 6-14-18.docx

I just left you a voicemail.

Let's discuss at your convenience.

Many thanks, most sincerely,

Howard

Ex. 6

From: McClintic, Howard
Sent: Tuesday, July 24, 2018 2:41 PM
To: Jackson.Ryan@EPA.gov
Subject: FW: DRAFT Letter to Administrator Wheeler Our Science Committee's Report Is Pivotal to Eliminating the Linear No-Threshold (LNT) Methodology

Did you see this email? Did someone from Murray Energy direct it to you?

Please share it with Administrator Wheeler.

Many thanks, most sincerely,

Howard

Ex. 6

From: McClintic, Howard
Sent: Thursday, June 14, 2018 4:15 PM
To: 'Jackson.Ryan@EPA.gov'
Subject: DRAFT Letter to Administrator Wheeler Our Science Committee's Report Is Pivotal to Eliminating the Linear No-Threshold (LNT) Methodology

Ensuring the Future Through Innovation, Science and Technology

2711 Jefferson Davis Hwy,, Suite 620
Arlington, VA 22202
(703) 310-5688 (703) 310-5655 FAX
Ex. 6
E-Mail: McClintH@ctc.com

Good Day Mr. Jackson,

My colleague, Dr. Robert (Bob) Golden and I were in headquarters last month, presenting some of the highlights of our LNT (linear no threshold) Project that is all about ***"transparency"*** and using ***cost-benefit analyses***. I believe that Administrator Wheeler respects not only Dr. Michael Honeycutt of Texas (who added pages 9 to 11 of the attachment), but also Dr. Edward Calabrese of Univ. of Massachusetts, who is the Co-Chair of the Science Committee.

I am sure that the Administrator would want to know about our Science Committee's Goals and Objectives as well as the importance and purpose of our soon to be completed peer-reviewed Report. The attached PowerPoint Presentation visually depicts in slides 7 through 11 the distortive effects of the LNT (linear no-threshold) methodology, when sharply contrasted with (and compared to) science-based data points. These slides underscore EPA Administrator Pruitt's central point that the mathematical construct that the EPA has been using for assessing risk, the linear no-threshold (LNT) methodology, is of **MOST** questionable scientific validity. The LNT model was originally adopted by the National Academy of Sciences (NAS) in 1956 for radiation and in 1977 for chemicals. Because LNT-driven regulations, whether for chemicals or radiation, have, for many years, been claimed to be science-based (see (https://science.house.gov/sites/republicans.science.house.gov/files/documents/HHRG-113-SY-20131114-SD001%20.pdf as well as http://www.c-span.org/video/?327016-1/epa-administrator-gina-mccarthy-testimony-proposed-regulations), the underlying scientific foundation for such

regulations, particularly the LNT model itself, should also, by definition, reflect empirical data. If such scientific data are lacking, as they are for the LNT model, science-based regulatory methodologies (including benefit-cost analyses) for both chemicals and radiation should be updated to reflect significant advancements in scientific knowledge.

Dr. Robert (Bob) Golden, and I would like to have either a Conference Call or Meeting with Administrator Wheeler or whoever he and you might suggest. soon. I am very grateful for your time, and attention – Thank You.

Most sincerely yours,

Howard

Howard G. McClintic
Executive Director
Ex. 6

Comparison of the Scientific Basis of the Linear No Threshold (LNT) Model with Threshold Models for Cancer Risk Assessment of Radiation & Chemicals[a]

Chapters[a]	Author	Status
Prolog	Golden	Draft
Introduction	Bus	Draft
History of LNT	Calabrese	Final
The linear no-threshold model is less realistic than threshold or hormesis-based models: an evolutionary perspective	Costantini	Final
The LNT model for cancer induction is not supported by radiobiological data	Scott	Final
The impact of dose-rate on LNT hypothesis for radiation risk assessment	Brooks	Final
Re-evaluation of the linear no-threshold (LNT) model using new paradigms and modern molecular studies	Tharmalingam	Final
Threshold for low dose radon exposure		

	Brooks	Final
Review of the evidence for thresholds for DNA-reactive and epigenetic experimental chemical carcinogens	Williams & Kobets	Draft
Mechanistic aspects of chemical carcinogens demonstrating thresholds	H Clewell & R Clewell	In progress
Epidemiological analysis of low dose/dose rate radiation exposure data	Ricci	Final
Economic implication of LNT vs. threshold models for benefit-cost analyses; formaldehyde & radon	Williams	Draft
Discussion, conclusions & recommendations	All	To be drafted

a. Provisional titles

[1] https://www.nrc.gov/docs/ML1209/ML120970113.pdf

[1] Many areas in the world have natural background radiation levels higher than EPA's dose limits, natural background radiation in the United States is 30 times above the limit; Yangjiang, China, 60 times higher; Kerala coast, India, 100 times; and Ramsar, Iran, 2,000 times above the limit, without any adverse health effects. https://www.nrc.gov/docs/ML1209/ML120970113.pdf

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LNT Project

1. Introductions

2. Most of the Science Committee's papers are presently being reviewed by Roger McClellan, prior to their submission to ***Critical Reviews in Toxicology*** (see Table below). Following formal peer review, the collection of papers will constitute a special edition of this journal.

3. The outcome of this project will have major implications for EPA's regulatory programs -- evidence-based public policy determinations and heightened understanding of potential risks, posed by chemicals and radiation. As correctly stated by EPA Officials, regulations should be based on sound, high quality, transparent science. Notably, LNT does not fulfill any of these criteria. Modern molecular biology, for both radiation and chemicals, demonstrates numerous adaptive responses that continuously monitor and repair DNA.

4. The primary Goal of the Science Committee is to develop a high quality document with two objectives: to replace the use of the LNT model with science-based alternatives; and, to provide a thoughtful bases to publicize the economic distortions created by LNT-driven regulations. Additional benefits of our Report include:

    a. Less resistance to the increased use of nuclear energy;
    b. Reduced unwarranted widespread fears of needed diagnostic imaging;
    c. Substantially reduced costs, potentially saving billions of dollars annually, to remediate chemical- or radiation-contaminated sites on EPA's/DOD's/DOE's Superfund lists, global implications;
    d. Directly challenge the likely conclusions of the next, eighth NAS Biological Effects of Ionizing Radiation (BEIR) Committee Report, which is virtually certain to once again endorse LNT despite its lack of biological validity;
    e. Epidemiology unable to detect a signal of harm spanning 5 orders of magnitude exposure as shown in the graphic below; and,
    f. As also illustrated in the graphic, at less than 100 mSv, because there is no detectable increase in cancer, which represents a clear threshold.

5. Next Steps

6. Conclusions and Thanks

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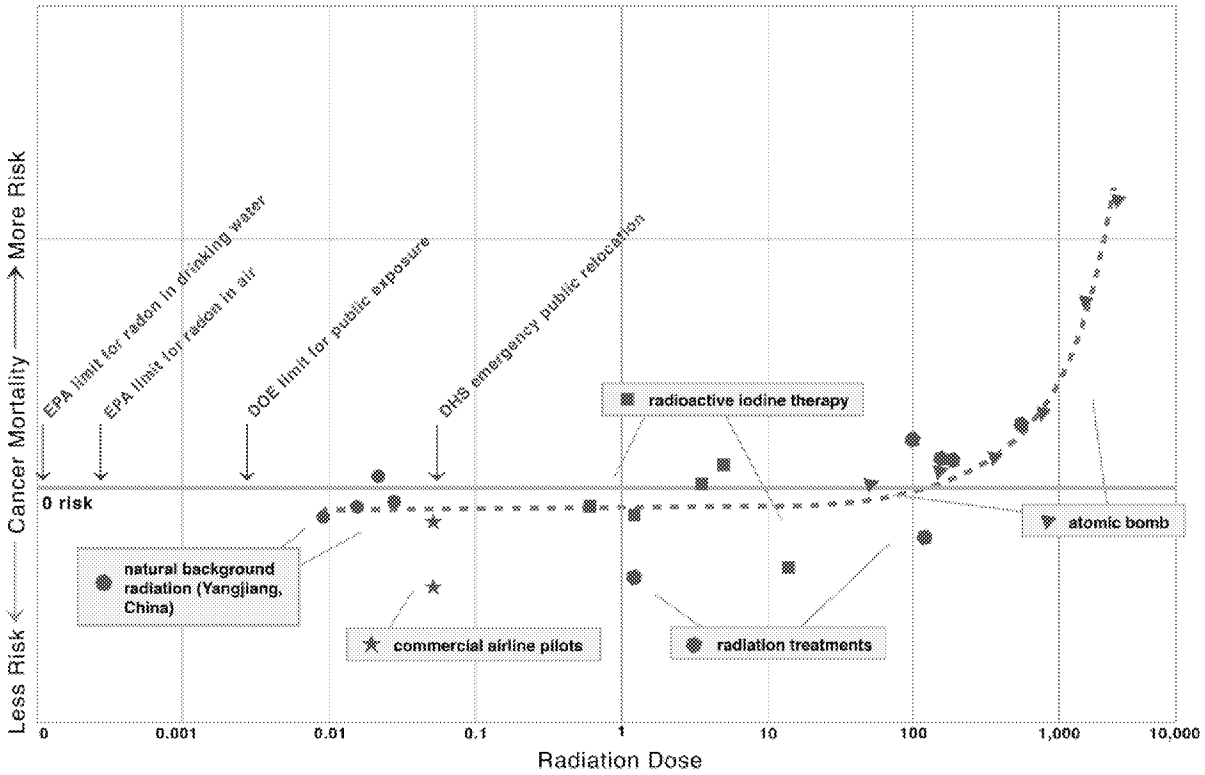

Vertical axis indicates excess relative risk compared to zero; x axis is in millisieverts per day (mSv/d)
EPA, DOE and DHS dose limits expressed in mSv/day based on cumulative limit per year

Red arrows indicate EPA, DOE, and DHS regulatory limits.[i] The DHS trigger for emergency mass relocation is over *1,000 times below* the threshold of harm – pegged at about the same radiation dose received by longer-lived airline pilots. Vastly expensive EPA regulations requiring radon cleanup of air and water are triggered at dose levels approaching *1 million times* below the threshold.[ii]

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[ii] Many areas in the world have natural background radiation levels higher than EPA's dose limits, natural background radiation in the United States is 30 times above the limit; Yangjiang, China, 60 times higher; Kerala coast, India, 100 times; and Ramsar, Iran, 2,000 times above the limit, without any adverse health effects. [HYPERLINK "https://www.nrc.gov/docs/ML1209/ML120970113.pdf"]

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Eliminating the Linear No Threshold (LNT) Model for EPA Risk Assessment

Howard G. McClintic
Executive Director
CTC Foundation
Ensuring the Future Through Innovation, Science and Technology

Goals of This Presentation

- Describe and inform about the non-science based manner by which the US EPA relies on the LNT model for risk assessment of air- and waterborne chemicals
- Make apparent the exaggerated and unrealistic risks and benefits produced by reliance on the LNT for Clean Air Act-type regulations as well as for individual chemicals
- Briefly describe the scientific data which support threshold-based approaches for both chemicals and radiation
- Emphasize that our proposed Project is the only way that could lead to the elimination of the LNT for risk assessment and benefit/cost calculations

NAS Safe Drinking Water Committee (SDWC 1977)

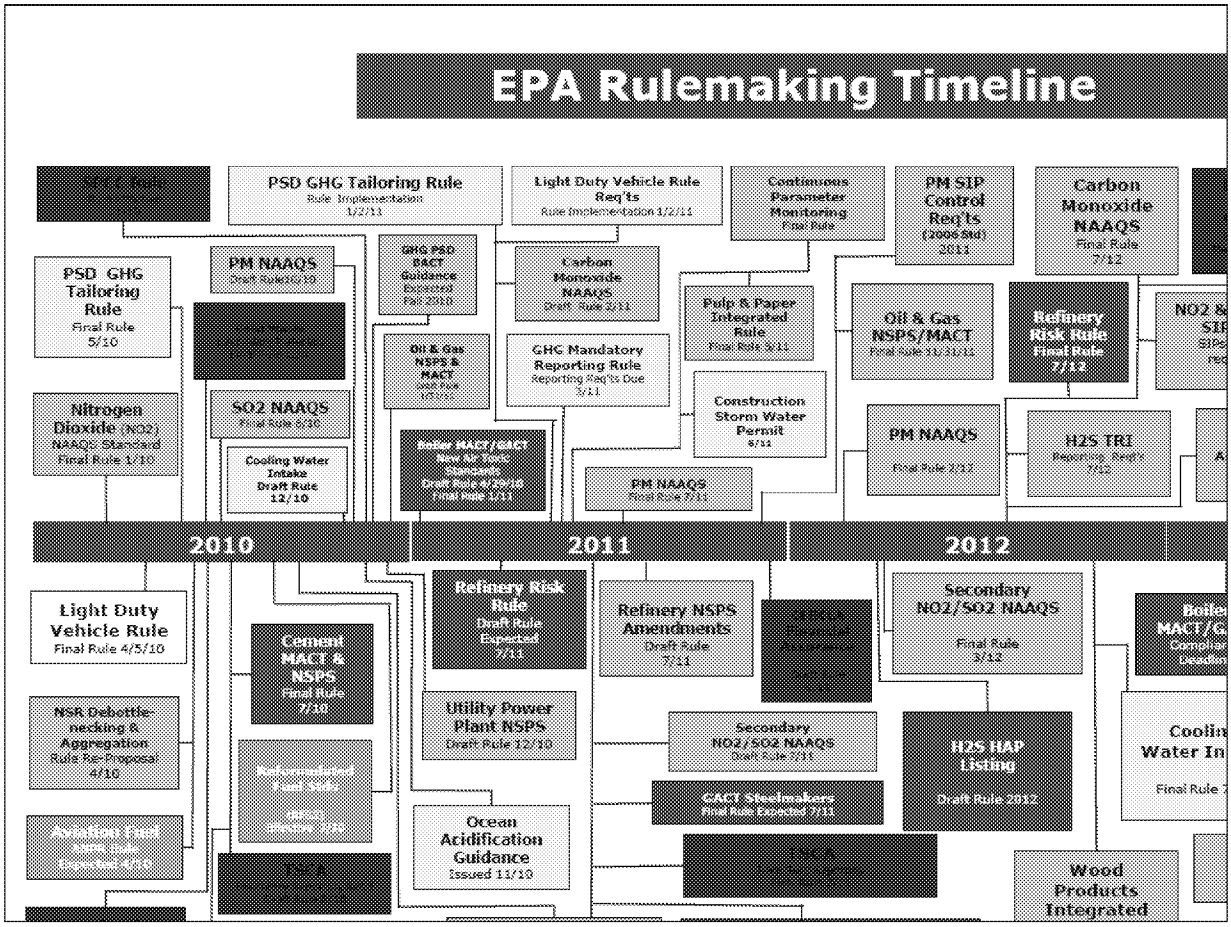
- Dr. Bob Golden worked on Vol. 1 of "*Drinking Water & Health*" (DW&H), developed for EPA as mandated by SDWA (1974).
- First time LNT model endorsed & used for chemical environmental cancer risk assessment.
- Foundationally based on radiation data for DNA mutation & cancer.

On-going Economic & Societal Consequences of LNT-Driven Regulations

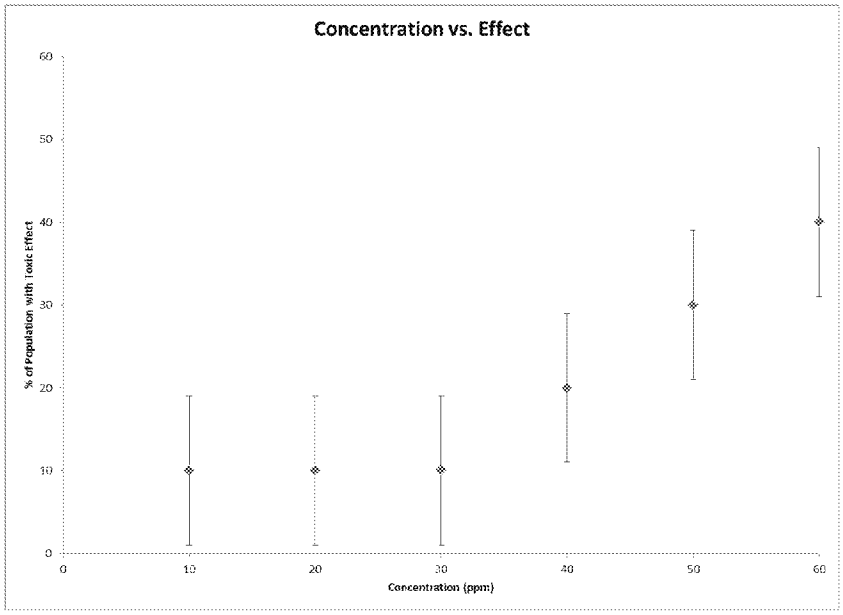
- Originally intended for exposure to radiation and cancer only; now used for chemical(s) and non-cancer risk assessment as well
- How virtually all potentially carcinogenic chemicals & radiation are regulated
- LNT plays substantial role in many regulations
- Many recent, on-going, and future EPA rulemakings have an LNT-driven component
- Staggering economic consequences and costs

The LNT is Involved in These Five Major Rulemakings Impacting the Power Sector

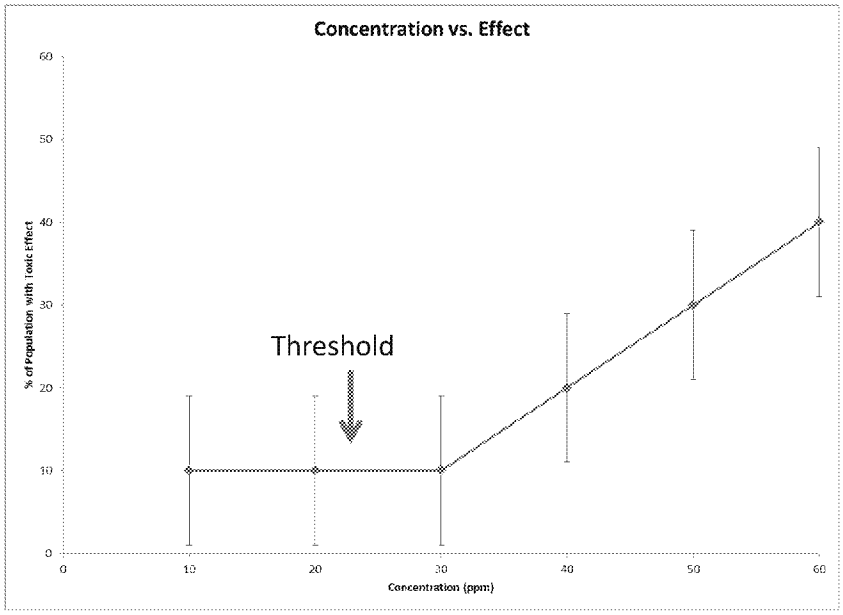
	Plants Affected	2013	2014	2015	2016	2017	2018	2019	2020+
SO_2 & NO_x (CAIR)	Existing+New			CAIR Replacement?					
Air Toxics (MATS)	Existing+New				Full Implementation				
Cooling Water Intake	Existing+New								
Coal Ash (CCR and ELG)	Existing+New								
Greenhouse Gas NSPS	New								


EPA Rulemaking Timeline
PSD GHG Tailoring Rule
Rule Implementation 1/2/11
Light Duty Vehicle Rule Req'ts
Rule Implementation 1/2/11
Continuous Parameter Monitoring
Final Rule
PM SIP Control Req'ts
(2006 Std)
2011
Carbon Monoxide NAAQS
Final Rule 7/12
PSD GHG Tailoring Rule
Final Rule 5/10
PM NAAQS
Draft Rule 6/10
GHG PSD BACT Guidance
Expected Feb 2010
Carbon Monoxide NAAQS
Draft Rule 2/11
Pulp & Paper Integrated Rule
Final Rule 5/11
Oil & Gas NSPS/MACT
Final Rule 11/31/11
Refinery Risk Rule
Final Rule 7/11
Oil & Gas NSPS & MACT
GHG Mandatory Reporting Rule
Reporting Req'ts Due 3/11
Nitrogen Dioxide (NO2) NAAQS Standard
Final Rule 1/10
SO2 NAAQS
Final Rule 6/10
Construction Storm Water Permit
6/11
PM NAAQS
Final Rule 2/12
H2S TRI
Reporting Req'ts 7/12
Cooling Water Intake Draft Rule 12/10
PM NAAQS
Final Rule 7/11
2010
2011
2012
Light Duty Vehicle Rule
Final Rule 4/5/10
Cement MACT & NSPS
Final Rule 7/10
Refinery Risk Rule
Draft Rule Expected 7/11
Refinery NSPS Amendments
Draft Rule 7/11
Secondary NO2/SO2 NAAQS
Final Rule 3/12
NSR Debottle-necking & Aggregation
Rule Re-Proposal 4/10
Utility Power Plant NSPS
Draft Rule 12/10
Secondary NO2/SO2 NAAQS
Draft Rule 7/11
H2S HAP Listing
Draft Rule 2012
Ocean Acidification Guidance
Issued 11/10
CACT Steelmakers
Rule Rule Expected 7/11
Wood Products Integrated

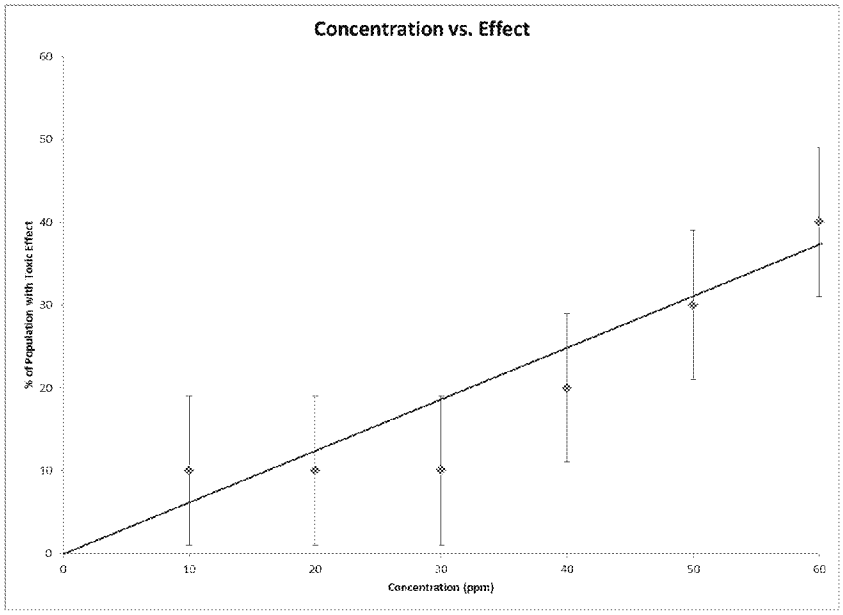
Typical Dose-Response Data Set



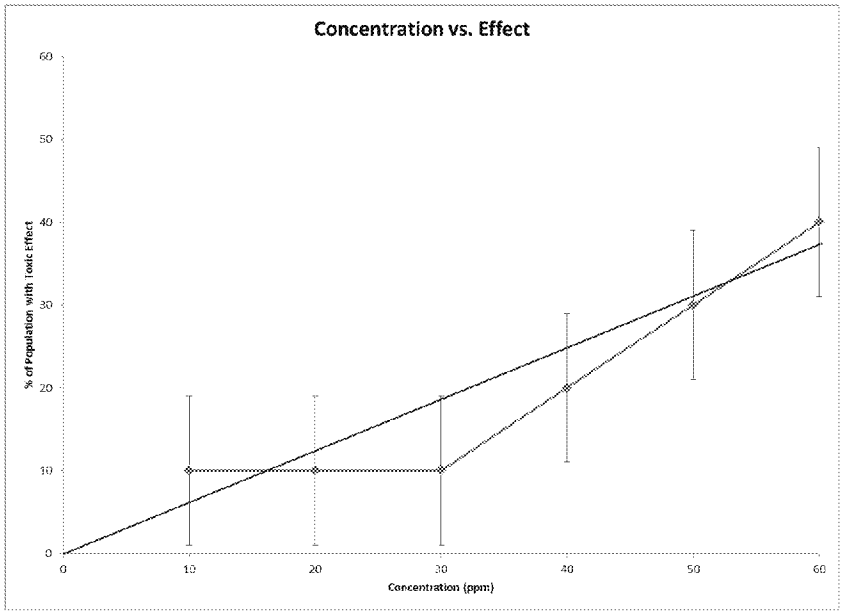
How a Biologist/Toxicologist Sees Data



How a Mathematician Sees Data

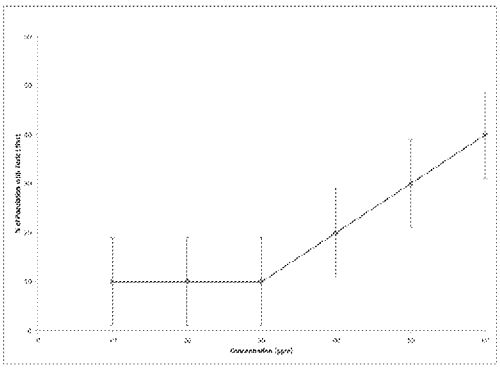


The Difference is Huge

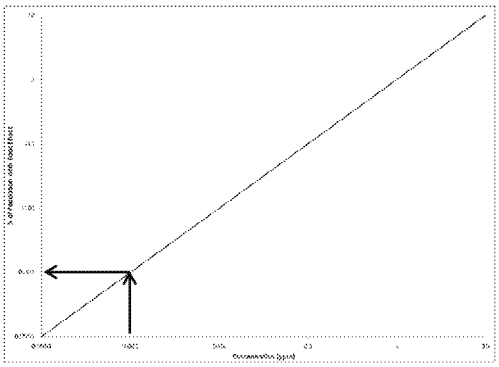


Comparison of Threshold to LNT

Threshold



LNT Model



30 ppm
0% of population (additional) =
0 cases of disease due to chemical

0.001 ppm
0.001% of population =
3150 cases of disease due to chemical

Effect on Regulations moving from Threshold to LNT

Chemicals of Concern

- Ozone
- $PM_{2.5}$
- Lead
- Mercury
- Sulfur dioxide (soon)
- Arsenic
- Formaldehyde
- Wave of the future – cumulative risk assessment

Why Continue to Use the LNT?

- Precautionary Principle
- In a large population, someone on the cusp of developing disease; any exposure will push them over the edge
- Policy or ideological decision, not scientific – no empirical evidence for LNT concept
- Made by policy makers (e.g., mathematicians & risk assessors; not toxicologists)

Specific Example, Using the LNT

- Mercury & Air Toxics Standard (MATS)
  - Lowered mercury emissions will prevent 0.00209 IQ point loss per child
  - 0.00209 IQ points x 244,468 children (USEPA estimates would benefit from rule)
  - 511 IQ points "saved" per year
  - 511 IQ points x $8k to $12K per IQ point decrease = $4.2M to $6.2M benefit from standard
  - IQ may vary as much as 3 to 4 points per child and may change over time or on retesting
  - Can't measure 0.00209 IQ point difference
  - Can't aggregate partial IQ points like money

Regulatory Implications of LNT Model

- EPA regulations now rely on LNT for non-cancer chemical effects
- EPA states, on numerous occasions, that chemical regulations are based on science alone (i.e., not policy); opens door for evaluating the science underlying the LNT.
- Recent regulatory actions rely on LNT to assess non-cancer health risks, e.g.,
  - Ozone & mercury based on the Clean Air Act (CAA), i.e., Mercury and Air Toxic Standards (MATS)
  - PM 2.5 regulations

Radiation Data

- Radiation-induced cancer risk still based on atomic bomb survivor data extrapolation (Biological Effects of Ionizing Radiation [NAS BEIR VII] report).
- Substantial data from DOE Low Dose Program (> 700 papers) on radiation-induced mutation & cancer show thresholds for these effects *in vivo*.
- Collective results from DOE (plus other data on radiation & chemicals) demonstrate the LNT:
  - Does not conform with newest experimental data using modern toxicological tools.
  - Is an "*artificial construct*" that needs replacement.

Chemical Data

- Since 1977 great strides in understanding how chemicals & radiation cause effects, e.g., toxicogenomics.
- NAS (2007) "*Toxicity Testing in the 21st Century*" called for new ways to test chemicals using human cells; thresholds obvious.
- Effects in key "adverse outcome" pathways can indicate potential adverse health effects; "computational toxicology"
- As long as LNT remains in place, new methods will never take their proper place in risk assessment

What Is The Social Cost of Carbon?

- As the LNT is NOT science-based, its use in economic benefit-cost analysis greatly exaggerates benefits.
- The federal government now assumes a ton of carbon-dioxide emitted in 2013 does roughly $36 in damage, rather than its previous estimate of $22, with the value rising each year
- A larger value for the social cost of carbon basically means that any standard or air-pollution regulation that reduces carbon-dioxide emissions will have higher benefits assigned to it.
- That could, in theory, make it easier for stricter standards to pass a cost-benefit analysis test

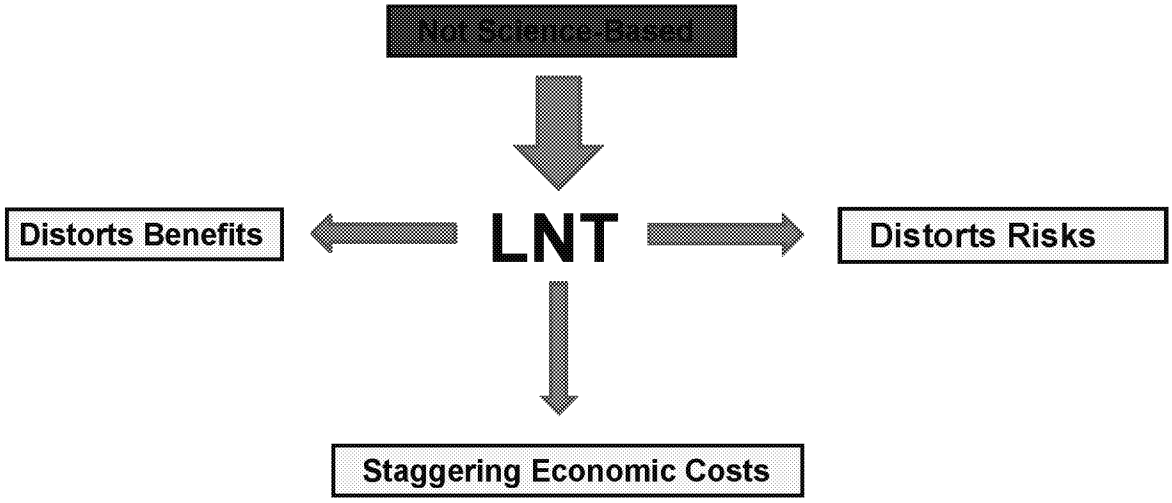
Conclusions (1 of 2)

- Adoption of LNT in 1977 questioned by historical radiation data plus new data for chemicals & radiation
- No empirical data supporting LNT
- Time is ripe for assessing the science of LNT vs. modern data for chemical or radiation risk assessment

Conclusions (2 of 2)

- Assertions that regulations are science-based opens door for assessing LNT science.
- Following sufficient analysis of underlying science, a different NAS committee should address risk assessment for chemicals & radiation without LNT component.

LNT "Facts"


Not Science-Based
Distorts Benefits
LNT
Distorts Risks
Staggering Economic Costs

LNT

Is There A Way Around the "Default" In the Road?

WHAT TO DO?

NOTHING = MORE OF THE SAME

- More regulations (NAM chart)
- CAA, MACT, SDWA, etc
- Individual chemicals(IRIS)
- Cumulative risk assessment
- More LNT-driven costs

CHALLENGE WITH SCIENCE

- Won't be fast
- Won't be easy
- Won't be without controversy
- Will have major impact on regulations
- Fraction of LNT-driven costs to achieve

Path Forward

- Three-phased plan to "**ground-truth**" the science of the LNT model vs. threshold approaches
  - Multi-author peer reviewed analysis of relevant scientific data; emphasis on DOE Low Dose data
  - Multi-author peer reviewed economic analysis/case studies with/without LNT-driven "benefits" calculations
  - Advocacy/Communications/Public Outreach
- Congressional hearings

Path Forward

- Appropriations to fund joint DOD/DOE request for NAS to address non-LNT risk assessment approaches
- Widespread support for challenging LNT model
  - Numerous industry trade associations
  - Individual companies
  - State regulatory agencies
  - Animal rights organizations
  - House Energy & Commerce Committee

Contact Information

- Howard McClintic, Exec. Dir. ***CTC Foundation***, 202/689-4586; McClintH@ctc.com

- Robert Golden, PhD, ToxLogic LC, 301/977-9449; Ex. 6

Please call or e-mail if you would like to discuss or have additional information about our LNT Project

CTC Foundation
Ensuring the Future Through Innovation, Science and Technology

Background Reading Material (1:4)

- **Edward J. Calabrese, Ph.D.**
  - Origin of the linearity no threshold (LNT) dose–response concept
  - How the US National Academy of Sciences misled the world community on cancer risk assessment: new findings challenge historical foundations of the linear dose response

- **Michael Honeycutt, Ph.D.**
  - Comments by Michael Honeycutt, Ph.D., with the Texas Commission on Environmental Quality Regarding the Primary National Ambient Air Quality Standards for Ozone and PM, and the Utility MACT http://science.house.gov/sites/republicans.science.house.gov/files/documents/hearings/100411_Honeycutt.pdf
  - The EPA's Pretense of Science: Regulating Phantom Risks, by Kathleen Hartnett White http://www.texaspolicy.com/sites/default/files/documents/epa-pretense-of-science-acee-kathleen-hartnett-white.pdf

Background Reading Material (2:4)

- New York Times Articles
  - E.P.A. Is Expected to Set Limits on Greenhouse Gas Emissions by New Power Plants
    http://www.nytimes.com/2013/09/14/us/epa-is-expected-to-set-limits-on-greenhouse-gas-emissions-by-new-power-plants.html?emc=edit_tnt_20130913&tntemail0=y&_r=0
  - An Unusual Public Battle Over an Energy Nomination
    http://www.nytimes.com/2013/09/16/business/energy-environment/a-federal-energy-nomination-sets-off-an-unusual-public-battle.html?hpw&_r=0
  - U.S. Coal Companies Scale Back Export Goals
    http://www.nytimes.com/2013/09/14/business/energy-environment/us-coal-companies-scale-back-export-goals.html?ref=business
  - China's Plan to Curb Air Pollution Sets Limits on Coal Use and Vehicles
    http://www.nytimes.com/2013/09/13/world/asia/china-releases-plan-to-reduce-air-pollution.html?ref=science
  - Challenges Await Plan to Reduce Emissions
    http://www.nytimes.com/2013/09/21/business/energy-environment/challenges-await-plan-to-reduce-emissions.html?_r=0

Background Reading Material (3:4)

- Greenhouse-Gas Fight Escalates: Administration's Higher Estimate for Cost of Carbon Raises Ire of Critics http://online.wsj.com/article/SB10001424127887324324404579040950076712782.html?mod=WSJ_hps_sections_news
- The 'Social Cost of Carbon' Gambit http://online.wsj.com/article/SB10001424127887323566804578551672709633396.html?mod=WSJ_Opinion_LEADTop
- Banning Demon Coal http://online.wsj.com/article/SB10001424052702303759604579095292685100308.html?mod=WSJ_Opinion_AboveLEFTTop
- An obscure new rule on microwaves can tell us a lot about Obama's climate policies http://www.washingtonpost.com/blogs/wonkblog/wp/2013/06/05/what-an-obscure-microwave-rule-says-about-obamas-climate-plans/

Other References

EPA Regulation of Greenhouse Gas Emissions from Existing Power Plants: Issues and Options http://www.vnf.com/news-alerts-854.html

Background Reading Material (4:4)

- EPA Proposes New Standards to Regulate Carbon Dioxide Emissions from New Power Plants http://www.vnf.com/news-alerts-878.html
- EPA Administrator McCarthy claims that their proposed rules are "science-based", which is "what" our Project challenges (http://www.c-spanvideo.org/program/315136-1)
- Climate Change Policy: What Do the Models Tell Us? Robert S. Pindyck. NBER Working Paper No. 19244. Issued in July 2013. NBER Program(s): EEE PE. www.nber.org/papers/w19244
- "Current State and Future Direction of Coal-fired Power in the Eastern Interconnection" http://www.naruc.org/Grants/Documents/ICF-EISPC_Coal-Whitepaper-071213_final.pdf
- Reassessing the Human Health Benefits from Cleaner Air http://www.cmpa.com/pdf/ReassessingCleanAirAug22.pdf

Goals of This Presentation

- ✓ Better informed about the non-science based manner by which the US EPA relies on the LNT model for risk assessment of air- and waterborne chemicals
- ✓ Made apparent the exaggerated and unrealistic risks and benefits produced by reliance on the LNT for Clean Air Act-type regulations as well as for individual chemicals
- ✓ Briefly described that there are scientific data that support threshold-based approaches for both chemicals and radiation
- ✓ Strongly emphasized that our proposed Project is the only way that could lead to the elimination of the LNT for risk assessment and benefit/cost calculations

Message

From: Lorman Education [customerservice@lormaneducationservices.com]
Sent: 8/14/2018 8:17:14 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM] Section 404 Permits

The regulation of wetlands and waterbodies through Section 404 of the Clean Water Act has been well documented. However, what is often unaccounted for are the additional requirements that can be triggered during the Section 404 Permit process. These oftentimes unforeseen requirements can add costs and/or even delay a project significantly. Thus, while it is important to understand the basis of the Section 404 regulatory review process, it is equally as important to learn about and understand the ancillary reviews and requirements that can ultimately lead to a project's success or failure. This topic is intended to better prepare you for the basic Section 404 regulatory review process of the U.S. Army Corps of Engineers and to guide you through some potential key issues that can occur during that process. You will be able to better predict major obstacles and costly issues associated with Section 404 of the Clean Water Act.

Key Agenda Points

- U.S. Army Corps of Engineers - Section 404 Permit Authority
- Jurisdiction and Permitted Activities
- How to Hire a Consultant
- Types of Permits and Associated Timeframes
- What Goes in the 404 Permit Application
- Unforeseen Obstacles
- Post Permitting

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To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: OMB and GSA/CIO Speakers at Potomac Forum Technology Business Management Training Workshop

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Keynote Speaker:
David A. Shive
Chief Information Officer
General Services Administration
Pending Agency Approval

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Kelly Morrison
Performance Analyst
Office of eGovernment and Information Technology (eGov)
Office of Management and Budget (OMB)

LaVerne H. Council
National Managing Principal for
Enterprise Technology Strategy & Innovation
Grant Thornton
(Former Assistant Secretary,
and
Chief Information Officer (CIO)
Department of Veterans Affairs)

Additional Outstanding Speakers Awaiting Confirmation

Overview:

With the Technology Business Management (TBM) outlined as a priority in the President's Management Agenda and the progress made by OMB/GSA in formalizing the overarching approach to TBM for the federal government, agencies must be equipped with the right knowledge to make their TBM implementation decision to ensure alignment with their missions, goal, structure, and IT environment.

This workshop aims at providing the actionable elements to understand quickly what TBM is, how to plan your effort, and step into the mapping effort quickly and safely.

What You Will Learn:

- **Acquire fundamental knowledge about the TBM Framework, and how to leverage each of its components.**
- **Develop your TBM assessment baseline and use it to draft your roadmap beyond compliance.**
- **Understand the composition of the TBM Taxonomy and how to best use it within your organization**
- **Understand the key relationships between TBM, category management, and other IT-based frameworks.**

Who Should Attend:

- **CIOs, Deputy CIOs, and CIO staff.**
- **Executives and managers of leading business programs that will eventually be held accountable the performance of IT financial reporting and investments**
- **Program/Service Managers who are interested in the role of TBM within their operations.**
- **Federal Executives and managers interested in gaining insight into the TBM process and practices, and understanding how it will impact agency IT service delivery and costs to their programs**
- **CFOs, Deputy CFOs and staff**
- **Acquisition Executives**

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Message

From: Brian Wynne Ex. 6
Sent: 8/15/2018 1:03:43 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Wheeler, Andrew [wheeler.andrew@epa.gov]
Subject: The Wynne's farewell

Ryan/Andrew,

You guys let us down, especially you Ryan. I find your inaction and unwillingness to follow through on your commitment shameful. Our family is full of sacrifice to this country, more than you can imagine. I would go into specifics, but you guys aren't worth the thought. So here it is, you go your route and I'll go mine. I am going to take apart the retail market piece by piece until there is no more market. See you at the finish line!

Good Luck!

Brian Wynne

Message

From: Marc Himmelstein [Marc_Himmelstein@nes-dc.com]
Sent: 7/25/2018 3:08:55 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: A thought

I know you are reaching out to Reilly etc for Andrew
A thought-Reilly used to head up WWF and still has many connections worldwide
The plastic straw issue has exploded and will be the beginning of a broader plastics attack
The real issue is third world countries not having adequate collection/recycling programs
The thought is to ask Reilly to spearhead an effort to educate and work to develop a cooperative outreach and education program
Just a thought-I have no client issue or economic issue involved, just thinking of ways to help

Sent from my iPad

Message

From: Lorman Education [customerservice@lormaneducationservices.com]
Sent: 8/8/2018 5:02:12 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Litigation of Groundwater Contamination

Litigation of Groundwater Contamination

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Message

From: Esri [newsletter@esri.com]
Sent: 7/30/2018 4:10:00 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Announcing ArcGIS Mid-Year Product Releases

View email in web browser

See What's New in ArcGIS

As your organization joins the tide of digital transformation, you are responding to its expectations for better and faster intelligence. Esri is with you. Our developers are building new solutions, adding enhancements, and increasing the performance of our products so that you can excel.

Read this recap on the entire mid-year release. Discover what's new in ArcGIS Pro, ArcGIS Online, ArcGIS Enterprise, as well as, our ArcGIS Apps, extensions and developer tools.

See what's new.

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Esri, 380 New York Street, Redlands, CA 92373, USA.

Message

From: Brian Wynne Ex. 6
Sent: 8/1/2018 5:15:59 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Wheeler, Andrew [wheeler.andrew@epa.gov]
Subject: Wynne Update- final Ban

Ryan,

We want an update on the final rule. I think we have been more than fair to the administration, our patience is wearing thin. Each week a new retailer announces a removal, just this week a major chemical company announced that they are rolling out an alternative product. Don't be beholden to the lobby or OMB. I'm going to get this done with or without you, I hope it's the former. We are coming up on a year since Drew died, so do the right thing.

Brian

Sent from my iPhone

Message

From: Holland, Luke (Inhofe) [Luke_Holland@inhofe.senate.gov]
Sent: 7/26/2018 5:36:13 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Fwd: Burr vows to keep fighting for LWCF reauthorization

At it again

Sent from my iPhone

Begin forwarded message:

From: "POLITICO Pro Energy" <politicoemail@politicopro.com>
Date: July 26, 2018 at 1:13:12 PM EDT
To: <luke_holland@inhofe.senate.gov>
Subject: Burr vows to keep fighting for LWCF reauthorization
Reply-To: "POLITICO subscriptions" <reply-fe9d13767564057c76-1158818_HTML-637924963-1376319-0@politicoemail.com>

Burr vows to keep fighting for LWCF reauthorization

By Anthony Adragna

07/26/2018 01:11 PM EDT

Sen. Richard Burr (R-N.C.) says he will keep up his push for a vote to permanently reauthorize the Land and Water Conservation Fund, as appropriators try to keep him from disrupting their work.

"I'm probably seeking a vote on LWCF on anything that leaves the United States Senate until I get an up or down vote," he told POLITICO Thursday. "I'm only here to legislate good legislation. LWCF fits that bill."

Burr and Sen. Cory Gardner (R-Colo.) were prevented from offering an amendment to the pending minibus spending bill, H.R. 6147 (115), Thursday morning. Sen. Lisa Murkowski (R-Alaska), who was managing the Interior-Environment portion of the bill, said she had to "reluctantly" block the amendment because it is not germane to the bill.

A vote on the spending bill is not expected before next week. Senate Appropriations Chairman Richard Shelby (R-Ala.) said he hoped Burr's objections would not prompt further delays, and he urged Senate leadership to schedule an LWCF vote.

"We all support that legislation, but we just think it's not proper" on this bill, Shelby told POLITICO. "There's got to be a way with that much support for that bill to bring it up and pass it fast."

Gardner said he and Burr are open to other options.

"We're willing to find the right vehicle," Gardner said. "We're willing to find the right moment. And so, the only way we're going to discover when that is is if we try at every turn."

Next in the Senate's queue is a water resources bill that also could provide a vehicle for an LWCF amendment. Leaders have been working toward an agreement on the package, S. 2800 (115), in hopes of enabling its consideration before the Senate takes a one-week pause the week of Aug 6. A spokesman for the Senate Environment and Public Works Committee did not respond to request for comment.

Burr's move to secure an LWCF vote is reminiscent of a similar effort in 2015 where Burr held up Senate consideration of a broad overhaul of the nation's primary chemicals law in hopes of securing a vote on LWCF. The fund, which ultimately got a three-year extension in 2015, is due to expire at the end of Sept. 30.

To view online:
https://subscriber.politicopro.com/energy/article/2018/07/burr-vows-to-keep-fighting-for-lwcf-reauthorization-1667193

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This email was sent to luke_holland@inhofe.senate.gov by: POLITICO, LLC 1000 Wilson Blvd. Arlington, VA, 22209, USA

Message

From: David Schwietert [DSchwietert@autoalliance.org]
Sent: 8/2/2018 6:16:55 PM
To: 'Brooke, Francis J. EOP/WHO' [Ex. 6]; Jeffrey A. Rosen (Jeff.rosen@dot.gov) [Jeff.rosen@dot.gov]; heidi.king@dot.gov; Geoff.burr@dot.gov; Wheeler, Andrew [wheeler.andrew@epa.gov]; Wehrum, Bill [Wehrum.Bill@epa.gov]; Jackson, Ryan [jackson.ryan@epa.gov]
CC: Mitch Bainwol [MBainwol@autoalliance.org]; John Bozzella [jbozzella@globalautomakers.org]
Subject: Joint letter to President Trump on from Auto Alliance and Global Automakers
Attachments: Alliance - Global Joint POTUS Letter_Aug. 2 2018 (signed).pdf; Alliance - Global Joint Gov. Brown_Aug 2 2018 (signed).pdf

Importance: High

Francis,

Following the joint NPRM that was released earlier today by DOT and EPA, I wanted to transmit the joint auto association letter that I mentioned we would be sending to the President, as well as a related letter to Governor Brown in California.

As I noted after yesterday's trade roundtable discussion, these letters are intended to reiterate the importance of maintaining One National Program via a negotiated agreement between the federal government and California. We know the true work now begins following the release of the NPRM and various proposals for public comment.

I have also included senior DOT and EPA officials and staff on this email, similar to my outreach yesterday concerning our statement regarding the NPRM announcement.

Please let us know if you have any questions.

Dave

Joint Auto Alliance and Global Automakers Statement regarding the Joint NPRM:

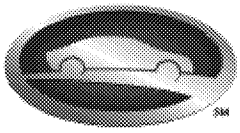
Today DOT and EPA jointly released their proposed rule for future vehicle efficiency standards to seek consideration of and comments on a range of scenarios. This is the process included as part of the 2012 joint rulemaking between the federal government and California to ensure fuel economy standards are based on the best available data and reflect marketplace realities, and we will be offering feedback during the comment period.

Today, the Auto Alliance and Global Automakers release this statement:

"We applaud the President and the Administration for releasing this much anticipated proposal that includes a variety of standards for public consideration. Automakers support continued improvements in fuel economy and flexibilities that incentivize advanced technologies while balancing priorities like affordability, safety, jobs, and the environment. With today's release of the Administration's proposals, it's time for substantive negotiations to begin. We urge California and the federal government to find a common sense solution that sets continued increases

in vehicle efficiency standards while also meeting the needs of America's drivers."

David Schwietert
Executive Vice President, Federal Government Relations & Public Policy
P: 202-326-5521 | dschwietert@autoalliance.org



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https://autoalliance.org/

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GlobalAutomakers

August 2, 2018

Edmund G. Brown, Jr.
Governor
State of California
State Capitol, Suite 1173
Sacramento, California 95814

Dear Governor Brown:

Please find attached our letter to President Trump encouraging a negotiation with California to continue One National Program, and that all parties come prepared to seek a workable solution.

We know that the politics of this equation are not easy, with the Administration and California coming into these negotiations with very different perspectives about legal rights and the objectives underlying fuel efficiency standards.

Nevertheless, we believe the goals of carbon reduction, increased fuel efficiency, fleet turnover, and employment in the U.S. are maximized by an agreement between the federal government and your state. We also believe that there can be a negotiated outcome that advances these objectives, especially when compared to the harms that would result under a bifurcated system.

As we note in the letter to the President, while several of the key assumptions underlying the original rulemaking have turned out to be materially inaccurate, we are fully committed to rising standards and a future with greater electric vehicle penetration.

We look forward to working with the State of California and the federal government and urge all participants to find a solution that provides the long-term certainty, continued improvements in fuel efficiency necessary for California and the industry to succeed, and that best serves the American public.

With best wishes,

Mitch Bainwol
President, CEO
Alliance of Automobile Manufacturers

John Bozzella
President, CEO
Association of Global Automakers

Enclosure: August 2, 2018 letter to President Trump

CC: California Air Resources Board Chair, Mary Nichols

AUTO ALLIANCE
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GlobalAutomakers

August 2, 2018

The Honorable Donald J. Trump
President of the United States
The White House
1600 Pennsylvania Avenue
Washington, D.C. 20500

Dear President Trump:

Shortly after you took office, our members' CEOs asked you to re-open the midterm review of future automobile fuel efficiency standards, consistent with the original timing commitments made by the previous Administration in 2011. The Obama standards were crafted under a set of assumptions that have proven inaccurate over time, including the purchase mix between cars and trucks, gas prices, and the adoption rate of alternative powertrain vehicles. In short, the standards, as crafted in 2011, need to be adjusted to meet current market realities.

When many of our industry CEOs met with you in May, we were pleased that you agreed that the Administration would negotiate with California to preserve One National Program in order to provide the regulatory certainty necessary for automakers to continue providing affordable, safe, and fuel efficient vehicles in all fifty states. In our eyes, a negotiated settlement is preferable to a bifurcated system and years of litigation, during which automakers would be forced to produce vehicles meeting conflicting regulatory requirements – thus making product planning and compliance enormously challenging and expensive for our companies and our customers.

We believe the Administration and California can find a common-sense solution that continues to allow automakers to produce vehicles that comply with a single set of standards and avoid a protracted and disruptive legal fight.

With the release of the Notice of Proposed Rulemaking and the range of standards that will be subject to public comment, negotiations with California can now begin in earnest. We are optimistic about this process and believe that there is much common ground that can bring us all together.

As your team engages in discussions with California, auto manufacturers, and other key stakeholders, we would offer these summary points:

1. As our CEOs wrote to you in February of 2017, auto manufacturers are committed to continued gains in fuel efficiency and carbon reduction that appropriately balance environmental progress, safety, affordability, and jobs. That commitment has not wavered.

2. The program should include flexible compliance pathways that pave the way for research and deployment in advanced fuel-saving technologies. We are global manufacturers; to compete around the world, we must continue to invest in both more efficient internal combustion engine technologies, electric-drive technologies, and fuel cells. Flexibilities will help ensure that research and development of these innovative vehicle technologies continues to take place in the United States. Such flexibilities also facilitate accounting for real world benefits of technologies not measured by standard CAFE tests. To the extent we can facilitate compliance with GHG and fuel economy standards by strengthening the incentives to undertake research, development, and deployment here at home, that will enhance our shared interest in continuing to grow a robust auto manufacturing presence in this country.

3. The agreement between the federal government and California (which, with other states, accounts for roughly 40% of domestic auto sales) should lay the foundation for standards that extend beyond 2025, if possible. This would provide vital long-term certainty for industry, and should provide a mechanism to ensure that post-2025 standards reflect the prevailing market realities.

We look forward to working with you and your White House staff, the Department of Transportation, the Environmental Protection Agency, and the State of California to find a solution that provides the long-term certainty necessary for all stakeholders to succeed and that best serves the American public.

With best wishes,

Mitch Bainwol
President, CEO
Alliance of Automobile Manufacturers

John Bozzella
President, CEO
Association of Global Automakers

CC: Elaine Chao, Secretary of Transportation
Andrew Wheeler, Acting Administrator, Environmental Protection Agency
Larry Kudlow, White House Director of National Economic Council

Message

From: Heather Reams [hreams@citizensfor.com]
Sent: 7/30/2018 10:31:44 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: From Heather Reams, CRES, Wheeler invitation
Attachments: Wheeler-NCEW Invitation, 7.30.18 (1).pdf

Hi Ryan,

I hope this note finds you well. Please find attached an invitation for Acting Administrator Wheeler to speak at the Policymakers Symposium during National Clean Energy Week on Wednesday, September 26. National Clean Energy Week is a bipartisan awareness week and the fiscal agent is the organization that I lead, Citizens for Responsible Energy Solutions (CRES) Forum. Together with our 15-member steering committee, we are putting together an excellent program at the National Press Club this year focused on the economic and environmental benefits of clean energy. We sincerely hope Administrator Wheeler can join us either for a luncheon keynote or at another time during the symposium.

I am available to you and your staff for any questions that you may have.

My best,
Heather

Heather Reams | Managing Director
Citizens for Responsible Energy Solutions (CRES)
601 Pennsylvania Avenue NW | Suite 900 South
Washington, DC 20004
Ex. 6
hreams@citizensfor.com
www.citizensfor.com
www.cresforum.org

Sign up for National Clean Energy Week, Sept 24-28, 2018

July 30, 2018

Administrator Andrew Wheeler
Acting Administrator
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20460

Dear Administrator Wheeler:

On behalf of National Clean Energy Week's 2018 Steering Committee, I warmly invite you to speak at our second annual Policymakers Symposium at the National Press Club on Wednesday, September 26, as our lunch keynote speaker. If lunchtime is not available, we would be pleased to offer you another time in the morning or afternoon portions of the symposium. The audience will include energy and corporate CEOs and executives, national trade association executives, policy thought leaders, Administration and Hill staff, and media from across America.

National Clean Energy Week is a bipartisan awareness week started last year by a 13-member steering committee to highlight the benefits of clean energy. At 2017's symposium, Secretary Rick Perry, Secretary Ryan Zinke, Senator Lindsey Graham (R-S.C.), former U.S. Senator Kelly Ayotte, Republican Conference Chair Cathy McMorris Rodgers (R-Wash.), and Congressman Derek Kilmer (D-Wash.), addressed hundreds of attendees throughout the day.

This year we already have confirmations from FERC Commissioner Neil Chatterjee, Montana Senator Steve Daines, and Utah Governor Gary Herbert, and have many other invitations extended to include Secretaries Perry and Zinke again this year.

Members of our Steering Committee include: the American Gas Association, Citizens for Responsible Energy Solutions Forum, Advanced Energy Economy, the American Wind Energy Association, Clean Energy Business Network, the Business Council for Sustainable Energy, the Solar Energy Industries Association, the American Council on Renewable Energy, the Nuclear Energy Institute, the Energy Storage Association, the National Hydropower Association, the Biomass Power Association, the Center for Liquified Natural Gas, the Alliance to Save Energy, and the American Petroleum Institute.

More than two dozen energy news media outlets, including *Politico*, *Axios*, *E&E News*, *Morning Consult*, *The Hill*, and *The Wall Street Journal* reported on National Clean Energy Week and are expected to return this year to cover the symposium.

Please let me know (hreams@citizensfor.com) if you have any questions or to confirm your participation. We appreciate your consideration.

Sincerely yours,

Heather Reams

Heather Reams
Chair, National Clean Energy Week
Managing Director, CRES Forum

Message

From: Lorman OnDemand Webinars [customerservice@lorman-webinar.com]
Sent: 7/30/2018 12:31:37 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: What You Need to Know About Section 404 Permits - OnDemand Webinar

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What You Need to Know About Section 404 Permits

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Are you prepared for additional requirements that can be triggered during the Section 404 Permit process?The regulation of wetlands and waterbodies through Section 404 of the Clean Water Act has been well documented. However, what is often unaccounted for are the additional requirements that can be triggered during the Section 404 Permit process. These oftentimes unforeseen requirements can add costs and/or even delay a project significantly. Thus, while it is important to understand the basis of the Section 404 regulatory review process, it is equally as important to learn about and understand the ancillary reviews and requirements that can ultimately lead to a project's success or failure. This topic is intended to better prepare you for the basic Section 404 regulatory review process of the U.S. Army Corps of Engineers and to guide you through some potential key issues that can occur during that process. You will be able to better predict major obstacles and costly issues associated with Section 404 of the Clean Water Act.

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Message

From: Renjel, Louis E. [Louis.Renjel@duke-energy.com]
Sent: 7/21/2018 12:47:11 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: EEI Board/CEO Conference
Attachments: Wheeler invite FINAL (004).docx; ATT00001.htm

Ryan,

Attached is EEI's invitation to Andy. Please let me know if you need anything further. Thanks for your help on this.

Louis

Edison Electric
INSTITUTE

Thomas R. Kuhn
President

July 19, 2018

The Honorable Andrew R. Wheeler
Acting Administrator
U.S. Environmental Protection Agency
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W., Mail Code: 1101A
Washington, D.C. 20460

Dear Mr. Wheeler:

Congratulations on taking the reins at EPA, in what no doubt will be a very challenging and pivotal time for U.S. environmental policy. You are uniquely qualified to rise to the challenge.

On behalf of the Board of Directors of the Edison Electric Institute, I am pleased to invite you to address our fall Board meeting at The Broadmoor Hotel in Colorado Springs, Colorado. We hope your schedule will permit you to join us on the afternoon of Wednesday, September 5, or the morning of Thursday, September 6. We anticipate approximately 250 senior electric company executives will attend, including roughly 50-55 CEOs from our industry.

EEI's member company executives would be very interested to hear your views on a range of critical environmental policy issues that impact our industry, our customers and our nation. Of course, we also would also be interested to hear your overarching vision and personal priorities for U.S. energy and environmental policy.

For your part, this would be an excellent opportunity to interact directly with our industry's top leaders at a critical time in our history. We would anticipate remarks of perhaps 20-25 minutes, followed by a dialogue with the members of EEI's Board. We will work to accommodate your schedule. As a general rule, our Board of Directors meetings are closed to the news media.

Please feel free to contact me if you have any questions, and we certainly hope that you can join us.

Sincerely,

Thomas R. Kuhn

202-508-5555 | tkuhn@eei.org

701 Pennsylvania Avenue, NW | Washington, DC 20004-2696 | www.eei.org

Message

From: Gary H. Baise [gbaise@ofwlaw.com]
Sent: 7/25/2018 2:13:44 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: FW: Updated Trump List
Attachments: 00476705.DOCX

Ryan,

Nice to meet you. I also put the Trump agriculture team together and I have attached the list for you folks. Let me know when Mr Wheeler might have time to connect with Ruckelshaus. I am representing Fitzgerald Glider Inc on its issues. This one will be a fight as you know. I will have some AGs on our side too. Steve Milloy was who I was trying to remember yesterday. I believe it is Steve who has mentioned your name to me.

Gary

Gary H. Baise
OFW LAW
Olsson Frank Weeda Terman Matz PC
The Watergate
600 New Hampshire Ave., NW
Suite 500
Washington, D.C. 20037

Direct: 202-518-6345
Fax: 202-234-3550
Email: gbaise@ofwlaw.com

Updated as of: July 17, 2018 @ 1:50 pm

Trump Agricultural and Rural Advisory Co-Chairs

NAME	E-MAIL	PHONE	NOTES	STATE
Herbster, Charles W.	[HYPERLINK "mailto:brittany@herbsterangus.com"]		National Chairman of the Agricultural and Rural Advisory Committee for the Donald J. Trump Campaign for President	**NE**
Clovis, Sam	[HYPERLINK "mailto:sclovis@donaldtrump.com"]		Former National Chief Policy Advisor for the Donald J. Trump Campaign for President; Former Senior White House Advisor to Secretary Perdue	**IA**
Abernathy, Kevin	Ex. 6		General Manager, Milk Producers Council; member of USDA's Agriculture Air Quality Task Force	**CA**
Adcock, Rebeckah	[HYPERLINK "mailto:radcock@croplifeamerica.org"]		Former CropLife, Senior Director, Government Affairs; Senior Advisor to Secretary Perdue	**VA**
Aderholt, Robert	[HYPERLINK " Ex. 6 "]		Congressman from Alabama; Chairman, Subcommittee on Agriculture	**AL**
Alexander, JD	[HYPERLINK "mailto:jdrfarms@conpoint.com"]		Former President of the National Cattlemen's Beef Association; Past President of the Nebraska Cattlemen	**NE**
Allen, George	[HYPERLINK Ex. 6		Former Governor and U.S. Senator Virginia; Major promoter of Virginia agriculture as Governor	**VA**
Armstrong, Jay	[HYPERLINK "mailto:global@rainbowtel.net"]		Former Kansas Wheat Commission; Former Chairman, Farm Foundation; Owner Armstrong Farms	**KS**
Black, Gary	[HYPERLINK Ex. 6		Commissioner Agriculture, Georgia	**GA**
Block, John	[HYPERLINK "mailto:jblock@ofwlaw.com"]		Former Sec. of USDA	**IL**
Brandenburg, Mike	[HYPERLINK "mailto:mbrandenburg@nd.gov"]		State Legislator, North Dakota	**ND**
Brancel, Ben	[HYPERLINK Ex. 6		Former Secretary, Wisconsin Department of	**WI**

	Ex. 6]		Ag, Trade, and Consumer Protection.	
Branstad, Terry	[HYPERLINK Ex. 6		Former Governor of Iowa; Ambassador to China	**IA**
Bronson, Charles	[HYPERLINK Ex. 6		Former Florida Commissioner of Agriculture	**FL**
Brownback, Sam	[HYPERLINK Ex. 6		Former Governor of Kansas; US Ambassador at large for International Religious Freedom	**KS**
Buchanan, Gale A.	[HYPERLINK Ex. 6		Dr. Gale Buchanan former Dean of Agriculture at both Auburn University and U of Georgia, Under Secretary for Research; Chief Scientist for USDA	**GA**
Camp, Edwin	[HYPERLINK "mailto:edwincamp@dmcampandsons.com"]		Former Chairman, Western Growers Association; President D.M. Camp & Sons; Major producer of fruits and vegetables in CA; John Deere distributor	**CA**
Chezem, Linda	[HYPERLINK Ex. 6		Former Indiana Appellate Court Judge; Cattle producer; Board member of U.S Cattleman's Association	**IN**
Chinn, Chris	[HYPERLINK "mailto:chinnhog@centurytel.net"]		Missouri farmer and Director of the Missouri Department of Agriculture	**MO**
Cobb, Alan	[HYPERLINK Ex. 6		Former Trump Coalition Director; President and CEO of Kansas Chamber of Commerce	**KS**
Combs, Susan	susan@susancombs.com		Former Commissioner of Agriculture in Texas; nominated for Asst. Secty Department of Interior	**TX**
Conner, Chuck	[HYPERLINK "mailto:cconner@ncfc.org"]		CEO, National Council of Farmer Cooperatives	**IN**
Conaway, Mike			House Ag Chairman	**TX**
Cooper, Harold	hcooper@premierag.com		Top agricultural retailer in Midwest	**IN**
Cullo, Diane	[HYPERLINK Ex. 6		Advisor to Secretary of USDA & Director of Public Engagement	**VA**
Cunha, Manuel	[HYPERLINK "mailto:niseifrm@pacbell.net"]		President, NISEI Farmers League; Officer for Agricultural Coalition for	**CA**

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			Immigratin Reform and serves on the Federal Reserve Advisory Board in San Francisco, CA	
Dalrymple, Jack	[HYPERLINK Ex. 6		Governor of North Dakota	**ND**
Dent, Tom	[HYPERLINK "mailto:tom.dent@leg.wa.gov"]		State Legislator; Professional pilot and owner of crop dusting business	**WA**
DeRossett, Gene	[HYPERLINK Ex. 6] [HYPERLINK "mailto:Gene@crecrealtors.com"]		Former Michigan State Legislator; Member of Agricultural Committee	**MI**
Dunlop, George	Ex. 6		Former Assistant Secretary USDA of Natural Resources & Environment, former Chief of Staff Senate Agricultural Committee	**VA**
Easter, Robert	[HYPERLINK "mailto:reaster@swinetech.com"]		Former Dean college of Agriculture IL; Former President University of IL; Now President Emeritus; Also is a farmer	**IL**
Ewing, Steve				
Ewing, Tom	[HYPERLINK Ex. 6]		Former Illinois Congressman; Former Chairman House Agriculture Subcommittee on Risk Management; Farmer	**IL**
Fallin, Mary	[HYPERLINK Ex. 6		Governor of Oklahoma	**OK**
Fields, Eddie	[HYPERLINK Ex. 6		Senator, Oklahoma; Chair Senate Ag and Rural Development	**OK**
Fitzgerald, Peter	[HYPERLINK "mailto:Pfitzgerald@chainbridgebank.com"]		Former United States Senator Illinois; Former member of the Senate Agriculture Committee; Former Illinois State Senator and defeated an Illinois establishment Republican candidate for the U.S. Senate	**IL**
Flory, Bill	[HYPERLINK "mailto:bill@floryfarms.com"]		Former Chairman Nat'l Association of Wheat	**ID**

CONFIDENTIAL

			Growers	
Foglesong, Steve	[HYPERLINK "mailto:foglsong@astoriail.net"]		Former President National Cattlemen's Beef Association	**IL**
Folkerts, Brian	[HYPERLINK Ex. 6		GMA Executive Vice President	**IL**
Formica, Mike	[HYPERLINK "mailto:formicam@nppc.org"]		In-house legal counsel for the National Pork Producers Council	**VA**
Gaesser, Ray	[HYPERLINK Ex. 6		Former President, American Soybean Assn.	**IA**
Gilmore, Jim	[HYPERLINK Ex. 6		Former Governor Virginia; Chairman of Report on Terrorism and Agro-Terrorism	**VA**
Goehring, Doug	[HYPERLINK "mailto:dougg@bektel.com"]		Commissioner of Agriculture North Dakota	**ND**
Goodale, Bob	[HYPERLINK "mailto:goodale@email.unc.edu"]		Former CEO of Harris Teeter	**NC**
Goodlatte, Bob	[HYPERLINK "mailto:Beth.Breeding@mail.house.gov"]		Congressman, Virginia; Former Chairman House Agriculture Committee	**VA**
Gray, Bob	[HYPERLINK "mailto: Ex. 6]		Represents all major dairy co-ops in the Northeast	**VA**
Green, Mike	[HYPERLINK "mailto Ex. 6		State Senator, Michigan; Appropriations Agriculture Chair; Senate Agriculture Committee Vice Chair	**MI**
Groves, Helen K.	[HYPERLINK "mailto:wendyb@alexventures.com"]		Rancher; daughter of Robert Kleberg (King Ranch); Well known in TX/ranching world	**TX**
Hageman, Steve	[HYPERLINK "mailto:Steve.Hageman@hagemangroup.com"]		Chairman, Hageman Group, Farm and RE Investments; CO-Founder Remington Seeds	**IN**
Harris, John	[HYPERLINK "mailto:JohnHarris@harrisfarms.com"]		Largest cattle ranch operator on west coast	**CA**
Harsdorf, Sheila	[HYPERLINK "mailto:SheilaE.Harsdorf@wisconsin.gov"]		Secretary of Agriculture (Wisconsin), and former State Senator	**WI**
Heck, Ron	[HYPERLINK		Iowa farmer and Past	**IA**

CONFIDENTIAL

	"mailto:checkers@netins.net"]		President of the American Soybean Assoc.	
Heineman, Dave	[HYPERLINK Ex. 6		Former Gov. Nebraska	**NE**
Hunt, Hans	[HYPERLINK "mailto:Hans.Hunt@wyoleg.gov"]		State Legislator, Wyoming; Wyoming House Ag Committee; Rancher	**WY**
Ibach, Greg	[HYPERLINK "mailto:gtibach@frontiernet.net"]		Farmer; Under Secretary of Agriculture for Marketing and Regulatory Programs; Former Nebraska Director of Agriculture	**NE**
Jackson, Brent	[HYPERLINK "mailto:brent@jfcmelons.com"]		State Senator, North Carolina; Farmer- fruits and vegetables	**NC**
Johnson, Rick	[HYPERLINK "mailto:rick@dodakjohnson.com"]		Former Speaker of the House of Representatives, Michigan; Farmer with 6,000 head dairy cow operation; Former state Farm Bureau Director	**MI**
Kawamura, A.G.	[HYPERLINK "mailto Ex. 6		Former Sec. Food & Agriculture, California; Farmer	**CA**
Kautz, John	[HYPERLINK Ex. 6		California wine producer; CEO Ironstone Vineyards; Farmer	**CA**
Keesling, Doug	[HYPERLINK Ex. 6		Agriculture Development and Agribusiness Advisor	**KS**
Keiser, Carol	[HYPERLINK "mailto Ex. 6]		Cattle feeder in KS, NE, and western IL; Board Member, Global Farmer Network	**IL, FL**
Kelley, Charlotte	[HYPERLINK "mailto Ex. 6]		Tennessee cotton grower along with her husband (14,000 acres) plus operating a cotton gin processing 30,000 plus bales and a leader in the cotton industry	**TN**
Kemper, Alan	[HYPERLINK "mailto:Alan@Kemperfarms.com"]		Past President American Soybean Association; Past President National Corn Growers Association; Former USDA APAC member; Past Chairman of International Oilseed Producers Association- a world wide organization of	**IN**

CONFIDENTIAL

			palm, canola, and soybean farmers	
Kester, Kevin	[HYPERLINK "mailto:kkester@beef.org"]		Serves on the APAC (Ag Policy Advisory Committee) to Secretary Perdue and Ambassador Lighthizer; President for 2018 National Cattleman's Beef Association; owns 22,000 acre ranch producing cattle and wine grapes in CA	**CA**
Killian, Mark	[HYPERLINK Ex. 6 "]		Commissioner of Agriculture, Arizona; Farmer and rancher AZ	**AZ**
Kruse, Charles	[HYPERLINK Ex. 6		Former President Missouri Farm Bureau; Former CEO North American Equipment Dealers Association; Former Director of Missouri's Department of Agriculture; Retired Brigadier General	**MO**
Klippenstein, Brian	[HYPERLINK Ex. 6		Former CEO, Protect the Harvest; Senior Advisor to Secretary Perdue	**MO**
Laird, Russell	Ex. 6		Former VP National Rural Utilities, member of first transition team to USDA for President Trump	**VA**
Larson, Thane	Ex. 6	785-527-2450	Partner, Bestifor Farms LLP	**KS**
Lauwers, Rep. Dan	[HYPERLINK "mailto:DanLauwers@house.mi.gov"]		State Representative-Majority Floor Leader, Michigan House of Representatives	**MI**
Loos, Trent	[HYPERLINK Ex. 6 "]		Nebraska farmer; Radio personality with 3 million + listeners	**NE**
Lucas, Forrest	[HYPERLINK "mailto:cml@lucasoil.com"]		CEO Lucas Oil; Protect the Harvest	**IN**
Marshall, Mike	[HYPERLINK "mailto:mmarshall@ofwlaw.com"]		Former Advisor to Senator Bob Dole	**VA**
McCloskey, Mike	[HYPERLINK "mailto:michaeljmccloskey@mac.com"]		CEO Fair Oaks Farms- one of largest dairies in U.S.	**IN**
McCoy, Beau	[HYPERLINK Ex. 6		State Senator; Nebraska Former Nat. Chr. Council State Govts	**NE**
McKinney, Ted	[HYPERLINK		Undersecretary of Trade at	**IN**

CONFIDENTIAL

	Ex. 6		USDA; Former Director of Global Corp. Affairs for Elanco Animal Health	
McKown, Bobby	[HYPERLINK		Former President of Florida Citrus Mutual	**FL**
Miller, Sid			Commissioner of Agriculture, Texas	**TX**
Moore, Ron	Ex. 6		Former Chairman American Soybean Association; Former Chairman of the Illinois Soybean Association	**IL**
Morrisey, Patrick			Republican nominee for U.S. Senate; former Attorney General West Virginia	**WV**
Moseley, Jim			Former consultant on agriculture at EPA; Former Deputy Secretary of USDA	**IN**
Montna, Al	[HYPERLINK "mailto:al@montnafarms.com"]		Former Chairman, USA Rice Producers; past chairman of Rice Federation; CEO of Montna Farms, LLC; serves on CA Chamber of Commerce Board of Directors	**CA**
Munzlinger, Brian	[HYPERLINK "mailto:bmunzlin@marktwain.net"]		Chairman Missouri Senate Ag Committee	**MO**
Murdock, Casey	[HYPERLINK "mailto:Murdocklandandcattle@yahoo.com"] [HYPERLINK "mailto:Murdock@oksenate.gov"]		State Senator, Oklahoma	**OK**
Myrdal, Sen. Janne	[HYPERLINK "mailto:jmyrdal@nd.gov"]		State Senator; Director National Foundation for Women Legislators; member ALEC Rural Caucus; Vice Chair ND Agriculture Committee	**ND**
Nassif, Tom	[HYPERLINK "mailto:tnassif@wga.com"]		President Western Growers; Former Ambassador	**CA**
Nelson, Phil	[HYPERLINK "mailto:pcnelson@cskt.net"]		Illinois farmer; Former President Illinois Farm Bureau; Former Director of Agriculture; Well known agriculture leader	**IL**

CONFIDENTIAL

Nelson, Steve	[HYPERLINK "mailto:sdnelson@nefb.org"]		President of the Nebraska Farm Bureau	**NE**
Niemeyer, Garry	[HYPERLINK "mailto:gniemeyerfarms@juno.com"]		Former President National Corn Growers	**IL**
Northey, Bill	[HYPERLINK "mailto Ex. 6 "]		Undersecretary of NRCS, RMA, and FSA; Former Secretary of Ag, Iowa; farmer	**IA**
Perdue, Sonny	[HYPERLINK "mailto:sonny@perduepartners.com"]		Former Gov. Georgia; USDA Secretary	**GA**
Pombo, Richard	[HYPERLINK "mailto:rpombo@gavelresources.com"]		Rancher and a former Republican congressman representing California. He is a hero to many in the ag and ranching community for his attempts to bring common sense to the Endangered Species Act and amend the National Environmental Policy Act (NEPA) while in Congress	**CA**
Prestage, Ron	[HYPERLINK "mailto Ex. 6 "]		President of Prestage Farms, veterinarian, and former President National Pork Producers Council. Building new pork processing facility in Iowa.	**SC**
Quarles, Ryan	[HYPERLINK "mailto Ex. 6]		Commissioner of Agriculture, Kentucky	**KY**
Rastetter, Bruce	[HYPERLINK "mailto:shobson@summitag.com"]; [HYPERLINK "mailto:brastetter@summitag.com"]		Summit Ag Group of Alden, Iowa; Hosted first Republican Presidential debate	**IA**
Reed, Kimberly	[HYPERLINK Ex. 6		Nominee to be Chairman of Export-Import Bank of the US; Immediate Past Chair, Republican National Lawyers Association; Former President, International Food Information Council Foundation	**WV**
Reese, Jim	[HYPERLINK Ex. 6]		Secretary of Agriculture for Gov. Mary Fallin of OK	**OK**
Reynolds, Kim Gov.	[HYPERLINK Ex. 6		Former State Senator; First female Governor of Iowa	**IA**

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	Ex. 6			
Rhoden, Larry R.	[HYPERLINK "mailto:lrhoden@gwtc.net"]		House Majority Leader and Majority Whip; Chair Ag Committee	**SD**
Richards, Bill	[HYPERLINK Ex. 6]		Ohio farmer; Former chief of the USDA Soil Conservation Service; Leader of the no-till farming conservation practice in the U.S.	**OH**
Rider, Al	[HYPERLINK Ex. 6		Former VP New Holland North American Agriculture	**PA**
Ricketts, Pete	[HYPERLINK "mailto:lori@petericketts.com"]		Governor of Nebraska	**NE**
Reicks, Dale	[HYPERLINK "mailto:dreicks@reicksview.com"]		CEO of Reicks Farms; Produces over 800,000 head of hogs per year; Farms over 11,000 acres in Iowa and 4,000 acres in Paraguay	**IA**
Roberts, Martha	[HYPERLINK Ex. 6 "]		Major scientific authority for FL producers	**FL**
Roberts, Pat	[HYPERLINK Ex. 6]		U.S. Senator Kansas	**KS**
Robledo, Reynaldo			Owner of Robledo vineyards and winery personifies the American success story of immigrant to California winery owner	**CA**
Rogers, Kevin	[HYPERLINK "mailto:kevin@azcottongrowers.com"]		Former President of the Arizona Farm Bureau; Exec. VP Arizona Cotton Growers Assn.	**AZ**
Rust, Marcus	[HYPERLINK "mailto:marcus_rust@roseacre.com"]		CEO Rose Acre Farms-second largest egg producer in U.S.	**IN**
Rutledge, Leslie C.	[HYPERLINK Ex. 6		Attorney General, Arkansas; Co-Chair of the National Association of Attorney General Agriculture Committee and is married to a soybean producer	**AR**
Ryan, Stan	[HYPERLINK Ex. 6		President/CEO Darigold Inc;	**WA**

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	Ex. 6			
Schuette, Bill	[HYPERLINK Ex. 6]		Former Director of Agriculture Michigan; Former Congressman who also served on the Ag Committee; current Attorney General	**MI**
Schultz, Jim	[HYPERLINK "mailto:jim@openprairie.com"]		Former Secretary of Commerce Illinois, Private equity agribusiness entrepreneur and farmer; Chaired Bruce Rauner's governor campaign in 2014	**IL**
Hyde-Smith, Cindy	[HYPERLINK "mailto:cindy@cindyhydesmith.com"]		Former Commissioner of Agriculture and Commerce; U.S. Senator Mississippi	**MS**
Spears, David	[HYPERLINK "mailto:dspears@mkcoop.com"]		Commodity Futures Trading Commission; Dole Ag Advisor; Senior Vice President, Mid-Kansas Cooperative, Inc.	**KS**
Stenehjem, Wayne	Ex. 6		North Dakota Attorney General	**ND**
Steagall, Red	[HYPERLINK "mailto:red@redsteagall.com"]		Official Cowboy Poet of Texas	**TX**
Stewart, J.B.	[HYPERLINK Ex. 6 m"]		Chairman National Sorghum Growers Association	**OK**
Strain, Dr. Mike	[HYPERLINK "mailto:drstrain@ldaf.state.la.us"]		Commissioner of Agriculture and Forestry, Louisiana	**LA**
Strom, Leland	[HYPERLINK Ex. 6		Former Chairman of the Board of the Farm Credit Administration; Former Chair of the $3.5 billion farm Credit System Insurance Corporation; Farmer	**IL**
Sweeney, Annette	[HYPERLINK "mailto:annette@annettesweeney.com"]		Member of Iowa Senate; Former Iowa House Agriculture, Chair; Farmer; Agriculture Advocate	**IA**
Tom, Kip	[HYPERLINK "mailto:kiptom@tomfarms.com"]; [HYPERLINK "mailto:kip@kiptom.com"]		CEO, Tom Farms LLC- Largest Agri-Business farm operator in Indiana; Operates farms in South America	**IN**
Trotter, Johnny	[HYPERLINK "mailto:jtrotter@bar-g.com"]		CEO of BarG- 125,000 feedlot operation and farms 10,0000 acres in TX; 2014-	**TX**

CONFIDENTIAL

			15 President American Quarter Horse Association	
Wanzek, Terry M.	[HYPERLINK "mailto:tmwanzek@nd.gov"]		North Dakota State Senator; President Pro Tempore 3rd Assembly; Farmer	**ND**
Wellman, Steve	[HYPERLINK "mailto:wellmanfarms@sbllcweb.com"]		Director of Ag for the state of Nebraska; Former President of the American Soybean Association	**NE**
Whitcomb, Walt	[HYPERLINK "mailto:sdfarm@fairpoint.net"]		Ag Commissioner, Maine	**ME**
Wilkinson, John	[HYPERLINK Ex. 6		Chairman, Agriculture and Consumer Affairs Committee Georgia State Senate	**GA**
Willis, Tom	[HYPERLINK "mailto:tom.willis@Conestogaenergy.com"]		Largest sorghum ethanol producer in the country	**KS**
Wilson, Alan M.	[HYPERLINK Ex. 6		Attorney General South Carolina	**SC**
Yoder, Fred	[HYPERLINK Ex. 6		Former Chairman of the Board, National Corn Growers Association	**OH**
ADVISORS (NOT TO BE NAMED)	**E-MAIL**	**PHONE #**	**NOTES**	
Baise, Gary	[HYPERLINK "mailto:gbaise@ofwlaw.com"]	202-789-1212	Assisting Dr. Clovis	**VA**
Biersack, Carl	[HYPERLINK Ex. 6		Advisor	**VA**
Dorr, Thomas C.	[HYPERLINK "mailto:tdorr@dorrandassociates.com"]		Former Under Secretary for Rural Development, USDA	**IA**
Peay, Don	[HYPERLINK "mailto:don@sfw.net"]		Founder, Sportsmen for Fish and Wildlife	**UT**
Vandoren, Terry	Ex. 6		Handles ag issues in Office of Senate Majority leader, former administrator of grain inspection packers and stockyards administration (GIPSA)	**IL**
Villwock, Don	[HYPERLINK Ex. 6		Former President Indiana Farm Bureau	**IN**
Washburn, Tali	[HYPERLINK "mailto:twashburn@mentormei		Advisor	**IA**

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	nc.com"]			
Woodley, John Paul	[HYPERLINK "mailto:jpwoodley@advantusstrategies.com"]		Former Asst. Sec. Corps. of Engineers	**VA**

CONFIDENTIAL

Message

From: Edward Calabrese [edwardc@schoolph.umass.edu]
Sent: 7/24/2018 9:15:59 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: update

Ryan:

I will be publishing a Commentary in the journal Dose Response that strongly supports the EPA proposal.
I will send you the electronic copy as soon as available....it will get wide circulation.

Ed

Message

From: Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]
Sent: 7/31/2018 10:48:37 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Lyons, Troy [lyons.troy@epa.gov]; Repko, Mary Frances (EPW) [mary_frances_repko@epw.senate.gov]
Subject: RE: Security Question

I think we are clear now. Please let us know if any clarifications are needed.
Thank you.

Michal Ilana Freedhoff, Ph.D.
Director of Oversight
Committee on Environment and Public Works Democratic Staff

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Tuesday, July 31, 2018 6:43 PM
To: Lyons, Troy <lyons.troy@epa.gov>; Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>
Cc: Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
Subject: RE: Security Question

Feedbag?

From: Lyons, Troy
Sent: Tuesday, July 31, 2018 6:41 PM
To: Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>
Cc: Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>; Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Re: Security Question

I think michal and rj connected a little bit ago?

Troy M. Lyons
Associate Administrator
Office of Congressional & Intergovernmental Relations
Ex. 6

Sent from my iPhone

On Jul 31, 2018, at 5:44 PM, Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov> wrote:

> Troy and RJ,
>
> This feedback is really important to Senator Carper. I know it has been a long day, but when might we expect to receive it.
>
> Really appreciated,
> MF
>
> ---
>
> **From:** Lyons, Troy <lyons.troy@epa.gov>
> **Sent:** Tuesday, July 31, 2018 2:21 PM
> **To:** Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>; Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>

Cc: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: RE: Security Question

Hopefully this afternoon. We start again at 2:30

From: Freedhoff, Michal (EPW) [mailto:Michal_Freedhoff@epw.senate.gov]
Sent: Tuesday, July 31, 2018 2:20 PM
To: Lyons, Troy <lyons.troy@epa.gov>; Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>
Cc: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: RE: Security Question

Hey there

I have already conveyed this message to our LAs, and gotten no notable feedback. In the meantime, I'd appreciate feedback on the issue areas that Senator Carper has flagged. When might one of you be able to touch base?

Thanks
Michal

Michal Ilana Freedhoff, Ph.D.
Director of Oversight
Committee on Environment and Public Works Democratic Staff

From: Lyons, Troy <lyons.troy@epa.gov>
Sent: Tuesday, July 31, 2018 2:17 PM
To: Repko, Mary Frances (EPW) <mary_frances_repko@epw.senate.gov>; Freedhoff, Michal (EPW) <Michal_Freedhoff@epw.senate.gov>
Cc: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Security Question

MF, Michal:

We are looking forward to tomorrow's hearing—well, really just seeing the resurrection of the paper machete head.

Michal and I spoke yesterday, but wanted to stress that the Administrator would not like the questions regarding his security to be raised tomorrow. He fears that publicly disclosing his status may prompt heightened security measures to be taken—which he wants to avoid.

He will personally speak with any Senator who would like to know his level of security. Could communicate that to the LA's?

Thanks for working with us on this!

_____

Troy M. Lyons
Associate Administrator
Office of Congressional & Intergovernmental Relations
U.S. Environmental Protection Agency

Ex. 6

Message

From: Maricruz MaGowan [Ex. 6]
Sent: 8/1/2018 11:25:03 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: I would like to meet with you

Mr. Jackson:

I got your EPA email, and I am looking forward to start working at OPA as soon as possible! However, I would like to still meet with you this afternoon at 3:30 pm. Thanks again.

Maricruz

Sent from my iPhone

> On Jul 31, 2018, at 5:50 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>
> Ok. Thanks.
>
> -----Original Message-----
> From: Maricruz MaGowan [Ex. 6]
> Sent: Tuesday, July 31, 2018 5:46 PM
> To: Jackson, Ryan <jackson.ryan@epa.gov>
> Subject: Re: I would like to meet with you
>
> Yes, of course. I will be there tomorrow. Thanks again!
>
> Maricruz
> [Ex. 6]
>
> Sent from my iPhone
>
>> On Jul 31, 2018, at 5:42 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>>
>> Would 3:30 tomorrow work? I'm in 3400 in the north building.
>>
>> -----Original Message-----
>> From: Maricruz MaGowan [Ex. 6]
>> Sent: Tuesday, July 31, 2018 5:41 PM
>> To: Jackson, Ryan <jackson.ryan@epa.gov>
>> Subject: Re: I would like to meet with you
>>
>> Mr. Jackson:
>>
>> Thanks so much. I will accommodate to your schedule, please let me know through this email.
>>
>> Maricruz
>> [Ex. 6]
>>
>> Sent from my iPhone
>>
>>> On Jul 31, 2018, at 5:31 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>>>
>>> That's fine. When would you like to do that?
>>>
>>> -----Original Message-----
>>> From: Maricruz MaGowan [Ex. 6]
>>> Sent: Tuesday, July 31, 2018 5:11 PM
>>> To: Jackson, Ryan <jackson.ryan@epa.gov>
>>> Subject: I would like to meet with you
>>>
>>> Dear Mr. Jackson:
>>>
>>> I breafly consulted with Mercy, and after careful thinking, I would like to request meeting with you in person. I will deeply appreciate a few minutes of your time, I know how busy you are.
>>>
>>> Yours truly,
>>>
>>> Maricruz MaGowan
>>> [Ex. 6]
>>>
>>> Sent from my iPhone

Message

From: Emily Holden [eholden@politico.com]
Sent: 7/20/2018 10:36:29 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Konkus, John [konkus.john@epa.gov]
Subject: Re: A question for you on a pending story

Yes of course, I can send them when I'm back at my computer.

Emily Holden
Reporter, energy/climate
POLITICO
eholden@politico.com
Ex. 6
@emilyhholden

On Jul 20, 2018, at 6:22 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> I'm not sure what records you're talking about. If you want to show them to me, maybe I can help. My calendar for June 5, 2017 shows that I was in DC getting ready for G7 prep.
>
> **From:** Emily Holden [mailto:eholden@politico.com]
> **Sent:** Friday, July 20, 2018 4:19 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Subject:** A question for you on a pending story
>
> Hi Ryan,
>
> The press team has been working with me on a complicated story about Pruitt's travel records, but many of my questions remain unanswered and there's one thing in particular I needed to run by you. They have had this question since last Friday and have not been able to respond.
>
> Records show that you and Pruitt were in New York on June 5 and at 10 p.m. you changed your ticket to Rome to depart from D.C., rather than New York. This suggests that's when you discovered Pruitt would need to return to D.C. to travel with the president, rather than flying straight from New York.
>
> But Kevin Minoli said in his official memo justifying the $36,000 private military flight that EPA learned of the change of plans on June 7, the same day they were happening. And the memo said (and Jahan told me repeatedly) that Pruitt originally intended to leave from D.C. but missed that flight and then had to find a way to New York. (This didn't make sense at the time because if you miss the first leg of a flight, the other legs are canceled.)
>
> Additionally, Pruitt's travel voucher shows him departing from JFK and does not include any purchased flight from D.C. to New York.

So—when were you made aware that Pruitt would be traveling with the president? Why was I told and why did Minoli's memo claim that it was on the 7th and that Pruitt had planned to travel from D.C.?

The Post's recent story also suggests that Pruitt always intended to fly from New York, further discrediting the sequence of events that has been presented to reporters and investigators.

You can see why I think this needs an EPA response. The story could run over the weekend, so please let me know.

Thanks,
Emily

Emily Holden
Reporter, energy/climate
POLITICO
eholden@politico.com
Ex. 6 WhatsApp, Signal, Confide)
@emilyhholden

Message

From: Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]
Sent: 7/24/2018 5:57:32 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Fwd: U.S. Senate letter to Acting Administrator Wheeler | TSCA New Chemicals Review Process
Attachments: EPA - Wheeler - TSCA New Chemicals Reviews - (7-24-18).pdf; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

> **From:** "Black, Jonathan (Tom Udall)" <Jonathan_Black@tomudall.senate.gov>
> **Date:** July 24, 2018 at 1:54:15 PM EDT
> **To:** "Kaiser, Sven-Erik" <Kaiser.Sven-Erik@epa.gov>
> **Cc:** "Freedhoff, Michal (EPW)" <Michal_Freedhoff@epw.senate.gov>, "Dudis, Dan (Whitehouse)" <Dan_Dudis@whitehouse.senate.gov>, "Joseph, Avenel (Markey)" <Avenel_Joseph@markey.senate.gov>, "Zipkin, Adam (Booker)" <Adam_Zipkin@booker.senate.gov>, "Hollers, Logan (Merkley)" <Logan_Hollers@merkley.senate.gov>, "Black, Jonathan (Tom Udall)" <Jonathan_Black@tomudall.senate.gov>
> **Subject: U.S. Senate letter to Acting Administrator Wheeler | TSCA New Chemicals Review Process**
>
> Hello!
>
> Please find attached a letter from Sens. Udall, Carper, Whitehouse, Markey, Booker and Merkley conveying concerns about reports on EPA's New Chemicals Review Process.
>
> Thanks,
> ---Jonathan

United States Senate
WASHINGTON, DC 20510

July 24, 2018

The Honorable Andrew Wheeler
Acting Administrator
U.S. Environmental Protection Agency (EPA)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Acting Administrator Wheeler:

As you may recall, each of us was centrally involved in the negotiations that led to the 2016 reform of the Toxic Substances Control Act (TSCA), which passed with overwhelming bipartisan support. Among the key reforms was a substantial strengthening of TSCA's provisions governing EPA's review of new chemical substances prior to allowing them into commerce.

While in the months after passage EPA began to implement these provisions in a manner we believe was faithful to both the letter and spirit of the law, beginning in the middle of last year EPA signaled it would change course by narrowing the scope of its new chemical reviews and the requisite risk determinations in a manner that deviated from the statute.

Press reports now indicate that EPA is on the verge of making even more sweeping, weakening changes to its reviews of new chemicals.[1] Unlike with the draft framework EPA proposed late last year, which was made available and vetted through a public meeting and public comment, in this case we understand EPA plans to move forward without public notice and without describing in writing the changes it is making and how they are justified under reformed TSCA.

We write now to raise our serious concern about EPA's intentions, and to request that your staff brief our offices about the planned changes prior to moving to implement them. Passage of the TSCA reforms was intended to bolster public confidence in our chemical safety system by enhancing EPA's authorities, better ensuring the safety of chemicals both entering and in commerce while improving the transparency of EPA decision-making. Such enhancements were also critical to providing greater regulatory certainty to industry and greater EPA accountability to all stakeholders.

We appreciate that there has been frustration on all sides over EPA's implementation of the new provisions of section 5 of TSCA, and that EPA needs to balance the competing objectives of conducting both timely and robust reviews of new chemicals.

---

[1] Bloomberg Environment, "New Chemicals Could Enter Market Sooner Under Plan Eyed by EPA," July 17, 2018

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We look forward to your prompt attention and response to this request. Thank you.

Sincerely,

Tom Udall
United States Senator

Thomas R. Carper
United States Senator

Sheldon Whitehouse
United States Senator

Edward J. Markey
United States Senator

Cory A. Booker
United States Senator

Jeffrey A. Merkley
United States Senator

ED_002480_00066722-00002

Message

From: Tom Hassenboehler [thass@ec-map.org]
Sent: 7/19/2018 2:47:19 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Fwd: Greetings and Congrats! Invite to EC-MAP Event July 23rd
Attachments: Save the Date; EC-MAP Launch-Inaugural Panel AgendaJuly23.docx; EC-MAP final paper - transportation.pdf

Good seeing you yesterday and congrats on Ex. 6

FYI just wanted to forward along what I sent to Andy last week. No expectations on him being able to make it, but just wanted to get it on your radar if it's possible, or if you could drop by as well, since we are across the street.

So glad to hear about things going well there too.

Happy to chat further on this if needed!

Tom

Get Outlook for iOS

From: Tom Hassenboehler <thass@ec-map.org>
Sent: Thursday, July 12, 2018 4:14 PM
To: wheeler.andrew@epa.gov
Subject: Greetings and Congrats! Invite to EC-MAP Event July 23rd

Administrator Wheeler: Hi AndyI Hope you are well. I watched your welcome video to employees yesterday and it brought me back to 2008 and our own Dirksen staff meetings. Was great! I am so excited for you and I know you will be great in this role on every level.

I know you must be crazed, but I wanted to pass along the invitation and inaugural event for the new nonprofit that we are officially launching on sustainability and digitalization. We have Mandy Gunasekara on a panel and Senator Gardner delivering remarks. Chairman Walden may also drop by for the reception.

I know you have a lot on your plate right now, but would be great if you were interested or wanted to drop by for a bit during the reception, we are doing it across the street at 1001 Pennsylvania NW at 530 pm. I am attaching an updated agenda and an advance copy of the transportation white paper we will be launching. I would be happy to come by and brief you on this and the rollout before or after the event, as you have time on your schedule.

Thanks and look forward to talking soon.

Best,
Tom

NEW POLICY FOR AN ERA OF ENERGY DIGITALIZATION: TRANSPORTATION

July 2018

About EC-MAP

The Energy Consumer Market Alignment Project (EC-MAP) is a Washington, DC non-profit operating in collaboration with the Keystone Policy Center, an independent nonprofit founded in 1975 to drive actionable, shared solutions to contentious policy issues. We envision an energy future where digital technologies drive greater transparency, fair competition, and consumer choice—and where policy enables innovation instead of creating market barriers.

EC-MAP seeks to work with stakeholders to advance knowledge and associated policy mechanisms to accelerate the era of energy digitalization. Our goal is to enable a critical dialogue around identification of policy barriers and the future role of government to promote free and fair market competition and build policy consensus that benefits energy consumers, the economy, and the environment.

Acknowledgement

EC-MAP would like to acknowledge Alisa Ferguson for her significant contributions towards the development of this report. EC-MAP would also like to recognize the contributions of Christina Stanton and Sean McGinnis in preparing this report.

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Executive Summary

Throughout history, the energy system has gone through revolutions driven by technology and innovation. Today, change is being driven by three trends: decentralization, connectivity, and automation. Economies of scale for clean energy generation, are rapidly transforming the grid and opportunities to connect electric vehicles to it, while advances in production technology are giving regions of the country new fueling and infrastructure options. Real-time access to the internet, broadband, and mobile devices is driving consumer demand for transparency, empowering sustainable data management, and circumventing traditional limits to choice. Advances in computing and machine learning have enabled automation and advanced functionality to be embedded within vehicles, transportation infrastructure, and energy delivery systems and distribution networks.

Together these trends are enabling a new era of energy digitalization. This era will be dominated by crosscutting digital tools and platforms—including artificial intelligence, blockchain, crowdsourcing, the internet of things, and software that enables new business models—that can be applied to the energy system in myriad ways. This era is also one where change will be driven from the bottom-up—in other words, one where consumers play a much more significant role in meeting their energy needs and driving goals around cost, sustainability, and efficiency.

The era of energy digitalization requires policymakers and regulators to embrace a new way of thinking about energy governance. The energy system of the past required intermediation—i.e. *establishing* regulation and incentives to protect the public interest and to promote specific resources and technologies deemed superior or desirable. The era of energy digitalization, in contrast, requires disintermediation—i.e. *removing* barriers to facilitate new markets, enable new forms of transactions, and empower consumers.

Today, there are increasing tensions between digital innovations well positioned to deliver what consumers want and policy that creates barriers to their adoption. Electricity markets that could enable consumer choice and participation of electric vehicles and energy storage are often stymied by outdated approaches to governance. Federal mandates for fuels and vehicles have sometimes not effectively achieved their goals. And the need for transportation infrastructure investment dwarfs the funding available through existing taxes and budgets. Specifically, statutes such as Corporate Average Fuel Economy Standards (CAFE), Renewable Fuel Standard (RFS), Federal Power Act; approaches to highway and infrastructure finance; and state and local regulation of auto dealers and taxicabs are increasingly not aligned with emerging digital innovations.

EC-MAP is challenging stakeholders to consider a different future—one where digital innovations enable consumers to express preferences that drive markets—and where policy plays a more limited and nuanced role. This future does not require significant new R&D, and it is not one that is decades away. This future is already emerging, and policy change will need to accelerate to keep up.

EC-MAP and our partners believe the era of energy digitalization is inevitable; the only question is whether government will accelerate or impede its benefits. EC-MAP plans to work with incumbent stakeholders, new stakeholders, policymakers—and you—to build a roadmap to align policy with a digital energy future.

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I. Our Changing Energy System

Technology Drives Change

Throughout history, the energy system has gone through several revolutions driven by technology and innovation. Before the Industrial Revolution, agriculture was central to energy, with wood used for heat and horses for transportation. In the 19th Century, the invention and development of modern drilling techniques, the use of kerosene for lighting, and finally the development of the internal combustion engine, all helped unleash an era dominated by fossil fuels. Although the 1973 oil embargo ushered in a new focus on domestic energy production and resource diversity, including investment in renewable fuels and more efficient vehicles, oil has remained dominant in the transportation sector. However, the rise of the internet, which has democratized access to information and enabled new ways to communicate, is poised to once again transform how consumers interact with fuels, vehicles, and transportation infrastructure.

Today three significant trends are driving change in the energy and transportation systems: decentralization, connectivity, and automation.

- **Decentralization.** Economies of scale for clean energy generation are rapidly transforming the grid. Renewable generation technologies (in particular solar PV) are increasingly economic both at large utility scale and at smaller scales appropriate to buildings and vehicles. This is driving opportunities for unprecedented convergence between the electric grid and transportation infrastructure.

- **Connectivity.** Access to the internet, broadband, and mobile devices has grown dramatically. Global internet traffic continues to increase exponentially (see Figure 1), and in the U.S., smartphone adoption has surpassed 80 percent.[1] A car is increasingly more like an iPhone than a Model T, with integrated technology and connectivity that is often overtaken by more advanced features within a few years. In response, consumers are demanding more flexible financing and ownership options; the volume of car leases grew from 1.4 million vehicles in 2009 to 4.3 million vehicles in 2016,[2] and new business models such as car subscriptions are already emerging.[3]

- **Automation.** Advances in computing, machine learning, and artificial intelligence (AI) have enabled significantly increased automation embedded within vehicles and infrastructure. Currently, every major automaker is pursuing some kind of self-driving technology, and most believe a future with autonomous vehicles is no longer a matter of if, but when. One study by Intel and research firm Strategy Analytics projected that in the U.S. alone, autonomous cars could be a $2 trillion industry by 2050.[4] McKinsey & Company has predicted that storing, organizing, and analyzing data from cars will be a $750 million market by 2030.[5]

---

[1] Adam Lella, "U.S. Smartphone Penetration Surpassed 80 Percent in 2016," *comScore*, February 3, 2017, https://www.comscore.com/Insights/Blog/US-Smartphone-Penetration-Surpassed-80-Percent-in-2016.
[2] Jack Fleming, "Cars Are Full of Tech That Gets Outdated Fast — So People Are Leasing, Not Buying," *Los Angeles Times*, July 7, 2017, http://www.latimes.com/business/la-fi-car-computer-lease-20170709-story.html.
[3] "The Future of Car Ownership is Fair," Fair.com, accessed June 20, 2018, https://www.fair.com.
[4] Aarian Marshall, "Robocars Could Add $7 Trillion To The Global Economy," *Wired*, June 3, 2017, https://www.wired.com/2017/06/impact-of-autonomous-vehicles/.
[5] Ibid.

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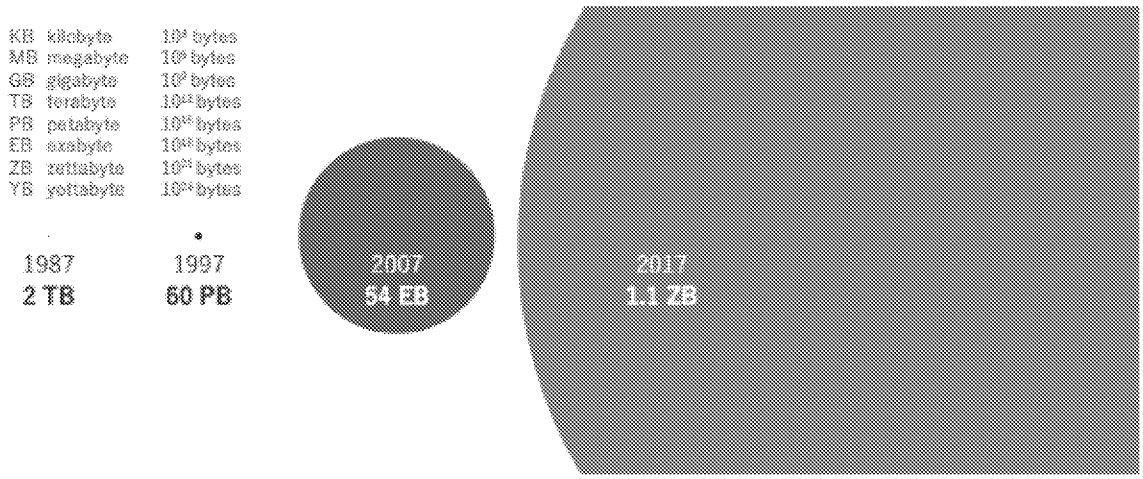
Together these trends are driving change from the bottom-up, with consumers playing a much more significant role in meeting their energy and transportation needs and driving goals around cost, sustainability, and efficiency.

Figure 1
Growth in Global Internet Traffic



Source: International Energy Agency

The Accelerating Pace of Digitalization

Information and communications technologies are increasingly dominant in the economy as a whole. As recently as the early 2000s, the world's largest companies represented a diversity of industries; however today, all are companies focused on information and communications technology (see Figure 2).

Information and communications technologies are intersecting with the transportation system in a variety of ways, including through data-collecting sensors; advanced analytics; communications systems that enable remote control; infrastructure that connects vehicles and the electric grid; and other intelligent transportation systems designed to lower costs and improve safety, operational efficiency, and customer service.[6] Although the intersection of information technology and energy is far from new, the *pace* of adoption is accelerating dramatically. The market for intelligent transportation systems in the U.S. nearly doubled between 2012 and 2017 and is on pace to more than triple by 2022 (see Figure 3).[7] Overall, investment in digital technologies by energy companies grew by more than 20 percent between 2014 and 2016 (see Figure 4). Accelerated adoption of smart, two-way communications technologies is also already driving increased engagement by utilities and similar organizations around the appropriate and necessary allocation of broadband spectrum to accommodate them.[8]

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[6] International Energy Agency, *Digitalization & Energy* (Paris: International Energy Agency, 2017).
[7] Global Market Insights website, accessed March 5, 2018, https://www.gminsights.com/industry-analysis/intelligent-transportation-system-ITS-market.
[8] Utilities Technology Council, *Why Do Utilities Need Access To Spectrum?* (Washington, DC: Utilities Technology Council, October 2017).

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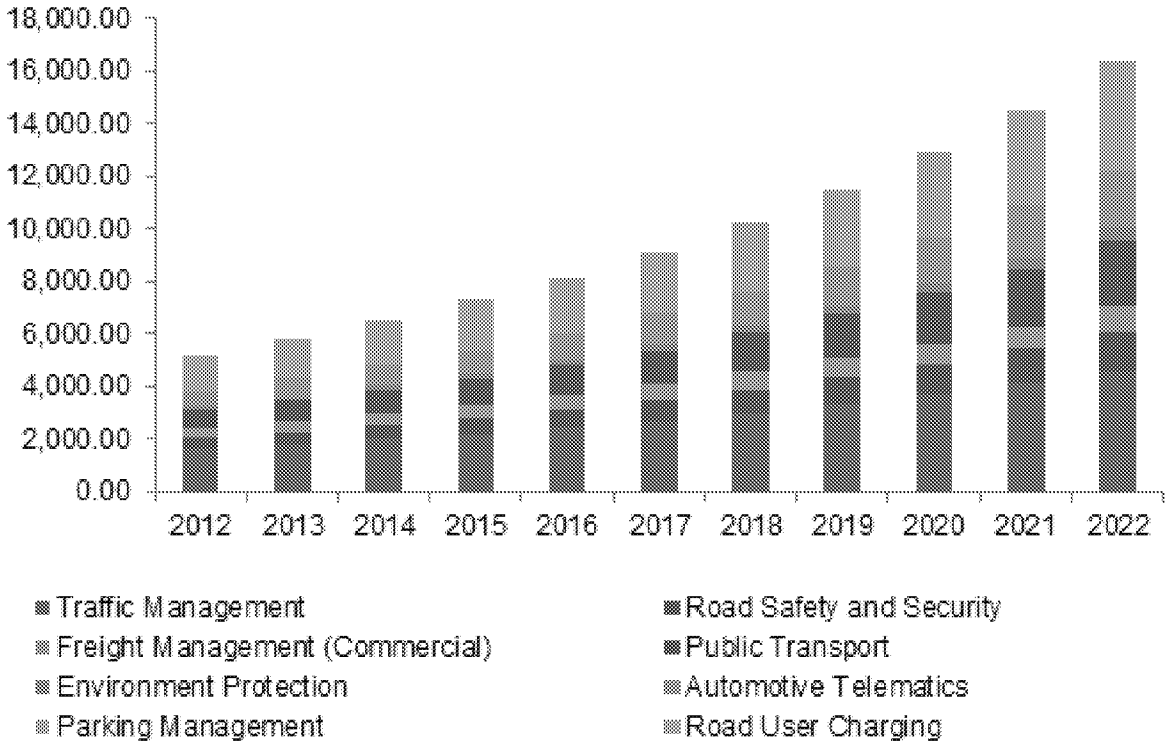
Figure 2
Largest Companies by Market Capitalization

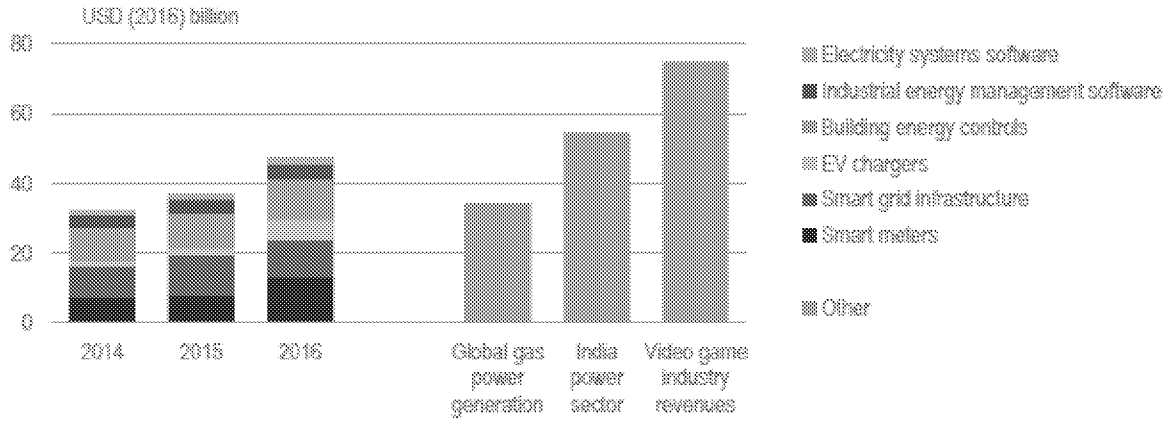
Source: International Energy Agency

Figure 3
U.S. Intelligent Transportation System Market by Application, 2012-2022 (USD Million)



Source: Global Market Insights

Figure 4
Recent Growth Trends in Digital Energy Infrastructure Invesment



Source: International Energy Agency

Unlike many innovations of past decades, emerging digital innovations are not technologies that serve a single purpose. Rather, most are crosscutting digital tools and platforms that can be applied to the energy system in myriad ways. They include:

- Artificial intelligence and machine learning that enable increased automation;
- Blockchain technologies that enable secure, decentralized, peer-to-peer transactions;
- Crowdsourcing platforms that enable creative finance mechanisms and expose consumer preferences;
- The internet of things, which connects smart appliances, electronics, mobile devices, and sensors and enables them to communicate across a network; and
- Software and systems that enable new business models for energy services.

These digital tools and platforms create new data streams that have significant potential to enhance measurement, reporting, and verification (MRV) related to carbon and other emissions reporting, sustainability attributes of alternative fuels, and renewable energy and distributed energy resources transactions. Digital MRV can improve speed and accuracy of reporting, lower reporting and verification costs, and increase scalability and security of MRV systems.[9] It can also enable new approaches to policy design, more effective enforcement of regulations, and better oversight of policy effectiveness.

Investment in these areas is growing rapidly. Investment in blockchain by energy organizations, for example, has gone from nearly nonexistent a year ago to approximately $170 million in January 2018 (see Figure 5).

[9] Tom Baumann, "Enhancing MRV with Digital Innovations," (presentation, January 23, 2018).

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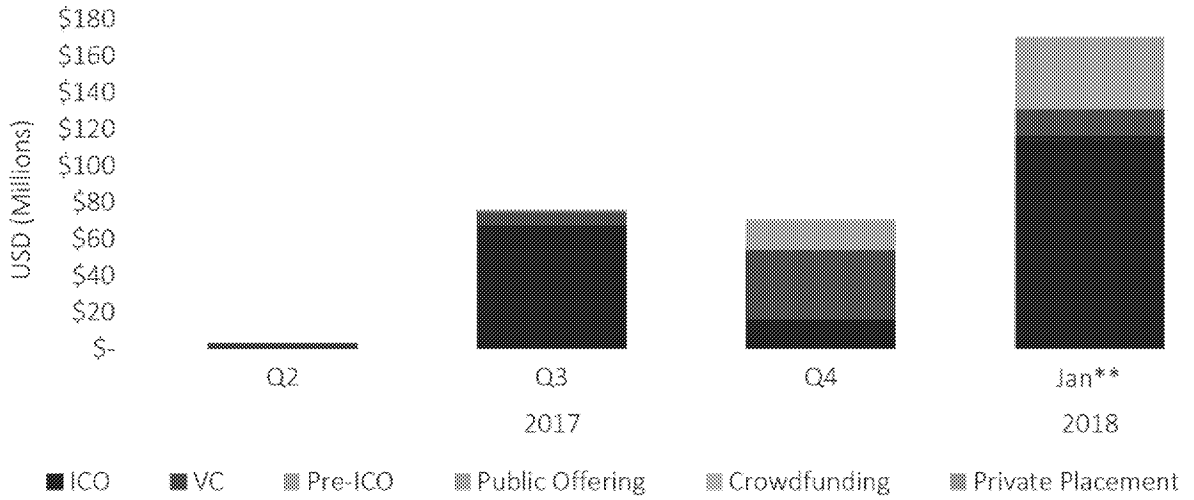
Figure 5
Investments in Blockchain by Energy Organizations



Source: GTM Research *ICOs often raise money in cryptocurrencies; dollar values use the conversion rate at the end of the ICO.
**Includes $4 million raised 2/1 by WePower and $17 million raised by EWF announced 2/5

Source: GTM Research

A New Role for Government

Government plays a fundamental role in the energy system. However, as an institution, government is not designed to move quickly. The era of energy digitalization requires policymakers and regulators to embrace a new way of thinking about energy governance. Historically, government intervention was designed around the concept of intermediation—i.e. *establishing* regulation and incentives to protect the public interest and to promote specific resources and technologies deemed superior or desirable by policymakers. The era of energy digitalization, in contrast, requires intervention designed around the concept of disintermediation—i.e. *removing* barriers to facilitate new markets, enable new forms of transactions, and empower consumers.

The era of energy digitalization does not require that all policy and regulation be abolished; but neither should policymakers reflexively assume that existing policy and regulatory architectures are still relevant or necessary. If government is to remain relevant, policymakers and regulators must align energy policy to enable markets that are designed to accelerate innovations and optimize benefits to consumers. Section II reviews how existing policy and regulation create barriers in our changing energy system; Sections III and IV outline a framework for developing new policy approaches that are better aligned with the era of energy digitalization. EC-MAP and our partners believe the era of energy digitalization is inevitable; the only question is whether government will accelerate or impede its benefits.

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II. How Existing Policy and Regulation Create Barriers to Change

No policy or regulation is perfect; most energy and transportation policies were initiated with good intentions—to spur economic growth, boost national security, keep consumers safe, and protect the environment. However, too often as the energy and transportation systems evolve, policy remains stagnant. In today's world of accelerating change, policy and regulation based on old ways of thinking have the potential to—intentionally or unintentionally—block the very innovations necessary to achieve policy goals.

Already, much of today's policy architecture is no longer aligned with the realities of the energy and transportation systems. Some policies designed decades ago have been extended over and over again as a matter of course without conscious reassessment of fundamental goals and impact; others have not been altered significantly in that same timeframe. Incumbent stakeholders naturally seek to protect the status quo (in which they have often invested significant resources) while blocking changes that would disrupt their interests or incentivize alternative solutions.

Below are four current issues that illustrate tensions between status quo policy approaches and a future where digital innovations enable markets to respond directly to consumers and enable consumers to express preferences that drive markets. At the end of Section II, Table 1 inventories a broader selection of existing policy and regulatory architectures and how they create barriers to emerging innovation, market efficiency, and consumer choice.

A Growing Gas Tax Gap

The first Federal gasoline tax was instituted in 1932; it was made permanent in 1941. In 1956, the gas tax became tied to a new Highway Trust Fund that would ensure gas tax revenues were used to fund the interstate highway system and other highway projects. The tax was increased again in 1961, 1982, and 1990; it was last increased 25 years ago, to 18.4 cents per gallon in 1993.[10]

Since that time, the value of the gas tax has eroded dramatically. Inflation alone has reduced its purchasing power by 40 percent.[11] Increased fuel efficiency combined with greater numbers of hybrid and electric vehicles—which use much less or no gasoline but still use road infrastructure—are further reducing its effectiveness. The results have been dramatic. According to the 2017 American Society of Civil Engineers infrastructure report card, one out of every five miles of highway pavement is in poor condition and the maintenance backlog due to chronic underfunding totals more than $800 billion.[12] In cities with the worst roads, individual drivers are estimated to incur between $500 and $1,000 in additional maintenance and fuel costs annually.[13]

In recent years, Congress has kept the Highway Trust Fund from insolvency by appropriating supplemental funding. However, no consensus has yet emerged around a longer-term fix. Industry groups and lawmakers have proposed solutions such as indexing the gas tax to

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[10] "Highway History," U.S. Department of Transportation, Federal Highway Adminstration, accessed March 4, 2018, https://www.fhwa.dot.gov/infrastructure/gastax.cfm.
[11] American Society of Civil Engineers, *2017 Infrastructure Report Card: Roads*, (Washington, DC: American Society of Civil Engineers, 2017).
[12] Ibid.
[13] Alex Davies, "Here's How Much Your City's Crappy Roads Are Costing You," Wired, July 28, 2015, https://www.wired.com/2015/07/heres-much-citys-crappy-roads-costing-you%E2%80%A8/.

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inflation and considering other types of user fees. States are considering a variety of fixes around the margins of the problem: raising state gasoline taxes; seeking private sources of financing; instituting new toll roads; enacting fees on alternative fuel vehicles; and exploring user charges based on miles driven rather than gasoline consumed. However, capturing the benefits from the growing shift toward digitalization requires a more fundamental reckoning.

How can policymakers consider approaches to financing infrastructure that accommodate a variety of vehicles, fuels, and technologies in different regions of the country, rather than a single type for all?

The CAFE Game

Corporate Average Fuel Economy (CAFE) standards were originally enacted in 1975 in response to the 1973 oil embargo and reflected a desire to reduce energy consumption and bolster U.S. independence from foreign oil.[14,15] Authority over CAFE is shared by two Federal agencies, the National Highway Traffic Safety Administration (NHTSA), which sets and enforces standards and the Environmental Protection Agency (EPA), which calculates fuel efficiency and regulates compliance with related greenhouse gas emissions standards. In 1990, California instituted a separate Zero Emission Vehicle (ZEV) program intended to incentivize the deployment of vehicles with zero or near-zero emissions. The ZEV standard has since been adopted by thirteen additional states.[16] Updates to CAFE in 2012 were intended to harmonize standards and create "One National Program" across NHTSA, EPA, and California; however, automakers have challenged that the rules remain inconsistent, raising the cost and complexity of compliance.[17]

Over the last several decades, policymakers, automakers, environmental groups, and consumer advocates have battled over the structure and details of CAFE. Most recently, the Trump Administration has indicated its intention to freeze standards beginning in 2020 and potentially revoke a waiver that allows California to set higher emissions standards than the Federal government. The moves are not necessarily supported by the auto industry and are likely to be challenged in the courts.[18] The result is continued uncertainty for a regulation that already is dizzyingly complex and fails to optimize benefits for consumers.

Auto manufacturers have naturally sought to minimize the cost and impact of compliance with standards; in many cases they have done so by exploiting the complexity of CAFE without necessarily embracing new innovations. Differences between how passenger cars and light trucks are treated under the rules has led to reclassification of cars built on "truck" platforms

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[14] Union of Concerned Scientists, "A Brief History of U.S. Fuel Efficiency Standards," accessed March 5, 2018, https://www.ucsusa.org/clean-vehicles/fuel-efficiency/fuel-economy-basics.html#.Wp2Xm2aZNPM.
[15] Salim Furth and David Kreutzer, *Fuel Economy Standards Are a Costly Mistake* (Washington, DC: Heritage Foundation, March 4, 2016), https://www.heritage.org/government-regulation/report/fuel-economy-standards-are-costly-mistake.
[16] Stephen Edelstein, "Which States Follow California's Emission and Zero-Emission Vehicle Rules?" *Green Car Reports*, March 7, 2017, https://www.greencarreports.com/news/1109217_which-states-follow-californias-emission-and-zero-emission-vehicle-rules.
[17] "Automakers Seek to Align Fuel Economy and Greenhouse Gas Regulations," EveryCRSReport.com, August 8, 2016, https://www.everycrsreport.com/reports/IN10550.html.
[18] Robinson Meyer, "How Carmakers Trumped Themselves," *The Atlantic*, June 20, 2018, https://www.theatlantic.com/science/archive/2018/06/how-the-carmakers-trumped-themselves/562400/.

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(including the "invention" of sport utility vehicles)[19] and sizing of vehicle footprints to game fuel efficiency requirements.[20] Perhaps most egregiously, the flex-fuel vehicle loophole allowed manufacturers for many years to get (and bank) credits for producing vehicles that could run on E85 fuel; the rule was based on market assumptions that 50 percent of vehicles would actually use the fuel (despite the fact it was only sold at 2 percent of gas stations)[21] and environmental assumptions that E85 had zero emissions (despite the fact that ethanol has been shown to have an emissions profile only marginally less carbon-intensive than gasoline).[22] Banking and trading of credits (including Federal CAFE credits and state ZEV credits) have also enabled Tesla to make more money selling credits ($622 million, between 2011 and 2015) than selling cars.[23]

Some benefits of CAFE have been eroded by a variety of unintended consequences. One is the "rebound effect," whereby drivers of more fuel-efficient cars take advantage of lower costs by driving approximately 10 percent more miles.[24] One analysis has estimated that CAFE (in spite of gaming to meet its requirements) has added at least $3,800 to the price of a new car.[25] This in turn has resulted in people keeping or seeking lower-priced (and relatively less fuel efficient) used cars and for longer periods of time, and the phenomenon is estimated to reduce emissions benefits by 15 percent.[26] EPA calculations have also been criticized as relying on indoor tests that do not accurately model real-world driving, resulting in, for example, a 54.5 mpg projection that results in only 37 to 40 mpg in the real world."[27] Overall, researchers have estimated that costs associated with CAFE are more than 8X higher than the environmental benefits.[28]

Real-world consumers use vehicles in different ways depending on where they live, what they do for work, the needs of family members, and how they enjoy spending leisure time. In an era where data can drive more informed consumer choice, is CAFE still relevant? How can policymakers better align national policy goals with mechanisms that enable price signals and empower consumers to demand vehicles that best suit their individual needs?

Advanced Biofuels: A Failed Experiment?

The Renewable Fuels Standard (RFS), originally enacted in 2005 and updated in 2007, requires transportation fuels to be blended with renewable fuels. The law set the requirement at 4 billion gallons of renewable fuels in 2006, rising to 36 billion gallons in 2022. Within the overall obligation are specific requirements for conventional biofuels (generally corn ethanol) and advanced and cellulosic biofuels (including cellulosic ethanol and advanced drop-in fuels from various feedstocks). Conventional biofuels have consistently met the annual requirement; however, advanced and cellulosic biofuels have remained nearly nonexistent. According to the

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[19] Lucas Davis, "New CAFE Standards: The Good, the Bad and the Ugly," Energy Institute at Haas (blog), January 25, 2016, https://energyathaas.wordpress.com/2016/01/25/new-cafe-standards-the-good-the-bad-and-the-ugly/.
[20] Ibid.
[21] Marc Gunther, "On Fuel Economy Efforts, U.S. Faces an Elusive Target," Yale Environment360, April 7, 2016, https://e360.yale.edu/features/on_fuel_economy_efforts_us_faces_elusive_target.
[22] Lucas Davis, "New CAFE Standards: The Good, the Bad and the Ugly."
[23] Marc Gunther, "On Fuel Economy Efforts, U.S. Faces an Elusive Target."
[24] "The Unintended Consequences of Ambitious Fuel-economy Standards," Knowledge @Wharton, February 3, 2015, http://knowledge.wharton.upenn.edu/article/unintended-consequences-ambitious-fuel-economy-standards/.
[25] Salim Furth and David Kreutzer, *Fuel Economy Standards Are a Costly Mistake.*
[26] "The Unintended Consequences of Ambitious Fuel-economy Standards."
[27] Marc Gunther, "On Fuel Economy Efforts, U.S. Faces an Elusive Target."
[28] Salim Furth and David Kreutzer, *Fuel Economy Standards Are a Costly Mistake.*

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Congressional Research Service, "[g]oing forward, it is unlikely that the United States will meet the total renewable fuel target as outlined in statute."[29]

In the mid-to-late 2000s, an advanced biofuels "bubble" emerged, with entrepreneurs, VCs, and the media alike making huge predictions about gallons and dollars associated with biofuels from algae and other non-food, cellulosic feedstocks.[30] However, these aspirations have never become a reality. In 2015, the RFS target for cellulosic biofuels was 3 billion gallons; that year, 142 million gallons of cellulosic biofuels were produced—2 million gallons of cellulosic ethanol and 140 million gallons of renewable natural gas—representing less than 5 percent of the statutory target.[31] This trend has continued in subsequent years as EPA has issued waivers that seek to align the requirements with actual gallons projected to be produced (see Figure 6). As a result, in 2017 the Government Accountability Office (GAO) concluded there is limited potential for expanded production of cellulosic ethanol over the next five years.[32] Many advanced biofuels companies that still exist have shifted their business models toward niche but high value markets such as bio-based chemicals and cosmetics. Still, policy debates rage each year over whether EPA should ratchet down the statutory requirements to realistic levels and whether biofuels tax credits (most currently expired) should be extended another year. [33]

Further, while flex-fuel vehicle models have proliferated (thanks in large part to preferential treatment under CAFE, see above), other infrastructure necessary to deploy biofuels, in particular ethanol, has also failed to materialize. Many environmental groups, automakers, and utilities seem to instead be doubling down on transportation electrification as a preferred solution, at least for passenger cars. At the same time, some lawmakers and fuels industry groups have suggested shifting to a "high octane fuel standard" that would marry the intentions of the RFS and CAFE.[34] While biofuels maintain valuable potential in some regions and for some applications, the blunt instrument of a national renewable fuels standard has not been successful in helping realize it.

How can policymakers leverage digital tools to better enable consumers and markets to drive winners amongst alternative fuels, instead of continuing to debate inflexible and unrealistic mandates?

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[29] Kelsi Bracmort, *The Renewable Fuel Standard (RFS): An Overview* (Washington, DC: Congressional Research Service, January 24, 2018), https://fas.org/sgp/crs/misc/R43325.pdf.
[30] Eric Wesoff, "Hard Lessons From the Great Algae Biofuel Bubble," *Greentech Media*, April 19, 2017, https://www.greentechmedia.com/articles/read/lessons-from-the-great-algae-biofuel-bubble#gs.vcU_wNs.
[31] U.S. Government Accountability Office, *Renewable Fuel Standard: Low Expected Production Volumes Make It Unlikely That Advanced Biofuels Can Meet Increasing Targets*, GAO-17-108 (Washington, DC, November 2016).
[32] Ibid.
[33] "Federal Subsidies for Biofuels and Biomass Energy," Taxpayers for Common Sense, last modified December 1, 2017, https://www.taxpayer.net/energy-natural-resources/federal-subsidies-biofuels-biomass-energy/#_ftn1.
[34] Sandra Cowherd, "House Panel Examines Potential for Higher Octane Fuels, High Efficiency Engines," *Agri-pulse*, April 13, 2018, https://www.agri-pulse.com/articles/10844-environment-committee-disects-low-emission-high-octane-biofuels.

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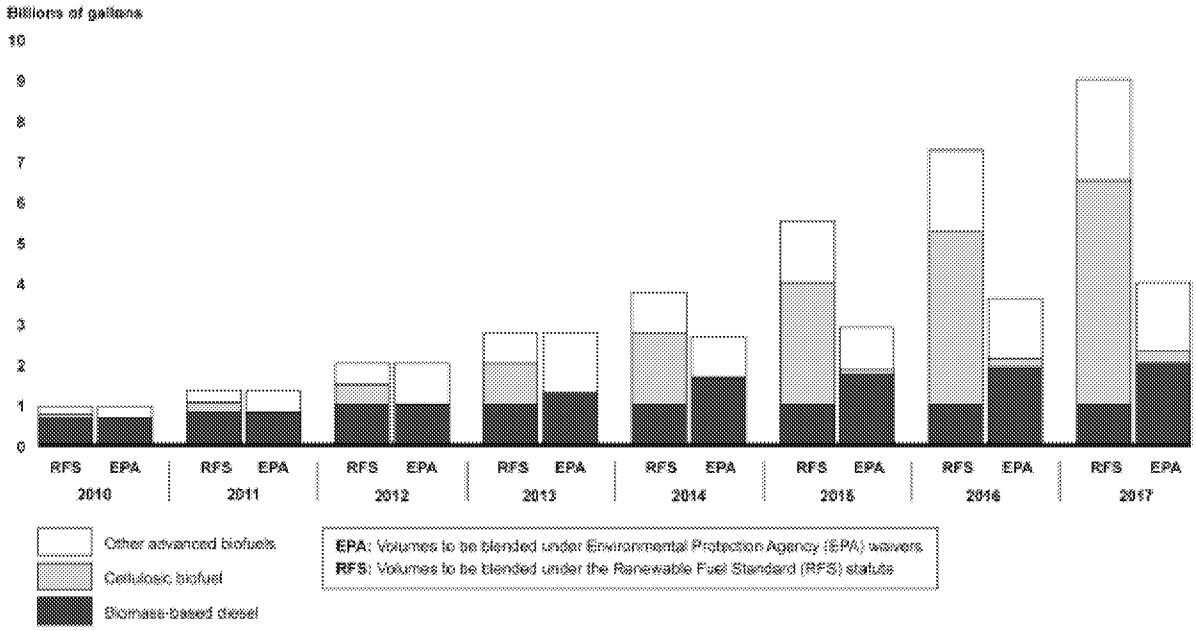
Figure 6
Volumes of Advanced Biofuels to Be Blended into Domestic Transportation Fuel



Source: Government Accountability Office

When Grid Modernization Meets Mobility

Historically, the transportation sector has operated largely independent of the power sector.[35] The Federal Power Act and state electricity regulation has generally not contemplated a future where power generation, delivery, storage, and consumption is more decentralized—in homes, commercial buildings, and vehicles. That has begun to change as the deployment of electric vehicles (EVs) grows.

In 2017, nearly 200,000 plug-in EVs were sold in the U.S., and just over 50 percent were pure EVs. Although this represents only 1.2 percent of all vehicle sales, adoption of EVs is projected to double in 2018 and continue an exponential trajectory in the coming years.[36] EVs have been forecasted to reach 65 percent of new light-duty vehicle sales in the U.S. by 2050.[37] Auto manufacturers, moreover, are driving rather than resisting the trend. Volvo announced it would make only hybrid or electric vehicles after 2019,[38] and Volkswagen and BMW have set goals to sell hundreds of thousands of EVs in the next few years.[39,40] Ford has committed to produce six

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[35] MIT Energy Initiative, *Utility of the Future* (Cambridge, MA: Massachusetts Institute of Technology, December 2016).
[36] "USA Plug-in Vehicle Sales for 2017 Q4 and Full Year," EVvolumes.com, accessed March 7, 2018, http://www.ev-volumes.com/country/usa/.
[37] Jeffrey Rissman, "The Future Of Electric Vehicles In The U.S., Part 1: 65%-75% New Light-Duty Vehicle Sales By 2050," *Forbes*, September 14, 2017, https://www.forbes.com/sites/energyinnovation/2017/09/14/the-future-of-electric-vehicles-in-the-u-s-part-1-65-75-new-light-duty-vehicle-sales-by-2050/#138de55fe289.
[38] Jack Ewing, "Volvo, Betting on Electric, Moves to Phase Out Conventional Engines," *New York Times*, July 5, 2017, https://www.nytimes.com/2017/07/05/business/energy-environment/volvo-hybrid-electric-car.html.
[39] Brian Chee, "Volkswagen Plans $40 Billion EV Investment Over Next Five Years," *New York Daily News*, December 6, 2017, http://www.nydailynews.com/autos/news/vw-plans-big-electric-future-article-1.3681253.
[40] "BMW Wants to Sell Half a Million Hybrids and Electric Cars by 2019," *Fortune*, December 21, 2017, http://fortune.com/2017/12/21/bmw-hybrid-electric-cars/.

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EV models by 2022 (as well as hybrid versions of high performance vehicles like the F150 and Mustang); GM has announced it will eventually make only electric vehicles, with the exact schedule to vary among markets and regions.[41]

Electricity regulators, in turn, have begun to recognize the role of EVs in electricity markets—both as electricity consumers as well as electricity storage assets. In 2017, all but seven states took some policy action related to electric vehicles; more than a dozen states took six or more policy actions (see Figure 7). The most popular actions were related to: fees to supplement or replace the gas tax; EV rebate programs; EV electricity rate tariffs; various studies; and fast charging station deployment.[42] New rules regarding how distributed energy resources (DERs) can participate in power markets were considered at an April 2018 Federal Energy Regulatory Commission (FERC) technical conference, and follow-on regulatory action is expected in the near future.[43]

How can policymakers break through the inherent structures that silo electricity and transportation policy and consider how digital innovations and electricity markets can drive benefits to consumers that desire transportation electrification?

[41] Nathan Bomey, "General Motors to Switch to Electric Vehicles as Gas Vehicles Die a Slow Death," *USA Today*, October 2, 2017, https://www.usatoday.com/story/money/cars/2017/10/02/gm-electric-vehicles/722896001/.
[42] North Carolina Clean Energy Technology Center, *The 50 States of Electric Vehicles: 2017 Policy Review* (Raleigh, NC: NC State University, February 2018).
[43] Rich Heidorn Jr., "Ready to Act on DERs, FERC Tells Congress," *RTO Insider*, April 22, 2018, https://www.rtoinsider.com/ferc-congress-der-90967/.

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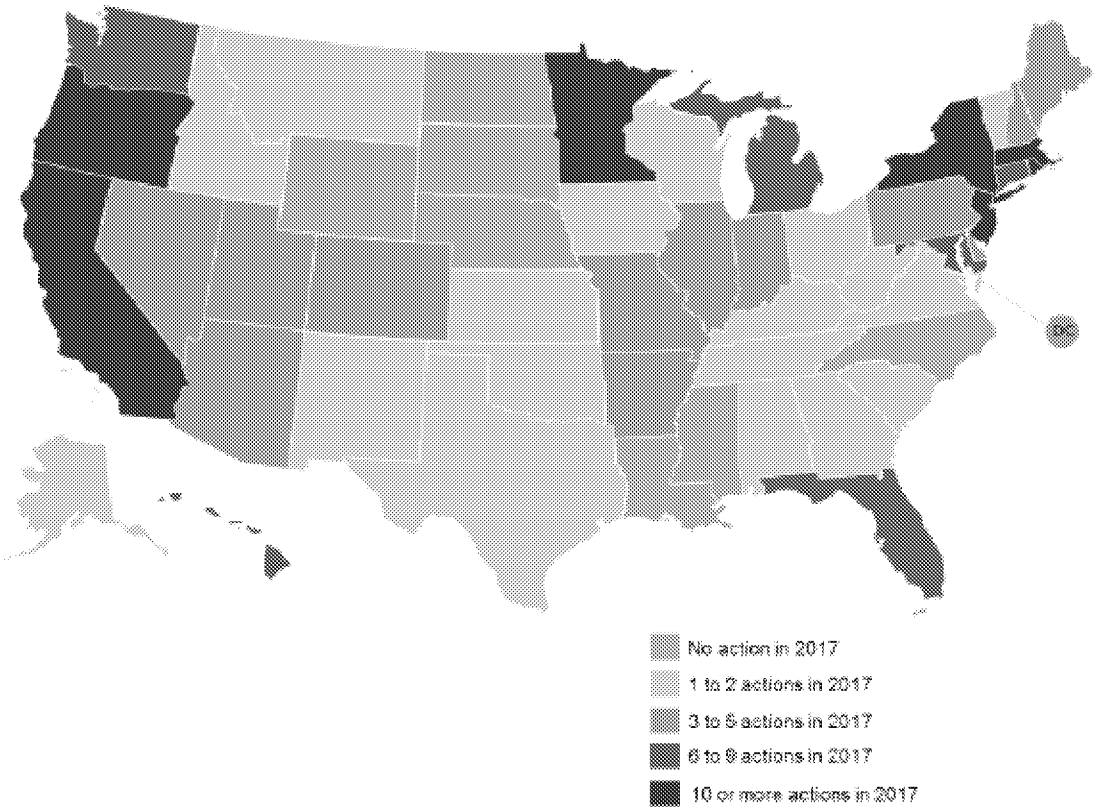
Figure 7
Number of State Actions on Electric Vehicles



Source: North Carolina Clean Energy Technology Center

Table 1: Policy and Regulatory Architectures No Longer Aligned with a Changing Energy System

Existing Policy	Historical Overview	Barriers to Emerging Innovations, Market Efficiency, and Consumer Choice
		Federal Policy
Corporate Average Fuel Economy (CAFE)	--1975: Originally enacted for Model Year (MY)1978-85 --1980s through early 2000s: Fuel efficiency requirements remain essentially flat --2007: Energy Independence and Security Act (EISA) drives new "national" fuel economy/greenhouse gas emissions standards through MY2020	• Complexity of standards incentivizes gaming by industry rather than innovation around intended goals • Beneficial impact of the standards has been partially reduced by consumer behavior • Fuel economy assumptions and calculations are not transparent to consumers • Standards are not fundamentally aligned with promoting fuel neutrality and technology neutrality in achieving efficiency • Standards sometimes incentivize vehicles contrary to what consumers desire
Renewable Fuel Standard (RFS)	--2005: Originally established in Energy Policy Act to require a replacement of Methyl Tertiary Butyl Ether (MTBE) and promote fuel diversity --2007: EISA expands volumes and categories of renewable fuels	• Required volumes do not reflect market realities for advanced and cellulosic biofuels • Ethanol blended above 10 percent requires new and different infrastructure to reach wide deployment • Consumers have little access to data regarding fuel attributes
Highway Trust Fund (HTF)	--1956: Created to leverage gasoline tax revenue exclusively for highway projects --1991 ISTEA /1998 TEA-21/ 2005 SAFETA-LU/ 2012 MAP21: Reauthorized and expanded diversity of surface transportation programs and projects --2008: HTF becomes insolvent for the first time; Congress has transferred $143 billion to fund projects through 2020	• Dependent on a financing source (gasoline tax) tied to a single fuel source (oil) • Reauthorization legislation has not prioritized development and deployment of diverse, flexible infrastructure or enabled broad deployment of existing and emerging intelligent transportation systems

Federal Power Act	--1920: Originally enacted to regulate development of Federal hydropower --1935: Established FERC authority over interstate electricity --1992/2005: Expanded FERC authority over transmission access, reliability, cybersecurity, market manipulation, and interstate transmission siting	• Degrees of restructuring at wholesale and retail levels vary unevenly across regions • There is little to no market incentive for utilities outside of competitive markets to innovate or prioritize customer choice • There are few incentives or requirements for utilities to share electricity data necessary to reveal true value of DERs (including EVs) and emerging digital innovations • Barriers to entry create hurdles to market participation of DERs (including EVs) and third-party energy services providers • Rules and modeling for considering and valuing non-wires alternatives are nascent[44]
State and Local Policy		
State franchise laws	--1950s: States first enacted laws protecting independent franchise auto dealers from competition --25 states currently prohibit or restrict car manufacturers from selling directly to consumers[45]	• Many existing state laws insulate car dealers from competition, stifling innovation and consumer choice[46] • Narrow opening of laws have limited benefit a single auto manufacturer and a single alternative business model—Tesla[47]
State retail electricity competition	--1990s/2000s: 13 states and the District of Columbia restructure their retail electricity markets --Currently 15 states have some level of retail electricity competition[48]	• There are few incentives or requirements for utilities to share electricity data necessary to reveal true value of DERs (including EVs) and emerging digital innovations • State regulators often do not have access to data and information related to pilot and demonstration of new technologies • The level to which consumers understand and take advantage of competition varies dramatically across states and depends significantly on how the market is structured[49]
City taxicab regulations	--1930s: Concerns about "ruinous competitive" led government to tightly control prices and restrict supply of taxi services[50] --A medallion system remains in effect in most major cities today	• Existing regulations do not generally require or incentivize adoption of new innovations by incumbent taxi services • Existing regulations purport to protect consumers, but do not necessarily take into account consumer desires

[44] Advanced Energy Economy Institute, *Utility Earnings in a Service-Oriented World* (San Francisco: Advanced Energy Economy Institute, January 30, 2018).
[45] Roey Rosenblith, "Only Rubio Shows Leadership When It Comes to Innovation in Auto Industry," *Sun-Sentinel*, March 14, 2016, http://www.sun-sentinel.com/opinion/commentary/sfl-only-rubio-shows-leadership-when-it-comes-to-innovation-in-auto-industry-20160314-story.html.
[46] Ibid.
[47] Marina Lao, Debbie Feinstein, and Francine Lafontaine, "Direct-to-consumer auto sales: It's not just about Tesla," U.S. Federal Trade Commission (blog), May 11, 2015, https://www.ftc.gov/news-events/blogs/competition-matters/2015/05/direct-consumer-auto-sales-its-not-just-about-tesla.
[48] "Map of Deregulated Energy States and Markets (Updated 2017)," Electric Choice website, accessed March 28, 2018, https://www.electricchoice.com/map-deregulated-energy-markets/.
[49] Mathew J. Morey and Lawrence D. Kirsch, *Retail Choice in Electricity: What Have We Learned in 20 Years?* (Madison, WI: Christensen Associates Energy Consulting, LLC, February 11, 2016).

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[50] https://www.mercatus.org/publications/ridesharing-vs-taxis-rethinking-regulations-allow-innovation

III. A Digital Energy Future

A wide variety of stakeholders have already imagined the future of transportation through frameworks and concepts such as smart cities, intelligent transportation systems, and grid modernization. Most of these futures share common attributes; stakeholders generally seek a transportation system that is:

- Affordable and accessible to a wide range of consumers with more choices in fueling;
- Clean and sustainable, minimizing impacts to the environment and health;
- Convenient and efficient, minimizing congestion and unexpected delays;
- Safe and reliable, protecting passengers from physical harm and financial stress; and
- Secure from growing physical and cybersecurity threats.

Digital innovations are positioned to enable and accelerate these attributes in transformational ways. Artificial intelligence and machine learning has already been integrated into vehicles and are poised in the coming years to enable cars and trucks to be completely autonomous. Blockchain technologies can enable consumers to buy and sell electricity, energy storage, fuels, and mobility services based on preferred attributes. Crowdsourcing platforms can unleash new sources of investment and accelerate deployment of both physical and digital infrastructure. The internet of things can help optimize transportation efficiency and cost effectiveness of both vehicles and smart infrastructure. And software and systems can enable new business models for mobility services that deliver consumer benefits at lower costs. Adoption of these digital tools and platforms remains nascent; however, most do not require additional R&D. Rather, they require policy, regulation, market design, and tools that can enable stakeholders to understand and capture their value.

To help stakeholders imagine a world driven by digital innovations, we have developed five hypothetical scenarios from a not too distant future. These snapshots are optimistic, but based in reality. Below each hypothetical scenario is a description of an actual pilot project operating today. Each of these projects is already leveraging one or more digital tools and platforms to move the energy and transportation systems toward the era of energy digitalization. However, barriers highlighted in Table 2 create hurdles to broader adoption, and a combination of legislative action and agency engagement (by EPA, NHTSA, and FERC among other Federal agencies) as well as RTOs/ISOs and state regulators will be necessary to scale to a digital energy future.

A Vehicle-Centric Grid

With EVs reaching 20-25 percent penetration in most metropolitan areas and autonomous transit and delivery fleets becoming ubiquitous, the traditional "virtual power plant" is shifting toward a "vehicle power plant." EVs with solar embedded in carbon fiber bodies charge batteries with power that can be sold back to the grid when they are idle; many office buildings are powered by a mix of vehicles, some still owned by commuters but many shared and available to office tenants for meetings across town or even multi-day trips. Fleet and transit centers have become enormous electricity hubs, powering their own operations and selling excess power to their neighbors—often high tech manufacturing on the outskirts of urban cores. The system works because of intelligent software that automatically coordinates and optimizes hundreds or thousands of distributed "assets" across the system. Back in 2024 and 2025, a few forward-

thinking utilities got a head start by funding pilot projects and gathering data on the most lucrative models; several are now expanding outside of their traditional service territories (now allowed by regulators in most states) to compete for new customers. However, they will also be competing with mobility service providers (previously known as traditional auto manufacturers) that are also designing schemes to generate, store, and deliver electricity through EVs. In 2030, the power business has truly gone mobile.

In 2017, software company Nuuve partnered with UC San Diego, San Diego Gas and Electric, and major automotive industry players Nissan, Mitsubishi, and Hitachi to deploy a virtual power plant made up of electric vehicles. The project involves installation of bi-directional vehicle-to-grid (V2G) charging systems on the university campus, which already operates a microgrid.[51] The project is intended to demonstrate that the technology can give utilities the ability to draw on EV batteries to meet energy demands, help grid operators maintain stability, and enable EV owners to get paid for energy storage and backup power.

Zero Congestion Zones

—"What's on the list of best places to live this year?"
—"You know, the usual—Atlanta, Dallas, Los Angeles, Chicago, New York."
A decade ago, none of these places were likely to make such a list, for a single reason: traffic. However, following several successful pilots and fundamental changes to infrastructure finance at the Federal and state levels, major metropolitan areas across the country began deploying intelligent transportation systems that allow vehicles to communicate with transportation infrastructure and optimize routes, speed, and timing while maintaining convenience and safety. The systems use blockchain to enable instantaneous and secure validation of data transmitted across the network of distributed nodes. New cars are required to have the necessary communications devices installed, but retrofitting older cars is easy. A small plug-and-play, aftermarket device retailing for $9.99 can enable any car to communicate with thousands of sensors and devices deployed in most major cities. Just as important was a database launched in 2022 through a partnership between the National League of Cities and Intelligent Transportation Society of America. The database consolidated pilot project data and created a matchmaking service for cities seeking financing and financiers seeking low-risk, smart transportation investments. Once thought to be constrained by their infrastructure, today's big cities are increasingly earning the designation of "Zero Congestion Zones."

In 2017, the Florida Department of Transportation and Tampa-Hillsborough Expressway Authority began deployment of technology to enable vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) communication between 1,600 vehicles (including cars, buses, and streetcars) and infrastructure in more than 40 locations in downtown Tampa.[52] The pilot has been designed to test six use cases for the technologies: morning back-ups, wrong-way entry, pedestrian safety, transit signal priority, streetcar conflicts, and traffic flow optimization.[53]

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[51] Michael Farren, Christpher Koopman, and Matthew D. Mitchell, "Ridesharing vs. Taxis: Rethinking Regulations to Allow for Innovation," Mercatus Center, May 25, 2017, https://www.forbes.com/sites/jenniferhicks/2017/06/28/see-how-this-clean-tech-start-up-plans-to-turn-idle-electric-vehicles-into-virtual-power-plants/#40a26d156a1b
[52] "Connected Vehicle Pilot Project Inspires Coordination among Florida Public Agencies," U.S. Department of Transportation, accessed March 7, 2018, https://www.its.dot.gov/pilots/florida_agencies.htm.
[53] Matt Leonard, "Tampa Revs Up Connected-Vehicle Pilot," *GCN*, July 24, 2017, https://gcn.com/articles/2017/07/24/tampa-connected-vehicle-pilot.aspx.

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Policymakers expect the project to improve safety, mobility, and environmental impacts from traffic; evaluation of its results began in spring 2018.

Embracing Boutique Fuels

"I remember decades ago when 'boutique fuels' was an ugly word," a fueling station owner recently told Congress. "Now my business is thriving because of them." What an earlier generation once called "gas stations" are now increasingly known as "energy stations" where consumers can power up their vehicles with a variety of fuels including gasoline, bio-based gasoline (chemically indistinguishable from conventional gasoline except through carbon dating), various ethanol blends, compressed natural gas, hydrogen (produced from renewable energy), and of course, electricity. Most energy stations don't have every option, but many have at least two or three. Regional preferences play a big role—in California, EV chargers dominate; in Illinois, locally-produced E50 and E85 are most popular; and CNG has taken a large share of the market in Texas and Oklahoma (still the country's biggest hub for oil and gas production—not to mention a lot of large pickup trucks that use CNG) and also in New York, where piloting CNG and LNG for transit fleets and heavy trucks translated into insights into how it could benefit the consumer market.

At first, people worried about whether they would be able to find the right fuel on long road trips; but in 2025 the Department of Transportation partnered with major tech firms to map every fuel station nationwide. A free app—EveryFuelStation—provides real-time, crowdsourced pricing information as well as sustainability attributes for different fuels. It has become the go-to resource for anyone who still owns a car and drives. But much more revolutionary has been the decentralization of fueling. According to a recent Gallup poll, 1 in 5 Americans did not visit an energy station in the last month—primarily because they could fuel up at home or work. EV chargers and CNG "stations" are becoming more popular in downtown parking garages and in home garages alike, where existing infrastructure is easy to expand. In its latest move to expand into new sectors, Amazon just announced a new service for rural areas where a month's supply of E85 can be delivered to your doorstep by autonomous delivery truck; the move is expected to boost the market for used flex-fuel vehicles, which were often previously run only on gasoline because E85 was inaccessible. Today it's truly a brave new boutique world.

In 2017, French oil company Total was an early leader in announcing it would add EV charging stations at its network of gasoline stations across France, with an initial 300 stations at locations about 100 miles apart.[54] The news was followed just months later by an announcement by Royal Dutch Shell that it would acquire a major European EV charging company and begin transitioning gas stations to "energy stations."[55] In recent years, Shell has accelerated its efforts to diversify its business; the company has also taken a large stake in an owner/operator of more than 100 U.S.-based solar plants and agreed to provide credit to a California-based smart-home energy management company.[56] In other areas of the country, larger scale natural gas fueling

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[54] James Ayre, "Total Planning To Add EV Charging Stations To Its Petrol/Gasoline Station Network In France," *CleanTechnica*, February 5, 2017, https://cleantechnica.com/2017/02/05/total-planning-add-ev-charging-stations-petrolgasoline-station-network-france/.
[55] Tina Casey, "It's Over: Oil Giant Shell Doubles Down On EV Charging Stations," *CleanTechnica*, October 16, 2017, https://cleantechnica.com/2017/10/16/oil-giant-shell-doubles-ev-charging-stations/.
[56] Brian Eckhouse and Kelly Gilblom, "Shell's Pivot to Renewables Sharpens With California Deal," Bloomberg, February 14, 2018, https://www.bloomberg.com/news/articles/2018-02-14/shell-makes-another-bet-on-renewable-energy-with-inspire-deal.

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stations continue to open to address the growing fleets of heavy-duty truck drivers needs.[57] A recently released scenario describing a possible future in 2070—one where EVs dominate passenger cars, a new carbon use industry takes off, and hydrogen is a growing fuel source for road transport[58]—demonstrates that this "oil company" is thinking more like an "energy company."

The Rise of the Attribute

—"It's a good lookin' truck, but what are the STMs?" The man shopping for a new truck subscription was skeptical.
—The dealer was relaxed, he had heard this question a thousand times. "Do you have the STM-X app? Scan the bar code on the window and you can see the analytics yourself. If they don't look good for you, just can plug in what you'd like to optimize and the app will rank which models are better."

The Federal government had always mandated that information about fuel efficiency and safety be made available to consumers, but the data was often presented in ways that were difficult to comprehend or compare across different vehicles and fuels. Some consumers wanted information that just wasn't available—where the vehicle was manufactured or whether it was optimized for high octane, low-carbon gasoline. That changed when the U.S. Congress overhauled two laws: CAFE and the RFS. Both had grown in complexity over time, creating a patchwork of overlapping requirements that were siloed in ways that no longer reflected the marketplace. Regulators and policymakers argued about whether the regulations were achieving their intended goals; from the data they had, it just wasn't clear anymore. Neither law had been designed to integrate new streams of data into their MRV systems—data that didn't exist when the laws were written but now were ubiquitous and easily accessible from any connected mobile device.

The result was a new law that created "Sustainable Transportations Metrics" (pronounced "stems"). The Federal government defined five basic stems and established an open source platform for the private sector to propose additional metrics. The government also deployed a blockchain application to ensure all data was verifiable and secure. App developers and other third parties could integrate new proposed metrics into their algorithms and let consumer demand drive their popularity and adoption. Today the most popular STM apps allow consumers to compare the five government-defined metrics (fuel efficiency, carbon emissions, lifecycle cost, safety, and cybersecurity rating) as well as a number of other metrics like local economic impact, sustainability rating of major suppliers, and something called "vehicle happiness"—based on real-time user experience and feedback.

The Energy Independence and Security Act of 2007 required EPA to study the potential for allowing EVs powered by renewable sources of electricity to qualify under the RFS. In 2014, EPA issued a rule defining a pathway for biogas-derived electricity and requiring that applicants track and verify that the electricity produced was actually being used for transportation. BTR Energy has proposed leveraging vehicle telematics—communications systems already installed in many cars that can transmit data for GPS, make an emergency call, and optimize electric

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[57] I-44 CNG Corridor Gets New High-Flow, Public-Access Station, May 24, 2018, NGT News

[58] Shell International B.V. *Shell Scenarios: Sky* (n.p.: Shell International B.V., 2018).

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vehicle charging. Under the company's business model, farmers generate biogas from waste, and BTR tracks and verifies the use of that electricity to charge EVs using data generated by the vehicles. The company has awaited a decision from EPA on the proposal since 2015.[59] Although an increasing array of energy data like these are accessible today, EPA has not yet determined how to put them to use for consumers.

Intelligent Logistics

"We used to worry robots were coming for our jobs. Now we realize they were exactly what we needed to do our jobs better." That statement started off testimony by the American Trucking Association at a recent Congressional hearing on the costs and benefits of autonomous trucking. Only a few years ago many truckers were resistant to testing the new autonomous trucks on long-haul routes. But the results have been overwhelmingly positive: highway accidents involving heavy duty trucks are down by more than 50 percent; hours lost in traffic congestion are down 70 percent; and new trucking jobs have doubled in the last five years alone. Trucking is now the number one career choice for job seekers without a college degree and, truckers are among workers with the highest job satisfaction. The results are no surprise; truckers no longer have to spend days or weeks on the road away from family and friends or work grueling hours, and wages have remained stable. The adoption of autonomous semis has been driven by online retailers seeking to increase speed of delivery to customers without increasing costs; but the Federal government has also played a role by streamlining regulations for autonomous trucking. Once fading communities are thriving again because of jobs at "truck transfer hubs" off the interstates (where long-haul autonomous trucks hand off loads to human truck drivers and at "remote trucking centers" where autonomous trucks are piloted remotely by workers). Some incumbent trucking companies have consolidated but others are thriving, especially those founded on new business models that use machine learning to optimize logistics and "last mile" routes. The trucking life has never been better.

Since 2016, Uber has piloted a transfer hub system at weigh stations off of I-40 in Arizona where autonomous trucks (with a driver behind the wheel, for now) transport cargo over highways and then shift their trailer to human-driven trucks to navigate the final portion of the trip over more complex local roads.[60] The project is built on a foundation of logistics data collected through Uber Freight, a system, like the company's ridesharing app that connects truckers with cargo. Uber's ultimate goal is not just to show off self-driving trucks; they envision a future where every truck is moving cargo and making money, seamlessly and efficiently, 24/7.[61]

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[59] Jack Barrow (Co-Founder, BTR Energy), phone interview with EC-MAP, May 24, 2018.
[60] Alex Davies, "Uber's Self-Driving-Truck Scheme Hinges on Logistics, Not Tech," *Wired*, March 6, 2018, https://www.wired.com/story/uber-self-driving-truck-scheme-logistics-testing/.
[61] Ibid.

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Table 2: Potential Barriers to a Digital Future

Future Scenario	Policy/ Regulation	Potential Barriers to This Future
"A Vehicle-Centric Grid"	Federal Power Act	• There are few incentives or requirements for utilities to share electricity data necessary to reveal true value of DERs and emerging digital innovations • Barriers to entry create hurdles to market participation of DERs and third-party energy services providers
	CAFE	• Complexity of standards incentivizes gaming by industry rather than innovation around intended goals • Standards are not fundamentally aligned with promoting fuel neutrality and technology neutrality in achieving efficiency
	Highway Trust Fund	• Reauthorization legislation has not prioritized development and deployment of diverse, flexible infrastructure or enabled broad deployment of existing and emerging intelligent transportation systems
	State retail electricity competi-tion	• There are few incentives or requirements for utilities to share electricity data necessary to reveal true value of DERs (including EVs) and emerging digital innovations • State regulators often do not have access to data and information related to pilot and demonstration of new technologies
"Zero Congestion Zones"	Highway Trust Fund	• Dependent on a financing source (gasoline tax) tied to a single fuel source (oil) • Reauthorization legislation has not prioritized development and deployment of diverse, flexible infrastructure or enabled broad deployment of existing and emerging intelligent transportation systems
	City taxicab regulations	• Existing regulations do not generally require or incentivize adoption of new innovations by incumbent taxi services
"Embracing Boutique Fuels"	RFS	• Ethanol blended above 10 percent requires new and different infrastructure to reach wide deployment • Consumers have little access to data regarding fuel attributes
	CAFE	• Standards are not fundamentally aligned with promoting fuel neutrality and technology neutrality in achieving efficiency
	Highway Trust Fund	• Reauthorization legislation has not prioritized development and deployment of diverse, flexible infrastructure or enabled broad deployment of existing and emerging intelligent transportation systems

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Future Scenario	Policy/ Regulation	Potential Barriers to This Future
"The Rise of the Attribute"	CAFE	• Fuel economy assumptions and calculations are not transparent to consumers • Standards are not fundamentally aligned with promoting fuel neutrality and technology neutrality in achieving efficiency
	Federal Power Act	• There are few incentives or requirements for utilities to share electricity data necessary to reveal true value of DERs (including EVs) and emerging digital innovations
	RFS	• Consumers have little access to data regarding fuel attributes
	State franchise laws	• Many existing state laws insulate car dealers from competition, stifling innovation and consumer choice
	State retail electricity competition	• There are few incentives or requirements for utilities to share electricity data necessary to reveal true value of DERs (including EVs) and emerging digital innovations
"Intelligent Logistics"	Highway Trust Fund	• Dependent on a financing source (gasoline tax) tied to a single fuel source (oil) • Reauthorization legislation has not prioritized development and deployment of diverse, flexible infrastructure or enabled broad deployment of existing and emerging intelligent transportation systems

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IV. How Do We Get There

Many organizations are already working to identify and advocate for policy and regulation to enable a future similar to the one imagined here, but efforts are often polarized by debates over climate change and siloed by proponents of different solutions such as transportation electrification, alternative fuels, and emerging issues related to autonomous vehicles and cybersecurity.

EC-MAP and our partners are focused on accelerating these efforts in three ways: 1) by taking a broader view of energy and transportation policy *across* fuels and vehicle types; 2) by building support among a wider diversity of policymakers from different geographies and political parties; and 3) by developing a roadmap to align policy with a digital energy future—a future where government empowers consumers, supports free and fair markets, and enables innovation.

In the coming months, we plan to engage stakeholders around questions we believe are critical to building the policy and regulatory architectures necessary to unlock the digital technologies, tools, and platforms described here. Some of these questions will be uncomfortable to ask and complicated to answer; but to ignore them will only slow our progress toward a more affordable, clean, efficient, reliable, and resilient future. It is critical to ask questions in at least three areas:

1 - How existing policy designed decades ago for a different kind of transportation system *creates barriers* to innovation, such as:

- Is CAFÉ relevant for driving efficiency, value, and choice to consumers? Is there a better approach that would sidestep tensions between the Federal government and states, companies and consumers?
- Should the RFS be allowed to expire? Are there market mechanisms (enabled by blockchain and other digital technologies) that could better enable clean, domestically produced fuels with the attributes consumers demand?
- Can wholesale and retail electricity markets leverage the participation of emerging electric vehicle technologies, applications, and services to accelerate emissions reductions better than command and control regulation?

2 - How *new policy* can be designed with the flexibility to enable adoption of emerging technologies today and technologies not yet imagined in the years to come, such as:

- How can policymakers and the private sector leverage markets, innovation, and consumers to make digital transportation systems resilient to cybersecurity threats?
- How can policymakers increase access to transparent, verifiable data streams and empower consumers to drive markets for vehicles and mobility services?
- What policies can incentivize the necessary investment (including by individuals and small communities) in physical and digital infrastructure?

3 - How policy and regulation can *ease the transition* to an era of energy digitalization, such as:

- Do consumers still want to own cars? What policies are holding back alternative financing mechanisms and business models for deploying and accessing mobility services?
- How can fleets be leveraged to pilot emerging technologies? What policy mechanisms would help successful fleet demonstrations scale to other markets?

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- How can new data streams from digital innovations—for example sustainability attributes of fuels verified by a blockchain system—be best integrated with existing measurement, reporting, and verification (MRV) frameworks?

While questions like these are a starting point, we know that we don't have all the answers. Some barriers are so entrenched they may seem insurmountable, but potential solutions are also advancing at an unprecedented pace. Policy can and should be better aligned with energy consumer preferences and competitive markets; EC-MAP plans to work with incumbent stakeholders, new stakeholders, policymakers—and you—to build a roadmap to get there. We hope you will join us in accelerating the era of energy digitalization.

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Further Reading

The following is a selection of key resources related to the topics covered in this paper. These sources may be instructive for future EC-MAP discussions and activities.

***

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DRAFT

EC-MAP
ENERGY CONSUMER MARKET ALIGNMENT PROJECT

KEYSTONE
POLICY CENTER

Join us for EC-MAP's Official Launch and Inaugural Panel

July 23, 2018
4:00pm to 5:30pm | Reception Follows
1001 Pennsylvania Ave. NW Washington, D.C. 20004

The Energy Consumer Market Alignment Project (EC-MAP) is a Washington, D.C. based non-profit seeking to align public policy with the digital energy future. EC-MAP envisions an energy future where digital technologies drive greater transparency, fair competition, and consumer choice—and where policy enables innovation instead of creating market barriers. Operating in collaboration with and under the auspices of the Keystone Policy Center, EC-MAP advances a dialogue around the role of government in this new era of energy digitalization in the transportation, power, and industrial/commodities sectors.

AGENDA

Registration — 3:45–4:00pm

Welcoming Remarks and Introduction to EC-MAP: — 4:00–4:30pm
Tom Hassenboehler, President, EC-MAP

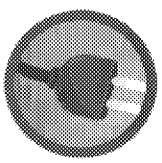
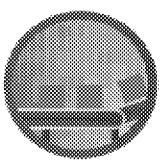
Keynote Remarks:
Senator Cory Gardner (R-CO), Chairman, Energy Subcommittee, Senate Energy & Natural Resource Committee, to be introduced by *Jim Connaughton*, CEO Nautilus Data Technologies

EC-MAP's Mission and Vision: — 4:30–4:45pm
Christine Scanlan, President and CEO, Keystone Policy Center
Tom Hassenboehler, President, EC-MAP

Inaugural Panel: Aligning Public Policy with the Digital Energy Future - Transportation — 4:45–5:30pm

- *Michael Catanzaro* (Moderator), Chair of Policy Advisor Board, EC-MAP
- *Mandy Gunasekara*, Principal Deputy Assistant Administrator, Office of Air and Radiation, U.S. EPA
- *Emily Shults*, VP of Energy Supply, San Diego Gas & Electric, Sempra Energy
- *Fred Turatti*, General Manager, Environmental Regulation, Toyota Motor North America
- *Robert Friedman*, Chief Operating Officer, VNG.co
- *Jack Barrow*, Co-founder, BTR Energy

Closing Remarks & Reception with Invited Guests — 5:30–7:00pm

Message

From: Thomas Hassenboehler [info=ec-map.org@mail70.atl11.rsgsv.net]
on behalf of Sean McGinnis [Smcginnis@ec-map.org]
Sent: 6/28/2018 9:58:07 PM
To: AllCoefficient [allcoefficient@co2efficient.com]
Subject: Save the Date

Save the Date

SAVE THE DATE

Please join us for the *Official Launch* of the

Energy Consumer Market Alignment Project (EC-MAP)

Join invited members of Congress and staff, energy and technology sector experts, and thought leaders from inside and outside Washington to launch a conversation about the role of government and policy in a new era of energy digitalization.

When: Monday, July 23, 2018, 4:00-5:30 PM (Reception to follow)

Where: 1001 Pennsylvania Ave. NW Washington, D.C. 20004

What: Official EC-MAP launch with panel discussion on aligning public policy with a digital energy future. Detailed agenda to be released prior to the event.

To reserve your seat, all attendees must RSVP here: www.ec-map.org

RSVP HERE

Energy Consumer Market Alignment Project (EC-MAP) is a Washington, D.C. based non-profit seeking to align public policy with a digital energy future. EC-MAP envisions an energy future where digital technologies drive greater transparency, fair competition, and consumer choice—and where policy enables innovation instead of creating market barriers. Operating in collaboration with Keystone Policy Center, EC-MAP is advancing a dialogue around the role of government in this new era of energy digitalization for the transportation, power, and industrial/commodities sectors.

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EC-MAP · 1001 Pennsylvania Ave · Washington, DC 20004 · USA

Message

From: Dickerson, Aaron [dickerson.aaron@epa.gov]
Sent: 7/30/2018 10:03:52 PM
To: 'Suzy Tompkins' Ex. 6 Jackson, Ryan [jackson.ryan@epa.gov]
CC: Binder, Gordon [gordon.binder@wwfus.org]
Subject: RE: checking back about Reilly meeting

Hi Suzy

We can do 4:30pm on August 1 at EPA. We are located at 1200 Pennsylvania Avenue, NW. Mr. Reilly should enter our South Building and we will have someone escort him to the Administrator's office. If you have any questions, please email me or give me a call at 202-564-1783.

Thank you.

From: Suzy Tompkins Ex. 6
Sent: Monday, July 30, 2018 5:29 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Cc: Binder, Gordon <gordon.binder@wwfus.org>; Dickerson, Aaron <dickerson.aaron@epa.gov>
Subject: Re: checking back about Reilly meeting

Dear Ryan,

Late afternoon on August 1 would work well. Could you please confirm the time and location?

Thank you,
Suzy Tompkins
EA to William K. Reilly

Sent from my iPhone

On Jul 30, 2018, at 8:16 AM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> Thank you, Gordon, I'm sorry for the delay. I know that Mr. Reilly's schedule may be full but would later in the afternoon of Aug 1 work or mid morning on Aug 2?
>
> As always, much appreciated.
>
> Ryan Jackson
> Chief of Staff
> U.S. EPA
> 202-564-6999
>
> On Jul 24, 2018, at 7:38 AM, Binder, Gordon <gordon.binder@wwfus.org> wrote:

Bill's trip to DC is this weekend for a board meeting...we had suggested Monday/Jly 30, Wed/Aug 1 or Thur am/Aug 2 for a possible meeting with Mr. Wheeler. If dates don't work, we can look at the next DC trip.

I'm cc'ing Suzy Tompkins, Bill's ass't in SF who can pin down date and time that would work

Gordon Binder
Ex. 6

Message

From: Binder, Gordon [gordon.binder@wwfus.org]
Sent: 7/30/2018 3:16:57 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Automatic reply: checking back about Reilly meeting

I'll be out of the office Friday, Jly 27 and Monday, Jly 30, returning Tuesday morning. I'll get back to you as soon as I can.

Gordon Binder

Message

From: Nolan, Rich [RNolan@nma.org]
Sent: 7/31/2018 9:04:02 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: FW: Invitation for AA Wheeler to address the NMA Board Sept. 13-14
Attachments: Invitation to AA Wheeler -- 2018 NMA Fall Board Meeting 710.pdf

Importance: High

Hi Ryan, can you take another look at this invitation for Sept. 12-13 and let me know who I could work with thanks again. Rich

---

From: Nolan, Rich
Sent: Tuesday, July 10, 2018 2:41 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Invitation for AA Wheeler to address the NMA Board Sept. 13-14
Importance: High

Rich Nolan
Senior Vice President, Government and Political Affairs
National Mining Association
101 Constitution Ave. NW, Suite 500 East
Washington, D.C. 20001
Phone: (202) 463-2600
Direct: (202) 463-3241
rnolan@nma.org

HAL QUINN
President & CEO

July 10, 2018

The Honorable Andrew R. Wheeler
Acting Administrator
Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, D.C. 20460

Dear Acting Administrator Wheeler:

The National Mining Association (NMA) cordially invites you to address the fall 2018 meeting of our board of directors, scheduled for Sept.13-14 at the Mandarin Oriental Hotel in Washington, D.C. NMA's board of directors is comprised of CEOs from the major U.S producers of coal, metal and minerals, as well as the manufacturers of mining equipment and technology.

Your administration recognizes that domestic mining is a key part of a vibrant U.S. economy—providing the raw materials and affordable energy required for a growing manufacturing sector, rebuilding our infrastructure and creating middle class jobs.

We thank you in advance for your consideration and hope your schedule will permit you to give remarks on Thursday, Sept. 13, during the morning General Session or an alternative would be to address the NMA directors during a breakfast Friday morning, Sept.14.

Please advise if there is anything that NMA can do to assist you and your staff to make the appropriate arrangements by contacting Rich Nolan, Senior Vice President of Government Affairs, at (202) 463-3241 or molan@nma.org.

Sincerely,

Hal Quinn

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Message

From: Jason Albritton [jason.albritton@TNC.ORG]
Sent: 7/27/2018 1:20:49 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Dickerson, Aaron [dickerson.aaron@epa.gov]
Subject: RE: Meeting Request

Great. Thanks.

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Friday, July 27, 2018 9:20 AM
To: Jason Albritton <jason.albritton@TNC.ORG>
Cc: Dickerson, Aaron <dickerson.aaron@epa.gov>
Subject: RE: Meeting Request

Of course. I'm sending it to scheduling now.

From: Jason Albritton [mailto:jason.albritton@TNC.ORG]
Sent: Friday, July 27, 2018 8:58 AM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Meeting Request

Ryan,

Would the Administrator be available to meet with Lynn Scarlett from TNC and a few others to talk about our infrastructure work, particularly stormwater and water funds? We feel there may be areas where we could collaborate with EPA in this space.

Thanks in advance for considering the request.

Jason

Message

From: Joanna Slaney [jslaney@edf.org]
Sent: 7/24/2018 8:58:31 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: Letter re: methylene chloride and mtg requests

Any updates after yesterday's meeting? Thanks.

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Monday, July 23, 2018 12:43 PM
To: Joanna Slaney <jslaney@edf.org>
Subject: Re: Letter re: methylene chloride and mtg requests

I think I may know more following an additional interagency meeting later today. It's at 5 today so we may be a couple days after that.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Jul 23, 2018, at 12:36 PM, Joanna Slaney <jslaney@edf.org> wrote:

> Hi Ryan,
>
> Checking in to see if there are any updates. Brian Wynne is in town with his family this week.
>
> Thanks,
> Joanna
>
> ---
>
> **From:** Joanna Slaney
> **Sent:** Sunday, July 15, 2018 8:40 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Subject:** Re: Letter re: methylene chloride and mtg requests
>
> Hi Ryan,
> Just checking back in. I'm around tonight and tomorrow except 11:30-12:30.
> Thanks,
> Joanna
> Ex. 6
>
> Sent from my iPhone
>
> On Jul 13, 2018, at 7:16 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

Yeah, enjoy that. I'll call tomorrow afternoon.

From: Joanna Slaney [mailto:jslaney@edf.org]
Sent: Friday, July 13, 2018 3:46 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Re: Letter re: methylene chloride and mtg requests

Thanks. That would be great. I'm on my way to Ex. 6 but can talk now or any time this weekend, if you have time.

Sent from my iPhone

On Jul 13, 2018, at 3:44 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> Right so for the time being Aaron Dickerson is handling Andrew's meeting requests. I can give you a call to talk about this further. There's been considerable discussions on this.
>
> ---
>
> **From:** Joanna Slaney [mailto:jslaney@edf.org]
> **Sent:** Friday, July 13, 2018 1:49 PM
> **To:** Jackson, Ryan <jackson.ryan@epa.gov>
> **Subject:** Letter re: methylene chloride and mtg requests
>
> Hi Ryan,
>
> I wanted to flag for you that Cindy Wynne and Wendy Hartley sent a letter (by email) to Acting Administrator Wheeler today asking him to finalize the methylene chloride ban.
>
> They would also like to request a meeting with the Acting Administrator at the end of July, if there's been no movement on getting the draft final rule to OMB by then. Who at EPA now handles meeting requests?
>
> Thanks,
> Joanna
>
> Joanna Slaney
> EDF
> Ex. 6
>
> Sent from my iPhone

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Message

From: Ron Ness [ronness@ndoil.org]
Sent: 7/24/2018 8:52:29 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Blu Hulsey [blu.hulsey@clr.com]
Subject: ND Speaking Invite
Attachments: 2893_001.pdf

Hi Ryan, I enjoyed our discussion last month. As noted in the invite to speak on September 25 or 26th in Fargo at the NDPC Annual Meeting, there is great interest in EPA issues across North Dakota and the Rockies. It would be great to get you to North Dakota but I understand if that won't work, you have plenty of capable folks that can enlighten our folks on EPA's activities.

Please see the attached invite and me with any questions.

Thank you,

Ron Ness

Annual Meeting Details: https://www.ndoil.org/2018annualmeeting/

NORTH DAKOTA
PETROLEUM
COUNCIL

100 West Broadway, Ste. 200 | P.O. Box 1395 | Bismarck, ND 58502-1395
701.223.6380 | ndpc@ndoil.org | www.NDOil.org

July 24, 2018

Ryan Jackson
Chief of Staff
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Room 3400C WJCN MC 1101A
Washington, DC 20460

Dear Mr. Jackson;

I would like to invite you to be a keynote speaker at the 2018 North Dakota Petroleum Council Annual Meeting, September 24-26, 2018, at the Delta by Marriott in Fargo, North Dakota. I am holding a slot open for you on the annual meeting agenda at approximately 9:30am on Wednesday morning, September 26. We can certainly adjust if needed to accommodate your schedule.

The annual meeting is a one-and-a-half-day meeting that is hosted by the North Dakota Petroleum Council (NDPC). The annual meeting brings together a wide array of industry CEOs, regulators, and political leaders from across the United States and Canada, all with a vested interest in the Williston Basin and its resources. We are expecting more than 500 registrants for the annual meeting.

Mr. Jackson, you would be a major highlight for this annual meeting. Attendees would be very interested in hearing more about your plans as Chief of Staff at the U.S. Environmental Protection Agency.

I appreciate your consideration of this request. I look forward to hearing from you soon. Please contact me with any questions.

Sincerely,

Ron Ness, President
North Dakota Petroleum Council

ENERGY OF NORTH DAKOTA
Our Abundance. America's Strength.

Message

From: rich.gold@hklaw.com [rich.gold@hklaw.com]
Sent: 7/13/2018 9:33:02 PM
To: dickerson.arron@epa.gov
CC: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Scheduling Request for Mark Vergnano, CEO of Chemours
Attachments: Letter to EPA Wheeler 07122018.pdf

Importance: High

Please see the attached scheduling request. Thanks

Rich Gold | Holland & Knight
Practice Group Leader
Public Policy & Regulation Group
Holland & Knight LLP
800 17th Street N.W., Suite 1100 | Washington, DC 20006
T 202.457.7143 Ex. 6
rich.gold@hklaw.com | www.hklaw.com

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Mark P. Vergnano
President
Chief Executive Officer

The Chemours Company
1007 Market Street
Wilmington, DE 19899

July 12, 2018

The Honorable Andrew Wheeler
Acting Administrator
United States Environmental Protection Agency
1200 Pennsylvania Ave., N.W.
Washington, D.C. 20460

Dear Administrator Wheeler:

On behalf of The Chemours Company ("Chemours"), please accept our congratulations and best wishes for success in your new role as Acting Administrator of the U.S. EPA.

Headquartered in Wilmington, Delaware, Chemours is a global leader in titanium technologies, fluoroproducts and chemical solutions, providing its customers with solutions in a wide range of industries with market-defining products, application expertise and chemistry-based innovations. Chemours ingredients are found in plastics and coatings, refrigeration and air conditioning, mining and general industrial manufacturing. Our flagship products include prominent brands such as Teflon™, Ti-Pure™, Krytox™, Viton™, Opteon™, Freon™ and Nafion™. Chemours has approximately 7,000 employees and 26 manufacturing sites serving approximately 4,000 customers in North America, Latin America, Asia-Pacific and Europe.

As a leading U.S.-based chemical company, Chemours is interested in the new vision that you will bring to EPA, in terms of both high-level policies and day-to-day management of the agency. Because of this interest, I would appreciate the opportunity to meet with you in your offices in Washington, D.C. to discuss three main topics: 1) fluorinated chemicals; 2) the Kigali Amendment to the Montreal Protocol, and 3) the CAFE standards review for model years 2022-2025.

We are particularly interested in learning more about your views on how EPA can deliver on its core mission of protecting human health and the environment and, at the same time, promote U.S. investment and job creation via responsible environmental policies and regulations. We expect there is significant alignment between Chemours and EPA regarding not only the goal of cleaner air and water but also how to achieve this goal. In that regard, we have specific ideas we would like to share about how we believe we can collaborate with your agency in the future on issues related to fluorinated chemicals.

We also would like to share with you how Chemours is going to put American innovation to work to create global, market-leading product opportunities, which support new U.S. manufacturing investments and jobs. And since a sizeable portion of this new U.S. investment is premised upon EPA policy decisions (e.g., the Kigali Amendment to the Montreal Protocol and the CAFE standards review for model years 2022-2025), we would like to discuss how U.S. leadership in global markets can be maintained under your tenure at EPA.

We recognize how tight your schedule must be; nevertheless, below please find some dates in the near term that work for my calendar. Specifically, I can be in D.C. to meet with you on:

- Wednesday, July 25
- Thursday, July 26 in the morning
- Monday, August 6
- Tuesday, August 7
- Monday, August 13 in the afternoon
- Tuesday, August 14 in the afternoon
- Friday, August 17 in the morning.

We look forward to hearing back from you as to whether any of these dates work on your schedule.

More important, we look forward to a productive exchange of ideas and perspectives on issues that are important to the environment, the economy, and our respective organizations.

Sincerely,

Mark P. Vergnano

CC: Mr. Ryan Jackson
Mr. Greg Smith

Message

From: Robbie Diamond [RDiamond@secureenergy.org]
Sent: 7/19/2018 2:21:48 PM
To: Wehrum, Bill [Wehrum.Bill@epa.gov]; Gunasekara, Mandy [Gunasekara.Mandy@epa.gov]
CC: Molina, Michael [molina.michael@epa.gov]; Chuck Cunningham [chuckc@visi.net]; Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Thanks - Materials
Attachments: LDV FE Legal Brief - Regulatory Authority to Grant Fuel Economy Credit for Safety Technology (Final).pdf; LDV FE Memo Menu 2018-06-04.pdf; Fuel Economy, Safety, and Connected Vehicle Issue Brief (Final).pdf

Bill and Mandy,

It was good seeing you this morning. I think we should try to reconnect when the NPRM is released.

I wanted to share the legal brief that we wrote for DOT outlining the ability of NHTSA in conjunction with EPA to incorporate safety and congestion mitigation technology in the fuel economy program. Of course, EPA is critical to making this happen. As mentioned, there is no statutory prohibition on allowing congestion mitigation and safety-related technology to be credited in the CAFE and GHG programs. NHTSA would have to work with EPA to include new rules because the technologies would be recognized as an element of the "testing and calculation procedures" for the CAFE program that are the responsibility of EPA.

The Agencies would need to make various changes to their regulations in order to remove the regulatory prohibition that exists on crediting these technologies, but those regulatory revisions could be done in the current rulemaking. None of this approach requires a change to or conflicts with the underlying statute. It does take coordination between DOT and EPA but hopefully that is possible. As I mentioned, we believe the off cycle credit program is an incredible asset, especially at this moment of great technological change.

We have proposed a program to test these technologies through the EPA off-cycle credit program whereby the OEMs receive compliance credits for 3-5 years in exchange for the data related to the real world test. Attached is the issue brief we wrote outlining this program. Regardless of this program, at a minimum it is essential that the Agencies remove the current regulatory prohibition during the current rulemaking.

Finally, attached is also the memo in which we lay out the elements of a deal with CA, including a suggestion for the year-on-year improvement, re-instating the alternative fuel multiplier and not counting upstream emissions, and these new flexibilities for congestion mitigation and safety technology.

We strongly believe that this is not only good for the country, will save lives, and help the auto industry, but is also in line with President Trump's push to reform regulation so that it is not outdated or too constraining. I believe this is a deal that one could achieve with CA. We are happy to help in any way we can.

Best regards,
Robbie

P.S. I previously shared materials on the price of cars, the slow penetration rates of safety related technology, and the financial benefits of including new technology for the country with Mandy. I am happy to resend.

Securing America's Future Energy

April 2018

Using Fuel Efficiency Regulations to Conserve Fuel and Save Lives by Accelerating Industry Investment in Autonomous and Connected Vehicles

The Trump administration and the state of California are currently engaged in parallel processes to determine the proper level of fuel economy and greenhouse gas emission standards for light-duty vehicles for model years 2022–2025 and beyond. While California seeks to retain existing standards to meet the state's environmental objectives,[1] the federal government recently announced that the 2022–2025 standards are "not appropriate" and is now undertaking a new rulemaking.[2] The components of a compromise have been identified, in which regulators offer automakers flexibility to meet standards in the near term in exchange for increased stringency over a longer period of time.

The National Highway Traffic Safety Administration (NHTSA) is the federal agency statutorily mandated to regulate both fuel economy and safety. Historically, there has been concern that increasing fuel economy decreases safety because smaller and lighter cars are presumed to be less safe, and this concern is reemerging in the current process to set fuel economy rules for the years 2022–2025. Fortunately, NHTSA's most recent data demonstrates that the move to a footprint-based standard in 2012 (an approach in which the stringency of the standards is based on the size of the car) substantially addressed the size vs. safety concern.[3]

More consequentially, the industry is entering a phase that—if ushered in successfully—can both increase fuel economy and enhance safety benefits in a manner through which these goals reinforce each other. The rise of autonomous vehicle technology can lead to dramatic increases in vehicle safety while simultaneously driving fuel economy improvements. While these technologies are under development and the extent of their benefits is still emerging, test results offer the promise of substantially increased efficiency and improved safety through vehicle- and system-level improvements. Yet because these technologies are so new, there is neither sufficient deployment

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[1] Office of Governor Edmund G. Brown, Jr., "Governor Brown Issues Statement on U.S. EPA Decision to Weaken Clean Car Standards," (Apr. 2, 2018) available at www.gov.ca.gov/2018/04/02/governor-brown-issues-statement-on-u-s-epa-decision-to-weaken-clean-car-standards-2/; Letter from Governor Brown to EPA Administrator Scott Pruitt, (Mar. 15, 2017) available at https://www.gov.ca.gov/wp-content/uploads/2017/09/3.15.17_Letter_to_EPA.pdf.

[2] Environmental Protection Agency, "Mid-term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022-2025 Light-duty Vehicles," (Apr. 2, 2018) ("Mid-Term Evaluation") available at www.epa.gov/sites/production/files/2018-04/documents/mte-final-determination-notice-2018-04-02.pdf.

[3] Puckett, S.M. and Kindelberger, J.C. 2016. *Relationships Between Fatality Risk, Mass, and Footprint in Model Year 2003-2010 Passenger Cars and LTVs.* Preliminary report prepared for the National Center for Statistics and Analysis, National Highway Traffic Safety Administration, Washington, D.C. June, 2016.

nor adequate understanding of the degree to which these innovations can improve vehicle efficiency and decrease emissions. Moreover, such technologies are not easily accounted for in the current regulatory regime. SAFE estimates, based on independent fuel efficiency modeling, that an 18–25 percent system-wide fuel economy savings can be realized by using existing driver assist and connected vehicle technology, and that thousands of lives can be saved annually.

Fortunately, the off-cycle credit program within the Environmental Protection Agency's (EPA) regulations to limit greenhouse gas emissions from light-duty vehicles provides a mechanism that could be used to accelerate the real-world testing, and eventual incorporation, of these technologies into the fuel economy program—not only resolving the safety-fuel economy issue once and for all but, more importantly, saving thousands of additional lives while providing further reductions in fuel demand. As part of the current ongoing discussions between automakers and regulators, parties should agree to allow automakers to earn compliance credits (for 3–5 years) as part of a research program to deploy autonomous and connected vehicle technology, collect data about the technology's performance, and share the data with regulators so that they can together evaluate the effectiveness of this emerging technology. To the extent that the testing demonstrates improvement in efficiency, lower emissions and increased safety, regulators can use the data to support permanently accounting for such efficiencies in future compliance periods.

Background

The Trump administration is currently revisiting fuel economy and greenhouse gas emission standards established by the Obama administration in cooperation with the state of California.[4] In 2012, EPA established emission standards for model years (MYs) 2017–2025 and NHTSA established fuel economy standards for MYs 2017–2021,[5] as its statutory authority allows for setting standards for no longer than five years at a time.[6] Working together with California's regulator, the California Air Resources Board (CARB), which has legal authority under the Clean Air Act to establish its own standards,[7] the three regulating entities developed coordinated standards that allowed for consistent automotive manufacturing standards for the entire nation.[8] Because of the five-year limitation on NHTSA's authority, the regulators committed to complete a Mid-Term Evaluation by April 2018 to determine if the EPA standards required adjustment, and lay the foundation for the extension of NHTSA standards for MYs 2022-2025.[9]

There appear to be four primary positions in the stakeholder community. CARB wants to maintain aggressive emission reduction and fuel economy targets, due to its concern about the effect of

---

[4] See, Mid-Term Evaluation.

[5] Environmental Protection Agency and National Highway Traffic Safety Administration, *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards*, 77 Fed. Reg. 62,624 (Oct. 15, 2012) (CAFE Rule).

[6] 49 U.S.C. 32902 (b)(3)(B).

[7] California has the authority to issue its own standards, following issuance of a waiver from EPA, that shall be granted unless: 1) California's determination is arbitrary and capricious, 2) California does not need such standards to meet compelling and extraordinary conditions, or 3) California standards and accompanying enforcement procedures are not consistent with CAA requirements for motor vehicles. 42 U.S.C. 7543(b).

[8] CAFE Rule at 62630.

[9] CAFE Rule at 62784.

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vehicle emissions on public health and the environment.[10] EPA has determined that the current standards are too aggressive and warrant a re-examination.[11] Most automakers, concerned about the difficulty of meeting the standards with fuel prices lower than forecast and consumer preferences different than expected, are advocating for CARB and the federal regulators to reach an agreement to maintain the national standard and avoid litigation while providing some flexibility in the near term.[12] Finally, NHTSA has indicated it remains concerned about safety, citing increasing numbers of traffic fatalities in the past several years.[13]

Despite these competing priorities, several outside groups and the industry have identified the basic structure of an agreement, with regulators offering automakers some increase in flexibility through MY 2025 in exchange for tighter standards between MYs 2026–2030, which would allow time for automakers to fully navigate the revolution—that all stakeholders agree is happening—to a system dominated by new technologies and business models, including connectivity, autonomy, ridesharing, and electrification. In particular for this Issue Brief, the current negotiation offers an opportunity to establish incentives to begin deploying and testing driver assist and connected vehicle technology, which could open the door to transformational improvements in fuel economy and emission reductions in the future while saving lives. This approach would also address NHTSA's core mandate, to improve road safety and reduce traffic injuries and deaths.[14]

The Opportunity

Autonomous vehicles (AVs) are a breakthrough technology, and many of their components or partial autonomous functions, which are already incorporated or can be incorporated into new vehicles, offer efficiency and safety improvements on their own. The development and adoption of AV technology will represent the greatest shift in automotive technology since the Model T and has the potential to rank alongside personal computing and the internet as one of the greatest technological shifts in our society in the post-World War II era. When AVs are significantly safer than current automotive technology, they are likely to substantially reduce the number of vehicle accidents as well as the injuries and costs associated with them, potentially saving tens of thousands of lives and eliminating millions of injuries each year in the United States alone.[15] The ability for AVs to closely coordinate with other vehicles will allow vehicles to travel in closer proximity to each other, increasing road capacity and reducing travel times.[16] If fully automated, AVs can offer increased

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[10] John Lippert and Ryan Beene, "California Sets Demands for Auto-Emission Talks With Trump" Bloomberg News (Sept. 27, 2017) available at www.bloomberg.com/news/articles/2017-09-22/california-sets-demands-for-talking-emissions-targets-with-trump.

[11] See, Mid-Term Evaluation at p. 1

[12] See, e.g., Auto Alliance, "Auto Alliance Statement in Response to EPA's Announcement about the Midterm Review of the Fuel Economy/GHG Program," (Apr. 2, 2018) available at autoalliance.org/2018/04/02/auto-alliance-statement-response-epas-announcement-midterm-review-fuel-economy-ghg-program/.

[13] National Highway Traffic Safety Administration, "USDOT Releases 2016 Fatal Traffic Crash Data," (October 6, 2017) available at www.nhtsa.gov/press-releases/usdot-releases-2016-fatal-traffic-crash-data.

[14] National Highway Traffic Safety Administration, "About NHTSA," available at www.nhtsa.gov/about-nhtsa.

[15] Kalra, Nidhi, and David G. Groves. *The Enemy of Good: Estimating the Cost of Waiting for Nearly Perfect Automated Vehicles*. Rand Corporation, 2017.

[16] James Anderson et al., *Autonomous vehicle technology: A guide for policymakers*, Rand Corporation at 5 (2016).

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mobility to the disabled, seniors, and low-income populations with less access to affordable transportation, transforming their lives. Fully automated AVs can also give drivers one thing of tremendous value to most Americans—an increase in personal or productive time—as time that was once spent operating a car can be reallocated while the car drives itself.

If AVs are widely deployed in ride sharing applications, as anticipated, the effects could extend further. The dominant paradigm since the invention of the car has been private vehicle ownership, but that could shift once users find it more convenient—and cost-effective—to use ride-sharing services rather than maintaining and operating their own car. That shift could affect where people choose to live and work, and where vehicles are stored, with the need for parking substantially reduced. Likewise, paring AVs with electric vehicle (EV) technology, a deployment path that appears likely because of the engineering and cost advantages of using an electric powertrain for AVs,[17] can lead to transformative shifts in our patterns of fuel usage by reducing the amount, and changing the type, of energy that we consume—improving our energy and national security in the process. Fleet autonomous vehicle deployments are expected to leverage electric drivetrains because commercial fleet operators will prioritize the total cost of ownership, and electric vehicles offer significant fuel and maintenance cost savings. The size of the opportunity is reflected in the attention that automakers and investors are directing towards AV innovation. A recent study from The Brookings Institution identified over 160 investments valued at nearly $80 billion that have been made in AV technology between 2014 and 2017, noting that it is reasonable to assume that investment in AV technology is much higher.[18]

A major obstacle to incorporating the benefits of AVs into the standards is the lack of data that demonstrates their relevance to emissions or fuel consumption. Understanding the real-world impact of these technologies is critical to designing a regulatory approach that maximizes fuel economy and safety. Generating robust data that proves the technologies' effectiveness is the first fundamental step to incorporating these potential benefits into the regulations. SAFE believes, based on fuel efficiency modeling, that an 18–25 percent system wide fuel economy savings can be realized using current driver assist and connected vehicle technology. In addition, other research indicates that fatalities will be reduced by the thousands every year using this same technology.[19] A program that incentivizes real world testing and data sharing should be a priority for all government agencies.

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[17] Lipson, Hod, and Melba Kurman. *Driverless: intelligent cars and the road ahead*. MIT Press (2016) and Jeffery Greenblatt and Susan Shaheen, Automated Vehicles, On-Demand Mobility, and Environmental Impacts, Current Sustainable/Renewable Energy Reports (2015).

[18] Cameron F. Kerry and Jack Karsten, "Gauging investment in self-driving cars," Brookings Institution (Oct. 16, 2017) available at www.brookings.edu/research/gauging-investment-in-self-driving-cars/.

[19] National Highway Traffic Safety Administration, "*Vehicle-to-Vehicle Communications: Readiness of V2V Technology for Application*," at xvi (Aug. 2014) available at www.nhtsa.gov/press-releases/us-department-transportation-issues-advance-notice-proposed-rulemaking-begin. The report includes preliminary estimates of safety benefits that show two safety applications - Left Turn Assist (LTA) and Intersection Movement Assist (IMA) – could prevent up to 592,000 crashes and save 1,083 lives saved per year. We chose those two applications for analysis at this stage because they are good illustrations of benefits that V2V can provide above and beyond the safety benefits of vehicle-resident cameras and sensors. Of course, the number of lives potentially saved would likely increase significantly with the implementation of additional V2V and V2I safety applications that would be enabled if vehicles were equipped with DSRC capability.

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Fuel Economy Standards and Autonomous Vehicles

AVs have the ability to offer the greatest leap in fuel economy—in the shortest period of time—since the program's inception more than 40 years ago. Some of the "building block" components of AVs, including vehicle-to-vehicle, or vehicle-to-infrastructure connectivity and advanced driver assist systems, can allow cars to operate more efficiently and safely. Since accidents are a major contributor to congestion, reducing accidents improves system throughput and efficiency.[20] These and other benefits can substantially improve vehicle fuel economy and reduce fuel consumption both in individual vehicles and the transportation system as a whole. Reflecting the potential offered by AV technology, one analysis suggests that if the most far-reaching business models and structural changes enabled by AVs are adopted by the entire fleet, road capacity can be doubled.[21]

While the savings are significant, the structural limitations of the fuel economy regime make it difficult to maximize—or even minimally incentivize—these emerging benefits.[22] The fuel efficiency framework that NHTSA developed in the 1970s does not have the flexibility to capture efficiencies resulting both directly and indirectly from vehicle automation and connectivity. For both NHTSA and EPA standards, vehicle compliance is measured by running the vehicle through a predetermined set of accelerations which aim to mimic real-world conditions. This test does not have the flexibility to account for the ability of AVs to improve fuel efficiency performance by accelerating/decelerating more smoothly than humans, avoiding congestion-causing accidents, or having the foresight to take alternative, less congested routes. Including technologies in the framework of fuel efficiency regulations has been shown to accelerate adoption;[23] conversely the continued exclusion of autonomous features from this framework could delay or even permanently limit the fuel savings benefits offered by AVs and their component technologies—as has been the case with other voluntary safety-related technologies. The Insurance Institute for Highway Safety examined the rollout of safety technology and estimates that it takes 30 years for equipment to become standard on new vehicles.[24] The report estimates that, left to the market, technologies like the ones proposed in this Issue Brief (forward collision warning, blind-spot monitoring, lane-departure warning), will only become standard on all vehicles by 2043. The proposal described here would accelerate that adoption by decades, potentially saving tens of thousands of lives and million of barrels of oil.

There is a solution which saves both lives and fuel. The EPA has the authority and flexibility to address the structural problems of the program—and has used this flexibility in the past through its

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[20] See, e.g., Anthony Downs, "Traffic: Why It's Getting Worse, What Government Can Do," Brookings (Jan. 1, 2004); David Schrank, et al. "2015 urban mobility scorecard." University of Texas, at 5 (2015); NHTSA, "The Economic and Societal Impact Of Motor Vehicle Crashes, 2010 (Revised)," at 50-112 (May 2015) available at crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812013.

[21] Dimitris Milakis, Bart van Arem & Bert van Wee. "Policy and Society Related Implications of Automated Driving: A Review of Literature and Directions for Future Research," Journal of Intelligent Transportation Systems, 21:4, 324-348, 330, 340 (2017).

[22] Mersky, Avi Chaim, and Constantine Samaras. "Fuel economy testing of autonomous vehicles." Transportation Research Part C: Emerging Technologies 65 (2016): 31-48

[23] Zoepf, Stephen, "Automotive Features: Mass Impact and Deployment Characterization," M.S. Thesis, at 23, Massachusetts Institute of Technology (2011).

[24] See, e.g., Keith Laing," Car-safety features stuck in slow lane," Detroit News (Mar. 5, 2018), available at www.detroitnews.com/story/business/autos/2018/03/05/car-safety-features-slow-coming/111097598/.

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off-cycle credit program.[25] EPA could use that same flexibility, working with NHTSA, to help incentivize the accelerated deployment of connected and autonomous technologies into the light-duty fleet, for the purposes of testing the real-world emissions and safety benefits. Automakers would share the resulting data to verify the savings captured. This effort by EPA would help NHTSA achieve its two congressionally-mandated objectives of fuel economy for national security and safety.

Utilizing the off-cycle credit program for this kind of research agenda would solve two problems: The scale of commercialization and the availability of real-world data. Vehicle connectivity technology is nascent and has yet to penetrate the fleet in meaningful numbers; inclusion in a fuel efficiency framework could accelerate adoption of advanced driver-assist systems (ADAS) and encourage optimizing such systems for efficiency.[26] There remains insufficient data to fully evaluate the effectiveness of these technologies at improving fuel efficiency and reducing vehicle emissions. In addition, such a research program could identify ways real-world data could be used to more effectively assess technologies that are already part of the off-cycle credit program.

Perhaps most importantly from a process perspective, such changes could open the pathway to an agreement on fuel economy and emissions with the state of California, maintain a program that is national in scope, and create additional certainty that the automakers seek.

How Vehicle Automation Improves Safety

According to NHTSA's analysis, performed on a small subset of crashes, vehicle to vehicle communication (V2V) could save over 1,000 lives a year.[27] A recent BCG report concluded that ADAS could prevent 28 percent of all crashes in the United States if all cars were equipped with ADAS features *that are available today*. The technologies could prevent approximately 9,900 fatalities and save about $251 billion to society each year.[28] To put these numbers in perspective, NHTSA estimates there are roughly 38,000 traffic fatalities on US roads and highways every year. ADAS, in conjunction with adaptive headlights, would improve outcomes in nearly half of fatal crashes. By comparison, seatbelts and frontal air bags saved approximately 15,000 and 2,800 lives in 2007, the latest year studied.[29] If widely deployed, ADAS technologies would be poised to join seatbelts and air bags as high-impact safety technologies.

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[25] 40 CFR 86.1869-12.

[26] ARPA-E, "Next-Generation Energy Technologies for Connected and Automated On-Road Vehicles Program Description," (Nov. 2, 2016) available at arpa-e.energy.gov/?q=arpa-e-programs/nextcar.

[27] National Highway Traffic Safety Administration, "U.S. Department of Transportation Issues Advance Notice of Proposed Rulemaking to Begin Implementation of Vehicle-to-Vehicle Communications Technology," (Aug. 18, 2014), available at www.nhtsa.gov/press-releases/us-department-transportation-issues-advance-notice-proposed-rulemaking-begin.

[28] Boston Consulting Group Inc. and Motor & Equipment Manufacturers Association, "A Roadmap to Safer Driving through Advanced Driver Assistance Systems," at 2, 13, 14 (2015), available at www.mema.org/sites/default/files/MEMA%20BCG%20ADAS%20Report.pdf.

[29] National Highway Traffic Safety Administration, "Lives Saved Calculations for Seat Belts and Frontal Air Bags," at p. 2 (Dec. 2009) available at crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/811206.

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How Vehicle Automation Improves Efficiency

There are several different pathways for new AV technology to improve vehicle efficiency and reduce fuel consumption. Some of these effects occur at the vehicle level. Other improvements occur when new transportation-related systems are deployed. Still others are the result of wide scale deployment of full AV technology. An initial review of the literature shows the potential to improve fuel economy by up to 25 percent when technologies are optimized and aggregated.[30] While more data is needed, the potential is incredibly promising and warrants serious attention. Some of the technologies and impacts are described below.

Vehicle-Level Impacts

A new technology has a "vehicle level" impact if it improves the fuel efficiency of the vehicle equipped with the technology. This is significant because the vehicle can operate more efficiently entirely on its own, and those efficiency gains can often be measured if a testing procedure is designed to capture them. Some examples of technologies with vehicle level benefits are:

- ***Advanced Driver Assistance System***: An Advanced Driver Assistance System describes a suite of technologies that substitute for some driving decisions—prominent examples include Automatic Emergency Braking and Lane Keeping Assist. An initial review of data collected from a fleet testing ADAS systems demonstrated more than a two percent improvement in fuel efficiency, and preliminary evidence suggests that considerably higher gains are possible.[31]
    - Researchers at Carnegie Mellon University demonstrated that Adaptive Cruise Control (ACC) can be "tuned" to leverage significant fuel savings. In the absence of a policy incentive, ACC could actually reduce energy efficiency.[32]
    - ***ARPA-E's NEXTCAR Initiative:*** ARPA-E is an agency at the Department of Energy that advances high-potential, high-impact energy technologies with the capability to radically improve U.S. economic prosperity, national security, and environmental well-being. ARPA-E's NEXTCAR Initiative is funding a series of projects to develop vehicle automation technology that use connectivity and automation to co-optimize vehicle dynamic controls and powertrain operation, reducing energy consumption of the vehicle, and—in some applications—the vehicle fleet. NEXTCAR's goal is to enable at least an additional 20 percent reduction in energy consumption of future connected and automated vehicles. NEXTCAR's modeling has validated that, under certain conditions, this approach could result in a greater than 20 percent reduction in vehicle energy consumption. The program's goal is to commercialize this energy-saving technology at a cost of under $1,000 per car and under $3,000 per heavy-duty vehicle.[33]

System-Level Impacts

A network effect occurs when the larger the numbers of people or participants to use a service or product, the greater the value of the service or product. For instance, e-mail is a more effective

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[30] SAFE analysis and additional modeling of existing literature.

[31] Dish Network Data from Pilot Program; and SAFE interviews with industry; "Case Study: Dish saves fuel with Mobileye technology", *FleetOwner* (May 6, 2016).

[32] Mersky and Samaras (2016).

[33] Chris Atkinson, "NEXTCAR – Next Generation Energy Technologies for Connected and Automated On-Road Vehicles," Presentation to NEXTCAR Launch Event (Apr. 6, 2017) available at arpa-e.energy.gov/sites/default/files/2_ARPA-E_NEXTCAR_Kickoff.pdf.

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means of communicating when more people have e-mail because there are more people you can reach with it. There are new AV technologies that have network effects that can make the transportation system more efficient. If every car had these capabilities, vehicle efficiency should improve and the number of vehicle accidents should decline. Accident-related congestion in the United States wastes nearly one billion gallons of fuel and creates about 9.5 million tons of CO_2 on an annual basis.[34] ADAS and connectivity could mitigate the causes of about 85 percent of crashes, which illustrates that the system-level benefits are considerable.[35]

The wide-scale adoption of collision reduction technology and vehicle connectivity can be major sources of energy savings:

- ***Cooperative Adaptive Cruise Control (CACC):*** CACC is a type of cruise control that smooths out vehicle speed and acceleration, reducing fuel consumption. Because vehicles would be nearly-instantaneously responsive to changes in other vehicle speeds, more cars could fit on the roads without increasing road capacity or reducing vehicle speeds. Significant adoption of CACC could enable smoother traffic flow, which would improve both individual vehicle efficiency and highway capacity.[36]

- ***Collision Avoidance Technology:*** An industry regulatory filing by Mercedes-Benz USA made the following claims, based in part on research from the insurance industry.[37]
  - Using Lane Keeping Assist and Blind Spot Assist in all vehicles would reduce crashes by five percent.
  - Forward Collision Warning and Adaptive Brake Assist in all vehicles would reduce crashes by 15 percent.
  - Emergency Braking and ACC in all vehicles would reduce crashes by 18 percent.

- ***Vehicle to Vehicle and Infrastructure Communication:*** This technology shares information between vehicles in close proximity to each other. When widely deployed, it improves the effectiveness of ACC because it can monitor what is happening several cars ahead and because it can direct a vehicle on a route that reduces congestion, reduces idling and saves fuel.[38]

Full Automation will have Far Reaching Implications

Recognizing the importance of a systemwide approach, traditional automotive companies such as Ford and GM are working to rebrand themselves as "mobility companies." Indeed, among the many aspects of our transportation system that would be affected by broad adoption of AVs are

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[34] *2015 Urban Mobility Scorecard*. Texas A&M Transportation Institute and Inrix (2015); Mercedes-Benz USA. "Request for Comment (RFC) on Reconsideration of the Final Determination of the Mid-Term Evaluation of Greenhouse Gas Emission Standards for MY 2022-2025 Light-Duty Vehicles," (2017).

[35] Frost & Sullivan, "Vehicle-to-Everything Technologies for Connected Cars" (Aug. 2017).

[36] Steven Shladover, Dongyan Su, and Xiao-Yun Lu, "Impacts of Cooperative Adaptive Cruise Control on Freeway Traffic Flow," Transportation Research Record 2324, at 63-70, (2012).

[37] Comments of Mercedes-Benz USA, LLC to Proposed Rule to Establish Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards for Model Year 2017 and Beyond; Docket Nos. EPA-H1-OAR-2010-0799; FRL-9495-2; NHTSA-2010-0131 at A-10, A-11, (2012).

[38] Department of Transportation, "Preliminary Regulatory Impact Analysis: FMVSS No. 150 Vehicle-to-Vehicle Communication Technology for Light Vehicles," (Nov. 2016) available at www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/v2v_pria_12-12-16_clean-2.pdf.

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improvements in the efficiency of the vehicles and the choice of fuels that we use.

- ***Advanced Fuels:*** Both economics and engineering suggest that the shift to shared, autonomous vehicles will go hand-in-hand with increasing use of advanced fuels.[39] AVs have lower operational and maintenance costs, as there are fewer moving parts and maintenance requirements for an electric vehicle. Full automation is likely to render vehicle ownership a less attractive economic proposition and allow on-demand fleets to serve a large fraction of travel demand.[40] Modeling shows that economic considerations make it likely that such vehicles would use an advanced fuel source (particularly electrification). Such vehicles could decrease emissions by 90 percent relative to conventional, human-driven cars and by about 70 percent relative to hybrids.[41]

- ***Light Weight Connected Vehicles***: A recent RAND Corporation report projects that by 2050 connected, lightweight AVs could reach 300-500+ MPG for lightweight, single-occupant pod cars.[42]

- ***Autonomous Vehicle Car Sharing and Ride Sharing:*** AVs will be used in car and ride sharing services, providing vehicle access to individuals who do not own the vehicle outright (such as a time share model) or individual rides to individuals traveling together in a vehicle where they are contracting a service but have no ownership stake in the vehicle (such as Uber or Lyft).
    - Vehicle performance and acceleration may be important to vehicle owners who value the prestige or experience of owning a "muscle car,"[43] but such features are less important for on-demand vehicles because riders are largely indifferent as to whether the vehicle they are riding in—and do not own—is capable of rapid acceleration. Vehicles that are engineered for efficiency instead of performance can improve efficiency by as much as 20 percent.[44]
    - A UC Berkeley study found that households with car sharing subscriptions reduced their transportation greenhouse gas footprint by up to 18 percent.[45]

In short, connectivity and autonomous vehicle technology will have a broadly positive impact on the efficiency of the U.S. transportation system. While the downstream impacts of broad AV adoption

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[39] Gardner, Greg, "*Our Autonomous Future Will Likely Be an Electric One, Here's Why*," Detroit Free Press (Sept. 23, 2016 available at http://www.govtech.com/fs/Our-Autonomous-Future-Will-Likely-Be-an-Electric-One-Heres-Why.html.

[40] Securing America's Future Energy (SAFE), *A National Strategy for Energy Security: The Innovation Revolution*, at 88, 91 (2016).

[41] Greenblatt, J. B., & Saxena, S., "Autonomous taxis could greatly reduce greenhouse-gas emissions of US light-duty vehicles," *Nature Climate Change*, *5*(9), 860-863 (2015).

[42] James Anderson et al., *Autonomous vehicle technology: A guide for policymakers*, Rand Corporation, at 31 (Figure 2.6) (2014).

[43] Zoepf (2011).

[44] Austin Brown, Jeff Gonder, and Brittany Repac, "An Analysis of Possible Energy Impacts of Automated Vehicles", *Road Vehicle Automation* (2014).

[45] Elliot Martin and Susan Shaheen, "Impacts of car2go on Vehicle Ownership, Modal Shift, Vehicle Miles Traveled, and Greenhouse Gas Emissions: An Analysis of Five North American Cities," Innovative Mobility Research and Transportation Sustainability Research Center at UC Berkeley, Working Paper July 2016, available at innovativemobility.org/wp-content/uploads/2016/07/impactsofcar2go_FiveCities_2016.pdf.

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are not fully understood, there is considerably more certainty on the impacts of the building block technologies that compose these systems. By utilizing fuel efficiency policies to better evaluate these technologies, the U.S. can not only create more opportunities to save fuel in the short-term but, can also begin the process of modernizing energy policy for the impacts of AVs for the coming decades.

Modeling of Fuel Economy Benefits

To examine the impact of these emerging autonomous and connected technologies, SAFE contracted Air Improvement Resource,[46] to model the potential fuel economy savings if these technologies were widely deployed in the fleet. A review of two dozen studies underpinned the analysis and identified the following set of potential savings. Most of these savings are additive and, together, identify the potential to reduce fuel consumption by 18 to 25 percent if deployed throughout the fleet. The results are summarized in the chart below.

Strategy	Vehicle Benefit (estimated over all driving, even though main benefit may be on highways)	Additional Benefit if Majority of Vehicles are Equipped	Mechanism
Driver enabled adaptive cruise control (base)	7%-10% (assumes enabled 100% on highways)	None	Smoother driving
Crash warning systems	0%	3%	Less total crashes and therefore less idle/year
V2V info sharing	+2-4%	Incl in vehicle benefit	Smoother driving Level 2
V2I info sharing	+1-3%	Incl in vehicle benefit	Smoother driving Level 3 and congestion avoidance
AVs and CAVs (w/platooning)	+ 5%	Incl in vehicle benefit	Smoother driving Level 4, congestion avoidance and platooning

The modeling further compared what this level of savings could mean for the current fuel economy program as well as what it might mean for the longer-term targets identified as necessary to reach environmental objectives. For illustration purposes, we apply California's CO2 targets to the national fleet. The chart below shows the AV technology potential in terms of emissions reduction relative to the current standard and the longer-term goals established by California and other stakeholders for 2030 and 2050. The chart shows the current EPA 2022-2025 standards (represented by the solid black line) and their associated CO2 emissions reductions through 2050. The red line represents the lower bound estimate of 18 percent reduction while the green line represents the maximum 25 percent reduction potential. The area between the black line (current standards) and the green line

[46] Air Improvement Resource, Inc. provides engineering and consulting services in the area of mobile and stationary source emissions modeling and technology evaluation. They are experts in EPA emissions modeling.

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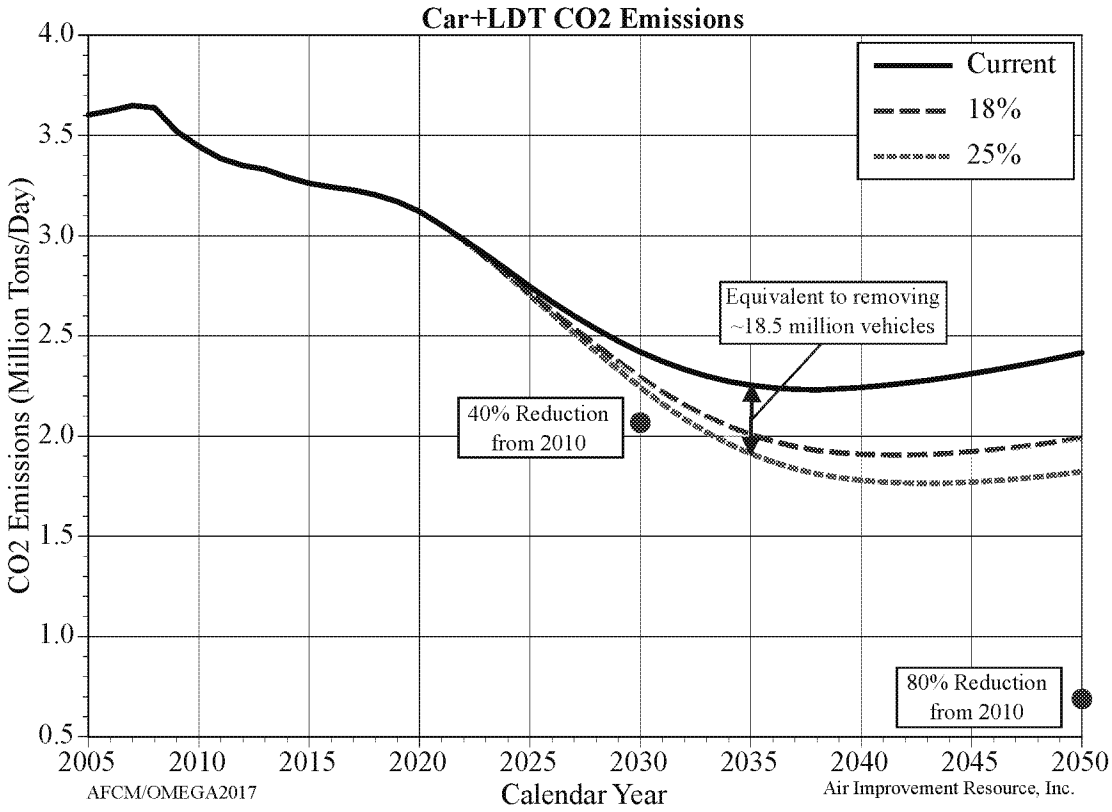
(25 percent reduction) represents the potential savings these autonomous and connected technologies could have on emissions—equaling the removal of 18.5 million vehicles from the road in 2035. The red dots represent the national equivalent of the goals set by California and other advocates as the necessary reductions in transport CO2 emissions in 2030 (40 percent reduction) and 2050 (80 percent reduction). A real-world test program that demonstrates the viability of these benefits could lead to much greater success in achieving the environmental and fuel efficiency goals for 2030 and put the transportation sector on a more promising trajectory toward the goals for 2050.



Conclusion

To help regulators capture the benefits of this new technology, we must accelerate our understanding of its potential fuel-saving and safety benefits. To achieve this, federal regulators should partner with automakers to develop a program that deploys and collects data regarding the effectiveness of new autonomous and connected technologies to earn temporary compliance credits for the emissions and fuel economy programs. This initiative will lay the foundation for a more complete accounting of the increase in efficiency and reduction in emissions that they offer so that their benefits can be properly assessed on a permanent basis as part of these regulatory programs. Ultimately, if the technology proves effective, these technologies and business models should be incorporated into the off-cycle credit program, which is administered by EPA in consultation with NHTSA.

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Autonomous and connected vehicle technology could radically improve the fuel-efficiency of the light-duty vehicle fleet, but this potential cannot be fully examined or realized under current regulatory structures. By offering automakers credit for a defined period of time for deploying AV technology and collecting data that automakers and regulators can use to assess the technology's effectiveness, regulators can remove a substantial roadblock to the development and deployment of these potentially transformative innovations. Research estimates that ADAS could prevent 28 percent of all crashes in the United States if all cars were equipped with features that are available today, preventing approximately 9,900 fatalities and saving $250 billion in societal costs every year. Furthermore, SAFE's analysis shows that 18-25 percent system-wide fuel economy saving can be realized by using existing diver assist and connected vehicle technology. By finding a way to constructively incorporate vehicle automation into the emissions and fuel economy programs, the federal government could accelerate the commercialization of life-saving and fuel-reducing technologies while simultaneously keeping the U.S. industry at the forefront of global automotive innovation.

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MEMORANDUM

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TO Securing America's Future Energy

FROM Hogan Lovells US LLP **TELEPHONE** +1 202 637 6567

DATE July 15, 2018

SUBJECT Authority to Grant Fuel Economy Credit for Congestion Mitigation and Safety-Related Technologies Under Off-Cycle Credit Program

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Emerging technologies, such as autonomous and semi-autonomous vehicle technologies (e.g., self-driving cars), congestion avoidance technologies (e.g., GPS features), and safety and congestion mitigation technologies (e.g., technologies that help reduce collisions), hold significant promise in terms of fuel economy gains. However, these technologies have not traditionally been considered in the fuel economy calculus, which presents a significant lost opportunity to incentivize their further development and expedite their deployment. For instance, congestion avoidance and mitigation technologies can reduce time spent idling in traffic, and thus significantly increase miles per gallon.

The current Administration's reconsideration of greenhouse gas ("GHG") and corporate average fuel economy ("CAFE") standards for vehicle model years ("MYs") 2022-2025 presents an opportunity to modernize the current rules to recognize and promote the benefits of advanced technologies, including safety and congestion mitigation technologies. By crediting such technologies in fuel economy calculations, the Administration can incentivize their further development, while also providing automakers with more flexibility in achieving fuel economy standards. This memorandum discusses the authority of the National Highway Traffic Safety Administration ("NHTSA") and Environmental Protection Agency ("EPA") (collectively, "Agencies") to credit safety and congestion mitigation technologies, and identifies a regulatory pathway for ensuring these technologies are eligible for credit under the Agencies' off-cycle credit program.

I. Executive Summary

We have been asked to evaluate whether there is a statutory bar on recognizing the fuel economy benefits of safety and congestion mitigation technologies in the CAFE program. In short, *there is no statutory prohibition on allowing congestion mitigation and safety-related technology to be credited in the CAFE and GHG programs.* However, EPA would need to take the lead on this, in consultation with NHTSA, because the technologies would be recognized as an element of the "testing and calculation procedures" for the CAFE program, the responsibility for which is vested with EPA under the statute. Moreover, the Agencies would need to make various changes to their regulations in order to remove a regulatory prohibition that exists on crediting these technologies.

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II. Background

A. Allocation of Authority between NHTSA and EPA Under the Energy Policy and Conservation Act

The Energy Policy and Conservation Act ("EPCA"), as amended, requires NHTSA to set fuel economy standards for passenger and non-passenger vehicles, i.e. light trucks. These standards must be set at the "maximum feasible" level based on statutory factors in EPCA.[1] Importantly, however, EPCA splits responsibility for the fuel economy program between NHTSA and EPA. Although NHTSA sets the standards, "EPA establishes the procedures for testing, tests vehicles, collects and analyzes manufacturers' data, and calculates the individual and average fuel economy of each manufacturer's passenger cars and light trucks[.]"[2]

EPCA thus assigns EPA primary authority for testing and calculating the average fuel economy of vehicles so that NHTSA can determine compliance with its CAFE standards.[3] Specifically, EPCA requires that EPA "shall measure fuel economy for each model and calculate average fuel economy for a manufacturer under testing and calculation procedures prescribed by the Administrator."[4] Thus, EPA would need to take the lead in decisions that affect the way that fuel economy is measured and calculated. However, NHTSA must also be involved and must coordinate with EPA in executing this authority, as EPCA also requires that "[t]he Administrator shall report measurements and calculations under this section to the Secretary of Transportation and shall consult and coordinate with the Secretary in carrying out this section."[5]

As discussed in the next section, it is under EPA's EPCA authority under 49 U.S.C. § 32904 that the Agencies have already promulgated regulations that allow for credit to be issued for a variety of emerging technologies that increase fuel economy.[6]

B. Background on the Off-Cycle Credit Program and Fuel Economy Improvement Values Generated Under that Program

In the 2012 Final Rule establishing MY 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, EPA, in coordination with NHTSA, created a program for MYs 2017-2025 to recognize air-conditioning efficiency credits and off-cycle credits.[7] Off-cycle credits provide credit for vehicle efficiency improvements that are not captured by the Federal Test Procedure and Highway Fuel Economy Test (known as the two-cycle

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[1] 49 U.S.C. § 32902(f).

[2] *See 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards*, 77 Fed. Reg. 62,624, 62,667 (Oct. 15, 2012) ("2012 Final Rule"); 49 U.S.C. § 32904(c).

[3] 49 U.S.C. § 32904.

[4] 49 U.S.C. § 32904(c).

[5] *Id.* at § 32904(e).

[6] *See* 2012 Final Rule at 63,125 ("NHTSA expects automakers to continue increasing the use of innovative and advanced technologies . . . . additional incentive programs finalized will encourage early adoption of these innovative and advanced technologies and help to maximize both compliance flexibility and energy conservation. These incentive programs for [fuel economy] compliance are not under NHTSA's EPCA/EISA authority, but under EPA's EPCA authority . . . EPA measures and calculates a manufacturer's compliance with the [fuel economy] standards, and it will be in the calculation of fuel economy levels that the additional incentives are applied."); *see also* 2012 Final Rule at 63,131 ("All of the [fuel economy] compliance incentives discussed below are being finalized by EPA under its EPCA authority to calculate fuel economy levels for individual vehicles and for fleets."); *id.* at 62,649-50.

[7] 2012 Final Rule at 62,628, 62,649-50.

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procedure).[8] In order to be eligible for credit under the off-cycle program "technologies must have a measurable, demonstrable, and verifiable real-world CO_2 reduction that occurs outside the conditions of the Federal Test Procedure and the Highway Fuel Economy Test."[9]

The credits obtained under the off-cycle program are referred to as "fuel consumption improvement values" for the purposes of the CAFE program.[10] The fuel consumption improvement value is equivalent to the off-cycle credits EPA issues for the purposes of the GHG program.[11] Specifically, the fuel consumption improvement value is determined "at the fleet level by converting the CO_2 credits determined under the EPA program (in metric tons of CO_2) for each fleet (car and truck) to a fleet fuel consumption improvement value. This improvement value would then be used to adjust the fleet's CAFE level upward."[12] To apply the credit, the "improvement values are subtracted from the manufacturer's two-cycle-based fleet fuel consumption value to yield a final new fleet fuel consumption value, which would be inverted to determine a final fleet fuel CAFE value."[13] Essentially, "instead of manufacturers gaining credits as done under the GHG program, a direct adjustment would be made to the manufacturer's fuel economy fleet performance value."[14] The credit is thus technically applied as a part of EPA's calculation of average fuel economy levels under its EPCA authority.[15]

To facilitate issuance of off-cycle credits, EPA, in coordination with NHTSA, created a "menu" of technologies eligible for credits with pre-defined fuel consumption improvement values.[16] For technologies that are not on the menu, the program allows manufacturers to apply for credit either (i) by demonstrating fuel economy improvements through EPA's 5-cycle test or (ii) if that will not work, through an alternative methodology developed by the manufacturer.[17] To obtain credit under the latter option, the manufacturer must submit a "detailed analytical plan" and the alternative methodology demonstration should, among other things, "use modeling, on-road testing, on-road data collection, or other approved analytical or engineering method," and "[b]e robust, verifiable, and capable of demonstrating the real-world emissions benefit with strong statistical significance[.]"[18] Where fuel consumption improvement values are sought by a manufacturer, EPA and NHTSA would consult with each other on manufacturer applications for credit under the off-cycle program.[19]

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[8] 40 C.F.R. § 86.1869-12(a) ("Manufacturers may generate credits for CO_2–reducing technologies where the CO_2 reduction benefit of the technology is not adequately captured on the Federal Test Procedure and/or the Highway Fuel Economy Test.").

[9] *Id.*

[10] 2012 Final Rule at 62,833 ("EPA, in coordination with NHTSA, is also finalizing the proposed provision allowing manufacturers to include fuel consumption reductions resulting from the use of off-cycle technologies in their CAFE compliance calculations. This provision would apply starting in MY 2017. Manufacturers may generate 'fuel consumption improvement values' essentially equivalent to EPA credits, for use in the CAFE program.").

[11] 2012 Final Rule at 62,727.

[12] *Id.* at 63,136; 62,736-37 (same); *see also* 40 C.F.R. § 600.510–12.

[13] 2012 Final Rule at 62,726.

[14] *Id.* at 63,134.

[15] *Id.* at 63,125.

[16] *Id.* at 62,832; 62,728.

[17] 40 C.F.R. § 86.1869-12(c)-(d); 2012 Final Rule at 63,134-35; *id.* at 62,839.

[18] 40 C.F.R. § 86.1869-12(d).

[19] *Id.* at § 86.1869-12(d)(3) ("With respect to fuel consumption improvement values applicable to the determination of average fuel economy under 600.510–12(c)(3) for the 2017 and later model years, EPA will consult with the U.S. Department of Transportation, National Highway Traffic Safety Administration, prior to making a decision on a manufacturer's application."); *see also* 49 U.S.C. § 32904(e) ("The Administrator shall report measurements and calculations under this section to the Secretary of Transportation and shall consult and coordinate with the Secretary in carrying out this section."); 49 C.F.R. §§ 531.6(b); 533.6; 2012 Final Rule at 63,135, 62,839-40.

Generally, the application process created by the Agencies allows manufacturers to seek credit for a wide variety of different technologies, provided that the manufacturer can demonstrate real-world fuel economy benefits. However, in the 2012 Final Rule, the Agencies carved out a blanket exception to this general rule for safety, crash avoidance, and congestion mitigation technologies based on questionable policy rationales that are by no means mandated by the statute.[20] The next sections describe the Agencies' policy decision to exclude these technologies, and the means by which the Agencies can reverse this decision to allow for these safer and more efficient technologies to be eligible for off-cycle credit.

C. Background on Policy Decisions Prohibiting Fuel Economy Credit for Safety and Congestion Mitigation Technologies

In the 2012 Final Rule, the prior Administration's decision to disallow off-cycle credit for safety technologies was framed as a policy decision, rather than a decision based on a lack of authority. Indeed, EPCA itself does not speak to or bar consideration of crash-avoidance and other congestion mitigation technologies, or the crediting of energy efficiency improvements linked to safety features. However, in the 2012 Final Rule, the Agencies decided to categorically bar safety technologies from receiving credit under the off-cycle program.[21] Specifically, EPA's regulation at 40 C.F.R. § 86.1869–12 ("CO_2 credits for off-cycle CO_2–reducing technologies") contains a limitation that restricts the eligibility of safety technologies for off-cycle credit:

> Off-cycle credits may not be approved for crash-avoidance technologies, safety critical systems or systems affecting safety-critical functions, or technologies designed for the purpose of reducing the frequency of vehicle crashes. Off-cycle credits may not be earned for technologies installed on a motor vehicle to attain compliance with any vehicle safety standard or any regulation set forth in Title 49 of the Code of Federal Regulations.

There are two basic elements to this prohibition: (1) congestion mitigation, crash avoidance, and other technologies designed to reduce crashes are ineligible for credit; and (2) technologies that already required under federal law for safety purposes, i.e., technologies required under NHTSA Federal Motor Vehicle Safety Standards ("FMVSS"), are ineligible for credit.

With respect to congestion mitigation and crash avoidance technologies more generally, EPA identified several rationales for not allowing them to be eligible for off-cycle credit. Importantly, the "agencies agree[d] that there is a clear nexus between congestion mitigation and fuel/CO_2 savings for the entire on-road fleet."[22] However, they nevertheless declined to give credit due to several policy considerations.

First, the Agencies expressed uncertainty with regards to whether manufacturers would be able to quantify and verify real-world improvements in energy efficiency that resulted from the use of such technologies. The agencies reiterated that "credits should be available only for technologies providing real-world improvements, the improvements must be verifiable, and the process by which credits are granted and implemented must be transparent."[23] They concluded that these factors would not be satisfied for congestion mitigation systems and technologies that reduce the frequency

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[20] 40 C.F.R. § 86.1869-12(a).

[21] 2012 Final Rule at 62,730, 62,732-62,736, 62,836.

[22] *Id.* at 62,732.

[23] *Id.* at 62,733.

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of crashes,[24] because they "indirectly" improve fuel economy of other vehicles (or the fleet as a whole) rather than the efficiency of the specific vehicle on which they are installed, and thus could be hard to verify.[25] Thus, although the Agencies expressly acknowledged the "clear nexus between congestion mitigation and fuel/CO_2 savings for the entire on-road fleet," they noted that "[i]t is less clear, however, whether there is a calculable relationship between congestion mitigation and fuel/CO_2 savings directly attributable to individual vehicles produced by a manufacturer . . . ."[26] The Agencies thus determined that in order "for a technology to be 'counted' under the credit provisions, it must make direct improvements to the performance of the specific vehicle to which it is applied."[27]

Neither of these interrelated rationales mandates the approach adopted by the Agencies in 2012 barring the use of these technologies. In terms of EPA's hesitancy to award credits for technologies that may be shown to increase fuel economy for a fleet (rather than individual vehicles), NHTSA's corporate *average* fuel economy standards are standards that apply to a manufacturer's *fleets*, rather than specific *vehicles*,[28] so this fact should not disqualify safety technology from being eligible for credit. This is especially true in light of the fact that EPA currently determines and applies the off-cycle improvement value for each manufacturer at the fleet level, not the vehicle level.[29] As described above, "all off-cycle CO_2 credits would be converted to a gallons-per-mile fuel consumption improvement value at a fleet level for purposes of the CAFE program."[30] Essentially, "instead of manufacturers gaining credits as done under the GHG program, a direct adjustment would be made to the manufacturer's fuel economy fleet performance value."[31] There is no reason why credit for safety technologies could not be applied on a fleet level. Also, the prohibition on eligibility for credit for safety technologies is overbroad, in that some technologies with safety benefits can spur fuel economy improvements both at the individual vehicle *and* at the fleet level.

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[24] Under this rationale, the Agencies determined not to provide "off-cycle credits for technologies and systems including, but not limited to, Electronic Stability Control, Tire Pressure Monitoring System, Forward Collision Warning, Lane Departure Warning and/ or Intervention, Collision Imminent Braking, Dynamic Brake Support, Adaptive Lighting, Blind Spot Detection, Adaptive Cruise Control, Curve Speed Warning, Fatigue Warning, systems that reduce driver distraction, and any other technologies that may reduce the likelihood of crashes." *Id.*

[25] *Id.* at 62,732-33. For instance, installing congestion mitigation safety technologies on a large number of vehicles would reduce accidents, which would reduce associated traffic, idling, and fuel waste and improve fuel economy.

[26] *Id.* at 62,732.

[27] *Id.* at 62,733.

[28] *See id.* at 62,699 ("noting that "no specific vehicle need meet its target (because standards apply to fleet average performance)").

[29] *See* 40 C.F.R. § 600.510-12(c)(1)(ii) (calculating the improvement value for off-cycle technology on a fleet basis); 2012 Final Rule at 62,839 ("The [fuel economy] improvement value for off-cycle improvements will be determined at the fleet level[.]"); *id.* at 62,738 n.312 (explaining that "EPA's calculation methodology in 40 CFR 600.510–12 does not use vehicle-specific fuel consumption adjustments to determine the CAFE increase due to the various incentives allowed under the program. Instead, EPA will convert the total CO_2 credits due to each incentive program from metric tons of CO_2 to a fleetwide CAFE improvement value"). It should be noted that EPA is subject to certain limitations on its authority to calculate a manufacturer's average fuel economy and must calculate a harmonic volume-weighted average as described in 49 U.S.C. § 32904(a)(1)(B). EPA appears to apply the fleet fuel consumption improvement value after calculating this average.

[30] 2012 Final Rule at 62,839-40.

[31] *Id.* at 63,134; *see also id.* at 62,726 ("EPA will convert the metric tons of CO_2 credits for air conditioning (as well as for other off-cycle technologies and for full size pick-up trucks) into *fleet-wide* fuel consumption improvement values, consistent with the way EPA would convert the improvements in CO_2 performance to metric tons of credits. . . . There will be separate improvement values for each type of credit, calculated separately for cars and for trucks. These improvement values are subtracted from the manufacturer's two-cycle-based *fleet* fuel consumption value to yield a final new *fleet* fuel consumption value, which would be inverted to determine a final fleet fuel CAFE value.") (emphasis added).

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Granting credit for such technologies could also incentivize increased technology penetration in the fleet. Such an approach could provide a pathway to accelerate the penetration of technologies such as vehicle-to-vehicle ("V2V") communication technology in the fleet, by providing value to incent auto-manufacturers to assume the investment. By focusing only on individual vehicle improvements in isolation, and not recognizing the potential for fleet-wide gains, the Agencies may inadvertently lose the forest for the trees—especially as the automobile sector becomes a more interconnected network.

Moreover, *even if* the fuel economy gains of such technologies were difficult to quantify at the time the 2012 Final Rule was promulgated, it does not mean that they still cannot be quantified or will not be able to be quantified several years from now. The current regulations thus unnecessarily bar a whole category of potential technologies in an overbroad manner, leaving no opportunity for the Agencies to evaluate whether data may be available to justify credits in the future. Analytical capabilities and the ability to understand, monitor, and collect data regarding the efficacy of various technologies has grown exponentially since 2012. Given the pace at which technology and analytics change, a more forward-thinking approach would allow manufacturers the option to demonstrate and quantify the fuel economy benefits associated with these technologies. Thus, even if the Agencies think that quantification may currently be difficult, they should not enshrine a prohibition that may soon grow outdated in their regulations.

Indeed, the Agencies took this exact same wait-and-see approach with respect to the eligibility of other technologies in recognition of the fact that manufacturers may be able to demonstrate real-world fuel economy gains that merit credit. For instance, in the 2012 Final Rule, the Agencies also concluded that other forms of technology, such as congestion avoidance and driver-selectable technologies, could also be difficult to quantify, but did not create a similar categorical bar for these technologies.[32] Rather the Agencies left open the possibility that such technologies could be eligible for credit, and decided to review such technologies on a case-by-case basis. The Agencies should remove the categorical bar against safety and congestion mitigation technologies to allow for manufacturers the opportunity to demonstrate that credit is warranted.

The other potential rationale advanced by the Agencies for excluding safety technologies from eligibility was that NHTSA evaluates safety technologies under other regulatory programs, i.e., the New Car Assessment Program ("NCAP") and FMVSS, and these other programs provide a mechanism for evaluating, promoting, and potentially even mandating adoption of safety technologies.[33] More specifically, the Agencies explained that:

> Additional technologies may be added to the NCAP list of crash avoidance technologies when there is sufficient information and analysis to confirm their safety value. . . . Alternatively, NHTSA may conclude that such technologies are sufficiently developed, their safety benefits sufficiently clear, and relevant test procedures sufficiently defined that they should be the subject of a mandatory safety standard. NHTSA could not render a determination on such a request without thoroughly testing the technology as applied in that specific model and developing a specialized benefits analysis. The agency's higher priority would clearly have to be analyzing the

[32] In the 2012 Final Rule, EPA also emphasized that it believed that manufacturers would have a hard time demonstrating that driver-selectable and driver interactive technologies, e.g., congestion avoidance, should receive credit and would need to conduct extensive data collection. *See* 2012 Final Rule at 62,736.

[33] *Id.* at 62,733 ("[T]he agency may either promote its use through its New Car Assessment Program (NCAP) or mandate its use by issuing a Federal Motor Vehicle Safety Standard (FMVSS) requiring the technology on all or some categories of new vehicles.").

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> technologies it found to offer great safety promise on a broader basis and developing standardized tests for those technologies. Therefore the agencies believe that evaluation of crash avoidance technologies is better addressed under NHTSA's vehicle safety authority than under a case-by-case off-cycle credit process.[34]

The Agencies further explained that they "believe that the advancement of crash avoidance systems specifically is best left to NHTSA's exercise of its vehicle safety authority. NHTSA looks forward to working with manufacturers and other interested parties on creating opportunities to encourage the general introduction of these technologies in the context of the NCAP program and possible safety standards."[35]

This rationale appears to be based on the notion that NHTSA should prioritize its authority under its safety mandates to encourage the adoption of advanced safety technologies. But this explanation misses the critical point that NHTSA's responsibilities under the safety program and the fuel economy program are not mutually exclusive and no-tradeoffs are required. Instead, NHTSA could leverage its expertise under these various programs so they can all reflect the multi-faceted benefits offered by congestion mitigation, crash avoidance, and other safety technologies. Indeed, NHTSA's analyses on the efficacy of various technologies under the safety program would be expected to inform the analysis of their fuel economy potential, and vice versa. Once again, the Agencies cited to no statutory bar to crediting these technologies under the fuel economy regime, and instead expressed a policy preference not to do so.

In addition to the 2012 regulatory prohibition against credit for congestion mitigation and crash avoidance technologies in general, there is also a more specific prohibition in the regulation for technologies that are already required under federal law for safety purposes, i.e., technologies that are required under NHTSA FMVSS. With respect to this narrower category of safety technologies, the Agencies explained that "EPA will not provide credits for a technology required to be used by Federal law, as EPA would consider such credits to be windfall credits (i.e. not generated as a result of the rule)."[36] This decision, once again, is a policy choice made in reference to the goals of the off-cycle credit program—to encourage adoption of fuel efficient technologies. Although not mandated by the statute, the decision to exclude the category of safety technologies that are already mandated by law, is at least consistent with the goals of the off-cycle program (although we note that the Agencies can always modify the programs goals).

However, this decision stands in stark contrast to the decision to exclude all congestion mitigation, crash avoidance, and other safety technologies, as many of these technologies are innovative and evolving and have significant potential to achieve fuel economy gains. The Agencies' decision to exclude them thus runs counter to the goals of the off-cycle program (and EPCA in general) to promote fuel efficiency and encourage the adoption of innovative fuel efficient technologies.[37] At the very least the Agencies should narrow their prohibition on eligibility only to technologies that are mandated under existing NHTSA regulations (e.g. FMVSS).

Importantly, in the explanation for the Agencies' decision to bar off-cycle credit for safety technologies, there is no reference to any statutory provision that mandates this approach, and we are not aware of any. Indeed, the entire off-cycle program was created as a function of EPA's discretion to measure and calculate average fuel economy, in coordination with NHTSA, under 49

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[34] *Id.* at 62,733.

[35] *Id.*

[36] 2012 Final Rule at 62,836.

[37] *Id.* at 62,833 (noting that the goal of the program is to "provid[e] an incentive for the development and use of additional technologies to achieve real-world reductions in CO_2 emissions.").

U.S.C. 32904. Thus, given that this program is a creation within EPA's discretion that is subject only to a few statutory limits (See Section III below), it is within EPA's discretion to credit safety, crash avoidance, and congestion mitigation technologies in the fuel economy calculation, provided there is a real-world fuel economy benefit to measure or calculate. EPA and NHTSA have already acknowledged that there is such a benefit.

Accordingly, the Agencies should eliminate the prohibition on applying for credit for such technologies, and NHTSA should leverage its extensive knowledge of technology safety efficacy to support such application efforts and provide guidance to assist with such efforts.

The Agencies should also go one step further and use their authority and expertise to incent and promote research on the fuel economy gains resulting from deployment of such advanced vehicle technologies. The Agencies could allow automakers to earn estimated, pre-determined credits for three to five years as part of a temporary research program through which the automakers would deploy autonomous and connected vehicle technology, collect data about the technology's performance, and share that data with the Agencies. The pre-determined credit value would be estimated based on the best available data prior to the research program. After the temporary research program is complete, data collected through the program would then be used to determine the appropriate amount of credit to award based on the effectiveness of the technology on a permanent basis. Securing America's Future Energy ("SAFE") recently determined that several of these technologies available today can obtain a fuel economy benefit of 18%-25% with most of these savings achieved system wide. However, the data SAFE used is limited due to small deployments. The research program will allow for data to be collected on a larger scale by incentivizing increased deployment. This approach will address the proverbial "chicken and egg" problem because it will incentivize a quicker deployment to achieve more real world data.

The Agencies have found it to be within their authority to incent "game-changing" technologies by providing fuel economy credit to promote their further penetration. For instance, in the 2012 Final Rule, the Agencies offered a "game-changing" technology incentive for full size pick-up trucks to promote their penetration into the fleet.[38] Similarly, the Agencies should establish a research program for the benefits obtainable from the penetration of "game-changing" autonomous vehicle and safety technologies, and make the program permanent where appropriate based on that research in order to promote their deployment.

As described in more detail below, the Agencies are permitted to change positions on this issue in a subsequent notice-and-comment rulemaking, and should do so as a part of their imminent rulemaking process.

III. Regulatory Changes Necessary to Allow For Fuel Economy Credit for Safety and Congestion Mitigation Technologies

Because the Agencies' decision to exclude safety and congestion mitigation technologies from off-cycle eligibility was a policy decision made in a rulemaking, the Agencies are permitted to change their position through notice-and-comment rulemaking provided they acknowledge the change and provide an explanation for it as described in *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 514-15 (2009).

While an agency's change in position is subject to the same standard of review as other agency actions, the agency must follow certain specific requirements. Importantly, the agency *must*

[38] 2012 Final Rule at 63,131-32.

acknowledge that it is changing positions. Indeed, "the requirement that an agency provide reasoned explanation for its action would ordinarily demand that it display awareness that it *is* changing position. An agency may not, for example, depart from a prior policy *sub silentio* or simply disregard rules that are still on the books."[39] The agency also must provide good reasons for its new policy. However, it does not need to "demonstrate to a court's satisfaction" that these reasons are better than the reasons for the old policy: "it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency *believes* it to be better, which the conscious change of course adequately indicates."[40]

However, while an agency does not necessarily need to provide a more detailed justification for a changed policy, there are certain circumstances where it must do so, including when "its new policy rests upon factual findings that contradict those which underlay its prior policy; or when its prior policy has engendered serious reliance interests that must be taken into account."[41] "It would be arbitrary or capricious to ignore such matters. In such cases it is not that further justification is demanded by the mere fact of policy change; but that a reasoned explanation is needed for disregarding facts and circumstances that underlay or were engendered by the prior policy."[42]

The Agencies are free to change their position on this issue at any time, and may do so in the upcoming notice-and-comment rulemaking to reconsider the MY 2022-2025 standards as a result of EPA's Midterm Review Process.[43] Part of the rationale for reconsidering the standards is that they "present[] challenges for auto manufacturers due to feasibility and practicability, raise[] potential concerns related to automobile safety, and result[] in significant additional costs on consumers, especially low-income consumers."[44] This stated rationale for reevaluating the MY 2022-2025 standards also supports a change in the regulations regarding eligibility for off-cycle credits. The changes described below to remove the prohibition against credit for safety and congestion mitigation technologies will serve the stated reasons for the reconsidering the MY2022-2025 standards: this approach will further increase flexibility and practicability, promote safety considerations, and provide benefits for consumers. NHTSA has long considered safety concerns in setting CAFE standards,[45] and allowing safety technologies to be eligible for credit does not suffer from the same tradeoffs between safety and fuel economy that NHTSA has historically needed to balance. Here, the Agencies can achieve both objectives in tandem. To achieve these objectives, the regulations that should be changed are described below.

As noted above, the current Off-Cycle Credit Program is located at 40 C.F.R. § 86.1869–12 ("CO_2 credits for off-cycle CO_2–reducing technologies"). However, this EPA regulation contains a limitation that restricts the eligibility of safety technologies for off-cycle credit: "Off-cycle credits may not be approved for crash-avoidance technologies, safety critical systems or systems affecting

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[39] *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009) ("*Fox*").

[40] *Id.*; *see also Clean Air Council v. Pruitt*, 862 F.3d 1, at 9 (D.C. Cir. 2017) ("Although EPA had no section 307(d)(7)(B) *obligation* to reconsider the methane rule, it is free to do so as long as 'the new policy is permissible under the statute. . . , there are good reasons for it, and . . . the agency *believes* it to be better.'") (quoting *Fox*, 556 U.S. at 515).

[41] *Fox*, 556 U.S. 502 at 515.

[42] *Id.* at 15-16; *see also Perez v. Mortg. Bankers Ass'n*, 135 S. Ct. 1199, 1209 (2015).

[43] *Mid-Term Evaluation of Greenhouse Gas Emissions Standards for Model Year 2022–2025 Light-Duty Vehicles; Notice; Withdrawal*, 83 Fed. Reg. 16,077, 16,078 (April 13, 2018) ("On the whole, the Administrator believes the MY 2022–2025 GHG emission standards are not appropriate and, therefore, should be revised as appropriate. EPA, in partnership with NHTSA, will further explore the appropriate degree and form of changes to the program through a notice and comment rulemaking process.").

[44] *Id.*

[45] *See* 2012 Final Rule at 62,670.

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safety-critical functions, or technologies designed for the purpose of reducing the frequency of vehicle crashes. Off-cycle credits may not be earned for technologies installed on a motor vehicle to attain compliance with any vehicle safety standard or any regulation set forth in Title 49 of the Code of Federal Regulations."[46] This language would need to be deleted or amended through notice-and-comment rulemaking. EPA's regulation at 40 C.F.R. § 600.510-12(c) provides the formulas for calculating fuel improvement values and the overall average fuel economy based on the amount of off-cycle credits obtained under 40 C.F.R. § 86.1869–12. Thus, amending 40 C.F.R. § 86.1869–12 to remove the bar for safety technologies should effectively address the issue. EPA should also evaluate the requirements of the application process provided in 40 C.F.R. § 86.1869-12(e) to ensure that this process does not require information that may be inapplicable to safety technologies, and should provide additional guidance as to the types of information EPA will deem appropriate to demonstrate fuel economy reductions.[47]

In recognition of EPA's status as lead agency for fuel economy calculation purposes, NHTSA's regulations state that "[f]or model years 2017 to 2025, a manufacturer is eligible to increase the fuel economy performance of passenger cars in accordance with procedures established by EPA set forth in 40 CFR part 600, including any adjustments to fuel economy EPA allows, such as for fuel consumption improvements related to . . . off-cycle technologies."[48] The regulations further explain that "[t]he eligibility of a manufacturer to increase its fuel economy performance through use of an off-cycle technology requires an application request made to EPA in accordance with 40 CFR Part 86.1869–12 and an approval granted by EPA made in consultation with NHTSA."[49] As currently drafted, this language would not need to be changed, because it cross-references EPA's provisions. Thus, changing EPA's provisions for off-cycle credit for GHGs should also effectively change those provisions with respect to the CAFE program.

However, some of NHTSA's regulations will also need to be amended (and the cross-references may need to be updated depending on how EPA's regulations are amended). As noted above, when a manufacturer applies for credit, the Agencies' regulations require consultation between EPA and NHTSA on the applications to allow NHTSA to evaluate specific off-cycle technologies for their impact on fuel economy, and EPA's approval is "made in consultation with NHTSA."[50] In particular, the regulations require NHTSA to "consult with EPA regarding NHTSA's evaluation of the specific off-cycle technology to ensure its impact on fuel economy and the suitability of using the off-cycle technology to adjust the fuel economy performance."[51] However, the regulation also provides that "NHTSA's evaluation and review will consider:

> (1) Whether the technology has a direct impact upon improving fuel economy performance;
> (2) Whether the technology is related to crash-avoidance technologies, safety critical systems or systems affecting safety-critical functions, or technologies designed for the purpose of reducing the frequency of vehicle crashes;
> (3) Information from any assessments conducted by EPA related to the application, the technology and/or related technologies; and

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[46] 40 C.F.R. § 86.1869-12(a).

[47] As noted above, EPA is the lead agency in this process and would need to make the ultimate decision to amend its own regulations.

[48] 49 C.F.R. § 531.6(a); *see also* 49 C.F.R. § 533.6(b) (similar provision applicable to light truck fleets); *see also* 2012 Final Rule at 63,131.

[49] 49 C.F.R. § 531.6(b); *see also* 49 C.F.R. § 533.6(c) (similar provision applicable to light truck fleets).

[50] 49 C.F.R. § 531.6(b); 40 C.F.R. § 86.1869-12(d)(3); *see also* 2012 Final Rule at 62,650, 62,839-40.

[51] 49 C.F.R. § 531.6(b); *see also* 49 C.F.R. § 533.6(c) (similar provision applicable to light truck fleets).

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(4) Any other relevant factors.[52]

In order to clarify that applications for off-cycle credits for safety technologies can be considered, this provision should be revised and reframed in several ways. First, the requirement that NHTSA consider "[w]hether the technology has direct impact upon improving fuel economy performance" should be revised.[53] In the 2012 Final Rule, EPA utilized the word "direct" to refer only to fuel economy improvements that occurred for the vehicle on which the technology was installed. However, as described above, EPA found that efficiency gains achieved via safety equipment were "indirect" in that they result in efficiency improvements for the fleet as a whole or other cars on the road. Although safety technologies do in fact have a significant impact on improving fuel economy, the use of the word "direct" here could create confusion given the regulatory history, and should be removed.

Second, the provision requiring that NHTSA consider "[w]hether the technology is related to crash-avoidance technologies, safety critical systems or systems affecting safety-critical functions, or technologies designed for the purpose of reducing the frequency of vehicle crashes" should be reframed and clarified. It is desirable to have NHTSA involved in evaluating the eligibility of such technologies given its expertise, However, the purpose of this provision was to require NHTSA to evaluate whether technologies implicated safety for the *purposes of excluding* them.[54] If the Agencies eliminate the prohibition on credit for these technologies, NHTSA should still be involved in evaluating them, but the provision should be clarified that the goal of such review is not too exclude them from receiving credit. The role of NHTSA in this process should also be better defined and enhanced, given its expertise in safety issues.

In addition to eliminating any regulatory provisions that hinder the eligibility of safety technologies to receive credit, the Agencies may also want to actively include language clarifying the pathway for such technologies to achieve credit and confirming that such credit is available if an adequate demonstration is made by a manufacturer. The agencies may also develop a method for quantifying the benefits of such technologies, as they have for other off-cycle technologies. New provisions for safety technologies could be inserted in 40 C.F.R. § 86.1869–12, or in a separate regulation in 40 C.F.R. Part 86, Subpart S ("General Compliance Provisions for Control of Air Pollution from New and in–Use Light–Duty Vehicles, Light–Duty Trucks, and Heavy–Duty Vehicles"). Depending on where the new provisions are inserted, changes may also need to be made to 49 C.F.R. § 531.6 and 49 C.F.R. § 533.6, which allows for off-cycle credit for the fuel economy program (for passenger vehicles and light trucks respectively) by cross-referencing EPA's off-cycle regulation at 40 C.F.R. § 86.1869–12. Any new regulation would need to also be cross-referenced here.

IV. Legal Limitations on EPA's Authority Under EPCA Do not Bar Granting Credit for Safety and Congestion Mitigation Technologies

Section 32904(c) provides the basis for the off-cycle credit program and provides that EPA "shall measure fuel economy for each model and calculate average fuel economy for a manufacturer under testing and calculation procedures prescribed by the Administrator."[55] EPA's EPCA authority

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[52] *Id.*

[53] *Id.*

[54] 2012 Final Rule at 62,733 ("If a manufacturer has an off-cycle technology that is not included on this list and brings it to the agencies for assessment, NHTSA will determine whether it is ineligible for a credit or adjustment by reason of the agency's judgment that it is related to crash avoidance systems, is related to motor vehicle safety within the meaning of the National Traffic and Motor Vehicle Safety act, as amended, or may otherwise reduce the possibility and or frequency of vehicle crashes."); *see also id.* at 63,135.

[55] 49 U.S.C. § 32904(c).

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under Section 32904 is broad and the agency has significant discretion, but there are several potential legal limitations on this authority. None of these limitations, however, would mandate categorically barring safety and congestion mitigation technologies or require EPA to distinguish between these technologies and other technologies currently credited under the off-cycle program.

First, any fuel economy gains achieved by emerging technologies must be quantifiable in terms of miles per gallon. EPCA defines "fuel economy" as "the average number of miles traveled by an automobile for each gallon of gasoline . . . used, as determined by the [EPA] Administrator under section 32904(c) . . . ."[56] However, there is no apparent reason why fuel economy gains from safety and congestion mitigation technologies could not be quantified in miles per gallon.

Second, EPA must use a volume-weighted average for its average fuel economy calculations. "Average fuel economy" "means average fuel economy determined under section 32904 of this title."[57] Section 32904 provides some instruction on how the Administrator must calculate average fuel economy, but also provides discretion in this regard. The major limitation is that this method of calculation is "subject to" EPA dividing "(i) the number of passenger automobiles manufactured by the manufacturer in a model year; by (ii) the sum of the fractions obtained by dividing the number of passenger automobiles of each model manufactured by the manufacturer in that model year by the fuel economy measured for that model."[58] However, the phrase "subject to" does not mean that this is the exclusive method EPA may use in the calculation, only that this method must be used at some step in the calculation. EPA has discretion to add additional elements to the overall method used. Indeed, EPA uses this method to determine fuel economy under its current regulations, but applies the off-cycle credit as an additional step in the overall procedure. As noted above, EPA determines the total off-cycle credits on a fleet-wide basis (e.g., non-passenger vehicle or light truck) in terms of megagrams of CO_2, and then converts this number to the fleet-wide production-weighted total value of the off-cycle technology credits for "all off-cycle technologies in the applicable fleet, expressed in gallons per mile."[59] EPA can account for off-cycle credits for safety technologies using this existing procedure.

Third, although EPCA gives EPA broad discretion to measure and calculate fuel economy, it also imposes certain limits on EPA's ability to change its testing and measurement procedures for passenger vehicles (but not light trucks).[60] Specifically, EPCA provides that the "Administrator shall measure fuel economy for each model and calculate average fuel economy for a manufacturer under testing and calculation procedures prescribed by the Administrator. However, . . . the Administrator shall use the same procedures for passenger automobiles the Administrator used for model year 1975 (weighted 55 percent urban cycle and 45 percent highway cycle), or procedures

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[56] 49 U.S.C. § 32901(a)(11); *see also* 2012 Final Rule at 63,014 ("NHTSA is required by statute to set CAFE standards in terms of miles per gallon— 'fuel economy,' as expressly defined in EPCA, means "'the average number of miles traveled by an automobile for each gallon of gasoline (or equivalent amount of other fuel) used.'").

[57] 49 U.S.C. § 32901(a)(5).

[58] *Id.* § 32904(a).

[59] *See* 40 C.F.R. § 86.1869-12(e); 40 C.F.R. §§ 600.510-12(c)(1),(c)(3)(ii); *See also* 2012 Final Rule at 62,726 ("For the CAFE program, EPA will determine fleet average fuel consumption improvement values in a manner consistent with the way fleet average CO_2 credits will be determined. EPA will convert the metric tons of CO_2 credits for air conditioning (as well as for other off-cycle technologies. . .) into fleet-wide fuel consumption improvement values, consistent with the way EPA would convert the improvements in CO_2 performance to metric tons of credits. . . . There will be separate improvement values for each type of credit, calculated separately for cars and for trucks. These improvement values are subtracted from the manufacturer's two-cycle-based fleet fuel consumption value to yield a final new fleet fuel consumption value, which would be inverted to determine a final fleet fuel CAFE value.").

[60] *See* 2012 Final Rule at 62,802.

that give comparable results."[61] The legislative history of this provision explains that:

> Compliance by a manufacturer with . . . fuel economy standards is to be determined in accordance with test procedures established by the EPA Administrator by rule. Test procedures so established would be the procedures utilized by the EPA Administrator for model year 1975, or procedures which yield comparable results. The words 'or procedures which yield comparable results' are intended to *give EPA wide latitude* in modifying the 1975 test procedures to achieve procedures that are more accurate or easier to administer, so long as the modified procedure does not have the effect of substantially changing the average fuel economy standards.[62]

This provision was likely intended to ensure baseline comparability of the standards over time, while still allowing EPA "wide latitude."[63]

The language of the statute allowing for EPA to use "procedures that give comparable results" and this legislative history thus indicate that EPA has flexibility to change its measurement approach. However, EPA recognized that its pre-2012 interpretation of this provision may have limited the use of the off-cycle credit program.[64] Accordingly, in the 2012 Final Rule, EPA adopted an interpretation of the statute that the offset credit program is permissible under this provision, even though it does not have an analog in the 1975 test procedure. EPA has thus already provided a detailed analysis justifying the propriety of the off-cycle program under the terms of the statute.

Specifically, EPA explained in the 2012 Final Rule that it "considers the fuel economy results to be 'comparable results' to the 1975 procedure as there would not be a substantial impact on real world [fuel economy] stringency and benefits, given the changes in procedure are the same as provisions in EPA's companion greenhouse gas procedures and standards."[65] Thus, under the current harmonized program, EPA has concluded that it has authority to change the test procedures to credit technologies that provide real-world efficiency, even where they are not measurable under and do not have an analog in the 1975 procedure. It is unclear whether EPA would similarly conclude it could take this position under EPCA, if its GHG procedures did not also recognize those credits. EPA should thus issue parallel credits for any safety and congestion mitigation technologies under its GHG program to the extent it credits those technologies under the fuel economy program. These technologies reduce real-world emissions as well as create real-world gains in fuel economy.

In sum, the Agencies have already concluded that they have the authority to give credit for technologies under the off-cycle program as a part of the fuel economy calculation process. The

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[61] 49 U.S.C. § 32904(c).

[62] H.R. Rep. No. 94-340, at 91-92 (1975) (emphasis added); *see also* S. Rep. No. 94-516, at 157 (1975).

[63] *See id.; see also* S. Rep. No. 94-179, at 19 (1975).

[64] EPA's prior interpretations could have proven problematic for the off-cycle program. In the 2012 Final Rule, EPA considered whether changing its test procedure to allow for credit for air conditioner efficiency and off-cycle efficiency (which are not captured in the 1975 two-cycle test procedures), would "substantially change" the standards in a manner barred by this provision. EPA explained that its pre-2012 approach to analyzing this question relied on a D.C. Circuit case (which was later vacated on other grounds) interpreting this provision, and that EPA's pre-2012 approach considered whether the test procedure change (1) had a significant impact on fuel economy results, (2) reflected real world efficiency improvements, and (3) had an analog in the original 1975 test procedure such that it was substantially comparable. *See* 2012 Final Rule at 62,803. EPA noted that its procedure changes to accommodate off-cycle and air conditioning efficiencies lacked an analog in the 1975 procedure, indicating they might not be appropriate under EPA's traditional interpretation. *Id.* However, given EPA's change in interpretation in the 2012 Final Rule, EPA has already determined that this provision does not bar granting off-cycle credits.

[65] 2012 Final Rule at 62,804. EPA can change its interpretation, and it will generally receive deference provided it is not contrary to the statute or regulations.

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limitations on EPA's authority under § 32904(c) thus do not stand as a prohibition to crediting other off-cycle technologies—such as safety and congestion mitigation technologies—as a part of the off-cycle program. Moreover, this provision in § 32904(c) only applies to passenger cars, and not light trucks, so EPA has even more flexibility in determining the appropriate procedures applicable to light trucks.[66]

V. Conclusion

In sum, the Agencies have the combined authority and expertise to credit fuel economy benefits from safety, crash avoidance, and congestion mitigation technologies. Although there are some legal limitations in EPCA that the Agencies must be aware of, past agency practice in establishing the off-cycle credit program demonstrates that the Agencies have concluded that they have significant authority to recognize real-world fuel economy improvements. Accordingly, at the very least, the Agencies should eliminate the 2012 regulatory prohibition to obtaining off-cycle credits for safety-related technologies. The Agencies should also go one step further and allow automakers to earn pre-determined credits based on best available data for three to five years as part of a research program through which the automakers would deploy autonomous and connected vehicle technology, collect data about the technology's performance, and share that data with the Agencies. This additional real world data would then be used to determine the appropriate amount of credit to award based on the effectiveness of the technology on a permanent basis. Regardless of this program, the Agencies should also streamline and improve the off-cycle application process to allow manufacturers to more easily obtain credits, and NHTSA should leverage its safety expertise to provide guidance and resources to assist manufacturers in quantifying and verifying the fuel economy gains achievable through deployment of these technologies.

[66] *Id.* at 62,673 ("Under EPCA, EPA is required to use these procedures (or procedures which yield comparable results) for measuring fuel economy for cars for CAFE purposes, but not for labeling purposes. EPCA does not pose this restriction on CAFE test procedures for light trucks, but EPA does use the FTP and HFET for this purpose.").

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Memorandum

From: Securing America's Future Energy
To:
Re: Fuel Economy Off Cycle Credit Program, Flexibilities and Estimated Fuel Savings
Date: June, 2018

The following document contains a set of flexibilities and technological advances that accelerate the pace of technological innovation in the transport sector. The first section describes a set of technologies that have shown promise in simultaneously improving safety and fuel economy. Cumulatively, if widely-deployed, they could yield 18-25% fuel economy savings across the vehicle fleet. We propose a real-world test of these technologies to determine their actual safety and fuel economy benefits. The second section focuses on the advanced-fuel multiplier currently set to expire in 2021. We argue this multiplier will encourage the continued development of advanced-fuel vehicles and should be extended through 2025. The final section aggregates the savings.

Potential Savings

18-25%

System-wide fuel savings, when majority of vehicles employ technology

9,000 lives

annually when these technologies are deployed across a majority of the light-duty vehicle fleet.

Section 1: Technology Innovation Accelerator

Given their early promise, we believe the technologies listed below should be encouraged as part of a mass-deployment initiative within the existing off-cycle credit program. The initiative would run for three to five years and be designed by a partnership between NHTSA, EPA and automakers. The initiative would create a mass-deployment of these technologies to provide a real-world test of their effectiveness across a broad range of technology platforms and vehicle types. In exchange for participating in the program and sharing the resulting data, the automakers would receive compliance credits for the years in which they participate in the program. If the promise of these technologies is demonstrated through the test, that information can be used to incorporate these technologies more formally into future compliance periods.

The technologies listed vary in how they will impact the total fuel consumption of the transportation system. Some improve the efficiency of the vehicle itself, while others streamline the system as a whole, and others contribute to fuel savings in both ways. As one example, accident-related congestion in the U.S. wastes almost one billion gallons of fuel every year. Adopting a suite of crash avoidance technologies known collectively as advanced driver-assistance systems (ADAS), can potentially mitigate the causes of 85 percent of crashes. These early results indicate that if these technologies were adopted on a wide scale, significant fuel efficiency benefits could be achieved. Included within this suite of technologies are features such as Lane Keeping Assist, Blind Spot Assist, Forward Collision Warning, braking technologies and Adaptive Cruise Control (ACC), which are explored in greater detail below. According to an industry claims filing by Mercedes-Benz, based in part on insurance industry research, using Lane Keeping Assist and Blind Spot Assist in all vehicles would reduce crashes by five percent; Forward Collision Warning and

Adaptive Brake Assist in all vehicles would reduce crashes by 15 percent; and using Emergency Braking and ACC in all vehicles would reduce crashes by 18 percent.[1]

However, these technologies are not currently included in vehicle fuel economy ratings because of the structural limitations of NHTSA and EPA tests. These tests run vehicles through a predetermined set of accelerations, but they lack the flexibility to account for the ability of these technologies to improve fuel economy through smoother acceleration and deceleration, avoiding congestion-causing accidents, or identifying alternative routes. Current estimates of potential fuel savings are listed below.

Such an initiative could be incorporated into two different parts of the current regulation. A detailed description is included in the appendix at the end of this memo. The changes could be made as part of the Notice of Proposed Rule Making. It is important to note that the prior administration expressly prohibited safety technologies from the off-cycle credit program. This language, a policy decision of the prior administration, would need to be amended; EPA has the authority to make such an amendment.

ADAS: Crash Avoidance and Automatic Braking Technologies

Automatic emergency braking technologies (AEB), also known as collision avoidance systems, are designed to prevent or reduce the severity of a collision. It is also known as a pre-crash system, forward collision warning system, or collision mitigating system. In addition to saving lives and reducing property damage, these systems reduce fuel consumption by reducing accident related congestion.

Potential Savings

3%

System-wide fuel savings, when majority of vehicles employ technology

.42mpg

2025 combined cars and trucks mpg savings

Depending on the automaker, between 20 and 50 percent of vehicles are fitted with these technologies, which are all available today for a few hundred dollars per installation. Only 19 percent of MY2017 vehicles offered these technologies as standard features. A pilot study conducted using a single company's aftermarket warning systems in cargo vans and pickup trucks observed an 86 percent reduction in collisions and at least a two percent increase in fuel efficiency.[3]

ADAS: Adaptive Cruise Control (ACC)

ACC allows a vehicle to slow down or speed up automatically to keep pace with the car ahead. In doing so, the need to brake or accelerate suddenly is diminished, improving fuel economy as a result. Testing has shown that ACC combined with forward collision warning technology can reduce fuel consumption by 2.8 percent on highways.[4] Additionally, because cars

Potential Savings

7-10%

Possible per-vehicle fuel savings, (upper bound)

1.97mpg

2025 combined cars and trucks mpg savings

[1] Comments of Mercedes-Benz USA, LLC to Proposed Rule to Establish Light-Duty Veh Standards and Corporate Average Fuel Economy Standards for Model Year 2017 and OAR-2010-0799; FRL-9495-2; NHTSA-2010-0131 at A-10, A-11, (2012).

[3] Dish Network Data from Pilot Program; and SAFE interviews with industry; "Case Study: Dish saves fuel with Mobileye technology", *FleetOwner* (May 6, 2016).

[4] U.S. DOT, "Adaptive cruise control can reduce fuel consumption by 2.8 percent on highways." (Nov. 21, 2012) https://www.itsbenefits.its.dot.gov/ITS/benecost.nsf/ID/FDC614281B2988DA85257D550068361E?OpenDocument&Query=BApp

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would be nearly-instantaneously responsive to changes in other vehicles' speeds, more cars could fit on the roads without increasing road capacity or reducing vehicle speeds. Significant adoption of ACC could enable smoother traffic flow, which would also improve both individual vehicle efficiency and highway capacity.

Additional Stop/Start Reductions

Stop/start technologies save fuel by cutting the engine when a vehicle comes to a complete stop. In congested conditions, when vehicles frequently come to a standstill, the fuel savings with this technology are cumulative. Under average driving conditions, between three and five percent of fuel can be saved. [5] However, with increased stops and traffic lights that stay red for longer periods of time, savings can rise to ten percent.[6] The technology is relatively inexpensive for automakers to install, and analysts estimate that 65 percent of vehicles will be equipped with stop/start technology in 2021.[7]

Potential Savings

3-5%

per-vehicle fuel savings, when deployed 100% on highway driving

1.6mpg

2025 combined cars and trucks mpg savings

V2V, V2I Information Sharing

Vehicle-to-vehicle (V2V) and vehicle-to-infrastructure (V2I) technology shares information between vehicles and roadway infrastructure in close proximity to each other, which can augment the performance of other technologies, particularly ACC. V2X improves the effectiveness of ACC by monitoring what is happening several cars ahead, and subsequently direct a vehicle on a route that cuts congestion, reduces idling and saves fuel should an accident be identified further ahead. Furthermore, V2V has the potential to prevent 592,000 crashes and save over 1,000 lives per year.[8] Removing these crashes from U.S. roadways every year will subsequently remove the congestion experienced in the aftermath of these incidents, and forego the fuel wasted idling in traffic jams.

Potential Savings

1-4%

Possible per-vehicle fuel savings (upper bound)

.58mpg

2025 combined cars and light trucks mpg savings

Section 2: Advanced-fuel Vehicle Multiplier

Advanced fuel vehicles are powered by a diverse array of fuel types, from battery-powered electric vehicles (BEVs) and plug-in hybrid electric vehicles (PHEVs) to vehicles powered by hydrogen fuel cells or natural gas. These vehicles are critical for U.S. energy security, as they provide a demand-side solution to U.S. oil dependence by opening up a wider range of fuel choices

Potential Savings

1.7mpg

2025 combined cars and light trucks mpg savings

[5] Eric Taub, "Start-Stop Technology Is Spreading (Like It or Not)" (Apr 7, 2016) New Yo
https://www.nytimes.com/2016/04/08/automobiles/wheels/start-stop-technology-is-not.html

[6] Ibid.

[7] Melissa Burden, "Stop-start systems rolling out on more cars" (Nov 3, 2016) Detroit News
https://www.detroitnews.com/story/business/autos/2016/11/03/stop-start-systems-rolling-cars/93271604/

[8] National Highway Traffic Safety Administration, "U.S. Department of Transportation Issues Advance Notice of Proposed Rulemaking to Begin Implementation of Vehicle-to-Vehicle Communications Technology," (Aug. 18, 2014)
https://www.nhtsa.gov/press-releases/us-department-transportation-issues-advance-notice-proposed-rulemaking-begin

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for consumers. This greater fuel choice is crucial for both U.S. national and economic security, as 92 percent of the U.S. transportation system currently relies on petroleum fuels—a dependence on oil that harms consumers and businesses when prices spike, and reorders U.S. foreign policy priorities. Ultimately, increasing fuel diversity and consumer choice will counter the ability of a cartel to manipulate the price of transportation fuel.

The 2x credit multiplier for automakers is currently in place until 2021. Retaining the credit beyond this date will spur further production of advanced fuel vehicles at a key moment for the technology's adoption, as production costs fall and consumer acceptance grows. Retention of the multiplier is expected to save 1.7 miles per gallon across the U.S. vehicle fleet. Even if these savings are not fully realized, greater production of advanced fuel vehicles is still an important goal because of their economic benefits: Maintaining higher levels of advanced fuel vehicle production ensures the U.S. does not cede global leadership of a rapidly growing industry to international competitors—particularly China —and electric vehicles in particular are the preferred powertrain for autonomous vehicles, which hold the potential for significant safety, mobility and energy security benefits for the U.S.

Through the regulatory review process currently underway, the EPA has the authority to eliminate the phase-out provision and extend the multiplier out to 2025. In the 2012 Final Rule the EPA formally disagreed with commenters that wanted to extend the multiplier beyond 2021. The Agency will need to explain it rationale for the change and acknowledge that it is a shift from the prior administration's policy. (See the appendix below for more details.)

Section 3: Aggregated Benefits

SAFE commissioned Air Improvement Resource to model the potential fuel economy savings if these technologies were widely deployed in the U.S. vehicle fleet. A review of two dozen studies underpinned the analysis, and identified the savings summarized in the table below. The majority of these savings are additive and together identify the potential to reduce fuel conusmption by 18 to 25 percent if deployed throughout the fleet.

The chart below outlines the estimated fuel economy benefits if there was widespread adoption of the technologies described above. The graph assumes an annual efficiency gain in the internal combustion engine of 2.0 percent per year between 2022 and 2025. This would lead to improvements of 5.01 miles per gallon (mpg) in cars and 36 in light trucks respectively. Additional start/stop improvements that the industry could adopt readily would add an additional 1.4 mpg for cars and 1 mpg for trucks. Adaptive cruise control, vehicle-to-vehicle (V2V) and crash avoidance has the potential account for another 2.8 mpg for cars and 2.0 mpg for trucks. Finally, further production of advanced fuel vehicles induced by the extension of the advanced fuel multiplier could contribute 1.7 mpg collectively. Altogether, this approach could provide 10.16 mpg compliance for cars and 7.2 mpg compliance for light trucks.

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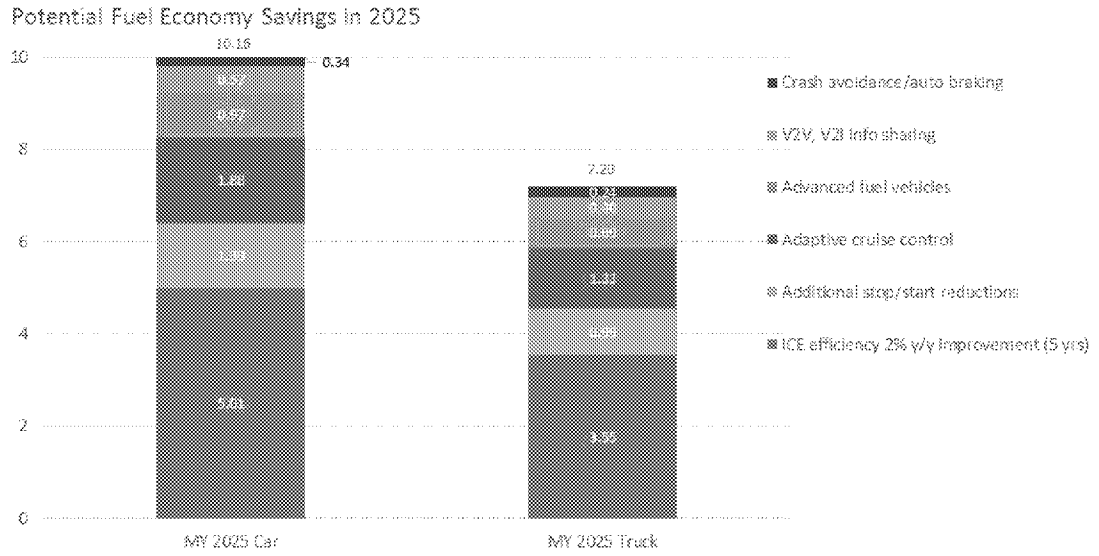
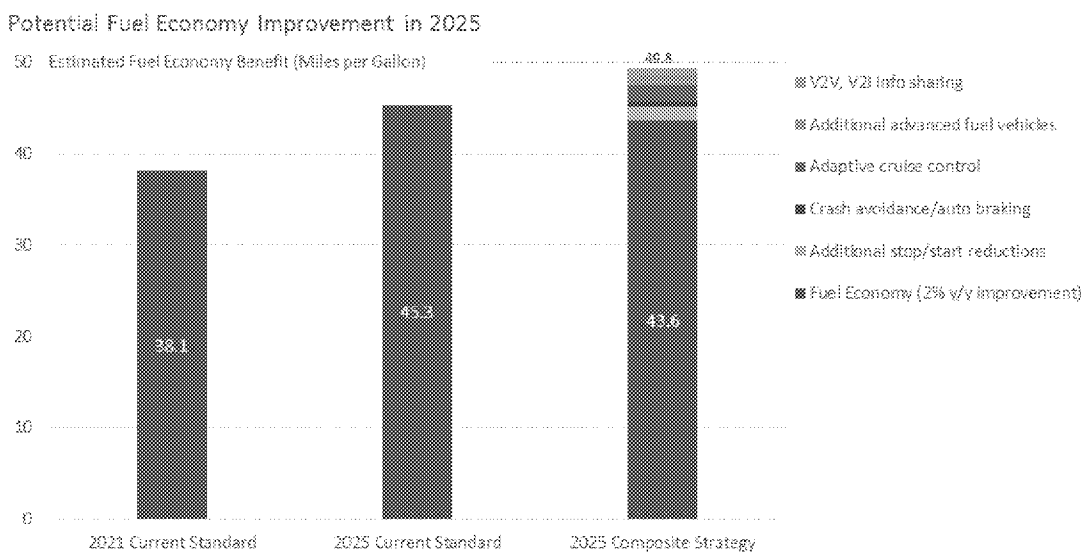


Source: Air Improvement Resource, Inc.

The second chart combines the benefits of cars and trucks from the previous chart in order to show the relative impact of the measures contained in our proposal. The current standard calls for an improvement in overall fleet fuel economy from 38.1 mpg in 2021 to 45.3 mpg in 2025. If such measures were fully implemented and their benefits fully realized, it would allow the standards to achieve 49.8 mpg in 2025, ten percent higher than the current 2025 obligation but with greater flexibility for industry.



Source: Air Improvement Resource, Inc.

Appendix: Incorporation into existing regulatory structure

1. *Incorporating a pro-innovation initiative within the off-cycle credit program*

- EPA adopted the Off-Cycle Credit Program pursuant to Section 202(a) of the Clean Air Act (42 U.S.C. § 7521(a)) as it relates to greenhouse gas (GHG") emissions, and pursuant to the Energy Policy and Conservation Act ("EPCA") (specifically 49 U.S.C. § 32904) as it relates to fuel economy standards.

    - Section 202(a) of the Clean Air Act gives EPA broad authority to regulate GHGs from mobile sources, and the prior Administration concluded that it had the authority to offer credits for emission reducing technologies under the off-cycle program.

    - Section 32904 of EPCA gives EPA the authority to measure fuel economy for vehicles and calculate average fuel economy for manufacturers. Pursuant to this statutory provision, in 2012, the prior Administration concluded that it had the authority to give credit for fuel economy improving technologies under the off-cycle program as a part of the fuel economy calculation process, and offered this credit starting in FY 2017. See 2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards, 77 Fed. Reg. 62,624, 62,628, 62,649-50, 62,961, 63,125 (Oct. 15, 2012) ("2012 Final Rule").

- The current Off-Cycle Credit Program is located at 40 C.F.R. § 86.1869–12 ("CO2 credits for off-cycle CO2–reducing technologies"). A new initiative for autonomous vehicle/safety technologies could be inserted in this regulation, or in a separate regulation in 40 C.F.R. Part 86, Subpart S ("General Compliance Provisions for Control of Air Pollution from New and in–Use Light–Duty Vehicles, Light–Duty Trucks, and Heavy–Duty Vehicles"). In addition to the Off-Cycle Credit Program, EPA's regulations crediting other efficiency improvements (e.g., air conditioning efficiency) are also included in this subpart. Depending on where the new provisions are inserted, changes may also need to be made to 49 C.F.R. § 531.6, which allows for off-cycle credit for the fuel economy program by cross-referencing EPA's off-cycle regulation at 40 C.F.R. § 86.1869–12. Any new regulation would need to also be cross-referenced here.

- The current regulation contains a limitation that restricts the eligibility of safety technologies for off-cycle credit: "Off-cycle credits may not be approved for crash-avoidance technologies, safety critical systems or systems affecting safety-critical functions, or technologies designed for the purpose of reducing the frequency of vehicle crashes. Off-cycle credits may not be earned for technologies installed on a motor vehicle to attain compliance with any vehicle safety standard or any regulation set forth in Title 49 of the Code of Federal Regulations." 40 C.F.R. § 86.1869-12(a).

    - This language would need to be amended. However, the agencies are permitted to change their prior position in a notice-and-comment rulemaking (as long as they

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acknowledge the change and provide an explanation for it) and can amend this regulation to allow for credit to be provided for safety-related technologies. See FCC v. Fox Television Stations, Inc., 556 U.S. 502, 514-15 (2009).

- It is important to note that the prior Administration's decision to disallow off-cycle credit for safety technologies was framed as a policy decision, rather than a decision based on a lack of statutory authority. Part of the logic for this previous limitation was that these technologies improve the fuel economy of other vehicles (or the fleet as a whole) rather than the efficiency of the specific vehicle on which they are installed. See 2012 Final Rule at 62,732-33. However, fuel economy standards apply to manufacturer fleets, rather than specific vehicles, so this should not disqualify safety technology from being eligible for credit—especially in light of the fact that EPA applies the off-cycle improvement value at the fleet level. See 2012 Final Rule at 62,839 ("The [fuel economy] improvement value for off-cycle improvements will be determined at the fleet level[.]"). Other reasons for the prior Administration's failure to recognize the benefits of safety technologies were related to its ability to quantify the benefit provided, and that it thought that such technologies were better promoted under NHTSA's safety authority. The new administration is free to revisit these policy choices. This is the purpose of the proposed "test" program as opposed to a final or permanent credit.

2. *Extending the multipliers for advanced fueled vehicles*

- Pursuant to its authority under Section 202 of the Clean Air Act, EPA adopted multipliers for advanced fuel vehicles during the FY 2017-2025 timeframe. See 2012 Final Rule at 62,812-62,816.

- EPA's regulation at 40 C.F.R. § 86.1866-12(b) provides the authority for these multipliers for the purposes of credit under EPA's GHG emissions program, and reduces credits from 2017 to 2021, when they are phased out.

  - EPA can amend this phase-out provision through notice and comment rulemaking to extend these multipliers past 2021.

  - Note, that in the 2012 Final Rule, EPA stated that "EPA disagrees with those commenters that support higher multipliers and/or multipliers of longer duration, as we believe that such incentives could lead to a significant reduction in program GHG savings, particularly if EV/PHEV/FCV sales increase significantly after MY 2021." See 2012 Final Rule at 62,813. EPA has thus previously stated that multipliers should only extend to 2021. As noted above, EPA is permitted to change its position, but it should be sure to explain its rationale and acknowledge its prior statements on the issue if it reverses it prior rulemaking.

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- It is important to note that, under the prior Administration, NHTSA has interpreted its authority to offer advanced fuel incentives more narrowly and did not offer multipliers for fuel economy purposes. See 2012 Final Rule at 62,628 ("NHTSA currently interprets EPCA and EISA as precluding it from offering incentives for the alternative fuel operation of EVs, PHEVs, FCVs, and NGVs, except as specified by statute, and thus did not propose and is not including incentive multipliers comparable to the EPA incentive multipliers."); see also id. at 62,651.

    - 49 U.S.C. §§ 32904, 32905, 32906 are statutory provisions that contain specific fuel economy incentives for various kinds of alternative fuel vehicles. The prior Administration thus concluded that these provisions should govern the incentives provided to such vehicles. As NHTSA has explained: "Because 49 U.S.C. 32904(a)(2)(B) expressly requires EPA to calculate the fuel economy of electric vehicles using the Petroleum Equivalency Factor developed by DOE, which contains an incentive for electric operation already, 49 U.S.C. 32905(a) expressly requires EPA to calculate the fuel economy of FCVs using a specified incentive, and 49 U.S.C. 32905(c) expressly requires EPA to calculate the fuel economy of natural gas vehicles using a specified incentive, NHTSA believes that Congress' having provided clear incentives for these technologies in the CAFE program suggests that additional incentives beyond those would not be consistent with Congress' intent. Similarly, because the fuel economy of PHEVs' electric operation must also be calculated using DOE's PEF, the incentive for electric operation appears to already be inherent in the statutory structure." Id. at 62,651 n.87.

    - Under NHTSA's prior interpretation, a statutory amendment may be necessary to provide certain types of fuel economy incentives to alternative fuel vehicles.

ED_002480_00066958-00008

Message

From: David Schwietert [DSchwietert@autoalliance.org]
Sent: 8/1/2018 8:28:26 PM
To: Wheeler, Andrew [wheeler.andrew@epa.gov]; Wehrum, Bill [Wehrum.Bill@epa.gov]; Jackson, Ryan [jackson.ryan@epa.gov]
CC: Mitch Bainwol [MBainwol@autoalliance.org]
Subject: Auto statement on NPRM

Acting Administrator Wheeler and Assistant Administrator Wehrum,

Understanding that things may be getting close regarding the release of the joint NPRM for CAFE and GHG Standards, below is the joint statement that the Alliance and Global Automakers plans to issue publicly. We sincerely appreciate the work EPA has done, including the Final Determination in April that has allowed a joint proposal with various options to be put forward for public consideration.

Both associations also plan to send a follow up letter to President Trump – likely a day after the NPRM is released and I'll ensure you get a copy when its transmitted.

We look forward to working with you as the next phase of the rulemaking process begins.

Thanks,

Dave

EMBARGOED UNTIL DOT/EPA RELEASE THE NOTICE OF PROPOSED RULEMAKING:

Today DOT and EPA jointly released their proposed rule for future vehicle efficiency standards to seek consideration of and comments on a range of scenarios. This is the process included as part of the 2012 joint rulemaking between the federal government and California to ensure fuel economy standards are based on the best available data and reflect marketplace realities, and we will be offering feedback during the comment period.

Today, the Auto Alliance and Global Automakers release this statement:

"We applaud the President and the Administration for releasing this much anticipated proposal that includes a variety of standards for public consideration. Automakers support continued improvements in fuel economy and flexibilities that incentivize advanced technologies while balancing priorities like affordability, safety, jobs, and the environment. With today's release of the Administration's proposals, it's time for substantive negotiations to begin. We urge California and the federal government to find a common sense solution that sets continued increases in vehicle efficiency standards while also meeting the needs of America's drivers."

David Schwietert
Executive Vice President, Federal Government Relations & Public Policy
P: 202-326-5521 | dschwietert@autoalliance.org

AUTO ALLIANCE
DRIVING INNOVATION℠

ALLIANCE OF AUTOMOBILE MANUFACTURERS
803 7th Street, NW
Suite 300
Washington, DC 20001
Main Phone: 202-326-5500
Main Fax: 202-326-5567

https://autoalliance.org/

Curious to know how the Auto sector impacts your state or district -- Click here. To get a better understanding of how America's automobile industry is one of the most powerful engines driving the U.S. economy, click here.

Message

From: IEDC [iedcnews@iedconline.org]
Sent: 8/3/2018 3:02:59 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Annual Conference Spotlight: Federal Reserve President + Saturday Special Events

SHARE THE ANNUAL CONFERENCE:

Keynote Speaker Spotlight

Raphael Bostic, PhD
CEO and President
Federal Reserve Bank of Atlanta
Atlanta, GA

As the Federal Reserve Bank of Atlanta's 15th CEO and President, Dr. Bostic is responsible for all of the bank's operational activities, including monetary policy, bank supervision and regulation, and payment services. In addition, he serves on the Federal Reserve's chief monetary policy body, the Federal Open Market Committee (FOMC). Dr. Bostic is also the Federal Reserve Bank's first African American CEO and President. Watch Dr. Bostic share his views on how policy impacts both the national and local economy.

What will Dr. Bostic share with us at the **Monday Morning Plenary Session?**

1. The Federal Reserve's vision on inclusive economic development and why it's important
2. The intersection between housing and economic development
3. How the recent increase in interest rates can impact commercial development in your community
4. How changes in monetary policy impact foreign investment
5. The Federal Reserve's role in creating an inclusive economy

Be sure to attend this session, Monday, October 1, from 8:00 a.m. to 10:00 a.m.!

The early bird extension ends today!

REGISTER

Interested in being a session speaker at this year's Annual Conference? There are only a few speaker slots remaining! Fill out the Speaker Interest Form and we will be in touch with a potential opportunity.

Saturday Special Events

Come to Atlanta early and spend the day before the conference outdoors with fellow economic development professionals at one of these special events!

Saturday, September 29

8:00 a.m. - 3:00 p.m.
Golf Outing at Golf Club of Georgia
Price: $100
Join fellow golfers at the Golf Club of Georgia in Alpharetta! Golf Club of Georgia was designed by the famous golf designer Arthur Hills and is consistently recognized as one of the finest 36-hole golf clubs in the country.

10:00 a.m. - 5:00 p.m.
Tennis at South Fulton Tennis Center
Price: $55
IEDC's first-ever tennis outing will be a unique opportunity to network with colleagues one-on-one in a laid back setting. South Fulton Tennis Center is one of the premier tennis academies in the country and completely renovated with 20 hard courts and four clay courts. No equipment needed, rentals will be available on site.

12:30 p.m. - 5:00 p.m.
Volunteer Service Project
Price: $15
Join colleagues for a pre-conference service project as we partner up with Park Pride to keep community parks a vital part of the city. We will walk from the hotel to two downtown parks and work on landscaping projects such as gardening and mulching throughout the parks. Dress for the outdoors and plan to get your hands dirty! The registration fee covers a volunteer t-shirt.

Park Pride is a nonprofit organization that engages communities in their neighborhood parks through volunteer projects, community gardens, and community-led park redesigns, and by providing grants for capital park improvements.

IEDC is a non-profit, non-partisan membership organization serving economic developers. With more than 5,000 members, IEDC is the largest organization of its kind. Economic developers promote economic well-being and quality of life for their communities by creating, retaining and expanding jobs that facilitate growth, enhance wealth and provide a stable tax base. From public to private, rural to urban and local to international, IEDC's members are engaged in the full range of economic development experience. Given the breadth of economic development work, our members are employed in a wide variety of settings including local, state, provincial and federal governments, public-private partnerships, chambers of commerce, universities and a variety of other

institutions. When we succeed, our members create high-quality jobs, develop vibrant communities, and improve the quality of life in their regions.

734 15th Street NW, Suite 900
Washington DC, 20005
Phone: 202.223.7800

Official Hashtags: #IEDC #EconDev

To be removed from this mailing list, please click here.

Message

From: Belcher, Leslie [lbelcher@steptoe.com]
Sent: 7/23/2018 2:15:10 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Belcher, Leslie [lbelcher@steptoe.com]
Subject: Meeting request

Hi Ryan,

I would like to bring in clients, NACS and NATSO, to meet with you in the next few weeks. Do you have time August 2nd or the week of August 6th?

Thanks for your consideration. Gratefully,
Leslie

Leslie Belcher
Managing Director, Govt Affairs & Public Policy
lbelcher@steptoe.com

Steptoe

+1 202 429 3906 direct
+1 202 429 3902 fax

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Message

From: COOP & Emergency Planning in Gov Workshop XXVI [Training@COOP.PotomacForum.org]
Sent: 7/12/2018 5:33:05 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Register for Early Bird Discount - COOP Training Workshop to Fine Tune Your Agency Planning

Please Forward to Others In Your Organization Responsible for Developing, Reviewing or Oversight of Emergency Planning

Continuity of Operations (COOP) in Government
Training Workshop XXVI
(the 26th offering of this highly successful training)
Preparing Your Agency for a Disaster or Emergency

Willard InterContinental Hotel
Washington, D.C.

Two Full Days of Intensive Training
September 25-26, 2018
(Tuesday & Wednesday)

sponsored by
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Government Speakers

Keynote: Director Richard M. Chávez
Director, Office of Operations Coordination, DHS
U.S. Government Senior Executive Continuity Coordinator
Reporting Directly to Secretary of DHS
--
Veronica (Roni) M. Glass
Deputy Director, Continuity Division
Office of Operations Coordination
DHS

--

Kenneth Briscoe
Chief, Readiness Branch
Continuity Division
Office of Operations Coordination
DHS

--

Calvin W. Turner, Jr.
Director, National Finance Center, USDA
(NFC is the "Poster Child" for Data Center Relocation & Reconstitution)
(awaiting Agency approval)

--

Joe Douglas, ABCP
Continuity Program Manager, USITC

--

Overview:
Government and Industry Leaders Present Practical Solutions to Government Continuity of Operations Requirements.

This is a "How To" workshop "with proven instructors and guest speakers. Rated as "Excellent" the previous 25 workshop sessions!

Overview:

- *Hurricane season is now through October. With last year's series of natural disasters in Texas, Louisiana, Puerto Rico, Virgin Islands, and the crippling winter storms in the Northeast, is your organization fully prepared to cope with a catastrophic event?*

- *Is your preparation adequate to maintain continuity of your government functions?*

- *Learn from others including the Director of the Department of Agriculture National Finance Center whose proven leadership successfully implemented a COOP plan and continued mission essential functions during a hurricane that destroyed his facility.*

- *Learn New COOP Requirements, Federal Government Policy, Best & Proven Practices and what they mean for your organization.*
- *The Federal Government's continuity requirements are currently being updated and this workshop will address new developments and how it will impact your organization.*
-
- *New emphasis has been placed on Federal Career and Newly Appointed Leadership to insure continuity in all mission aspects.*

- *There will be no excuses for lack of performance in the event of an emergency. Your agency leadership is more dependent than ever on its COOP personal.*

Demonstrated Commitment to Value and Performance: Potomac Forum is so confident that each and every attendee will be pleased with the information presented and its value to the government that Potomac Forum will provide a FULL RETURN OF REGISTRATION FEE for any student that does not find the two day workshop of value to their organization.

Consider this Workshop...

- *If you have recently taken over an existing COOP Program and want to ensure that it is up to speed with the industry's best practices*
- *If you have a COOP Program that is just taking off*
- *If you have an established COOP Program and need to find new areas to quickly and easily improve*
- *If you are looking for ways to make your COOP Program execute effectively on a "bad day"*
- *If you are new to the Federal COOP environment*
- *If you are in top leadership and need to learn more about what you are "on the hook" for within COOP*
- *If you are not satisfied with your current agency COOP Plan or Policy*
- *If you have new Agency Leadership and want to be better prepared to discuss COOP*
- *If you want to discuss your COOP planning with other Government experts*
- *If you want to "fine tune" or "Refresh" your knowledge of COOP and current thoughts, regulations, and guidance.*

... then this is the training for you to deliver a practical and sustainable COOP Program that complies with government regulations, best practices and effective management.

Who Should Attend:

- *Program Managers responsible program operation*
- *Senior Leadership who own the COOP Program*
- *Senior Leadership who is Accountable for COOP Planning, Policy and/or Implementation*
- *Middle managers and staff tasked with the development and implementation of COOP*
- *Facility managers of Alternate and Emergency Relocation Sites*
- *IT Managers and Staff tasked with Information Systems Contingency Planning according to NIST SP800-34 Rev. 1 Guidance*
- *IGs, QA Managers and Staff*
- *Procurement Staff responsible for COOP Contracting*

- *Human Resource Managers and Supervisors responsible for Implementing COOP Telework and tracking personnel during emergencies*
- *State and Local Government COOP Planners*
- *Industry managers and staff supporting the government*

While this workshop is focused on federal COOP, many State and Local Governments have attended and found the information relevant and useful

For Information or Registration:
www.potomacforum.org
or Call (703) 683-1613

Federal, State and Local Government & Industry Invited to Register
Press is NOT Invited to Attend to Permit Candid Discussion Among the Attendees

"Send-A-Team" Reduced Registration Fee
"Early Bird" Reduced Registration Fee

Comments from Previous COOP Workshop Government Attendees (from student evaluations)

Speakers were fantastic! Very informative and great interchange.
Keep up the good work. I will be back for other training.
Security Manager
Executive Office of the President

I learned a lot and gained so much knowledge about the subject.
I didn't know Telework is so important to support during COOP.
Thanks for support of Golv Agencies - Thanks for great speakers and various great subjects.

Enjoyed very much every instructors' presentations
Great breakfast, snacks and Lunch.
Telecom Specialist
Dept of State

One of the best workshops I have attended!
Great presenters.
Government Attendee

I thought the presenters were very compelling and that the information was well organized
GPO attendee

Great overall workshop! Loved all the presenters
Lead
Census Bureau
--*Well worth my time being out of the office for 2 days*
Financial Analyst
US Coast Guard

As the local level funds are limited. This workshop was self funded, but knowledge was outstanding that was worth the value to me in my position. Wonderful Networking opportunity
Emergency Management Coordinator
Sheriff's Office - Emergency Management
County in Wisconsin

"Early Bird" Reduced Registration Fee - Now

"Send-A-Team" Registration Fees

Workshop Available to Government & Industry Partners

For Registration or Information
www.PotomacForum.org

Call: (703) 683-1613

Info@potomacforum.org

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Thank You.

This email was sent to: jackson.ryan@epa.gov

Go here to leave this mailing list or modify your email profile.
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Potomac Forum, Ltd.

This email was sent by: **Potomac Forum, Ltd.**
400 North Washington Street , Alexandria , Virginia, 22314 , USA

Message

From: sreece@depausa.org [sreece@depausa.org]
Sent: 7/13/2018 8:10:14 PM
To: 'Peter Regan' [pregan@depausa.org]; Jackson, Ryan [jackson.ryan@epa.gov]
CC: Dickerson, Aaron [dickerson.aaron@epa.gov]; Willis, Sharnett [Willis.Sharnett@epa.gov]
Subject: RE: Schedule
Attachments: Schedule 7.13.18.pdf

Good afternoon Mr. Jackson,
Pete asked that I send over a copy of our schedule. Please see attachment. Please feel free to reach out to me with any questions.

Thank you for your time,
Sarah

Sarah Reece
Domestic Energy Producers Alliance (DEPA)
PO Box 53038
Oklahoma City, OK 73152
Work (405) 669-6646
sreece@depausa.org
www.depausa.org

-----Original Message-----
From: Peter Regan <pregan@depausa.org>
Sent: Friday, July 13, 2018 10:51 AM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Cc: Ms. Sarah Reece <sreece@depausa.org>; Dickerson, Aaron <dickerson.aaron@epa.gov>; Willis, Sharnett <Willis.Sharnett@epa.gov>
Subject: Re: Schedule

25ish.

A lot of peeps can stand and I can also limit.

How much do you have room for?

Peter J. Regan
Executive Director
Domestic Energy Producers Alliance (DEPA) PO Box 53038 Oklahoma City, OK 73152
405-669-6646
pregan@depausa.org
www.depausa.org

> On Jul 13, 2018, at 10:26 AM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>
> How many people is it if we wanted to do something at EPA?
>
> -----Original Message-----
> From: Peter Regan [mailto:pregan@depausa.org]
> Sent: Friday, July 13, 2018 11:18 AM
> To: Jackson, Ryan <jackson.ryan@epa.gov>; Ms. Sarah Reece
> <sreece@depausa.org>
> Subject: Schedule
>
> Hi Mr. Jackson,
>
> The best times for our mtg would be:
> 1. Thur, 7/19, 8:30-9:30 window, EPA
> Would only need 30 mins to visit.
>
> 2. Wed, 7/19, 9:30-10:30am, Hotel
>
> Do either of these times work?
> If both work - we prefer Wed.
>
> Sarah. Pls “reply all” w the schedule.
>
> Thanks so much,
> -Pete

> Ex. 6
>
>
>
> Peter J. Regan
> Executive Director
> Domestic Energy Producers Alliance (DEPA) PO Box 53038 Oklahoma City,
> OK 73152
> 405-669-6646
> pregan@depausa.org
> www.depausa.org

DEPA

DOMESTIC ENERGY PRODUCERS ALLIANCE

Washington DC Fly In | July 17th – 19th

Tuesday, July 17th | Franklin Study/First Floor

3:00 PM	Event Registration Open
3:00 PM - 6:00 PM	Pre-Functioning Networking
6:30 PM	Cocktails
7:00 PM	Dinner Guest Speakers: Deputy Secretary of the Interior David Bernhardt Representative Henry Cuellar (D-TX)
8:00 PM	Nightcap on the Benjamin Terrace Guest Speaker: Deputy Secretary of the Department of Energy Dan Brouillette

Wednesday, July 18th | Lincoln Library/First Floor

7:30 AM	Registration
8:00 AM	Breakfast
8:15 AM	Representative William Hurd (R-TX)
8:30 AM	Deputy Assistant Secretary of the Department of Energy Shawn Bennett
10:30 AM	Break
11:00 AM – 12:00 PM	DEPA Board Meeting; Call in available (Closed Meeting) Guest Speaker: Majority Leader Kevin McCarthy (R-CA)
12:00 PM	Break
12:30 PM– 1:30 PM	DEPA Lunch Guest Speaker: Senator Todd Young (R-IN)
1:30 PM - 2:00 PM	Break
12:30 PM - 2:00 PM	CSA Lunch & Board Meeting; Call in available (Closed Meeting)
2:00 PM	Senator Dan Sullivan (R-AK)
2:45 PM	Guest Speaker: President of America First Action, Brian Walsh

3:30 PM	Meeting with Senator Barrasso (Transportation on your own) Dirksen Senate Office Building NE of the Capital, adjoining the Hart Senate Office Building on a site bounded by Constitution Ave., Second St., First St., and C St., NE
4:45 PM	Majority Leader McConnell Fundraiser (Transportation on your own) 220 E. NE
	Please make checks payable to McConnell For Majority Leader
6:30 PM	Cocktails in Lincoln Library
7:00 PM	Dinner Guest Speaker: Secretary of the Interior Ryan Zinke

Thursday, July 19th

8:30AM	Meet in the lobby of the hotel to walk to the EPA
8:45 AM	Coffee Meet & Greet with the Environmental Protection Agency 1200 Pennsylvania Ave. NW
9:15 AM	Meeting with Senator Jon Tester Meeting (Transportation on your own) 311 Hart Senate Office Building

Message

From: Binder, Gordon [gordon.binder@wwfus.org]
Sent: 7/18/2018 2:40:35 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: checking back about Reilly meeting

202-495-4392 is direct

From: Jackson, Ryan <jackson.ryan@epa.gov>
Sent: Wednesday, July 18, 2018 10:10 AM
To: Binder, Gordon <gordon.binder@wwfus.org>
Subject: RE: checking back about Reilly meeting

Can you provide me a good phone number for you? Thanks.

From: Binder, Gordon [mailto:gordon.binder@wwfus.org]
Sent: Wednesday, July 18, 2018 9:25 AM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: checking back about Reilly meeting

Marc shared your email

To make easier to reply and arrange for a date/time for Bill Reilly to meet with the Acting Administrator

Gordon Binder

Message

From: Mike Flynn Ex. 6
Sent: 7/12/2018 1:05:52 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: Thursday

Indeed. A smart one you are Tonto.

Sent from my iPhone

> On Jul 7, 2018, at 6:24 PM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>
> "Interesting times indeed, Kemosabe." Tonto.
>
>
>
> Ryan Jackson
> Chief of Staff
> U.S. EPA
> 202-564-6999
>
>
>> On May 10, 2018, at 2:48 PM, Mike Flynn Ex. 6 wrote:
>>
>> Sorry I missed you this am. Surprise, surprise, you were tied up. Had a good conversation with Andrew.
>>
>> Hope things finally resolve themselves.
>>
>> "Patience you must have my young Palawan." Yoda
>>
>> Best,
>> Mike
>>
>>
>> Sent from my iPhone
>>
>>> On May 9, 2018, at 8:53 AM, Mike Flynn Ex. 6 wrote:
>>>
>>> And you are an interesting man in an interesting time.
>>>
>>> Sent from my iPhone
>>>
>>>> On May 9, 2018, at 6:53 AM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:
>>>>
>>>> Good.
>>>>
>>>> Yes, I do live in interesting times.
>>>>
>>>>
>>>>
>>>>
>>>>
>>>>
>>>>
>>>> Ryan Jackson
>>>> Chief of Staff
>>>> U.S. EPA
>>>> 202-564-6999
>>>>
>>>>
>>>>> On May 8, 2018, at 9:00 PM, Mike Flynn Ex. 6 wrote:
>>>>>
>>>>> Ryan,
>>>>>
>>>>> I'm meeting with Andrew on Thursday morning and will swing by to see if I can catch you to say hello. I know the last month has been 'interesting' for you - hope you are doing ok.
>>>>>
>>>>> Best,
>>>>> Mike
>>>>>
>>>>>

>>>>>
>>>>> Sent from my iPhone
>>

Message

From: IEDC [iedcnews@iedconline.org]
Sent: 7/23/2018 6:00:12 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Now: How Green Banks Finance Sustainability & What You Should Know About Economic Gardening

JULY 23, 2018 | VOLUME 18 | ISSUE 14

Green Banks Unlock Financing for Sustainable Economic Development

Switching to renewable energy can save businesses money in the long run, but be costly up front. Green banks, previously only found at the state level, are now operating in cities and counties to provide low-interest loans that facilitate renewable energy projects.

» Read more

What You Should Know About Economic Gardening

This economic development strategy - in which customized services are provided to help second-stage companies grow - is now in use in dozens of communities large and small throughout the U.S. Here are some insights on the practice and tips on how to start gardening in your community.

"It's hard for venture capitalists to know what the next big thing in tech will be. It's even harder for planners and mayors."

University of California-Berkeley Professor Enrico Moretti

The U.S. Department of Commerce has received more than 20,000 applications to exempt certain products from new steel and aluminum tariffs (New York Times).

Webinar: The Changing Energy Landscape

This webinar takes stock of current trends and looks beyond the horizon toward America's energy future. Based on

» Read more

Visit the *Economic Development Now* homepage to view all the posts below and more.

Finance & incentives

- A nonprofit alternative to payday lending
- In a win for transparency, San Antonio creates incentives database

Workforce

- The opioid epidemic's devastating impact on the U.S. workforce
- Too many jobs, not enough workers

Other links of interest

- Is automation really killing jobs?
- Ten years after catastrophic flood, Cedar Rapids is booming

---

DOT announces $1.5 billion in infrastructure grants
This is the first round of Infrastructure for Rebuilding America (INFRA) grants under the "One Federal Decision" policy, which will accelerate the environmental review process to reduce project delays.

EDA launches 2018 RIS program competition
With $21 million available, the Regional Innovation Strategies program builds innovation capacity through two separate grants: the i6 Challenge and the Seed Fund Support (SFS) Grant competitions.

IEDC's recent report *The Changing Energy Landscape and Its Impact on Economic Development in America*, the webinar will take place **Thursday, July 26 at 2:30** and explore how economic developers are working to stabilize their communities, meet demands of businesses, and maximize opportunities created by energy market transformations.

EDA's Economic Development Assistance Program (EDAP) Accepting Applications

The U.S. Economic Development Administration's EDAP program provides funding for construction, non-construction, planning, technical assistance, and revolving loan fund projects under its Public Works and Economic Adjustment Assistance programs.

Conferences

2018 Annual Conference
Sept 30 - Oct 3 | Atlanta

Webinars

The Changing Energy Landscape and Its impact on Economic Development in America
July 26

Free: Don't Be Afraid of Disruptive Real Estate Tech!
August 16

Affordable Housing & Economic Development - A Rural Approach

EDA announces development of FDI toolkit for local communities
In collaboration with SelectUSA, the U.S. Economic Development Administration is developing a toolkit that will help communities implement best practices in FDI attraction and export promotion.

House approves minibus bill with Energy and Water funding
The 2019 "minibus" appropriations package, that consists of three bills, was opposed by many Democrats due to provisions in the Energy and Water portion they argued would weaken environmental protections and hinder renewable energy development.

- Saralynn Stafford, CEcD, has been hired by the University of Georgia to serve as a liaison between the UGA and elected officials serving in rural communities. Stafford currently serves as director of rural policy and external affairs for Atlanta based OneGeorgia Authority.

- Jim Schuessler has been named the new executive director of the Door County Economic Development Corporation (Wisc). Schuessler was previously the business development manager for the Sheboygan County Economic Development Corporation (Wisc).

- Jonathan Bowser will be leaving his role as CEO of Cumberland Area Economic Development Corporation (Penn.) to take a job in the private sector.

- Cheney Thomasson has been hired by the Augusta Economic Development Authority (Georgia) to serve as its existing industry coordinator. Thomasson previously worked with the Lower Savannah Council.

Request for Qualifications, City of Rock Island (Rock Island, IL)

The City of Rock Island is requesting qualifications from qualified consultants for contracted services to be provided by an individual or firm. Services are to include, but not limited to, updating the

August 23

The Economic Development Website of the Future: 5 Predictions
September 6

Community Startups Need Help! What's Your Strategy?
September 13

Free: The Inside Scoop on the Data Site Selectors Want to See
September 20

Training Courses

Economic Development Credit Analysis
July 25-27 | San Antonio, TX

Business Retention and Expansion
August 16-17 | Denver, CO

Workforce Development Strategies
September 27-28 | Atlanta, GA

Economic Development Marketing and Attraction
October 11-12 | Calgary, AB

Business Retention and Expansion
October 18-19 | Toronto, ON

Entrepreneurial and Small Business Development Strategies
October 25-26 | Chapel Hill, NC

Real Estate Development and Reuse
November 1-2 | Phoenix, AZ

Managing Economic Development Organizations
November 8-9 | Baltimore, MD

Commercial and Industrial Revolving Loan Fund Policies and Procedures manual to include the following Code of Federal Regulations: 24 CFR 570.506, 24 CFR 570.207, 24 CFR 570.208, 24 CFR 570.502, and 24 CFR 570.203 and develop new underwriting guidelines and loan documents that include the above referenced CFR and assist with the development of a Section 108 Loan Program and related documents.

For further information or questions regarding the content of this Request for Qualifications, contact:

Chandler Poole
Community and Economic Development Director
City of Rock Island
1528 3rd Avenue
Rock Island, Illinois 61201
(309) 732-2921
Poole.chandler@rigov.org

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July 23, 2018
- Economic Development Specialist, Palm Beach County (West Palm Beach, FL)
- Program/Project Coordinator Senior, Broward County (Fort Lauderdale, FL)
- President & Chief Executive Officer, Joplin Area Chamber of Commerce (Joplin, MO)
- Business Manager - Engagement and Operations, Blueprint Intergovernmental Agency (Tallahassee, FL)
- Vice President, Business Development, Savannah Economic Development Authority (Savannah, GA)
- Economic Development Director, Person County Government (Roxboro, NC)
- Managing Director, Wilmington Renaissance Corporation (Wilmington, DE)
- Vice President Economic Development, Bowling Green Area Chamber of Commerce (Bowling Green, KY)

July 16, 2018
- Director Business Attraction, WindsorEssex Economic Development

We're interested in your feedback, suggestions for subjects to cover, and guest author inquiries. Contact Managing Editor Louise Anderson (landerson@iedconline.org) or Associate Editor Eli Dile (edile@iedconline.org) with your ideas or interest.

Corporation (Windsor, ON)
- Business Development/Marketing Manager, Florida's Great Northwest (Niceville, FL, near Destin in the Florida Panhandle)
- Business Manager, Virginia Economic Development Partnership (Richmond, VA)
- Economic Development Director, GRO Marshfield (Marshfield, MO)
- State Director, Kentucky Small Business Development Center - University of Kentucky (Lexington, KY)
- Economic Development Specialist, City of Mesa Office of Economic Development (Mesa, AZ)
- Economic Development Specialist, Palm Beach County (West Palm Beach, FL)
- Program/Project Coordinator Senior, Broward County (Fort Lauderdale, FL)
- President & Chief Executive Officer, Joplin Area Chamber of Commerce (Joplin, MO)

July 9, 2018
- Director of Site/Product Development, SC Power Team (Columbia, SC)
- Economic Development Coordinator, Boulder City (Boulder City, NV)
- Director of Strategic Initiatives, Montgomery County Economic Development Corporation (Rockville, MD)
- Economic Development Director, City of Roseville (Roseville, CA)
- President/CEO, AR-TX Regional Economic Development Inc. (TX)
- Economic Development Director, City of Goodyear (Goodyear, AZ)
- Economic Development Specialist, City of Mesa (Mesa, AZ)

July 2, 2018
- Economic Development Director, City of Laredo, Texas (Laredo, TX)
- Director of Business Recruitment, Douglas County Economic Development Authority (Douglasville, GA)
- Director of Economic Development, City of Coral Springs (Coral Springs, FL)
- Business Development Specialist, Athens-Clarke County Unified Government / Economic Development Department (Athens, GA)
- Economic Development Manager, City of Buckeye (Buckeye, AZ)
- Economic & Business Development Manager, Appalachian Power Company (Charleston, WV)

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jobs that facilitate growth, enhance wealth and provide a stable tax base. From public to private, rural to urban and local to international, IEDC's members are engaged in the full range of economic development experience. Given the breadth of economic development work, our members are employed in a wide variety of settings including local, state, provincial and federal governments, public-private partnerships, chambers of commerce, universities and a variety of other institutions. When we succeed, our members create high-quality jobs, develop vibrant communities, and improve the quality of life in their regions.

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Message

From: Lorman OnDemand Webinars [customerservice@lorman-webinar.com]
Sent: 7/23/2018 12:47:21 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Current Issues With Algae and Water Quality - OnDemand Webinar

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The occurrence of cyanobacterial blooms in marine, brackish and freshwater is a worldwide phenomenon. One third of the 50 genera of freshwater cyanobacteria are capable of producing toxins. Recognizing the potential health risk, Canada, the United Kingdom, Australia and many European countries have established guidelines for the level of cyanobacterial toxins permissible in drinking and recreational waters. The United States has acknowledged cyanotoxins as a potential health risk by placing them on the United States Environmental Protection Agency (U.S. EPA) drinking water Contaminant Candidate List (CCL). Cyanotoxins have been on a CCL since 1998. Recent research preformed by National Oceanic and Atmospheric (NOAA), U.S. EPA, United States Geological Survey (USGS), United States Department of Agriculture (USDA) and academic institutions show nationwide impairment of freshwater sources by toxic algae.

This OnDemand Webinar educates and informs water resource managers, environmental health practitioners, health professionals, and utility operators and managers about the environmental and human health risk of freshwater harmful algae blooms. The OnDemand Webinar reviews real-time monitoring tools which are being used in early warning models for HABs. This program provides the tools for water managers to make informed decisions regarding HABs to reduce the risk to the environment and human health.

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Message

From: Chuck Cunningham [ccunningham@secureenergy.org]
Sent: 7/16/2018 4:20:18 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: Very Timely and Important Matter

Importance: High

Can you help find an opening in the schedule of the Administrator to meet with Fred Smith, Chairman and CEO of FedEx Corporation, this Wednesday while he is in town?

From: Chuck Cunningham
Sent: Monday, July 16, 2018 11:16 AM
To: Jackson, Ryan (Pruitt) <Jackson.Ryan@epa.gov>
Subject: Very Timely and Important Matter
Importance: High

Ryan:

Can you call me at Ex. 6 to discuss? Really need your help. Thanks.

Chuck Cunningham

Message

From: Big Data In Government Leadership & Mgmt [PotomacForum@BigDataLeadership.org]
Sent: 7/23/2018 5:32:15 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Register for: Chief Data Officer Perspectives on Gov Big Data

Leverage Big Data by Attending Data-Centric Leadership Workshop -
- Just Announced -
Please Forward to Others in Your Agency -
"Early Bird" Registration Until Aug 4th -

Data-Centric Leadership for Government in the Post Big Data Era Training Workshop

What government executives, managers, and staff need to know to better leverage your organization's data by managing less of it, increasing the quality of what remains, and making that data more shareable

Wednesday, August 22, 2018
Willard InterContinental Hotel
Washington, D.C.

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Government Keynote Speakers
Dan Morgan
Chief Data Officer
Office of the CIO
Department of Transportation (DOT)

John Minkoff
CDO, Enforcement Division

Federal Communications Commission (FCC)
==========
Guest Speakers
Peter Aiken
Founding Director
Data Blueprint
(Associate Professor,
Virginia Commonwealth University)

Todd Harbour
Chiief Data Officer
New York State

Kevin Garrison
Principal Director and Director of Analytics
Deputy Chief Information Officer for
Business Process and Systems Review
Department of Defense

Elliot Chikofsky
Chief Data Officer
PathBridge

Linda Powell
Chief Data Officer
Consumer Financial Protection Bureau
Awaiting Agency Approval

Additional Speakers to Be Announced Shortly

Overview:
We have all seen the results of the big data hype. Big data projects fail at the same alarming rate (2/3rds consistently fail to meet functionality, date or cost plans) that characterize IT investments in general. The failure of big data can be attributed to three specific factors:

1) Without an agreed upon definition of big data all results (measurements, claims of success, quantification) were correctly viewed skeptically and with suspicion!

2) The vast majority of these initiatives were implemented as projects with our corresponding programmatic sponsorship, and

3) These projects were implemented as technology-first initiatives.

This workshop presents the tenants of a data-centric approach to organizational problem solving as necessary but insufficient prerequisites to advantageous data leveraging.

These include:
1. Preparing for dramatic change and accurately describing the work that must be done,
2. Understanding the need for and recruiting qualified, knowledgeable enterprise data talent, and
3. Eliminating the Seven Deadly Data Sins.

Accomplishing these will show you how to recognize opportunities, 'size up' required investments, and properly supervise efforts to properly leverage your data. **This is workshop designed and focused for Federal , State and Local Government Executives, Managers and Staff and Industry Partners**

Press is NOT Permitted to encourage candid discussion.

Why You Should Attend:

- This Workshop provides latest thinking around data that requires a different (updated) perspective that has been offered in the past.
- Data-centric organizational practices can be more usefully defined in objective terms permitting easier implementation.
- Key to data success is to first refine, then improve/share.
- Learn to express data goals and timeframes is ways that get folks thinking in terms of decades but in ways that can show periodic deliverables.
- Very little of this material is incorporated into formal education programs.

Who Should Attend:

Government executives, managers and staff (Federal, State and Local) embarking on either IT or business improvement related initiatives. Data, after all, is at the heart of all of these.

Industry and Consultants supporting government clients.

Early Bird Reduced Registration Until August 4th

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Message

From: Ganim, Sara [Sara.Ganim@turner.com]
Sent: 7/5/2018 11:43:01 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: Reax to testimony being put out

Sorry, his send too soon. We are writing about this today, but wanted to make sure you were aware and have a chance to add anything. I've seen you comment elsewhere in the past about testimony leaks, so wanted to make sure you had a chance to say something if you'd like.
Happy to chat if you'd rather. Cell is below.

--
Sara Ganim
CNN Correspondent
New York
Ex. 6

On Jul 5, 2018, at 7:40 PM, Ganim, Sara <Sara.Ganim@turner.com> wrote:

Hi Ryan—wondering if you have a reaction to parts of your testimony before House Oversight being released? Since it's only partial, anything you'd like to add?

--
Sara Ganim
CNN Correspondent
New York
Ex. 6

Message

From: Jason Albritton [jason.albritton@TNC.ORG]
Sent: 7/14/2018 5:42:59 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: RE:

Ah. Yes. It's a completely separate organization, but TNC's Pennsylvania chapter works closely with them. I'm not sure if we are doing anything on abandoned mine cleanup in the state, but if you need me to connect you with our Pennsylvania folks at any point, I'm happy to do that.

Sorry for not calling you back earlier in the week.

Keep in touch and thanks again for reaching out.

Sent from my Verizon, Samsung Galaxy smartphone

-------- Original message --------
From: "Jackson, Ryan" <jackson.ryan@epa.gov>
Date: 7/14/18 1:32 PM (GMT-05:00)
To: Jason Albritton <jason.albritton@TNC.ORG>
Subject: Re: RE:

So apparently the Western PA nature conservancy isn't associated with national TNC? I'm not sure how that works but we are meeting with the Western PA TNC Monday afternoon at 3pm. We are hoping to partner with them in abandoned mine clean up.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Jul 12, 2018, at 12:16 PM, Jason Albritton <jason.albritton@TNC.ORG> wrote:

> Ryan,
>
> Great to hear from you and thanks for the heads up. Could I give you a call to get more background/context on the event?
>
> Jason
>
> **From:** Jackson, Ryan [mailto:jackson.ryan@epa.gov]
> **Sent:** Wednesday, July 11, 2018 5:27 PM

To: Jason Albritton <jason.albritton@TNC.ORG>
Subject:

Jason, Andrew will hopefully be visiting with a TNC chapter in Pittsburg on July 16. I wanted to provide you a heads up on that and loop HQ in if you would like. Hope all is well.

Ryan Jackson
Chief of Staff
U.S. Environmental Protection Agency
(202) 564-6999

Attend next week Free admission!

Message

From: Defense Tech Expos [lrinaldo@cox.net]
Sent: 7/19/2018 1:04:47 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] RSVP Fed Small Biz Procurement & Tech Plus Expo, Washington, DC 7.25.18

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Defense Tech Expos presents:

Special Invitation
Federal Government Small Business Procurement and Technology Plus Expo
Wednesday, July 25th, 2018
Free to attend for Government!
The hours are from 9 a.m. to 2 p.m. Bring coworkers!
Free table for Government OSDBUs and Small Business Program Managers!
RSVP

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More than 25 exhibitors will demonstrate the latest in energy solutions, cloud technologies, cyber security, Big Data, solar power, disaster recovery, communication technologies, systems integration, wireless, 5G, manufacturers, Hyper Convergence, blockchain, AI. cell phones, greening, network solutions, construction, defense and Homeland Security equipment, engineering, architecture, construction, information technology products, COOP, training, Storage solutions, office automation products, data management, audio and visual equipment, hardware and software, healthcare, hospital applications, medical, software. furniture, office supplies, hospitality and So Much More.

Who will be there?

Most of the Vendors are Small Businesses: 8 (a)'s, Small and Disadvantaged Businesses, Small and Woman Owned Businesses, Service Disabled Veteran Owned Businesses, Veteran Owned, Native American Owned, and HUBZones). Some large manufacturers too.

Who should attend?

All Government personnel Everyone, especially: DoD. Civilians, Warfighters, OSDBUs, SADBUs, Small Business Program staff, Program Managers, Project Managers, Engineers, Techs, Scientists, Security, Contracting Officers, CTOs, CIOs, CXOs, CISSPs, Buyers, purchase card holders, Economists, clerks, Procurement, IT, Hospital, Medical, Labs, Public Affairs, Public works, SBLOs, PTAC/PTAP, everyone, etc.
.

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. Demos!
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Education and Information!

What: Federal Small Business Procurement and Technology Plus Expo
Where: Holiday Inn Capitol, Congressional Ballroom next to FEMA
550 C Street, SW, Washington, DC 20024
near L'Enfant Metro and Federal Center Metro station
www.wmata.com
When: 7.25.18
Mark your calendar
Time: 9:00 AM - 2:00 PM
Larry Rinaldo
Defense Tech Expos
More information is available from 703-344-8771
Questions/Please RSVP to: LRinaldo@cox.net

Bring associates!

Free table for Government OSDBUs and Small Business Program Managers!

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Message

From: Binder, Gordon [gordon.binder@wwfus.org]
Sent: 7/24/2018 11:38:14 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Suzy Tompkins; Ex. 6
Subject: checking back about Reilly meeting

Bill's trip to DC is this weekend for a board meeting…we had suggested Monday/Jly 30, Wed/Aug 1 or Thur am/Aug 2 for a possible meeting with Mr. Wheeler. If dates don't work, we can look at the next DC trip.

I'm cc'ing Suzy Tompkins, Bill's ass't in SF who can pin down date and time that would work

Gordon Binder
202-495-4392

Message

From: Emily Holden [eholden@politico.com]
Sent: 7/8/2018 1:32:51 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Re: Couple of press policy questions

Thanks! John was really helpful, and I'm glad I'll have some new information for this morning.

Emily Holden
Reporter, energy/climate
POLITICO
eholden@politico.com
Ex. 6
@emilyhholden

On Jul 8, 2018, at 9:00 AM, Jackson, Ryan <jackson.ryan@epa.gov> wrote:

> I'm getting you some help right now.
>
> Ryan Jackson
> Chief of Staff
> U.S. EPA
> 202-564-6999
>
> On Jul 8, 2018, at 8:14 AM, Emily Holden <eholden@politico.com> wrote:
>
> > FYI in case you have any thoughts. I expect some of these things may change and would like to have up-to-date information so I can be fair.
> >
> > Emily Holden
> > Reporter, energy/climate
> > **POLITICO**
> > eholden@politico.com
> > Ex. 6
> > @emilyhholden
> >
> > Begin forwarded message:
> >
> > **From:** eholden@politico.com
> > **Date:** July 8, 2018 at 8:11:12 AM EDT
> > **To:** press@epa.gov
> > **Subject: Couple of press policy questions**

Hi all. I'm on Reliable Sources this morning and they'd like to talk about EPA press access and policies.

I was happy to see you had an interview with the Post, and I hope there will be opportunities for more of those with other outlets.

Still have a couple basic questions with the change in leadership: will the acting administrator announce where he will be speaking or traveling in advance?

He said during his confirmation that he would publish his calendar routinely. Are we looking at the same system for every few weeks for the most basic details or will he release his full Outlook calendars at a more regular pace without that being litigated?

Are you still following the same process for updating calendars after the fact, which you outlined in some of your FOIA suits? Do you have any updated comment on the story about the aide who was asked to delete calendar items? (Also on the FOIA front, James, I will take into consideration what we spoke about in terms of Beth White also being a compliance lawyer.)

Did you archive the tweets deleted from the administrator's account?

Will you return to the practice of having press conferences or phone calls to explain major announcements?

And will Mr. Wheeler fly coach? Will there be an evaluation of his security needs?

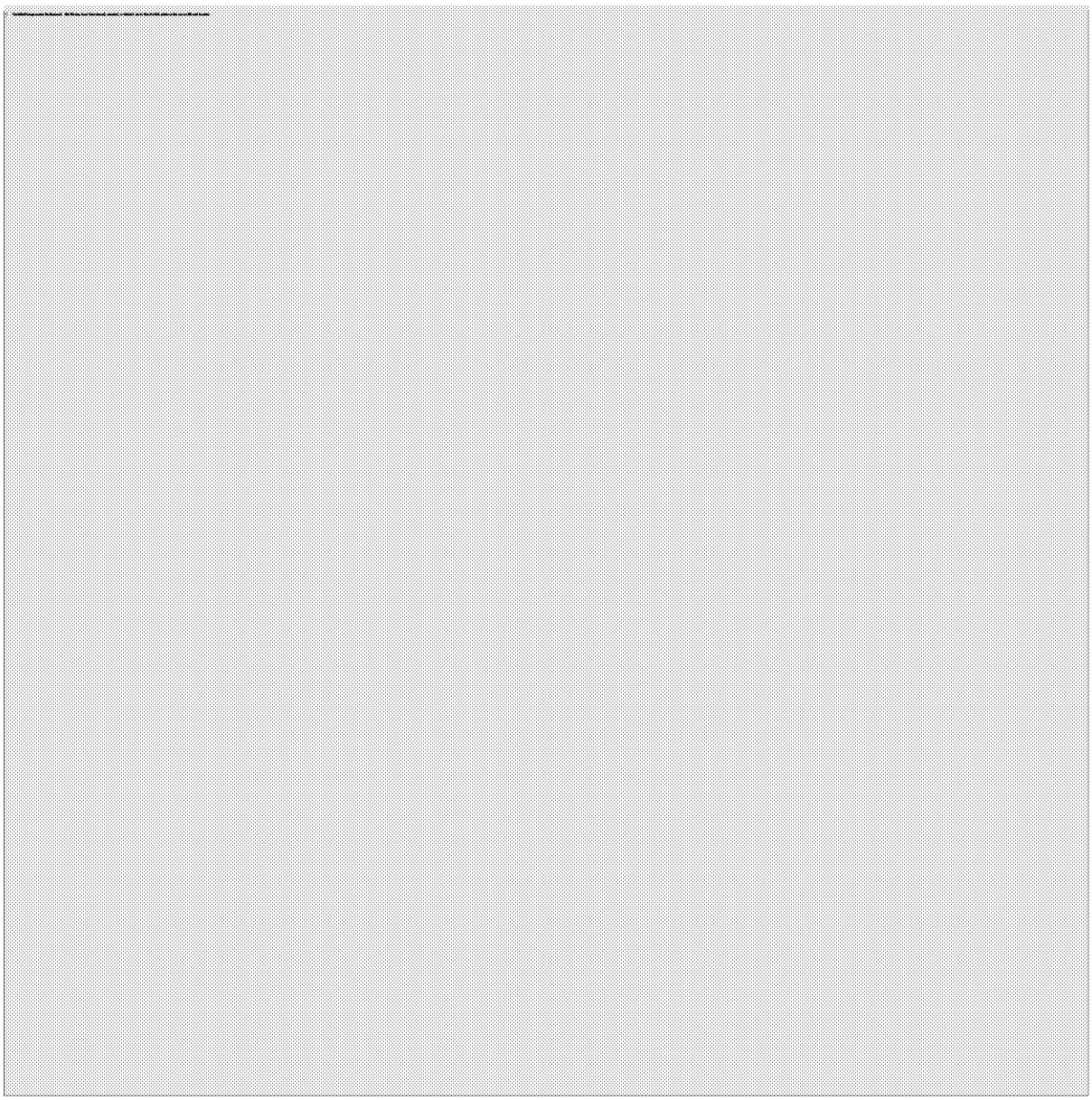
The show is at 11. If there's any of this you already know, I'd be happy to hear it. If you need more time, I'd still appreciate the answers as you have them.

Thanks,
Emily

Emily Holden
Reporter, energy/climate
POLITICO
eholden@politico.com
Ex. 6
@emilyhholden

Message

From: Blue Prism [contact@blueprism.email]
Sent: 7/9/2018 1:48:26 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: TOMORROW: Join the Blue Prism Cafe Featuring Google Cloud and Pfizer



You are invited to join

Blue Prism and Google Cloud: Creating an Intelligent and Connected Digital Workforce

Date: Tomorrow, July 10, 2018
Time: 8am PT / 11am ET / 4pm UK

REGISTER NOW

Hi Ryan,

Register now to join the next Blue Prism Cafe featuring Google Cloud and Pfizer!

Blue Prism and Google Cloud recently announced a partnership aimed to drive adoption of AI and intelligent automation. During this episode of our Café series, we'll explore use cases you can implement today with Google Cloud Machine Learning and Artificial Intelligence that increase the type of front-office and customer-facing automation you can deploy and allows new capabilities to influence an enterprise's digital strategy.

During this session, Vivek Khurana from Pfizer will join Naresh Venkat from Google Cloud, along with Shail Khiyara of Blue Prism, to discuss use cases for intelligent automation bringing together RPA, AI and ML.

Limited spaces remain - **register now**! We look forward to speaking with you tomorrow.

Sincerely,

The Blue Prism Team

Blue Prism: United States: 9600 Great Hills Trail, Suite 150W, Room 171, Austin, TX 78759 USA

Australia: Level 20, Tower 2 Darling Park, 201 Sussex Street, Sydney, New South Wales, NSW 2000

France: 40 rue du Colisée, Paris 75008

Germany: Theatinerstrasse 11, 80333 München

India: #1405 Level 14, Concorde Tower, UB City, 1 Vittal Mallya Road, Bangalore 560001

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From: IEDC [iedcnews@iedconline.org]
Sent: 7/18/2018 5:28:18 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Professional Development: Join us in Denver for the Business Retention and Expansion course

www.iedconline.org/ProDev SHARE IT:

Course highlights:

- Cluster- and industry- focused BRE programs
- Tracking and analyzing customer feedback and response
- Quantitative and qualitative economic development metrics

Join IEDC for Business Retention and Expansion August 16–17 in Denver and learn visitation techniques and survey methods, how to structure an

effective technical assistance program to respond to business concerns, and more. Our training course will provide not just the latest techniques and best practices, but an opportunity to share experiences with your peers.

The Business Retention and Expansion course is one of the four core course requirements that must be completed to be eligible to take the Certified Economic Developer (CEcD) exam. Learn more about the requirements and benefits of becoming certified.

See the course page for the full agenda.

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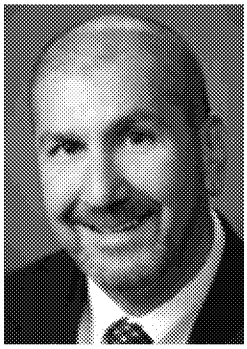
Instructors:

Erik Collins
Director, Community & Economic Development
Montgomery County, Ohio



Laith Wardi, CEcD
President
ExecutivePulse, Inc.

Accommodations/Training Location:
The Curtis Denver - A Doubletree by Hilton
1405 Curtis Street, Denver, CO 80202
Reservations: 303-571-0300

Room Rate: $229
Cutoff Date: July 16, 2018

REGISTER

One more reason to attend: Are you thinking about becoming a Certified Economic Developer? IEDC will also be offering an exam in Denver this winter. You have an opportunity to take a core course and still have time to study!

Exam Information:
December 1-2, 2018
Denver Marriott West
1717 Denver West Blvd, Golden, CO 80401
Application Deadline: October 5, 2018

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Official Hashtags: #IEDC #EconDev

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Message

From: Brian Wynne Ex. 6
Sent: 7/13/2018 7:12:26 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Wynne Hartley Meeting

Hello Ryan,

I hope your week of transition has gone well. We would love to meet with the acting Administrator to discuss the urgency surrounding the final ban. It's an easy win for the EPA. We will be in Washington meeting with members on the hill the week of July 23rd. We would be glad to pencil in a meeting at your convenience.

Have a great weekend! Stay Cool!

Brian Wynne

Message

From: Harry Bagherzadeh P.E., Ph.D. - Griffin Dewatering Corporation [customerservice@lormaneducationcourses.com]
Sent: 7/13/2018 9:26:24 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] Groundwater Control and Dewatering Methods: July 19 - 1 pm ET

LORMAN EDUCATION SERVICES

Dear Colleague,

We would like to personally invite you to join us at our upcoming Lorman Education Services live webinar Groundwater Control and Dewatering Methods on July 19 at 1 pm ET.

Gain an understanding of construction dewatering and groundwater control.

The handling of groundwater is among the most complex of all construction problems. Controlling groundwater at construction excavations can be can critical matter when groundwater can halt construction job or even threaten bankruptcy of the project. You as an estimator, project engineer, project manager, superintendent or foreman must know and respect Mother Nature. Groundwater management falls into two major categories, either handling the groundwater before it enters the excavation or handling it after it enters the excavation. The decision to do one or the other or both is the most important decision the contractor will make for his project and requires diligent investigation of the jobsite soil conditions.

Learning Objectives

Join me at the conclusion of the webinar for a live question and answer session.

Register Today

We hope to see you there.

Sincerely,

Harry Bagherzadeh P.E., Ph.D.
Project Manager at Griffin Dewatering Corporation

P.S. Can't Attend the Live Webinar? Recording Available

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Message

From: Ari Natter (BLOOMBERG/ NEWSROOM:) [anatter5@bloomberg.net]
Sent: 7/9/2018 1:30:43 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Hey man

Hey Ryan --

How are you holding up? Any chance you want to talk?

Thanks dude.

From: Ari Natter (BLOOMBERG/ NEWSROOM:) At: 06/06/18 17:27:29
To: jackson.ryan@epa.gov
Subject: What's up with this?

He's lost Fox News?!?!

https://mobile.twitter.com/FoxNewsResearch/status/1004467969873924096

Also, how you holding up man?

Sent from Bloomberg Professional for iPhone

Message

From: Russell, Richard (EPW) [Richard_Russell@epw.senate.gov]
Sent: 7/5/2018 11:10:38 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Phone number for Pruitt

If the Chairman wanted to reach Pruitt, what is the best number?

Richard Russell
Staff Director
Committee on Environment & Public Works

Message

From: Brian Wynne Ex. 6
Sent: 7/10/2018 2:37:57 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Ford, Hayley [ford.hayley@epa.gov]
Subject: Wynne/Hartley Family Status. Final Rule Methylene Chloride

Hello Ryan,

We met 2 months ago while discussing my brother Drew Wynne and Methylene Chloride. I am writing to request an update on the status of the Final Rule associated with "limited use" of Methylene Chloride. I have been told that we are very close to having the rule submitted to OMB. For my mothers sake, I hope this happens sooner rather than later. We will be returning to DC the last weekend of July. This would be a great opportunity for you all to finalize the rule and for acting administrator Wheeler to start off his term on a very positive note. As you know there is a lot of media attention surrounding our situation, if this get's done we would love to share the positive story with members of the press and show the world that true compromise in Washington is possible. Please provide an update when you have a moment.

Thank you!

Brian Wynne
Ex. 6

Message

From: Government Fraud Risk Management [PotomacForum@GovFraudRiskMgmt.org]
Sent: 7/5/2018 5:03:33 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Register for Wednesday July 11 - Fraud-Risk Management Training for Gov (only)

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Keynote Speaker:

Seto Bagdoyan
Director for Audit Services
Forensic Audits and Investigative Services
GAO

Guest Speakers:

Adam Goldberg
Director and Executive Architect
Office of Financial Innovation and Transformation

Bureau of the Fiscal Service
Department of the Treasury

Stephen M. Lord
Assistant Inspector General for Audits
Amtrak

Kurtis Minder
CEO
GroupSense

Peter Tyler
Senior Policy Analyst
POGO: Project on Government Oversight

Peter Hargis
Intelligence Analyst
Cyber Criminal Intelligence Program
FBI

Robert Novy
Deputy Assistant Director
Office of Investigations
U.S. Secret Service

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Who Should Attend:

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- Risk management and internal controls steering committee members
- Inspectors General and staff
- Chief Financial Officers and staff

- Chief Procurement and Acquisition Officers and staff
- Risk management staff
- Chief Human Capital Officers, HR managers, and staff
- Managers, directors, and senior officials who have fiduciary/financial and/or risk management responsibilities
- Program managers and others who are or will be responsible for or involved in creating, overseeing, and implementing fraud risk activities, including those responsible for implementing OMB A-123 requirements, and those responsible for risk management within their agencies.

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Message

From: Defense Tech Expos [lrinaldo@cox.net]
Sent: 7/9/2018 1:23:19 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: [SPAM-Sender] Invite: Fed Small Biz Procurement & Tech Plus Expo, Washington, DC

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Defense Tech Expos presents:

Special Invitation
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More than 35 exhibitors will demonstrate the latest in energy solutions, cloud technologies, cyber security, Big Data, solar power, disaster recovery, communication technologies, systems integration, wireless, 5G, manufacturers, Hyper Convergence, blockchain, AI. cell phones, greening, network solutions, construction, defense and Homeland Security equipment, engineering, architecture, construction, information technology products, COOP, training, Storage solutions, office automation products, data management, audio and visual equipment, hardware and software, healthcare, hospital applications, medical, software. furniture, office supplies, hospitality and So Much More.

Who will be there?

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Who should attend?

All Government personnel Everyone, especially: DoD. Civilians, Warfighters, OSDBUs, SADBUs, Small Business Program staff, Program Managers, Project Managers, Engineers, Techs, Scientists, Security, Contracting Officers, CTOs, CIOs, CXOs, CISSPs, Buyers, purchase card holders, Economists, clerks, Procurement, IT, Hospital, Medical, Labs, Public Affairs, Public works, SBLOs, PTAC/PTAP, everyone, etc.
.

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What: Federal Small Business Procurement and Technology Plus Expo
Where: Holiday Inn Capitol, Congressional Ballroom next to FEMA
550 C Street, SW, Washington, DC 20024
near L'Enfant Metro and Federal Center Metro station
www.wmata.com
When: 7.25.18
Mark your calendar
Time: 9:00 AM - 2:00 PM
Larry Rinaldo
Defense Tech Expos
More information is available from 703-344-8771
Questions/Please RSVP to: LRinaldo@cox.net

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Message

From: Zack Colman [zcolman@eenews.net]
Sent: 7/5/2018 4:31:37 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: RE: for what it's worth

Hey Ryan – mind giving me a call about this NYT story that just ran? Had a couple things to check up on. Ex. 6 is best.

--
Zack Colman
E&E News
White House correspondent
Ex. 6
o: 202-446-0408
twitter: @zcolman

From: Zack Colman
Sent: Tuesday, July 03, 2018 10:17 AM
To: 'Jackson, Ryan' <jackson.ryan@epa.gov>
Subject: RE: for what it's worth

More of a bento box guy myself but game respect game.

--
Zack Colman
E&E News
White House correspondent
Ex. 6
o: 202-446-0408
twitter: @zcolman

From: Jackson, Ryan [mailto:jackson.ryan@epa.gov]
Sent: Tuesday, July 03, 2018 10:16 AM
To: Zack Colman <zcolman@eenews.net>
Subject: RE: for what it's worth

The Korean bbq sandwich is really good. It's kind of expensive.

From: Zack Colman [mailto:zcolman@eenews.net]
Sent: Tuesday, July 3, 2018 9:55 AM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: for what it's worth

I think Teaism is a solid spot.

--
Zack Colman
E&E News
White House correspondent
Ex. 6

o: 202-446-0408
twitter: @zcolman

Message

From: Annie Snider [asnider@politico.com]
Sent: 7/5/2018 4:29:54 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Politico inquiry: formaldehyde assessment

Ryan -- Annie Snider from Politico here. I've been in touch with your press shop (statement from them below) but wanted to personally give you a heads up & chance to weigh in on a story we're running later today or tomorrow morning about the IRIS formaldehyde assessment.

I've got 2 sources – a current & a former career official – who say politicals, including you, are "stonewalling" the assessment, keeping it from going through internal review processes and thus being made public. They laid out several scenarios where key briefings for the air office were cancelled, and said pains were taken to keep things from being put in writing. They say the assessment has been complete since last fall, and at a January EPW hearing Administrator Pruitt said that it was his understanding that the assessment was complete. The sources say the assessment finds health risks, including leukemia, at very low levels of exposure that most Americans are exposed to thru daily life. They also said that other IRIS assessments are being slow-walked or undermined.

Here's what your press shop got me:

"EPA continues to discuss this assessment with our Agency program partners and have no further updates to provide at this time. Assessments of this type are often the result of needs for particular rulemakings and undergo an extensive intra-agency and interagency process. Mr. Yamada and Mr. Jackson have not cancelled briefings on assessments or during the IRIS process, and in fact have requested briefings. The National Academy of Science and Congress in legislative reports have for years been highly critical of EPA's previous assessments involving formaldehyde." - EPA Spokesperson

On background:

Nancy Beck is the Deputy Assistant Administrator for the Office of Chemical Safety and Pollution Prevention. She does not lead, direct, or make decisions for the IRIS program, which is in the Office of Research and Development.

Let me know if you want to weigh in. Thanks --

Annie Snider
Reporter
POLITICO
asnider@politico.com
703-672-2819 - desk
Ex. 6
@AnnElizabeth18

Message

From: Gov Data-Centric Leadership in Big Data Era [Training@BigData.PotomacForum.org]
Sent: 7/19/2018 4:33:13 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Training Workshop to Manage Big Data in Gov Effectively

Leverage Big Data by Attending Data-Centric Leadership Workshop -
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What government executives, managers, and staff need to know to better leverage your organization's data by managing less of it, increasing the quality of what remains, and making that data more shareable

Wednesday, August 22, 2018
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Government Keynote Speakers
Dan Morgan
Chief Data Officer
Office of the CIO
Department of Transportation (DOT)

John Minkoff
CDO, Enforcement Division

Federal Communications Commission (FCC)
Awaiting Agency Approval

Guest Speakers
Peter Aiken
Founding Director
Data Blueprint
(Associate Professor,
Virginia Commonwealth University)

Todd Harbour
Chiief Data Officer
New York State

Kevin Garrison
Principal Director and Director of Analytics
Deputy Chief Information Officer for
Business Process and Systems Review
Department of Defense

Elliot Chikofsky
Chief Data Officer
PathBridge

Linda Powell
Chief Data Officer
Consumer Financial Protection Bureau
Awaiting Agency Approval

Additional Speakers to Be Announced Shortly

Overview:
We have all seen the results of the big data hype. Big data projects fail at the same alarming rate (2/3rds consistently fail to meet functionality, date or cost plans) that characterize IT investments in general. The failure of big data can be attributed to three specific factors:

1) Without an agreed upon definition of big data all results (measurements, claims of success, quantification) were correctly viewed skeptically and with suspicion!

2) The vast majority of these initiatives were implemented as projects with our corresponding programmatic sponsorship, and

3) These projects were implemented as technology-first initiatives.

This workshop presents the tenants of a data-centric approach to organizational problem solving as necessary but insufficient prerequisites

to advantageous data leveraging.

These include:
1. Preparing for dramatic change and accurately describing the work that must be done,
2. Understanding the need for and recruiting qualified, knowledgeable enterprise data talent, and
3. Eliminating the Seven Deadly Data Sins.

Accomplishing these will show you how to recognize opportunities, 'size up' required investments, and properly supervise efforts to properly leverage your data. **This is workshop designed and focused for Federal , State and Local Government Executives, Managers and Staff and Industry Partners**

Press is NOT Permitted to encourage candid discussion.

Why You Should Attend:

- This Workshop provides latest thinking around data that requires a different (updated) perspective that has been offered in the past.
- Data-centric organizational practices can be more usefully defined in objective terms permitting easier implementation.
- Key to data success is to first refine, then improve/share.
- Learn to express data goals and timeframes is ways that get folks thinking in terms of decades but in ways that can show periodic deliverables.
- Very little of this material is incorporated into formal education programs.

Who Should Attend:

Government executives, managers and staff (Federal, State and Local) embarking on either IT or business improvement related initiatives. Data, after all, is at the heart of all of these.

Industry and Consultants supporting government clients.

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Message

From: Chris McCloskey [chris.mccloskey@dalecarnegie.com]
Sent: 7/19/2018 12:00:45 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Invitation to the 8/29 Dale Carnegie Course in Tyson's Corner
Attachments: DCC_Special Summer Offer 8-29-18 Tysons - Federal_docx.html; Special Summer DCC Federal Enrollment Form for Dale Carnegie2_xlsx.html

Hello Ryan!

Great news! We are excited to invite you and your colleagues at United States Environmental Protection Agency the opportunity to participate in the Dale Carnegie Course taking place in Tyson's Corner, August 29th at a special summer offer rate!

The Dale Carnegie Course gives you the human relations skills to thrive in any setting. You'll be better equipped to perform as an influential communicator, problem-solver and focused leader. You'll learn to strengthen interpersonal relationships, manage stress and handle fast-changing workplace conditions. And you'll develop a take-charge attitude initiated with confidence and enthusiasm, while building trust and motivating others.

The Dale program in Tysons Corner, VA, begins August 29th, and is open for enrollment at the Special Summer Offer rate of $1,329.29, a 15% discount off the GSA tuition amount. Please see attached DCC Special Summer Offer PDF for full course description. If you'd like to enroll in this program, you may complete the attached enrollment form and email it to trina.herrera@dalecarnegie.com. An invoice will then be generated and you will be saved a seat in the session!

Ryan, this is a great opportunity to advance your leadership skills and participate in Dale program. If you have any questions, please feel free to reach out to us.

Thank you Ryan!

With Kind Regards,

Chris McCloskey
Dale Carnegie - Federal
(301) 621-4161
chris_mccloskey@dalecarnegie.com
http://gsa.dalecarnegie.com
GSA Schedule #: GS-10F-0329K

Attachment not opening? Click this link: DCC_Special Summer Offer 8-29-18 Tysons - Federal.docx

Attachment not opening? Click this link: Special Summer DCC Federal Enrollment Form for Dale Carnegie2.xlsx

Message

From: Edward Calabrese [edwardc@schoolph.umass.edu]
Sent: 7/9/2018 12:24:14 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: new paper on LNT
Attachments: Environ. Res. Additive to Background.pdf

Ryan:

See the attached new paper on LNT.....it is a major effort and important findings.
Please share with your EPA colleagues.

Ed

Environmental Research 166 (2018) 175–204

Contents lists available at ScienceDirect

Environmental Research

journal homepage: www.elsevier.com/locate/envres

Review article

The additive to background assumption in cancer risk assessment: A reappraisal

Edward J. Calabrese

Department of Environmental Health Sciences, University of Massachusetts, Morrill I, N344, Amherst, MA 01003, United States

ARTICLE INFO

Keywords:
Cancer risk assessment
Linear non-threshold dose-response
Oncogenes
Threshold dose-response
Carcinogen mechanism

ABSTRACT

The assumption that chemical and radiation induced cancers act in a manner that is additive to background was proposed in the mid-1970s. It was adopted by the U.S. Environmental Protection Agency (EPA) in 1986 and then subsequently by other regulatory agencies worldwide for cancer risk assessment. It ensured that cancer risks at low doses act in a linear fashion. The additive to background process assumes that the mechanism(s) resulting in induced (i.e., treatment related) and spontaneous (i.e., control group) cancers are identical. This assumption could not be properly evaluated due to inadequate mechanistic data when it was proposed in the 1970s. Using the findings of modern molecular toxicology, including oncogene activation/mutation, gene regulation, and molecular pathway analyses, the additive to background assumption was evaluated in the present paper. Based on published studies with 45 carcinogens over 13 diverse mammalian models and for a broad range of tumor types compelling evidence indicates that carcinogen-induced tumors are mediated in general via mechanisms that are not identical to those affecting the occurrence of the same type of spontaneous tumors in appropriate control groups. These findings, which challenge a fundamental assumption of the additive to background concept, have significant implications for cancer risk assessment policy, regulatory agency practices, as well as fundamental concepts of cancer biology.

1. Introduction

This paper assesses a critical, but overlooked area of cancer risk assessment (i.e., cancer dose-response assessment), the additive to background assumption, that essentially ensures low dose linearity in the estimates of carcinogen exposure risks. This assumption was proposed for application to cancer dose-response assessment by Crump et al. (1976). A decade later it was incorporated into governmental risk assessment policy and practices during 1986 (Anderson et al., 1983; Crump, 1984; U.S. EPA, 1986) and has continued to the present (U.S. EPA, 2005; EFSA, 2017). This assumption was proposed during the mid 1970s when it was not possible to assess its scientific validity with the oncogene revolution starting in the mid-1980s and the continued clarification of molecular mechanisms for spontaneous and induced tumors to the present. It is now possible to evaluate the scientific validity of the additive to background assumption. The present paper demonstrates that the additive to background assumption that spontaneous and induced tumors occur via identical mechanisms is not compatible with the vast body of modern molecular findings. Prior to assessing the additive to background hypothesis, a brief historical reconstruction of how linearity at low dose was adopted for cancer dose-response assessment by U.S. regulatory agencies during the 1970s is presented, providing the necessary scientific and regulatory contexts and introduction needed to assess the additive to background assumption.

2. Historical foundations of cancer risk assessment

2.1. The Thanksgiving Cranberry Scare of 1959

Within five years following the National Academy of Sciences (NAS) Biological Effects of Atomic Radiation (BEAR) I Genetics Panel report (NAS/NRC, 1956) recommending the use of linear dose response modeling in risk assessment, Nathan Mantel and Raymond Bryan (1961) would publish their landmark paper on cancer risk assessment. The modestly entitled paper, *Safety Testing of Carcinogenic Agents,* was based on the use of the tolerance distribution probit dose response model. The probit model was originally derived to assess non-carcinogenic responses (Zeise et al., 1987). However, Mantel and Bryan (1961) generalized its use, applying it to modeling responses of carcinogens. Their efforts followed by nearly two decades the earlier work of Bryan and Shimkin (1943) who applied the probit model to estimate cancer risks for several carcinogenic hydrocarbons based on chronic studies with male C3H mice, a study that suggested an hormetic dose response that was not addressed by the investigators.

E-mail address: edwardc@schoolph.umass.edu.

https://doi.org/10.1016/j.envres.2018.05.015
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Available online 08 June 2018
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What stimulated the reemergence of interest in quantitative estimates of cancer risks was U.S. presidential politics. Mantel was employed as a biostatistician for the U.S. National Cancer Institute (NCI) during the time of the 1960 presidential election, pitting John F. Kennedy against Richard M. Nixon. During the run up to the election, there was the so-called Thanksgiving Cranberry Scare of 1959. The event proved to be both a major chemical scare for the American public and a chance for the two presidential candidates to demonstrate that they were not afraid of a small dose of the cancer causing (i.e. thyroid cancer) herbicide in their cranberry sauce or juice (i.e. Nixon had four servings of cranberry sauce while Kennedy had two drinks of cranberry juice-of course on the same day.) (http://coldwarstudies.com/2017/11/15/the-cranberry-scare-of-1959). The agent, 3-amino-1,2,4-triazole, which had been approved in 1957 for use on Cranberry bogs only after harvest, had been found in several sources of cranberries in the weeks leading up the Thanksgiving holiday (note that the farmers did not follow the instructions properly; they were only supposed to apply the herbicide after harvesting but applied it before). It became a political story when the Secretary of Health, Education & Welfare (HEW), Arthur Sherman Flemming went public on November 9, 1959 with the recommendation to the public not to buy cranberry products that year. His actions resulted in what might be called a consumer panic, which then threatened the livelihood of the cranberry industry. In an effort to prevent a similar public backlash in the future, Secretary Flemming asked the NCI for guidance on which cancer causing agents could be considered "safe" and what may be a safe or acceptable dose. To the rescue would come Mantel and the laboratory animal model cancer researcher Bryan, who were asked by the Director of the NCI to provide the needed guidance, including issues such as how to design appropriate animal bioassays and how to estimate risks and establish a means to distinguish between safe and unsafe. Little did the Secretary of HEW and the NCI Director realize that they had just opened a scientific version of Pandora's Box, with issues that still confront politicians, scientists and the general public.

In their publication, Mantel and Bryan (1961) would emphasize the generality of their dose response model approach for other agents and tumor endpoints. They introduced the concepts of no threshold and acceptable risk within a public health policy framework. In a manner to illustrate its practical utility they expressed the outcome of their model estimate in public health terms suggesting an acceptable risk with a value sufficiently low that few would have concerns over, that is, one cancer per 100 million people per lifetime. While this effort in 1961 by Mantel and Bryan was thought to have put a lid on concerns with chemical carcinogens, it was only the beginning, as Rachael Carson would publish her *Silent Spring* book a year later (Carson, 1962). The Carson publication, which was partially inspired by the efforts of radiation geneticist Hermann J. Muller, would galvanize the fledging environmental movement, lead to the creation of the National Environmental Protection Act (NEPA) (1969) and the EPA (1970) and help spark efforts to address the issue of cancer dose-response assessment about a decade later.

2.2. U.S. EPA, Cancer risk assessment, and low dose linearity

It would take about 12 years but the U.S. FDA would eventually restart its cancer risk assessment agenda by formally proposing the Mantel-Bryan (1961) model while still retaining the 1/100 million acceptable risk level in their July 19, 1973 (U.S. FDA, 1973) cancer risk assessment announcement in the *Federal Register*. As the regulatory stakes had changed since the Cranberry scare of 1959, this proposal was taken seriously, and became stalled in the U.S. regulatory apparatus. It finally emerged following what could only be seen as a rather elephantine-like gestational period in 1977 (U.S. FDA, 1977), having survived a presidential election and new political leadership. The Mantel-Bryan probit model approach had been largely retained, although with a number of alterations, including the adoption of a new acceptable risk value of one in a million.[1]

The practical significance of such actions was that it became the risk estimate below which no further governmental regulatory actions would be initiated. This recommendation was placed within the framework of a public health safety response to carcinogen residues in food products. Even though it had taken a long time to get an approved cancer risk assessment process through the regulatory system, the FDA-approved Mantel-Bryan model became the first cancer dose-response assessment model officially adopted by a U.S. federal regulatory agency. The next change would not take so long. About two years later, the U.S. FDA (1979) would alter its approach by dropping the tolerance distribution Mantel-Bryan model approach, replacing it with a linear dose response model. The rationale for such a decision was due to the more conservative risk estimates of the linear model along with its conceptual simplicity and ease of risk calculation (Anonymous, 1979). In the low dose zone, the one hit model as initially proposed by Timofeef-Ressovsky et al. (1935) yields very similar risk estimates as a simplified linear model. Getting a federal agency to change its cancer dose-response assessment model only two years after a long incubation period should raise the proverbial "why"? In fact, the FDA's actions were the direct offshoot of the recommendations of a multi-governmental agency panel with FDA technical representation (biostatistician David Gaylor) that published their linear dose response recommendation (Hoel et al., 1975). It was simply a matter of being more conservative, simplifying the process and timing.

While the U.S. FDA was pursuing its cancer risk assessment methods and issues, so to was the U.S. EPA. The posturing and approaches that emerged from this fledgling environmental regulatory agency seemed somewhat confusing to the outside reader and the regulated community. Much of the initial conceptualizing on the issue of regulation of cancer causing agents emerged from the Rachael Carson-inspired need to address the issue of risks from pesticides. Thus, during major pesticide hearings EPA staff attorneys presented an intellectual blueprint of what amounted to a set of Agency "cancer principles". The new "Principles" reflected the Agency view that carcinogen exposures should not be permitted.....that is, prevented from occurring in the first place. While the goal of this Principle was to ban carcinogenic agents from the market place, it was quickly seen as simply unrealistic, though it could remain a goal (Albert, 1994; Calabrese, 2009, 2013).

What emerged from this process was EPA adopting a set of non-regulatory guidelines that could be applied to a generic cancer risk assessment process (U.S. EPA, 1976). This system would have considerable practical importance, as it would employ quantitative risk assessment on chemicals and engineering-based processes. This conceptual framework would be the functional lead-in for a critical paper by the EPA's Carcinogen Assessment Group (CAG) (Albert et al., 1977), which reaffirmed the LNT concept and justified it based on epidemiological studies for smoking and ionizing radiation and the dose response pattern of induced genetic mutations based on the Ames assay with bacterial strains lacking DNA repair. This paper by

[1] During this regulatory "incubation" period within the FDA, Mantel et al. (1975) would update the original (Mantel and Bryan, 1961) application of the probit model with an "improved Mantel-Bryan procedure". The original Mantel and Bryan (1961) procedure incorporated Abbott's (1925) correction to adjust for spontaneous tumor background. This new procedure would account for background/spontaneous tumors via the introduction of a new estimated parameter "C", the expected (spontaneous) incidence in untreated animals, with the subsequent application of Abbott's correction (Abbott, 1925; Zeise et al., 1987). It is likely that the adoption of the independent of background approach using Abbott's formula by Mantel et al. (1975) lead to EPA accepting this approach several years later when it was incorporated into the single-hit model (Costle, 1979) and later into the multi-stage model (Anderson, 1983). Mantel et al. (1975) noted the possibility of an alternative to the independent of background model, by proposing a scheme similar to the additive to background concept. In this scheme, the spontaneous tumor rate "represents the response to the load of the test agents and its equivalent ALREADY in the environment. The total load for an individual or animal is then the sum of its administered dose and its environmental load. This was similar to that proposed earlier by Albert and Altshuler (1973) and later by Crump et al. (1976), except that Crump et al. (1976) tied the background and induced tumors via an identical mutation mechanism as discussed later in the text.

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the CAG (Albert et al., 1977), which offered no references to support LNT, provided the introduction for the key policy statement of the U.S. EPA Administrator, Russell E. Train (1977) to adopt the linear dose response for cancer risk assessment.

Two years later, on March 15, 1979, the new EPA administrator, Douglas Costle, reported in the *Federal Register* (U.S. EPA, 1979) that risk assessment for animal data is performed using the 'one-hit model' as given in the 1976 Interim EPA Guidance document (U.S. EPA, 1976). Costle would justify this decision on the basis that the one-hit model was endorsed by the four federal agencies of the Interagency Regulatory Liasion Group due to its very protective/conservative features, uncertainties in animal to human extrapolation, concerns over whether humans may be more susceptible than the animal model, the occurrence of human variability (i.e., interindividual variation) and "other unknown factors". However, use of the single-hit model was criticized in public comments of the proposed Water Quality Criteria for suspected carcinogens (U.S. EPA, 1979).[2] As a result, EPA changed from the single hit to the multi-stage model by November 1980 (Anderson, 1983).

In an historical assessment of this cancer risk assessment period, Albert (1994), chair of the CAG during the 1970s and early 1980s, indicated that the EPA accepted the LNT model that was being applied by the U.S. Atomic Energy Commission (AEC) to assess cancer risks from ionizing radiation data based on the Manhattan Project findings of Stern at the University of Rochester (Spencer and Stern, 1948; Uphoff and Stern, 1949; see Calabrese, 2015 for a review). Albert (1994) reaffirmed that the LNT model was a good fit for EPA since it had exquisite simplicity and therefore was readily understandable. This model also was attractive to the Agency since it had biological plausibility based on target theory as derived from a unique collaboration of leading physicists and radiation geneticists (Timofeef-Ressovsky et al., 1935). Of particular importance to the broad mission of EPA was that "any difference between chemical carcinogens and ionizing radiation could be waived aside as they both cause genetic damage…" The generalizing of the LNT for cancer risk assessment to include the domain of chemical carcinogens was a game changing decision that would significantly affect numerous societal and scientific issues.

This brief historical summary recapitulates how quantitative risk assessment evolved within the regulatory agencies from about 1960–1980. However, the initial quantitative modeling originated in the early 1950s and displayed divergent fundamental biological assumptions depending on the model. It is within the decade of the 1950s where the underlying biologically-driven quantitative models for both background/spontaneous and exogenously induced cancer incidence would provide the theoretical, mathematical and biological frameworks for the cadre of available approaches employed in regulatory agency based quantitative risk assessments that emerged in the mid to late 1970s. Despite the growing sophistication of quantitative modeling in the 1950s, these efforts received their intellectual and biological foundations from the seminal paper of Timofeef-Ressovsky et al. (1935) and follow-up papers (e.g. Zimmer, 1941) on the development of dose response modeling which was based on the capacity of X-rays to induce gene mutations in mature spermatozoa of *Drosophila* as originally reported by Muller (1927).

2.3. Cancer: Quantitative Risk Assessment and Biological Plausibility

The issue of quantitative risk assessment for carcinogens became a major consideration for regulatory agencies such as EPA in the mid-1970s. Such assessments were dominated with debates by biostatisticians concerning which biostatistical model to employ for risk assessment, with a significant priority being biological plausibility. The first efforts toward biological mechanism modeling were those of Iverson and Arley (1950) which were the direct offshoot of Timofeef-Ressovsky et al. (1935) and their subsequent papers. Their single stage model assumed that a key biological change or transformation occurs in a single target, typically the result of somatic gene mutation (i.e., somatic mutation theory – SMT). The model was built upon the use of a proportionality constant that represented the rate of cell transformation per unit of administered carcinogen, as well as the assumed carcinogen potency and the sensitivity/susceptibility of the target cells. The transformed cell increased cell number via an assumed monoclonal expansion that may become detected after a critical number of cell divisions.

While their model had serious biological limitations, it stimulated other efforts including those of Fisher and Halloman (1951) which transformed observations of age-dependent stomach cancer death incidence into a new biostatistical model for cancer risk assessment. The cancer incidence was estimated to occur with the 5th or 6th power of age. Fisher and Halloman (1951) assumed that this power law relationship could be mechanistically explained if there were 6 or 7 different cells that were altered/transformed/mutated (i.e., initiated) in a single tissue. These transformed cells would then become biologically integrated, yielding a developing tumor mass. This became known as the multi-cell theory (i.e., polyclonal model). This hypothesis developed a following in the biomedical community, being supported over several decades by prominent scientists as seen in the writings of Wright and Peto (1969), Jones and Grendon (1975) and others.

During the early 1950s, Muller (1951) and Nordling (1953) hypothesized that a single cell can transform into a tumor only if it experiences a number of mutational events (i.e., SMT application). From this theoretical basis would emerge the multistage model, with its quantitative foundations being developed soon thereafter by Stocks (1953) and Armitage and Doll (1954, 1957).

3. The additive to background assumption

3.1. Ensuring linearity at low dose

The origin of the additive to background cancer risk concept was first suggested by Platt (1955) in a letter-to-the-editor of the *Lancet*. He proposed that the principal effect of a carcinogenic agent is likely to alter the functioning of a cell in such a manner that its clonal expansive descendants proliferate at a greater rate than other nearby cells. He then suggested that if aging were seen as an extended process of numerous cell divisions then cancerous processes would be a function of such aging activities.

Based on this logic it was predicted that cancer would occur in the cellular descendants of the initially altered cells more quickly than in the neighboring "normal" tissue but only following a prolonged latent period. This initial suggestion of Platt (1955) was adopted,[3] formalized, and extended by Armitage and Doll (1957) into what became the additive to background hypothesis and the basis of the additive to

[2] Despite the apparent interagency convergence upon the LNT single-hit model, use of this model was criticized since it did not incorporate data from high doses. It derived the linear assessment via the use of a straight-line extrapolation employing the lowest statistically significant response. As a result of such dissatisfaction, the CAG modified its positon, switching from a single-hit to a multistage model because it employed data from each dosage, while yielding low dose linearity and having some vague measure of biological plausibility as cancer is a multistage disease process (Albert, 1994).

[3] The additive to background "concept" is an assumption that was first proposed by Robert Platt (1900–1978), a British physician who specialized in the area of hypertension and kidney function. He was president of the Royal College of Physicians (1957–1962), chairing the committee that published the first major assessment of the Society of Physicians on Smoking and Health, which assembled evidence for a causative relationship with lung cancer (Platt et al., 1962). This publication pre-dated the first report on smoking and lung cancer from the U.S. Surgeon General, which appeared in 1964. The statement of Platt (1955) on the concept of additive to background was a letter to the editor with no reference support. It was a brief commentary written in the form of reasonable but unsupported hypothesis. Perhaps because of his standing in the British medical community and/or the prestige of the journal Lancet, this unsubstantiated concept was adopted by two leading British researchers, Armitage and Doll, in their 1957 presentation of the multistage model of carcinogenesis. Prior to this time, background/spontaneous disease occurrences and/or susceptibilities were generally dealt with under an assumption of independence from background, using Abbott's (1925) correction, a widely adopted methodology in the biological and biomedical sciences, with over 8000 cumulative citations in the Web of Science through 2017.

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background multistage dose response model.[4] Armitage and Doll (1957) related the multistage model back to the incidence of cancer in the human population, which was linear when plotting the log of the disease incidence against the log of age. This developmental origin of the additive to background concept would become a cornerstone of low dose linearity as seen in cancer dose-response assessment models.

In the EPA era perhaps the first application of the additive to background concept was published by Albert and Altshuler (1973) in a presentation of the 12th Hanaford Biology Symposium on radionuclide carcinogenesis.[5] Of particular practical significance is that the lead author, Roy Albert, a professor at New York University, would become the director of the newly created unit within EPA called the Carcinogen Assessment Group (CAG) in 1976. Their paper modelled the effects of (1) radium-induced osteosarcoma in CF_1 female mice to a single iv dose of Radium 226 at age 70 days, (2) a three times weekly skin painting of dibenzanthracene (DBA) to mice across four treatments (1.0–9.0 μg) and (3) a smoking and lung mortality study of nearly 300,000 U.S. veterans. The methodology assumed the spontaneous and carcinogen-induced cancers were additive, induced by similar/identical mechanisms with the spontaneous cancers given an equivalent carcinogen dose rate. For example, using model based disease estimates, non-smokers were estimated to receive the equivalent of one cigarette/day while the control subjects in the osteosarcoma mouse study received the equivalent of 0.03 uc/kg radium 226. The effective dose rate is therefore the sum of the applied dose rate and the spontaneous equivalent dose rate. The procedure yields a more conservative risk estimate (i.e., higher tumor incidence) than an independent of background assumption, providing a higher cancer risk at a lower carcinogen dose rate. The Albert and Altshuler (1973) approach, which is based on Druckrey's dose-time response model, assumed that the additional incidence (i.e., treatment effect) had a time to tumor occurrence similar to the spontaneous tumor incidence. However, when the induced tumors were assumed to be independent of background, the induced tumors at low dose rates were predicted to occur after the survival cut off for the experiment, yielding lower overall tumor estimates. The linkage of time to tumor as being the same for spontaneous tumors and induced tumors in the additive to background framework but not in an independent of background approach is a unique but unexplored hypothesis. In the independent of background approach, the tumors appearance would be inversely related to dose and not related to the time of occurrence of spontaneous tumors. In the framework of Albert and Altschuler (1973) this could have considerable impact on carcinogen risk estimates. While the dose-time-response models of Blum et al. (1942), Blum (1959) and Jones and Grendon (1975) would have continuing appeal to Albert, they were not followed by Crump et al. (1976) and received criticism by Hoel, Schneiderman and others during the OSHA (1980) carcinogen hearings.

The additive to background concept would be assessed and refined by others in several influential publications during the mid-late 1970s, including by Crump et al. (1976), soon reinforced by Guess et al. (1977) and then integrated into the range of stochastic, mechanistic, and tolerance distribution models (see Szymczak and Szadkowska-Stanczyk, 2005 for a review). During the mid-1970s, mechanistic understandings of environmental induced tumor/cancer development were very limited as Crump et al. cited only two papers by Knudson (1973, 1974) to support their adoption of the additive to background assumption. A careful reading of these two papers provides no relevant direct support for the additive to background assumption, suggesting that the reviewers may never have assessed the Knudson papers cited by Crump et al. (1976). In a 1977 article in Science Cornfield (1977) noted that the "additivity [to background] assumption is a major one that lacks experimental support". This lack of experimental support for the additive to background assumption was noted by Munro and Krewski (1981) as well as the Food Safety Council (1980) which indicated this assumption "is far from compelling".[6] Despite these concerns and unresolved limitations this assumption became widely supported [e.g., Peto (1978), Zeise et al. (1987), Gaylor (1992, 1997), Crawford and Wilson (1996), Heitzman and Wilson (1997), Hoel (1980, 1997), Pollycove (1997), Crump (1997, 2017), Lovell (2000), Kodell (2001), Kopp-Schneider and Lutz (2001), Beninson (1988), and Wilson (1978, 2000, 2012a)].

The dominance of the independent of background/Abbott's correction in cancer risk assessment would end by the mid 1980s as seen in the EPA cancer risk assessment guidelines (U.S. EPA, 1986). The reasons for this change to an additive to background assumption were related to several factors. Hoel (1980) reported a profound difference in estimated cancer risk using the probit model when the two background assumptions (i.e., independent and additive) were compared. The additive to background assumption was far more conservative. Secondly, Hoel (1980) showed that even when the independent model assumption accounted for 99% of the background influence it was still completely dominated by the additive to background assumption. Thus, all one had to assume was that an additive to background model could account for just 1% of the cancer process to negate the influence of the independent of background assumptions. These two factors would soon lead to the EPA 1986 change (Table 1). These factors are due to the differential manner in which the background factors are mathematically accommodated without biological or mechanistic support.

Krewski et al. (1995) stated that the U.S. EPA (1986) cancer risk assessment guidelines, in effect, restated a major conclusion of the Crump et al. (1976) and Hoel (1980) papers. That is, according to Crump et al. (1976) "if the carcinogenesis by an external agent acts additively with an already ongoing process then under almost any model the response will be linear at low doses." Complementing this perspective Hoel (1980) noted that; "If even only a small portion of the background is additive then one is in the linear at low dose situation." The EPA (1986) report stated that; "If a carcinogenic agents acts by accelerating the same carcinogen process that leads to the background occurrence of concern, the added effect of the carcinogen at low dose is expected to be virtually linear." However, the EPA (1986) document only cited the Crump et al. (1976) paper in justifying the adoption of additive to background.

Wilson (2000) indicated that the multistage model of Armitage and Doll (1957), Crump et al. (1976), Guess et al. (1977) and others, which include the additive to background assumption, depends on the belief that cancers caused by the pollutant and background (i.e., spontaneous) are indistinguishable, and therefore, pollutant and the background act in a similar way. By "indistinguishable" Wilson (2012a) would later state that the spontaneous and induced cancers, "must be biologically indistinguishable and not merely what a pathologist cannot distinguish." Consistent with the view of Wilson (2012a) was the statement of Lovell (2000) that the additive to background assumption "only holds if the mechanisms are exactly the same, not just similar or variants of one

[4] The original model of Armitage and Doll went through a few iterations including incorporating the assumption that the rates of occurrence of the different changes were proportional to dose, thereby permitting the cumulative tumor incidence to be estimated via a simplifying equation. The facilitating procedure was then extended to incorporate a background incidence in the absence of dose (do). These modifications provided a vehicle to assess spontaneous tumor incidence at each stage. A different form of the multi-stage model by Crump et al. (1976) assumed that all carcinogenesis occurred via a common mutagen induced mechanism. The exogenous carcinogen treatment simply enhanced this ongoing process. As noted in the main body of the text, the Crump et al. model assumes that any dosage related treatment effect acts via identical mechanisms as that causing background disease incidence (Lovell and Thomas, 1996).

[5] The BEIR I Committee (NAS/NRC, 1972) qualitatively addressed the issue of background radiation (100 mrem/yr). They recommended keeping the additional radiation dose to the population from human sources (activities) below the normal background quantity. They claimed that this would assure that the additional consequences will neither differ in kind from those which people have experienced throughout human history nor exceed them in quantity. Thus, the natural background was employed as a type of comparison (NAS SDWC, 1977-page 879 for discussion).

[6] Recognition of these limitations likely contributed to the failure of the additive to background assumption being accepted by regulatory agencies during the late 1970s and early 1980s. Furthermore, the long history of Abbott's correction for background led to its initial acceptance by the FDA and EPA.

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Table 1
Supportive perspectives of additive to background assumption.

Crawford and Wilson (1996), page 305	"In 1976, Crump, Hoel, Langley, and Peto described how almost any dose-response relationship for carcinogens becomes linear at low doses when background cancers are taken into account. This has been used, by the U.S. Environmental Protection Agency, USEPA, as partial justification for a regulatory posture that assumes low-dose linearity.....The argument depends critically on the assumption that the pollutant and the background proceed by the same biological mechanism."
Crawford and Wilson (1996), pages 305 and 306	"Crump et al. (1976) and Guess, Crump, and Peto (1977) reminded us that when a small amount of pollutant is added to a large amount of the same pollutant, or to another pollutant operating in the same way as the first, a response linear with the incremental dose of pollutant can result. This was a simple and elegant idea that followed mathematically from the fact that the first derivative of a smooth curve is finite. This idea was applied to cancer risks and was used as a partial justification for the US. Environmental Protection Agency's (USEPA) use of low-dose linearity in regulating carcinogens."
Crawford and Wilson (1996), page 324	"A positive, favorable, effect (hormesis) has been suggested at low doses. A biological mechanism (repair) has been suggested to explain why the number is below the line. If there is such a favorable effect at low doses, there is then a nonmonotonic dose-response, and the argument becomes very complex. It would still be important to know whether radiogenic cancers are assumed to result from the same mechanism as naturally occurring cancers. If they do so result, there could be situations where hormesis could be biologically correct in the absence of background, but not true in real situation where the background had already brought the total dose to a region of positive slope of the dose-response curve."
Crump et al. (1976), page 2973, right column	"If the addition of the test carcinogen merely increases the rates of processes that were occurring anyway, then dose-response relationships will be linear at low dose levels.....we are chiefly discussing direct carcinogenic processes in which the compound or its metabolite acts at the cellular level to produce an irreversible and heritable (genetic or epigenetic) change."
Crump et al. (1976), page 2977, right column	"Cancers thought to be induced are generally indistinguishable from "spontaneous cancers". This obviously does not demonstrate that the cancers arise by a common mechanism, but it is consistent with a common pathway to "induced" and "spontaneous" carcinogenesis."
Crump et al. (1976), page 2977, right column	"The view of carcinogenesis as a fundamentally mutational phenomenon, as recently reviewed by Knudson (1973, 1974) supports the assumption that induced and spontaneous steps are mechanistically identical." This statement reflects very limited understanding of the process of carcinogenesis. While this perspective may have been widespread during the mid-1970s it has been superseded and replaced with modern molecular advances. The assumption of Crump et al. (1976) lacked adequate evidence and can no longer be used to support the additive to background assumption employed in low dose linearity.
Crump et al. (1976), page 2977, right column	"Small extra doses of a carcinogen will therefore elicit linear increases in risk for virtually any response model."
Crump et al. (1976), page 2978, left column	"Virtually all models of carcinogenesis that depict the exposure as affecting an already ongoing process will lead to linearity at low dose."
Crump et al. (1976), page 2978, left column	"....this assumption of dependence or common mechanism is not trivial. It can make orders of magnitude difference in the estimated risk associated with low dose exposure."
Crump (1997), BELLE Newsletter	"Based on the additivity to background argument, in order to justify a biologically–based model of underlying mechanisms that predicts a non-linear low-dose response, it is necessary to rule out completely the possibility that non-pollutant-related responses could ever occur via a common mechanism. This would appear to be a difficult task in many, perhaps most, situations. The argument also suggests that the shape of the dose response curve at low doseis inherently determined by the relationship between background responses and responses induced by the pollutant. This idea seems to have been largely ignored by researchers in designing and interpreting experiments with the goal of understanding low dose risk. Perhaps a fruitful line of research would be to develop data that could be used to better understand (and perhaps refute) the additivity to background argument for low-dose additivity."
Heitzmann and Wilson (1997), page 2	Crump et al. (1976) and Guess, Crump, and Peto (1977) pointed out that if a pollutant produces cancer via the same mechanism by which background cancers occur, then there results a linear incremental response to the incremental dose. Even if the biological response mechanism has a threshold, or is non linear, the existence of the background cancers shows that the threshold is already exceeded by a background pollutant. Then when a small amount of the same pollutant, or to another pollutant operation in the same way as the first, is added, an incremental response linear with the incremental dose of pollutant can result, almost independently of the particular biological mechanism relating dose and response. This simple and elegant argument follows mathematically from the fact that the first derivative of a smooth curve is always finite."
Heitzman and Wilson (1997), page 7	"....it is important not only measure the magnitude of the biological dose-response, but also to have some understanding of the underlying biological mechanism(s) in particular, whether the mechanisms are the same for pollutant- and background-induced effects. It is also clear that if the background and the pollutant effect operate by the same mechanism, the slope of the dose-response function at low doses can be much lower than the slope at high does if he background itself is small."
OSHA (1980), Carcinogen Hearings, page 5185, right column - Federal Register 45(15):5185 and 5186 (Peto/Rall)	"Mr. Richard Peto (Oxford Univ.) explained that the most models predict a linear dose-response relationship at low dose, because of the probable existence of "equivalent background", i.e., exposure to other background carcinogens to which the effects of an added carcinogenic agent will be linearly additive (Peto, S.1: Annex B; Peto 1978). He explained during his oral testimony: Now, if we admit the possibility of such a background, then it turns out that all the arguments as to whether we should have linear models, K-hit model, one-hit models, probit model, log normal models or whatever, becomes irrevelant to the mathematical estimation of the upper confidence limit on the risk associated with a particular low dose. If any of these models is formulated in the mathematical form that the risk is equal to some function—probit, log normal, whatever- of dose plus background dose, then the consequences will be the same. Where background dose now becomes a parameter to be estimated statistically and we always finish up with linear upper confidence limits; you know, that the risk just turns out to be proportional to the dose at low doses." (Peto, Tr. 2514)."
OSHA (1980), Carcinogen Hearings, page 5185, right column - Federal Register 45(15):5185 and 5186 (continued)	"Essentially the same point was made in detail in the original paper by Peto, Hoel and their colleagues in which the multi-stage model was developed (see comment by Hoel quoted above):

(*continued on next page*)

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Table 1 (*continued*)

	Virtually all models of carcinogenesis that depict the exposure as affecting an already ongoing process will lead to linearity at low dose. We have discussed the validity of this assumption above. This result then implies that, no matter what the biological mechanism we might imagine, if the carcinogen increases some part of the already ongoing process, then we should expect the response to be approximately linear at low dose. As pointed out above, this assumption of dependence or common mechanisms is not trivial. It can make orders of magnitude differences in the estimated risk associated with low dose exposure."
OSHA (1980), Carcinogen Hearings, page 5185, right column; page 5186, left column	"…if we conceive of the cell alteration process as a series of discrete single-cellular random events that can occur in sequence or in any given cell and that a dose-independent induction period follows, then we should expect dose-response over background to be linear. We have required neither that all steps be affected by the carcinogen (only some) nor that these steps be all mechanistically similar in quantity or quality. This general class incorporates most of the reasonable models that have been proposed. The keys to this result are the assumptions of the single-cell origin and the lack of any appreciable dose dependence in the induction period."
OSHA (1980), Carcinogen Hearings, page 5185, left column	"A further extension of the group of models allows the incorporation of threshold models into the class of "linear at low dose." We have indicated that, if we conceive of single cells as the biological unit at risk and that the initiation response is a threshold phenomenon, then by assuming that the threshold is randomly distributed in dose we find that the low dose response of the whole tissue over background will be approximately linear. If, rather implausibly, we do suppose that some sort of cellular thresholds exist, then clearly all cells do not have the same threshold since all cells do not all become cancers simultaneously. Here again, we have assumed that the carcinogen acts in conjunction with the "spontaneous" or background effects."
OSHA (1980), Carcinogen Hearings, page 5136, left column	Mr. Richard Peto (Oxford Univ.) developed this point at some length in his direct statement (S. 5-10 and Annex B) and presented a mathematical proof that under rather general conditions no threshold would be expected. The basic requirement for this proof is the existence of "carcinogenic background alternatives", i.e., the existence of other agents in the environment of the exposed animal which give rise to the same functional effect: The second assumption needed is that some carcinogenic background alternatives exist to the carcinogen being considered, i.e., *some* of the spontaneous cancers that arise do so by mechanisms which are functionally similar to those whereby the test carcinogen works. Again, I believe that for *most* carcinogens *some* carcinogenic background alternatives are likely to exist, although again I would expect a few counter-examples to occur. (The counter-examples would probably involve cases where the carcinogen produces some gross pathological effects, such as suppression of ovulation, which then affects cancer risk, rather than cases where it acts directly by causing a local DNA lesions.)"(Peto, S. 6). In introducing this section of his testimony, Mr. Peto explained that most arguments for the hypothesis of thresholds or extremely low risks associated with low doses are due to failure to recognize the possibility that "equivalent background" may exist. Accordingly, he referred to the concept of thresholds as "nonsense". (Peto, Tr. 2515)."
OSHA (1980), Carcinogen Hearings, page 5136, left column	"Dr. David Rall (Director, NIEHS) made essentially the same point, both in his opening statement (Rall, Tr. 354) and in response to a questions about protective mechanisms: …I think however, it becomes almost ridiculous when you recognize that 16% of the people in this room are going to die of cancer. I mean, this talk of a threshold is, to me, sort of an ethereal dream world. You know, 16% are going to die of cancer and about twice that will get cancer in their lifetime. I am sorry, but I think the threshold was exceeded a long time ago, and I just do not see any point in talking about it anymore, in terms of the population."(Rall, Tr. 397-398).
Wilson (2000), page 297, left column	"Crump et al. (1976) and Guess et al. (1977) pointed out that the argument for low-dose linearity is far more general than the Doll-Armitage theory and depends solely on the fact that cancers caused by the pollutant and background are indistinguishable, and therefore it is likely that the pollutant and the background act in a similar way."
Wilson (2012b), page 481-482	"These analyses were used by the U.S. Environmental Protection Agency (EPA) 25 years ago as a justification for assuming low-dose linearity as a general default." "…….the usual (conservative) model suggests low dose linearity. This comes from the realization that if a medical outcome of a pollutant or action is indistinguishable from one that occurs naturally, any addition to natural incidence is proportional to the dose at low doses (Crump et al., 1976; Guess et al., 1977; Crawford and Wilson, 1996). Indeed, this is also a consequence of the usual application of the multistage theory of cancer as described over 50 years ago (Armitage and Doll, 1954)."
Wilson (2012), page 2014, right column	"….there are assumptions and approximations. In the justification I used the word "indistinguishable and not merely that a pathologist cannot distinguish."
Zeise et al. (1987), page 263, left column	"Low-dose linearity follows from a general argument enunciated by Guess et al (1977) and Crump et al (1976), which follows from Taylor's theorem (Hazewinkel, 2001). If a medical outcome caused by a pollutant is indistinguishable from an outcome that can occur naturally any small increase in dose is likely to lead to a corresponding small increase in effect (Crawford et al., 1996)."
Zeise et al. (1987), page 263, left column	"For very rare cancers, the effective background dose dB may be practically zero and the shape of the dose-response curve indistinguishable from that expected under the assumption of dose independence. On the other hand, if the cancer in question is common, with dB relatively large, the response at low doses of the external agent would be linear."
Zeise et al. (1987), page 262, right column	Commenting on a Krewski and Van Ryzin paper, they stated that "when the observed background doses were estimated and extrapolations down to an excess risk of 10^{-5} were performed and when the observed background tumor incidence was greater than about 1%, the predicted response at low dose was essentially linear in dose. However, "for background tumor incidence less than 1%, low dose linearity did not result when dose-response formula allowed for curvature, and the high dose data exhibited nonlinearity."
	"An additive assumption: The spontaneous cancers are produced by the same mechanisms as the cancers produced by the xenobiotic…….this always gives a response linear in the external dose at sufficiently low doses if the first derivative of F is finite……The idea that the carcinogen may add to an effective background dose has been often used to support the claim that a linear dose-response formula is never overly conservative."

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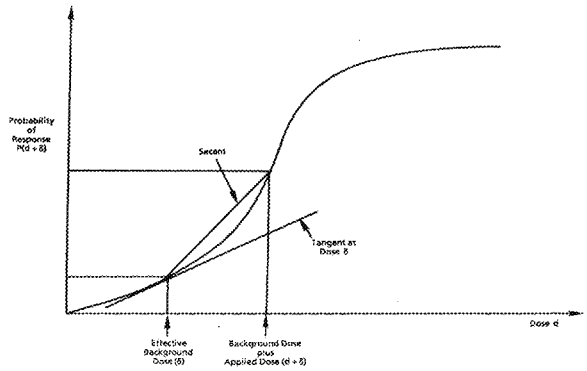

Fig. 1. The additive to background model (source: U.S. EPA, 1989).

another". As will be subsequently shown, this hypothesis became experimentally testable only well over a decade after Crump's et al. (1976) original formulation.

3.2. The additive to background rationale

Using the argument of Crump et al. (1976), Wilson and colleagues (Crawford and Wilson, 1996; Wilson, 1997) thought it reasonable to assume that most biological responses would be non-linear, but monotonically increasing. In a situation of zero background disease incidence, the dose-response relationship at low doses would reflect an obvious non-linearity as an infinitesimal dose would yield very slight (i.e., negligible) increase in response. Thus, this scheme assumes the existence of an "equivalent background dose" (do), that would create the background response. The general requirement for the additive to background based model demands that the toxicologically based dose response curve be smooth and monotonical while the background agent and toxic agents (i.e., pollutants) must act via the same mechanism(s) (Zeise et al., 1987; Krewski et al., 1995; Wilson, 1996, 1997). As noted by Krewski et al. (1995) and Rhomberg et al. (2011) the enhanced/extra risk over background is linear at low dose with the incremental/positive response over background being approximated by the tangent to the curve at zero dose (Fig. 1). As noted by EPA (1989) the spontaneous tumor rate increases as a result of an effective "background dose" the effects of which act additively to background via a dose related manner. The excess risk over background, which is linear at low doses, occurs due to the fact that the secant between doses of δ and (δ + d) converges to the tangent of the dose response curve when the dose d of the agent under evaluation becomes small. This situation creates a theoretical framework in which the unexposed population is, as noted by Rhomberg et al. (2011), already to some extent up the response curve at zero exposure to the agent under study/evaluation (Fig. 1). This would be the case even if the dose response mechanism for carcinogens acted via a threshold, linearizing the dose response for such agents (Zeise et al., 1987; Wilson (1997); Fisher (1984)). The general view was that humans display a relatively high cancer background incidence in the 20–25% range over a lifetime. New exposures to chemical/radiation-carcinogens were assumed to directly add to this background burden, resulting in an increased incidence of cancer and/or its accelerated appearance (i.e., shorter latency period) (Platt, 1955). This view was reinforced by Gaylor (1997) who noted that the most compelling argument supporting low dose linearity is the "situation where a chemical augments a background tumorigenic process… The presence of background tumors indicates that existing endogenous and/or exogenous factors already surpassed a threshold dose, if one exists".

When a chemical is designated as a human or probable human carcinogen and of regulatory concern, it may be evaluated further via the application of quantitative risk assessment. Of particular significance in this process is the derivation of the cancer slope factor,

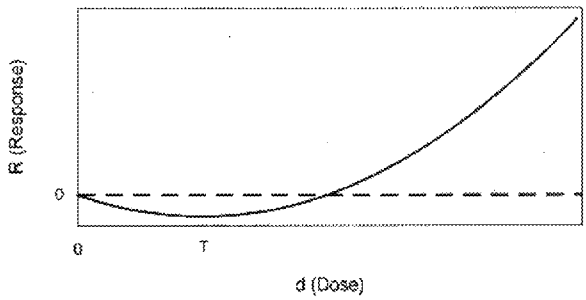

Fig. 2. Hormetic dose response: Additive to background low dose linearity response starts at the nadir (optimal treatment = T) of the hormetic (adapted from Crump, 1997).

which quantitatively defines the relationship between the dose and response. According to the EPA the cancer slope factor represents a plausible upper-bound estimate of the probability that an individual will develop cancer if exposed to a chemical for a lifetime of 70 years. The cancer dose-response assessment procedure determines a point of departure, which is typically the derivation of the lowest effective dose (LED) for a 10% treatment-related response corresponding to the lower 95% limit of the dose. This value, which is associated with the 10% risk adjusted for background (Wiltse and Dellarco, 2000), provides the practical significance of the additive to background with EPA risk assessment practices.

Krewski and van Ryzin (1981) showed that the additive to background assumption for multiple data sets revealed that when the background disease incidence > 1% the estimated risk at low dose was linear. When the background tumor incidence < 1%, low dose linearity did not occur. Thus, if the cancer under study is common, the predicted response at low dose would be linear. Since a large proportion of human cancers (i.e., breast, ovary, thyroid, colorectal, kidney-pelvic, leukemia, liver and bile duct, lung and bronchi, melanoma, non-Hodgkins lymphoma, oral cavity, pharynges, pancreas, prostate, stomach, and urinary bladder) (U.S. NCI 2011–2013 U.S. statistics) exceed the 1% background tumor incidence, the additive to background assumption would remain operational. An extensive follow up evaluation by Gaylor (1992) was supportive of the general perspectives offered by Krewski and van Ryzin (1981). For linearity at low dose to be dropped from the cancer risk assessment lexicon, the additive to background concept would have to be shown to be incorrect[7] or the hormesis model (Calabrese, 2008; Calabrese and Baldwin, 2003) would have to be adopted. In the case of hormesis, if additive to background were accepted, the response would start at the nadir of the J-shape dose-response, where the cancer risk is less than background creating, in effect,

[7] Hoel (1980) provided a biostatistical estimate of the impact of a mixture of independent and additive to background modeling for cancer risk assessments using the probit model. The exercise revealed that the additive to background assumption strongly dominated the risk estimated even when 99% of the sample was assumed to be independent. He indicated that even if additive to background was a minor factor it would still, in effect, drive the risk assessment to linearity at low dose. He stated that for the independent of background condition to have an important impact on the cancer risk it must be 100%, even 99% independent would not be influential. The assessment of Hoel was limited to assume a slope of 1 using the probit model. Whether the findings of Hoel (1980) would be generalizable to other slopes and/or models was not addressed. Yet, it was used by EPA (1986) as justification to continue its acceptance of the additive to background assumption in cancer risk assessment. According to Bogen (January 5, 2018-personal e-mail communication to Edward J. Calabrese) the argument of Hoel is independent of model and slope when the background response is non-zero. Despite such theoretical comments, Harris Fischer (1984) noted that "we will determine whether background acts additively or independently not by contemplation of dose-response relationships, but by whether we find such mechanisms at work in biological experiments. Presumably, this is something that we can eventually get a handle on by looking at the actual microbiological processes occurring within the DNA molecule." This comment by Fischer nearly 35 years ago anticipated the oncogene revolution and the intent of the present paper to evaluate the additive to background hypothesis with modern molecular biological mechanisms.

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Table 2
Critical perspectives on additive to background assumption.

Heitzman and Wilson (1997), page 6	"The usual assumption that background- and pollutant-induced biological effects proceed by the same biological mechanism may not be correct in the case of benzene. There is some evidence that benzene-induced leukemiasare always preceded by pancytopenia, which does not occur naturally in the population to any appreciable extent. If this is the case, background leukemias must be produced by an entirely different mechanism than benzene-induced leukemias, and the Crump et al. (1976) argument does not apply."
Davel G. Hoel (1997), BELLE Newsletter	"As one of the original authors (of the Crump et al., 1976) of the low-dose linearity paper, I am less enthusiastic than Crawford and Wilson are over its usefulness. The original paper was written some twenty years ago without benefit of much of today's biology. What is of concern is whether or not the original simple idea of background additivity is consistent with today's biology and whether the concept, if true, has any value for quantitative risk estimation."
Robert L. Sielken Jr. (1997)	He focused on the additive to background mechanism assumption: "First, the background dose and the "pollutant" are assumed to have exactly the same mechanism of action (that is, that the background dose and the pollutant dose are additive in the dose-response relationship). For example this means not just that the background dose and pollutant both cause liver tumors, but also that they both affect the same cell types, affect the same stage in a multiple stage process, and cause the same type of cellular activity (e.g. both cause the same adduct, both inhibit the same repair processes, or both impact cell proliferation or apoptosis in the same way).
James D. Wilson (1997)	This is a critique of the Heitzman and Wilson 1997: "…their conclusion rests on a mathematical analysis of a special case and a few examples, one an obvious and acknowledged exception. For science, the proof of their proposition is not persuasive. …. They and Crump et al. argue that the dose response is continuous and monotonically increasing. A relation that is discontinuous, a step function, for example, will obviously not produce a straight line when added to a background process. The result will still be a step function…..argues that the rate limiting step consists of induced proliferation in cells in the target organ, a process that is very tightly controlled, physiologically.

a dose response threshold (Fig. 2) (Crump, 1997).

3.3. The additive to background assumption and molecular mechanisms: How does this assumption hold up in the modern era

3.3.1. Early questions, concerns, and affirmations of additive to background

About two decades after the Crump et al. (1976) article on additive to background, Hoel (1997), a co-author of that paper, wrote **"what is of concern is whether or not the original simple idea of background additivity is consistent with today's biology and whether the concept, if true, has any value for quantitative risk estimation"**. According to Hoel (1997), troubling inconsistencies in the original additive to background concept as applied to risk assessment have been reported, such as that different carcinogens produce various cancerous subtypes. For example, cigarette smoking induces an acute myelogenous leukemia subtype M2, while benzene has a high relative risk for subtype M4. Moreover, other acute myelogenous leukemic subtypes are associated with ionizing radiation.

In the case of acute leukemia Taylor et al. (1992) found 15% had activated RAS oncogenes. While exposure to solvents has been associated with increased risk of RAS-activated acute leukemia it has not been associated with non-RAS acute leukemia. These complexities indicate that acute leukemia in humans displays multiple possible pathways and raises the likelihood that an agent may affect only a specific pathway. Based on the above findings, Hoel (1997) suggested that the existence of multiple pathways might affect the additive to background argument.

Hoel (1980) also challenged the additive to background concept for a cell proliferation tumor promotion mechanism, stating that since cells divide spontaneously, this assumption should apply. However, this was a position he found unpersuasive. This later criticism is important as it complements the principal focus of mechanisms inherently genetic/oncogene related. Table 2 provides a range of historical perspectives by leading experts that are supportive and critical of the additive to background assumption.

The additive to background features of the cancer dose-response assessment process were based on an assumption that was not verified nor experimentally explored prior to incorporating it into EPA and other regulatory agency risk assessment principles and practices. The molecular tools simply did not exist at that time to test the underlying hypothesis. It was also an assumption/belief that failed to become the object of an adequate timely follow-up review after its adoption by EPA.[8,9] It simply became the equivalent of a "codified" assumption, a "basic tenet", accepted without an adequate assessment and factual basis.

3.4. Testing the additive to background hypothesis

Contradicting the additive to background assumption, numerous papers have demonstrated that spontaneous tumors often are initiated and progress via different mechanisms (Table 3) than chemically/radiation-induced tumors of the same organ (e.g., hepatocellular carcinomas, lung tumors, forestomach tumors, Harderian gland tumors). This is the case despite similarities at the level of tumor location and histopathological evaluations (Table 4). The principal comparison of

[8] In a March 15, 1979 notice in the Federal Register, Douglas Costle, the EPA Administrator, indicated that the single-hit model "has been modified to account for spontaneous tumor incidence". An Appendix to this statement by Administrator Costle indicated it incorporated the concept of spontaneous control group tumor incidence via an independent of background assumption using Abbott's correction (Abbott, 1925), which was incorporated into the one-hit model. Abbott's correction was subsequently incorporated in the multi-stage model after its adoption by EPA in November 1980 as reported by Anderson (1983).

[9] In 1989 the EPA conducted a workshop on various aspects of carcinogen risk assessment. One aspect included the additive to background assumption. The additive to background assumption session activities were summarized in the workshop proceedings. While the conclusions reaffirmed past assumptions and practices, the workshop identified a series of key questions that guided and/or emerged from the workshop activities. The hypothetical questions posed were:

a. Is the additive-to-background position an assumption or are there data to suggest that it describes the underling biological truth?
b. How does the statistical argument that low-dose linearity is to be expected when mechanism is additive to background fare in view of knowledge of various mechanisms of carcinogenesis?
c. How can we distinguish cases of independent and additive background in practice?
d. What biological data can help in trying to make this distinction? What is known about the low-dose properties of dose-effect curves for elements of proposed mechanisms of carcinogenesis (e.g., mutation, cytotoxicity, receptor binding)?
e. Practically speaking, are we able to measure very small elevations in these processes over background so small that they imply trivial cancer consequences in order to detect a virtual (or practical) threshold?
f. For quantitative purposes, should a putative epigenetic carcinogen be treated as acting independently from or additively to low levels of other such agents in the human environment? Of genotoxic agents in the human environment?
g. In view of the above issues, under what circumstances might it be appropriate to assume that carcinogenesis has or does not have a dose threshold?
h. What criteria must be satisfied to treat a carcinogen as acting independently from background, and how should exposures to these substances be viewed vis-a-vis exposures to substances that may be additive to background?

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Table 3
Mechanism comparison of spontaneous vs induced tumors: Assessment of additive to background assumption.

Citation	Comparison Endpoint	Agent	Animal Model	Tumor	Evaluation/Comment
Antal et al. (2002)	Loss of heterogenecity (LOH)	Gamma irradiation	C57BL/6 female DBA2 male mice	Liver and lung tumors	LOH at D4Mitt77 (liver) and Acrb (lung) were identified in treated mice but not in spontaneous tumors.
Blackshear et al. (2015)	Gene upregulation	Vinylidene chloride (VDC)	F344/N male rats	Peritonael *meso*thelioma	Mesotheliomas from VDC-exposed rats ALONE displayed an over-representation of pro-inflammatory pathways and immune dysfunction including nuclear factor kappa chain-enhancer of activated B cells signaling pathway, IL-8, Il-signaling, interleukin responses, Fc receptor signaling and natural killer and dendritic cells signaling pathway, presentation of DNA damage and repair. (abstract) Mesotheliomas from VDC-exposed rats displayed upregulation of genes with tissue damage (Tlr2, Dpt, Mrcl, Pla2g2a) and damage-associated molecular pattern (DAMP) molecules (S100a*, S100a9, Mc1, and Lyvel). (page 176, right column) Mesotheliomas in all VDC-exposed rats were morphologically similar to spontaneous *meso*theliomas in F344N male rats. In many cases the expression of these genes were "fairly" similar between spontaneous and VDC *meso*thelioma, both displayed an overlap of genes associated with multiple molecular categories. (page 176, left column and page 1606, left column)
Chan et al. (1993)	Oncogene comparison	NDEA; NNK	B6C3F1 mouse	Liver tumor; lung tumor	Liver (NDEA): the mutation spectrum of activated H-ras genes was different than that reported for spontaneous mouse liver tumors. This was based on the proportion of mutations at the three locations of Codon 61 (CAA→AAA, CGA and CTA of the H-ras). There was also a dose dependent difference in the mutation spectra. This suggests that high doses do not predict responses at low doses well. Lung (NNK): As in the case with the liver, there was a significant difference in the specific location of activated K-ras for Codons 12 & 61 between the spontaneous and NNK treated mice. There also was a dose dependency issue for lung tumor oncogene responses as well.
Chinsky et al. (1985)	Location of tumor development	Methylcholanthrene CMA	RF/J mice; AKR mice	Thymic lymphomas	"…T-lymphocytes comprising tumors induced by MCA differ from the T-lymphocytes in spontaneous AKR tumors in the frequency with which they express c-*myc* and c-*myb* transcripts." (page 568, left column). Presented "evidence suggesting that thymic lymphomas induced in RF mice by skin painting with MCA differ significantly from spontaneous thymic lymphomas of AKR mice." (page 568, left column) "Spontaneous thymomas develop in thymic medulla while the MCA induced thymomas occur in the cortex. This happens in both models." (page 568, left column)
Devereux et al. (1991)	Oncogene comparison	NNK; NDMA	C3H mouse	Lung tumor	The activating mutation in all the pulmonary tumors from the NNK or NDMA-treated mice was a GC- > AT transition, located at the second base of codon 12 of the K-ras gene. However, K-ras activation was only reported in 3 of 7 spontaneous lung tumors: one GG to TA, (2nd base of codon 12), one GC to AT transition in the 2nd base of codon 12, and one AT to TA in the 3rd base of codon 61. (page 301, right column)
Donnelly et al. (1996)	Oncogene comparison	Aflatoxin B	AC3F1 (A/J x C3H/HeJ) mice	Lung tumor	All of the lung tumors from AFB1 treatment displayed K-ras codon 12/13 (exon 1) mutations at quanine residue while 65% of K-ras in the spontaneous tumors were located in codon 61 (exon 2) with mutations at the quanine and adenine residues. (page 1738, left column Nearly all lung tumors in AF1-treated mice had K-ras codon 12 mutations with most being at GTT followed by GAT and TGT. The controls showed a markedly different pattern with few mutations to GTT and TGT. (page 1738, left column)
Fox et al. (1990)	Oncogene comparison	Benzidene; Phenobarbital; chloroform; coprofibrate	C57B1/6 x C3H/He	Liver tumor	Liver tumors induced by these carcinogens had much lower frequency of H-ras activated than spontaneous liver tumors. These were also related to codon specificity.
Hayashi et al. (2001)	Oncogene comparison	1-amino-2,4-dibromoanthraquinone (ADBAQ)	B6C3F1	Forestomach tumor	Predominant H-ras codon 61 CAA- > CTA transversions were detected in ADBAQ-induced; these were not considered to be spontaneous because such mutations have not been detected in spontaneous forestomach tumors examined to date in B6C3F1 mice.
Hong et al. (2003)	Oncogene comparison	o-nitrotoluene; riddelliine	B6C3F1	Hemangiosarcomas (HS); skeletal muscle tumors; mesentery tumors	There was a lack of ras, p53 and B-catenin mutations in the spontaneous HS. It provides a foundation to compare with carcinogen-induced HS. A high proportion of K-ras codon 12 G to T transitions occurred in riddelliine-induced liver HS transversions. In controls, ras mutations were detected with o-nitrotoluene treatment but at a lower frequency. However, it showed high frequencies of B-catenin mutations. Both agents showed high incidence of p53 mutations. (page 233, top left column)

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Table 3 (*continued*)

Citation	Comparison Endpoint	Agent	Animal Model	Tumor	Evaluation/Comment
Hong et al. (2007)	Oncogene comparison	Ethylene oxide	B6C3F1	Lung tumors; Harderian gland tumors	The pattern of K-ras oncogene activation was significantly different between the spontaneous tumors of the controls and the tumors of the treated groups for Harderian gland neoplasms and lung tumors. There also appears to be a significant reprogramming within control groups for the lung and the Harderian gland tumors.
Hong et al. (2008)	Oncogene comparison	Comene	B6C3F1	Lung tumor	The comene treated mice displayed a markedly different mutation spectra than the controls across codons 12, 13, and 61. Major changes in the related frequency of codon mutations were seen in codon 12 (GAT and TT or codon 61 (CGA and CAT)
Hong et al. (2015)	Oncogene comparison	Cobalt metal	B6C3F1/N	Lung tumor alveolar/ bronchiolar carcinoma	The incidence of K-ras mutations in lung tumors from mice chemically exposed to cobalt was 67%. The majority of K-ras mutations were localized within codon 12 (43%) (30/69) followed by codon 61 (20%) and codon 13 (6%). The most common codon 12 mutations in lung tumors from all cobalt exposure dose groups was a G to T transversion.
Houle et al. (2006)	Oncogene comparison	Benzene; ethylene oxide	B6C3F1	Mammary gland carcinomas	The mutation spectra of H-ras codon 61 and P53 for codons revealed significant difference between the tumors of the controls and treated mice. Noteable suppression of control group oncogene activation was reported for both the H-ras and P53 codons.
Ozaka et al. (2010)	Chromosome aberrations	Gamma Ray	Sprague-Dawley	Mammary carcinomas	Characterized genomic copy number aberrations for radiation induced rat mammary carcinomas. Reported 14 carcinomas (2 Gy dose) and 26 aberrations, including trisomes of chromosomes 4 and 10 for three and one carcinomas, respectively, and an amplification of the chromosome region 1q12 in two carcinomas, and deletions of the chromosomal region 3q35q36, 5q32 and 7q11 in two, two and four carcinoma. These were not found in spontaneous mammary carcinomas. First report of array CGH (comparative genomic hybridization) analysis for radiation-induced mammary tumors showing distinct aberration patterns, different than spontaneous tumors. (abstract)
Imaoka et al. (2008)	Gene expression	Radiation Gamma-rays	Sprague-Dawley rats	Mammary Carcinomas	Gene expression analysis distinguished between spontaneous and radiogenic carcinomas, suggesting possible differences in their carcinogenic mechanisms. The data indicate that spontaneous and radiogenic mammary cancer developments involve distinct molecular and cellular mechanisms. 50 genes were identified that displayed different expression levels between spontaneous and radiogenic carcinomas. (abstract)
Kawano et al. (1996)	Oncogene comparison	NNK	A/J female mice	Lung tumors	K-ras gene mutations were found in 72.2% of all NNK-induced lung lesions; the principal mutations was a G to A transition at the 2nd base of codon 12. According to the authors the gene mutational change is "clearly different from the mutational pattern in untreated control mice." However, whether and how NNK induced mutations affect the process of carcinogenesis needs further clarification.
Liu et al. (2003)	Gene deletion comparison	ENU; Gamma Rays	HL-60 cells	Leukemia	The spectra of spontaneous mutations were notably different from that induced by ENU and radiation. Total exon deletion did not occur in a spontaneous mutation, but did so in gamma rays and ENU-induced mutations. The proportion of deletion mutations were very different between the treated and spontaneous mutation groups. Likewise, this was also the case for induced mutations at the hprt locus.
Lokhonov (1991)	Oncogene comparison	DMBA	CD-1 mice	Liver tumors	During transplacental carcinogenesis studies DMBA-induced lung tumors were associated with A to T transversions in codon 61, (position two) of H-ras. These mutations were not observed in the liver tumors of controls.
Manam et al. (1992)	Oncogene comparison	DMBA	CD-1 mice	Lung tumors	DMBA induced several types of K-ras mutations not found in spontaneous lung tumors in CD-1 mice. See codons 12, 13, and 61.
Manam et al. (1995)	Oncogene comparison	4-aminoazobenzene; N-OH-AAF; DEN; DMBA	CD-1 mouse	Liver tumors	Spontaneous liver tumors had a low frequency of ras mutations, all of which were in the Ha-ras codon 61, with the majority of mutations (~80%) C - > A mutations – only detectable after transfection. The pattern of ras mutations in AAB-, N-OH-AAF and DEN induced tumors were significantly different than spontaneous tumors. For example, 10 Ki-ras codon 12 (G-C) mutations were found in 37 single dose AAB-induced tumors. The number and distribution of mutation types were significantly different by dose, similar to other studies noted in this review. Multi-dose DMDA-induced liver tumors had A- > T mutations in the Ha-ras codon 61 and G- > C mutations in Ki-ras codon 13. These were similar to single dose responses. The DMBA treatment also had a high proportion of tumors with Ha-ras-codon 12 (G- > A) mutations. The Ha-ras codon 61 A- > T, Ha- and Ki-ras codon 13 G- > C and N-ras codon 12 and 13 G- > T mutations were believed to be induced by the initiating dose since they were not found in the spontaneous tumors.

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Table 3 (*continued*)

Citation	Comparison Endpoint	Agent	Animal Model	Tumor	Evaluation/Comment
Manjanatha et al. (2017)	Oncogene comparison	Ethylene oxide	Big Blue mouse	Lung tumors	The authors reported significant mutation spectra shift at the 200 ppm concentration of ethylene oxide at the 8 and 12 week time period.
Marxfield et al., 2006	Gene profiling	DMBA	Sprague Dawley	Mammary adenocarcinomas	The histologically similar spontaneous and DMBA-induced adenocarcinomas could be separated by gene profiling.
Mass et al. (1996)	Oncogene comparison	Benzo(b)fluoranthene	A/J mice	Lung tumors	Nearly 90% of chemically-induced tumors had a mutation in codon 12, the K-ras oncogene. These mutations had G- > T transversions in the first or second base on codon 12. In controls, the spontaneous tumors had a markedly different pattern GGT- > GAT (61%).
Melnikova et al. (2004)	Genomic alterations	DMBA	Murine, melanoma, cell line B16Fo	Melanoma	Inactivation of the pl9^{Arf} and P16^{INK4a} genes cooperating in the development of spontaneous mouse melanomas, whereas loss of P19^{Arf} or p53 tumor suppressors cooperate with ras and/or mAPK cascade to induce malignant transformation in carcinogen-induced melanomas.
Mittelstaedt et al. (1999)	Oncogene comparison	2-AAF	Hprt; lymphocytes in F334 rats	Lymphocytes studied	Different sequence specificity of Hprt lymphocyte mutation than controls. 2-AAF most common mutation was G:C- > T:A transversion (32% of all mutations); followed by 1-base pair (bp) deletion (19%); there were very few (5%) G:C- > A: transversions, but no 1 bp deletions.
Nesnow et al. (1995)	Oncogene comparison	Benzo(a)pyrene; benzo(b) fluoranthene; cyclopental(cd) pythene; dibenz(a,h)anthracene; 5-methylchrysene	A/J mouse	Lung tumor	A treatment-induced shift in tumor mutation frequency and in the mutation spectra. For example, in the spontaneous A/J mouse the codon 12 GAT mutation was reported to occur in 59% of tumors while codon 12 TGT initiation did not occur. In contrast, in the BAP treated mice the codon 12 GAT mutation occurred in only 19% of tumors and the codon 12 TGT mutation was observed in 50% of tumors.
Nishimura et al. (1999)	Oncogene comparison	Gamma-Rays	Scid mice	Thymic lymphomas	Neither activated K-ras or N-ras were found in the spontaneous lymphomas. However, K-ras mutations increased in a dose-dependent fashion in the radiation-induced lymphomas. Analysis of the spectrum of K-ras mutations revealed unique mutations in both codon 13 (GGC- > GAC) and codon 61 (CCA- > CTA) in addition to the more commonly observed substitutions of GAT- > GGT in codon 12 of K-ras.
NTP Tech Report 507 (2002)	Oncogene comparison	Vanadium pentoxide	B6C3F1 mouse	Lung tumor	Major mutation profile differences occurred with K-ras 12 codon; this is seen with GTT, TGT, and to a lesser extent with GAT mutations.
Reynolds et al. (1986)	Oncogene comparison	Liver carcinogens (not specifically identified)	B6C3F1 mouse	Liver tumors	"At present, any relationship between spontaneous tumors and the high frequency of chemically induced tumors in the liver of the B6C3fF Mouse is **unclear**." (p36- Column #2).
Reynolds et al. (1987)	Oncogene comparison	Furan and furfural	B6C3F1 mouse	Liver tumor	These two agents tested positive for tumor induction in the mouse liver 2-year carcinogenicity studies, but test NEGATIVE for induction of mutation in Salmonella assays. "The spectrum of activating mutations in the H-ras gene and the pattern of ras gene activation observed in the chemically-induced liver tumors differ significantly from those observed in the liver tumors of untreated animals. All of the activated ras genes detected in the spontaneous liver tumors were H-ras with activation by point mutations at Codon 61. However, only 60% and 40% of the ras oncogenes detected in the furan and furfural, respectively, were activated K-ras or H-ras genes with mutations and positions other than codon 61."
Reynolds et al. (1988)	Oncogene comparison		BC3F1 mouse	Liver tumors	"Activated Ki-ras genes were detailed in the chemically induced liver tumors but not in the spontaneous liver tumors." (refs. 9 & 10). "…all of the H-ras oncogenes detected in spontaneous liver tumors were activated by point mutations in codon 61 whereas H-ras oncogenes detected in the chemically induced tumors were activated by point mutations at a number of different codons." (see reference 10). In the F344/N rat strain of the NTP program with 20 benign spontaneous lung tumors there were no detectable oncogenes. However, 18 of 19 chemically induced lung tumors had detectable oncogenes in K-ras codon 12.
Ruasby et al. (1991)	Oncogene comparison	DEN; Phenobarbitone	C3H/He mice	Liver tumors	This study demonstrated a striking difference between tumors induced by DEN or PB and those that occur "spontaneously" in C3H/He mice. Codon 61 mutations were reported in 41% of DEN induced tumors (19/41), with either first base (CG- > AT, 12/19), a transversion, or the second base (AT- > GC, 7/19) a transition. Codon 61 mutations (all CG- > AT 6/21) were detected in 29% of spontaneous tumors. However, none were found in the PB induced tumors (0/15) and in normal tissue of untreated mice (0/30).
Sills et al. (1995)	Oncogene comparison	Ozone; methylene chloride; tetranitromethane, 1,3-butadiene	B6C3F1 mice	Lung tumors	The control group (concurrent) displayed a markedly different K-ras mutation pattern than ozone, MC, tetranitromethane and 1,3-butadiene for codons 12, 13, and 61. This was most evident in codon 12 for GTT and TGT mutations, codon 13 for CGC, and codon 61 for CTA mutation.

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Table 3 (*continued*)

Citation	Comparison Endpoint	Agent	Animal Model	Tumor	Evaluation/Comment
Sills et al. (1999a)	Oncogene comparison	Chloroprene	B6C3F1	Lung	While a significant mutation spectra difference occurred within the control and treated groups/ tumors for oncogene mutations, it was most evident for codon 61.
Sills et al. (2001)	Oncogene comparison	1,3-butadiene; isoprene; chloroprene	B6C3F1	Forestomach	The exposure to these agents induced changes in ras mutations which were a qualitatively and quantitatively different mutation spectrum than in spontaneously occurring neoplasms of the forestomach. The lack of H-ras codon 61 CTA mutations and the rare detection of K-ras codon 13 CGC mutations in the spontaneous forestomach neoplasm enhances the likelihood for a causal link with the chemical exposure.
Stanley et al. (1992)	Oncogene comparison	Vinyl carbamate	C57BL/6 J B6D2F1	Liver	These strains of mice are somewhat resistant to developing chemically-induced liver tumors and the frequency spectra of mutations for codon 61 was different in induced and spontaneous tumors, suggesting that different oncogene pathways were activated.
Ton et al. (2004)	Oncogene comparison	BMP 2,2-bis(bromomethyl1,3-propanediol) TNM	B6C3F1 mice	Lung tumors	The treated mice had lung tumors with K-ras mutations, most being GGT- > GTT mutations in codon 12, while none were observed in controls. The lung tumors typically show G- > A transitions (GGT- > GAT) at codon 12 (13/18), while none occurred with spontaneous lung tumors.
Unfried et al. (2002)	Oncogene comparison	Asbestos: crocidolite	(transgenic) F344 female rats, 8 weeks	Greater omentum mutations spectra lacl gene from DNA of omenta of lacl transgenic rats	The molecular assessment of the mutations showed marked differences (mutation types) between asbestos-induced mutations and spontaneous mutations. The authors concluded that a specific molecular mechanism induced by crocidolite differs from that induced by the generation of spontaneous mutations. G to A transitions occurred in the spontaneous mutations with a frequency of 57%. This occurred with only 20% frequency with crocidolite and 35% for BaP. Chromosome deletions were also 5 times more common with crocidolite than in spontaneous mutations.
Warshawsky et al. (1996)	Oncogene comparison	7H-dibenzo[c,g]carbazole	A/J	Lung tumor	K-ras mutations were very different for treated mice at codon 61 than spontaneous tumors. Multiple mutations at codon 12 for spontaneous tumors did not occur for treated mice.
Watson et al. (1995)	Oncogene comparison	Vinyl carbamate	B6C3F1	Hepatocellular tumor	Differences in mutation spectra for codon 61 are shown with CTA adenomas.
Wiseman et al. (1986)	Oncogene comparison	N-HO-AAF; VC (vinyl carbamate) HO-DHE (1′-hydroxy-2′,3′-dehydroestragole)	B6CeF1 male mice	Hepatoma	If the mutations included by these three agents occurred from spontaneous mutagen events, the distribution of mutations should have been similar regardless of the specific chemical treatment (see Discussion), which was not the case
You et al. (1989)	Oncogene comparison	BaP; MNU EC-ethylcarbamate	Strain A	Lung tumors	Spontaneous and chemically-induced lung tumors displayed a significant "different mutation spectra seen with codon 12 – TGT for BaP, codon 12 for GAT for MNU, and codon 61 for CTA for EC.
You et al. (1993)	Oncogene comparison	Benzotrichloride (BTC)	A/J mice	Lung tumors	The pattern of activating mutations in the K-ras gene seen of BTC-induced lung tumors differed markedly from the spontaneously occurring lung tumors. Activating mutations in spontaneous tumors were in both codon 12 (60%) and codon 61 (30%) with several types of codon substitute transitions. In contrast, 100% of the activating mutations detected in BTC induced lung tumors were in the 12th codon with exclusively GC- > AT transitions. Only 27% of the K-ras mutations seen in spontaneous tumors were GC- > AT transitions. These observations revealed that the activating mutations in the K-ras gene of BTC-induced lung tumors probably were induced by a genotoxic effect of the agent.

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spontaneous and induced tumor biology occurred as an outgrowth of the discovery of oncogenes at the level of molecular pathology (Tables 3 and 4). This research involved both the development of basic understanding of oncogenes in the process of carcinogenesis and using these findings to assess the predictive utility of the NTP cancer bioassay program (Maronpot et al., 1995).

Over the course of the now three decades, this area of research has expanded to include 45 agents (Table 5), multiple animal models (Table 6) and the assessment of multiple tumor types (Table 7). Furthermore, the mechanistic evaluation has progressed beyond initial oncogene activation to the occurrence of patterns of gene activation/molecular pathways (Blackshear et al., 2015), and the subsequent occurrence of additional mutations (Parsons et al., 2010) which further transform the altered tissue towards a more tumor-like progression, linked to metabolic reprogramming, creating progressively modified tumor phenotypes (Martinez-Outschoorn et al., 2013; Kerr et al., 2016). This mechanistic based knowledge indicated that tumors become progressively more diverse with individualistically appearing phenotypes, enhancing the difficulty for successful therapeutic applications (Salk et al., 2010). This general progress of knowledge of tumor development revealed that the induced tumors can be molecularly differentiated from similar appearing spontaneous tumors (Tables 3 and 4). This general biological/molecular framework does not support the assumption that one could expect additive to background for cancer assessment since spontaneous and induced tumors that develop within the same organ/tissue typically do not display the same mechanism(s).

The capacity to make molecular mechanism evaluations of the additive to background assumption emerged during the mid-1980s with the identification of proto-oncogenes and their related molecular pathways, as well as methodological developments such as polymerase chain reaction (PCR) in the late 1980s and other nucleotide assessment methods. None of the numerous subsequent experimental papers published on the issue of whether induced tumors employed the same mechanisms of background/spontaneous tumors using mutated/activated oncogenes related their findings back to the issue of cancer risk assessment, regulatory agency policy, or the additive to background papers of Amitage and Doll (1957), Crump et al. (1976), Guess et al. (1977), or to the guidance of the NAS SDWC (1977) or the U.S. EPA (1986, 1996, 2005) cancer risk assessment guidelines which reaffirmed the additive to background assumption.

3.5. Direct comparison: Spontaneous vs Induced Tumor Mechanisms

Data that supported the hypothesis that spontaneous and induced tumors were not mediated by the same mechanistic process emerged during the late 1980s to mid-1990s. A substantial number of the studies as summarized in Tables 8–18, and Figs. 3–10 compare spontaneous and induced tumors for oncogene mutation. When the carcinogen treatment induces different mutations and/or different mutation patterns than those of the spontaneous tumors it suggests that the carcinogen induced tumor occurred via different mechanism(s) than those involved in spontaneous tumors (Maronpot et al., 1995-page 132). An example of such a carcinogen induced altered mutation spectra is seen in Fig. 3, which compares spontaneous and NDEA-induced liver H-ras oncogene mutations in the B6C3F1 mouse with respect to codon 61 induced mutations at the three positions. The figure indicates that 64.6% of the spontaneous hepatocarcinomas display mutations in H-ras codon 61 whereas in the NDEA-induced tumors 46.7% have H-ras oncogene mutations (Chen et al., 1993). The codon 61 mutations of the treated mice were distributed in a manner that differed markedly from spontaneous tumors. None of the treatment induced tumor mutations were in position #1 (AAA) of codon 61 while position #2 (CGA) displayed nearly 93% of the mutated oncogenes. These data indicate that the induced tumors displayed significantly less mutated ras oncogenes at position #1 and a profoundly different overall mutation spectra pattern. These findings suggest that the tumor mechanisms are significantly different between the spontaneous and induced tumors. The findings of Nesnow et al. (1995) describe responses with the A/J mice strain lung tumor model for four polycyclic aromatic hydrocarbon carcinogens for codon 12 (Table 16). As was the case with the B6C3F1 mouse liver, these findings also illustrate marked differential patterns of oncogene involvement in tumor development between the chemically induced and spontaneous tumors. Tables 8–18 and Figs. 3–10 include a wide range of chemical agents with a predominant focus on hepatocellular carcinoma in the B6C3F1 mouse for K-ras mutations. However, the listing is also broadly inclusive of other animal models, tumor types, and oncogenes. While each mutation spectra is specific to the agent, model, and endpoint, the overall pattern of marked differences between induced and spontaneous tumor appears independent of the diverse experiment parameters (e.g., agent, model, tumor, etc.).

An assessment of numerous similar types of studies reveal marked carcinogen-specific oncogene mutation frequencies and spectra. Tables 8–18 and Figs. 3–10 show such cases of significantly differing mutation spectra for a wide range of chemical agents for induced versus spontaneous tumors. These findings indicate that the induced tumors are very unlikely to act via the identical mechanisms of the spontaneous tumors that relate to the specific oncogenes studied (Table 19). The tables reveal that the additive to background assumption was not credible for 45 agents, many of considerable environmental public health relevance (Table 5). These studies affected a broad range of animal models (Table 6) and tumor types (Table 7).

In a dose-time response extension of the above oncogene research, McKinzie and Parsons (2011) assessed oncogene-related mutation frequency over 32 weeks, with a temporal linkage of oncogene activation and colon cancer in the F344 rats treated with azoxymethane (AOM). The GAT and GTT mutations of codon 12 were not altered over the first 24 weeks in controls. However, by week 32, the control group displayed an increase in codon 12 mutations. The control developmental oncogene mutation pattern sharply differed from the AOM-treated rats, which displayed a significantly enhanced mutation rate of codon 12 after only one week of exposure. According to McKinzie and Parsons (2011), the findings reveal that the occurrence of cancer due to age in the control rats displays a different mechanism and progression pattern for the same type of tumor that results from the AOM treatment.

The concern expressed by Hoel (1997) about the compatibility of additivity to background assumption with advances in molecular biology may be illustrated further in the paper of Hisamoto et al. (2007), which compared oncogene mutations in cisplatin, NNK and BaP induced lung tumors of the A/J mouse. In the cisplatin-induced tumors there was an absence of K-ras codon 12 mutations, which is known to be the key mutations-induced by NNK or BaP for lung tumor development. The authors concluded that cisplatin induced the same type of lung tumor in the A/J mice as the NNK or BaP, but by a different mechanism. The same type of tumor in the same animal model may, therefore be produced by different mechanisms confirming the issue raised by Hoel (1997) that molecular biology advances may provide the means to assess the validity of the additive to background assumption.

3.6. Carcinogen-mediated background response reprogramming

Metabolic reprogramming by activated/mutated oncogenes has assumed an important role in tumorigenesis (Martinez-Outschoorn et al., 2013; Kerr et al., 2016). The process from oncogene activation to metabolic transformation often leads to glycolytic reprogramming of tumor cells. The rewiring is a progressive process, with the subsequent occurrence of newly activated and deactivated oncogenes, which mediate the creation of novel tumor phenotypes as well as the regression of tumorigenetic processes. Many of the studies in the present article that compare spontaneous and induced tumors reveal that carcinogen treated animals show a transformed mutation spectra. The carcinogen treatment not only induces a specific-mutation spectra signature, but often significant changes in a highly predictable/expected (i.e., background)

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Table 4
How decisions can be made concerning whether additive to background tumor risk can be assumed. Spontaneous vs chemically/radiation-induced tumor comparison.

Comparison Area #1	Comparison Area #2	Comparison Area #3	Comparison Area #4	Comparison Area #5
Origin/location of tumor in affected organ/tissue Example: Chinsky et al. (1985)	Global gene expression; profile of tumors Examples: Blackshear et al., (2014, 2015); Imaoka et al. (2008); Marxfeld et al. (2006);	Mutation profile of tumor based on codon comparison with oncogenes, often with Ha-Ras, K-Ras and N-Ras Examples: Codons 12, 13, 61; Manam et al., (1992, 1995); Rumsby et al. (1991); Fox et al. (1990); Yen et al., (1989, 1993); Sills et al., (1995, 2001); Donnelly et al. (1996); Mass et al. (1996); Hayashi et al. (2001); Tea et al. (2004); Hong et al. (2015); Watson et al. (1995); Stanley et al., 1992.	Mutation spectra comparison in target tissue for spontaneous and treatment induced mutations Examples: Mitsiadis et al. (1999); Unfried et al. (2002); Hong et al. (2003); Reynolds et al., (1986, 1987, 1988); Nishimura et al. (1999); Ikaka et al (2010); Kawano et al. (1996); Chen et al. (1992)	Loss of heterozygenicity Example: Antal et al. (2012)

General Comparison Framework

- Identify Key Proto-oncogenes thought to be involved in the process of organ-specific spontaneous and chemically/radiation induced similar tumors (e.g., lung, liver).
- Compare proportion of tumors with specific oncogenes and oncogene subtypes. For example, RAS oncogenes and its subtype H-ras, K-ras, and N-ras.
- Assess/compare changes within specific sub oncogenes for changes within specific codons: For example, ras oncogene – codon 12, 13, and 61.

Five Comparison Areas: Anyone may be employed to assess additive to background within a specific study.

oncogenic activation spectra (Nesnow et al., 1995). Anna et al. (1994) refer to such carcinogen-induced changes as "selective inhibition and enhancements of subsets of spontaneously initiated hepatocellular neoplasms". Tables 16–18 provide examples of multiple carcinogen treatments that affect significant changes in oncogene activation of spontaneous tumors. These findings not only contradict the assumption of additivity to background, but also challenge the traditional concept of background after carcinogen treatment and whether the control group can serve as a legitimate reference group.

The carcinogen treatment, therefore, does not necessarily only add to the oncogene mutation spectra, but has the potential to fundamentally reprogram and transform it. The long-held assumption that the carcinogen treatment directly adds to identical spontaneous mutation frequency and spectra is not supported by a substantial number of studies assessed here. While spontaneous tumor oncogenic transformation/reprogramming occurs, specific spontaneous and induced tumor studies have only been assessed, to a limited extent, developmentally and/or for time course changes of this striking transformation (McKinzie and Parsons, 2011). Nevertheless, such reprogramming transformations may be generalized across biological model, organ, and inducing agent (Table 16).

While carcinogen exposures significantly alter the frequency of K- and H-ras oncogene mutations and tumor mutation spectra, there has been limited research with other oncogenes or other biological processes. Jackson et al. (2006) have produced a type of oncogene mutation meta-analysis for induced vs spontaneous tumors, for mouse liver H-ras and human liver TP53 mutations. This integrative summary of human studies re-enforces the above findings, illustrating fundamentally different general patterns of oncogene mutation responses between induced and spontaneous tumors. These findings strongly challenge the concept of additive to background. It is, however, also evident that the administration of the carcinogen treatment can alter the normal course of spontaneous oncogene activation, while imposing its own unique agent induced mutation spectra. These findings demonstrate that the carcinogen treatment in these instances does not only add to but may significantly modify the background response.

3.7. Dose-dependent oncogenic mutations

Significantly different mutation spectra may be induced by the same carcinogen in a dose dependent manner (Sills et al., 1999a; Hong et al., 2015; Cazoria et al., 1998; Zhuang et al., 2002; Manam et al., 1995; Nishimura et al., 1999; Warshawsky et al., 1996; Hecht et al., 1998; Chen et al., 1993). These findings indicate that different tumor-inducing mechanisms can operate at different doses. Both Bogen (2017) and Crump (2017) have acknowledged the occurrence of high and low dose slope divergence and its significant implications for modeling low dose effects. The presence of different mechanisms of oncogene activation across dose further challenges the process of decision making with respect to dose-response modeling which depends on the additive to background assumption (Blackshear et al., 2014, 2015; Imaoka et al., 2008). These findings show not only the evolving complexities of mechanistic understandings of induced vs spontaneous tumors, they also highlight the limitations of the initial additive to background assumption.

4. Discussion

The decision to adopt additive to background by the U.S. EPA for cancer risk assessment was influenced by the U.S. NAS SDWC (NAS, 1977) based on the Crump et al. (1976) paper, as well as the OSHA (1980) Carcinogen Hearings and Hoel (1980). Schneiderman, a member of that SDWC, summarized its recommendations in a follow-up paper, indicating that known carcinogens have never induced cancers in people that have never been seen before (i.e., novel cancers) (Schneiderman and Brown, 1978). With this logic, it was assumed that

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Table 5
Agents used to assess additive to background hypothesis for induced cancer.

	Agents
1	1,3-butadiene
2	2,2-bis(brom-methyl-1 to 3 propanediol
3	2AAF
4	4-amino azobenzene
5	5-methylchrysene
6	ADBA
7	Aflatoxin B
8	Asbestos crocidolite
9	Azoxymethane
10	Benzene
11	Benzo(a)pyrene
12	Benzo(b)fluoranthene
13	Benzidine
14	Benzotrichloride
15	Chloroform
16	Chloroprene
17	Ciprofibrate
18	Cobalt Metal
19	Cumene
20	Cyclopental(cd)pyrene
21	DEN
22	DMBA
23	Ethyl carbamate
24	Foran
25	Furfural
26	gamma-radiation
27	HO-DHE
28	Isoprene
29	Methylene chloride
30	MCA
31	MNU
32	N-HO-AAF
33	NDEA
34	NDMA
35	NNNK
36	O-nitrotoluene
37	Ozone
38	Phenobarbitone
39	Radionuclides
40	Riddelliine
41	TCDD
42	Tetranitromethane
43	Vanadium pentoxide
44	Vinyl carbamate
45	Vinylidene chloride

Table 6
Animal model utilized to assess additive to background hypothesis.

Animal Models
A/J mice
AC3F1 (A/J x C3H/He5)
B6C3F1 mice
C3H mice
C3H/Hp mice
C57BL/6 × C3H/He mice
C57BL/6 × DBA2 mice
CD-1 mice
RF/J/AKR mice
Scid mice
Sprague-Dawley rats
Strain A mice
F344 rats

carcinogens will act at least to some extent via an identical mechanism (s) in the same target cells as occurs with normal background conditions. This perspective lead Schneiderman and Brown (1978) (and the NAS SDWC) to conclude that exogenous carcinogens act in an additive to background manner within humans. Populations already exposed to endogenous and background environmental carcinogens were, therefore, expected to experience cancer risks in a continuous (i.e., linear-progressive-non-stepwise) manner with respect to dose, regardless of how low the dose. In their paper, Schneiderman and Brown (1978) acknowledged the assistance of several key individuals such as David Rall (the NIEHS Director), David Hoel (NIEHS biostatistician) and Sheldon Murphy (former President of the U.S. Society of Toxicology), all members of the NAS SDWC for the writing of his article, each of whom offered comments at the OSHA (1980) hearings except Murphy.

The above NAS SDWC recommendation and explanation of Schneiderman and Brown (1978) were subsequently challenged and largely contradicted by a substantial body of literature from the late 1980s to the present, showing that experimentally induced tumors display significantly different types of oncogene mutations and profoundly differing oncogene mutation spectra than spontaneous tumors (Figs. 3–10; Tables 8–18). The early and seemingly reasonable belief that when a chemical/ionizing radiation induces the same type of tumor in the same organ (e.g., lung, liver, etc) as does the control group, it does so via the same mechanism is not the case. In fact, these studies reveal no convincing evidence that induced and spontaneous tumors are even infrequently likely to be mediated by the same mechanisms. This conclusion is supported by observations that as the process of carcinogenesis progresses, more tumor specific changes occur, resulting in unique tumor specific phenotypes (see subsection entitled: Tumor Mutation Complexities) (Salk et al., 2010; Kerr et al., 2016). Further challenging the original additive to background decision is the growing view that most tumors are heterogeneous, suggesting that multiple clones of complementary mutant cells may influence the tumor progression (e.g., colon tumor) (Parsons, 2008; McKinzie and Parsons, 2011; Vogelstein et al., 2013).

The original additive to background assumption for cancer was based upon a mutation mechanism. It did not address the question of epigenetic carcinogens. Yet, the EPA procedure has made no distinction between genotoxic and epigenetic carcinogens with respect to the additive to background assumption. In 1994, Ray et al. (1994) reported that phenobarbital (PB)-induced liver tumors in a mouse model via epigenetic mechanisms. The molecular mechanisms that mediated the PB induced liver tumors were different than those of spontaneous tumors. This mechanistic divergence between epigenetic carcinogens and mechanisms and time of spontaneous tumors have been reported in other experimental studies (Hegi et al., 1993). Such findings suggest that the additive to background assumption may also not be applicable for chemically induced epigenetic tumors as well.

The limitations of the additive to background concept for environmental induced cancer was suggested by the results of a substantial series of ionizing radiation induced gene mutation studies. As has been the case with additive to background for chemically induced cancer, this same hypothesis for ionizing radiation induced mutations, as researched in considerable depth by Stadler, Muller, and others from the 1930s to 1950s, was not supported (Roman, 1988; Stadler, 1954; Stadler and Roman, 1948). Had the chemical toxicology and risk assessment communities of the 1970s and early 1980s better appreciated the history of the spontaneous and ionizing radiation induced mutation historical literature, the additive to background assumption may not have been incorporated into regulations by U.S. EPA (1986), reflecting the historical truism of the Spanish philosopher and novelist, George Santayana (1863–1952) that "who cannot remember the past is condemned to repeat it."

4.1. Reprogramming the disease background

The same tumor types/in the same organ of the same biological model for spontaneous and induced tumors typically show significant differences in oncogene activation and mutation spectra. Furthermore, the treatment with chemical carcinogens may significantly alter the occurrence of oncogene activation/mutation as would occur in

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Table 7
Tumor types utilized to assess additive to background hypothesis.

Tumor Types
Colon
Forestomach
Harderian gland
Liver
Lung
Lymphoma
Mammary
Mesothelioma
Thymic

spontaneous tumors, revealing a type of developmental cellular/tissue rewiring/reprogramming. The fundamental assumption of additive to background for carcinogens is, therefore, not compatible with the mutation spectra data. These developments are also incompatible with the concept of independence of background since the carcinogen treatment reprograms the normal spontaneous tumor response by changing the background of the animals allocated to the treatment groups. This observation challenges the traditional concept of a control group and how comparisons to a control group are to be made.

The carcinogen-induced reprogramming process may offer an insight to the findings of Gray et al. (2002) that many chronic bioassays display striking mixtures of organ-specific tumor and antitumor responses relative to the control. While the standard comparison to the control is valid in these cases, the issue of additive and independent of background will need to be re-evaluated within the context of the chronic bioassay related cancer dose-response assessment. The issue of carcinogen-induced reprogramming presents new challenges and opportunities that may affect model and dose selection, mechanism evaluation, carcinogen risk assessment modeling, and risk estimates currently used that affect numerous societal areas including health, medical, legal, and technology domains.

Table 8
Pattern of K-ras mutations in chloroprene and isoprene in lung neoplasms from female B6C3F1 mice (Source: Sills et al., 1999, Table 1, Page 659).

	Codon 12 (GGT)						Codon 61 (CAA)			
	gTt	gAt	Tgt	Cgt	CTt	ATt	cTa	caT	caC	cGa
Spontaneous	6.6	60.0	33.3	0	0	0	0.0	57.1	14.2	28.4
Chloroprene	20.0	50.0	0	10.0	10.0	10.0	88.0	0	0	12.0
Isoprene	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	0.0

Note: Numbers in table represent percent of specific oncogene mutations within a specific codon. For example, the TGT mutation represents 33.3% of the total oncogene mutations for codon 12. The total mutations sums to 100% within each codon for spontaneous and agent induced tumors. Bolded, enlarged letters represent the location of mutation in codon for Table 8–Table 18.

Table 9
K-ras mutations in Harderian gland neoplasms and lung tumors for ethylene oxide-exposed B6C3F1 mice. (source: Hong et al., 2007).

Harderian Gland Tumors							
	Codon 12 (GGT)		Codon 13 (GGC)		Codon 61 (CAA)		
	gAt	Tgt	Cgc	Agc	cTa	cGa	caG
Spontaneous	0.0	0.0	0.0	0.0	100	0.0	0.0
Ethylene Oxide	3.3	26.6	50.0	3.3	3.3	10.0	3.3
Lung Tumors							
	Codon 12 (GGT)		Codon 13 (GGC)		Codon 61 (CAA)		
	gAt	Tgt	gTt	CgT	Agc	Cgc	cGa	caT	caC
Spontaneous	40.7	18.5	3.7	0.0	0.0	1.11	7.4	14.8	3.7
Ethylene Oxide	9	0	84	0	4	0	4	0	0

Note: Numbers in table represent percent of specific oncogene mutations within codons 12, 13, and 61. For example, the TGT mutation in codon 12 for Harderian gland tumors represents 26.6% of the total oncogene mutations for codon 12, 13, and 61 summed together. The total mutations sums to 100% across the three codons for spontaneous and agent induced tumors for Harderian gland and lung tumors.

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Table 10
Summary of K-ras mutations in alveolar/bronchiolar tumors in B6C3F1 mice from various NTP bioassays (source: Hong et al., 2015, Table 8, page 878).

	Codon 12 (GGT)					
	GAT	TGT	GTT	CGT		N
Spontaneous (Historical Control)	70	25	5	0.0		20
Cobalt metal dust[a,b]	16.6	3.3	76.6	3.3		30
1,3 butadiene[b]	Insignificant response	Insignificant response	Insignificant response	Insignificant response		Insignificant response
Ethylene oxide[a,b]	8.6	0.0	91.3	0.0		23
Cumene[b]	25.0	20.8	45.8	12.5		24
2,2-Bis(bromomethyl)-1,3-propanediol[c]	71.4	3.6	25.0	0.0		28
Tetranitromethane[a,b]	100.0	0.0	0.0	0.0		13
Isoprene[b]	0.0	0.0	0.0	0.0		0.0
Methylene Chloride[b]	-	-	-	-		-
	Codon 61 (CAA)					
	CAC	CTA	CGA	CAT	Other[d]	N
Spontaneous (Historical Control)	0	0	37.5	50.0	12.5	12
Cobalt metal dust[a,b]	0	0	35.7	28.5	35.7	14
1,3 butadiene[b]	0	66.6	33.3	0	0	9
Ethylene oxide[a,b]	Insignificant response	Insignificant response	Insignificant response	Insignificant response	Insignificant response	Insignificant response
Cumene[b]	Insignificant response	Insignificant response	Insignificant response	Insignificant response	Insignificant response	Insignificant response
2,2-Bis(bromomethyl)-1,3-propanediol[c]	Insignificant response	Insignificant response	Insignificant response	Insignificant response	Insignificant response	Insignificant response
Tetranitromethane[a,b]	0	88.0	12.0	0.0	0.0	25
Isoprene[b]		0.0	100.0	0.0	0.0	10
Methylene Chloride[b]	57.1	14.2	14.2	14.2	0.0	7

Note: Numbers in table represent percent of specific oncogene mutations within a specific codon. For example, the spontaneous TGT mutation represents 25% of the total oncogene mutations for codon 12. The total mutation percentages sum to 100% within each codon for spontaneous and agent induced tumors.
[a] If the same tumor had 2 point mutations, it was counted as 1.
[b] Exposure by inhalation for ~ 2 years.
[c] Exposure by feed for ~ 2 years.
[d] Corrected from original reference.

4.2. Pre- post-conditioning and "subtraction" from background

While the above assessment indicates that chemically and radiation-induced tumors typically act via mechanisms that differ from those of the same type of tumors in control groups (i.e., spontaneous tumors), other experimental evidence further weakens the additive to background assumption. These include the concepts of pre- and post-conditioning/adaptive response (Calabrese, 2016a, 2016b) and the lack of induced genetic changes at ionizing radiation doses far greater than background (Russell, 1969; Olipitz et al., 2012). In the case of preconditioning, a prior low dose of a vast array of toxic chemicals, radiation and other stressor conditions may reduce damage from a subsequent and more substantial toxic exposure. The decreased damage under optimized conditions is typically in the 30–60% range. The shape of the preconditioning/adaptive response follows an hormetic dose response (Calabrese, 2016a, 2016b). The preconditioning/adaptive response reflects a biological "subtraction" phenomenon, in which the subsequent exposure to mutagens and other toxic agents can be significantly less than additive, discrediting the additive to background assumption within such experimental settings. The preconditioning/adaptive response typically has two functional windows of protection over a several day period (i.e., short-term – 1 h. and then long term starting again at 12 h. and continuing for about 48–72 h). There is also a limited effective dose that typically involves a 25–200 fold range (Calabrese, 2016a, 2016b). While the preconditioning/adaptive response is highly generalizable, the specific experimental parameters may vary by dose, model, endpoint and agent. Furthermore, not only may damage be significantly mitigated by a prior low dose of numerous

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Table 11
K-ras mutations in lung neoplasms of B6C3F1 mice in a two-year inhalation study of cumene (source: Hong et al., 2008, Table 2, page 722.

	Cumene								
	Codon 12 (GGT)			Codon 13 (GGC)		Codon 61 (CAA)			
	GAT	TGA	GTT	CGT	CGC	CGA	CAT	CAC	CTA
Spontaneous (Historical Controls)	42.4	15.1	3.0	0	18.2	6.1	12.1	3.0	0
Cumene Treated Groups	13.3	11.1	24.4	6.6	8.8	28.2	0	4.4	2.2

Note: Numbers in table represent percent of specific oncogene mutations acrosscodons 12, 13, and 61. For example, the TGA mutation represents in codon 12 represents 15.1% of the total oncogene mutations for codons 12, 13, and 61 summed together. The total mutations sums to 100% across the three codons for spontaneous and agent induced tumors.

Table 12
H-ras mutation spectrum in benzene-induced B6C3F1 mouse mammary carcinomas (source: Houle et al., 2006, Fig. 4, page 759).

Benzene			
	Codon 61 - CAA		
	A to G	A to T	C to A
Spontaneous Control	71.0	14.3	14.3
Benzene	40.0	40.0	20.0

Note: Numbers in table represent percent of specific oncogene mutations within codon 61. For example, the A to G mutation in the spontaneous tumors represents 71% of the total oncogene mutations for codon 12. The total mutation percentages sum to 100% within codon 61 for spontaneous and agent induced tumors, respectively.

Table 13
p53 mutation base preference in benzene-induced B6C3F1 mouse mammary carcinomas (source: Houle et al., 2006, Fig. 5, page 759).

p53				
	Codons 5–8			
	G	A	T	C
Spontaneous Control	8	24	0	68
Benzene	44	28	14	14

Note: Numbers in table represent percent of specific oncogene mutations across codons 5–8 for the p53 gene. For example, the G mutation for the benzene treatment represents 44% of the total oncogene mutations for codons 5–8 summed together. The total mutations sums to 100% across codons 5–8 for spontaneous and agent induced tumors, respectively.

Table 14
H-ras mutation spectrum in ethylene oxide-induced B6C3F1 mouse mammary carcinomas (source: Houle et al., 2006, Fig. 4, page 759).

	Codon 61 (CAA)		
	A to G	A to T	C to A
Spontaneous Control	0.0	20.0	80.0
Ethylene Oxide	40.0	40.0	20.0

Note: Numbers in table represent percent of specific oncogene mutations within codon 61. For example, the A to G mutation in the ethylene oxide tumors represents 40% of the total oncogene mutations for codon 61. The total mutation percentages sum to 100% within codon 61 for spontaneous and agent induced tumors, respectively.

Table 15
p53 mutation base preference in ethylene oxide-induced B6C3F1 mouse mammary carcinomas (source: Houle et al., 2006, Fig. 5, page 759).

p53				
	Codons 5–8			
	G	A	T	C
Spontaneous Control	10.0	20.0	0.0	70.0
Ethylene Oxide	60.0	10.0	10.0	20.0

Note: Numbers in table represent percent of specific oncogene mutations across codons 5–8 for the p53 gene. For example, the G mutation for the ethylene oxide treatment represents 60% of the total oncogene mutations for codons 5–8 summed together. The total mutations sums to 100% across codons 5–8 for spontaneous and agent induced tumors, respectively.

toxic agents/carcinogen agents, a similar extensively documented phenomena (i.e., post-conditioning) can also diminish harmful effects when given after the toxic exposure within a limited time window. These significant scientific developments emerged one to two decades after the Crump et al. (1976) paper.

The conditioning treatment may act not only to reduce damage to a subsequent challenging dose but also to reduce damage from ongoing prior disease processes, creating a type of subtraction from background phenomenon (Calabrese, 2018). A post-conditioning type of subtraction from background was reported by Azzam et al. (1996). They found that a very low total dose of (0.1 cGy; 0.24 cGy/min) [i.e., equivalent to about one year of background (non-radon) gamma ray radiation delivered in less than one minute] upregulated repair mechanisms in C3H 1OTV2 cells, reducing neoplastic transformation by approximately 60–80%. The test dose of 0.1 cGy was selected to ensure that each cell that was hit received (on average) about one track. According to the Azzam et al. (1996) the exposure selected reflected a real-life increase of dose between zero (including background) and the dose deposited by one track (i.e., background does not yield one track for each cell on average). The single track dose in this cell system not only did not increase the frequency of neoplastic transformation but significantly reduced it over the range from 0.1 to 10 cGy. The findings of Azzam et al. (1996) were strongly supported by a detailed mechanistic

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Table 16
Differential pattern of oncogene involvement in PAH-induced lung cancer in the A/J mouse for spontaneous vs induced tumors for four carcinogens (source: Nesnow et al., 1995).

Codon 12 (GGT)								
Spontaneous Lung Tumor[1]				Induced Lung Tumor				
TGT	GTT	GAT	CGT		TGT	GTT	GAT	CGT
0.0	33	59	8	BaP[a]	57	24	19	0.0
0.0	33	59	8	B(b)F[b]	61	39	0.0	0.0
0.0	33	59	8	5MC[c]	50	22	0.0	28
0.0	33	59	8	CPP[d]	25	15	10	50

[1] Numerical values represent percent (%) of total mutations (100%) for the spontaneous tumors and agent-induced mutations of codon 12.
[a] BaP = benzo(a)pyrene.
[b] B(b)F = benzo(b)fluoranthene.
[c] 5MC = 5-methylchrysene.
[d] CPP = cyclopental[cd]pyrene.

Table 17
Pattern of H-ras gene mutations at codon 61 in liver tumors from male B6C3F1 mice treated with genotoxic chemicals (Source: Anderson et al., 1992).

		Codon 61 (CAA)		
Chemical	Tumors with Activated H-ras (%)	AAA	CGA	CTA
Spontaneous	61/91 (67%)	37 (62.6%)	16 (26.2%)	8 (13.1%)
Vinyl carbamate (VC)	29/37 (78%)	2 (5.4%)	1 (2.7%)	26 (89.6%)
dimethylbenz(a)anthracene (DMBA)	10/10 (100%)	0 (0.0%)	0 (0.0%)	10 (100%)
N-hydroxy-2-acetylaminofluorene (N-OH-AAF)	7/7 (100%	7 (100%)	0 (0.0%)	0 (0.0%)
benzidine (BZD)	13/22 (59%)	11 (84.6%)	1 (7.7%)	1 (7.7%)
N-nitrosodiethylamine (DEN)	14/33 (42%)	7 (50%)	3 (21.4%)	4 (28.6%)

Numerical values represent percent (%) of total mutations (100%) for the spontaneous tumors and agent-induced mutations of codon 61.

radiobiological model (Scholnberger et al., 2002), experimentally confirmed and significantly extended by others to lower doses (Redpath et al., 2001, 2003a, 2003b; Redpath and Elmore, 2007; Ko et al., 2004). These findings indicate that over a relatively broad dose range above background post-conditioning subtraction from background risk may occur.

The pre- post-conditioning/adaptive response phenomena are very general and have application to the additive to background assumption for both carcinogens and non-cancer endpoints.

4.3. Threshold responses and the additive to background concept

Within the context of additive to background, a continuous exposure to 0.0002 cGy/h., a dosage approximately 400 fold greater than background, for five weeks in a mouse model did not induce detectable changes in DNA nucleobase damage products. Likewise, neither was there evidence of DNA fragmentation in the micronucleus assay assuming double strand breaks. Further, at this dose rate a wide range of gene transcripts of DNA damage responses were not induced. Of significance is a dose-rate of about 30 fold higher than background exceeds permissible human exposures (FEMA, 2002). Olipitz et al. (2012) failed to show a response that is additive to background at a dosage some 400 fold greater than background even with very sensitive biomarkers of genetic damage. Similar findings were reported over a 400 day exposure period of 1 mGy/22 h day or 400 fold higher than background in a mouse model (Ono, 2013; Tatsumi and Tanooka, 2014). In addition, the massive data of Russell (1969) with the mouse specific locus test failed to induce mutations in oocytes at doses up to 27,000 fold greater than background. While these data of Russell (1969) were known to the NAS within the BEIR I Genetics Subcommittee (NAS/NRC, 1972) and the Safe Drinking Water Committee (1977) they had no discernable impact on their risk assessment recommendations.

4.4. The problem of background exposure and the dose-response relationship in the area of zero dose

In the case of ionizing radiation, it has long been assumed that one cannot ignore the occurrence of background exposure. Why? From before birth the individual has exceeded zero dose. By the time this

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Table 18
H-ras activation at codon 61 in hepatocellular adenomas and carcinomas following treatment with VC and/or TCDD (sexes combined) (source: Watson et al., 1995, page 1707).

Spontaneous Tumors				Induced Tumors		
Codon 61 - CAA				Codon 61 - CAA		
AAA	CGA	CTA		AAA	CGA	CTA
66.6	33.3	0.0	Vinyl Carbamate (VC)	18.5	18.5	63.0
			TCDD	69.5	17.5	12.5
			VC + TCDD	11.3	15.1	73.6

Numerical values represent percent (%) of total mutations (100%) for the spontaneous tumors and agent-induced mutations of codon 61.

person is 35–50 years of age background dose may be expected to be 70–100 mSy. According to the traditional radiation geneticist mantra, the body only recognizes the total dose received. Now if the person received an additional dose (i.e. see Beninson, 1988 - Fig. 5, Page 447) the body is assumed to simply add this to the background, proportionately enhancing risk. **"It is this incremental dose risk proportionality that is normally referred to as the linear non-threshold hypothesis"** (Beninson, 1988). The risk assessment "management system" for occupationally exposed people needs to deal with two type of exposures in such a manner that the summated risk is the same whether exposure A occurs first followed by exposure B or the other way around. For the risk management system to work the risk must be additive. If this were not the case, one could not add up the various dose increments that occur throughout the exposure period (e.g. a working week or year). It is the accepted convention of adding up the incremental doses that are received throughout the given period. This process creates the capacity to standardize and control the annual doses received by workers. This is the key management equity argument that legitimizes equal treatment across workers. This regulates the dose distribution (i.e. dose rate) within the work period (e.g. 1 year) (see Beninson, 1988 – Fig. 6, page 447). The risk associated with the total permitted dose is assumed within the given time period. According to Beninson (1988) "This is the basic condition for a workable dose control system in radiation protection".

This statement of Beninson (1988), who was chair of the International Commission of Radiological Protection (ICRP) at the time of the statement, is of relevance to the additive to background assessment. Beninson based his belief in linear cancer risks on the assumption that mutations also show a linear dose response down to a single ionization. He noted that these effects are contingent upon the transformation of a single cell and would therefore conform to a probabilistic/stochastic framework rather than a non-stochastic effect. He then indicated that the probability of inducing transformed cells will be equal to one minus an exponential function of dose, with the responses at low doses being "approximately linear." He later cited micro-dosimetric arguments indicating that the dose response should be linear even when there is even less than one energy track on average per cell.

With this as his theoretical background argument, he then focused on the response of humans exposed to ionizing radiation for several decades, having accumulated much dose and genetic damage, making a sizeable background, and therefore a sizeable proportional risk, that presumably might be detectable in an epidemiological sense. The new dose is then added to the accumulated background damage in a manner that is additive to background. This is then represented as such in the Beninson figure (see Beninson, 1988- Fig. 6). This argument is of course, framed, as he noted, to be applied to the practical realm of devising a worker protection plan.

The arguments of Beninson fail to address important empirical genetic damage findings that challenge and possibly contradict his premises. For example, the failure to detect ionizing radiation induced genetic damage in multiple sensitive experimental systems even at doses from several hundred to many thousands fold greater than background is highly problematic (Russell, 1969). Epidemiological evidence also does not support Beninson's application of the additive to background as seen with the series of essentially flat excess risk

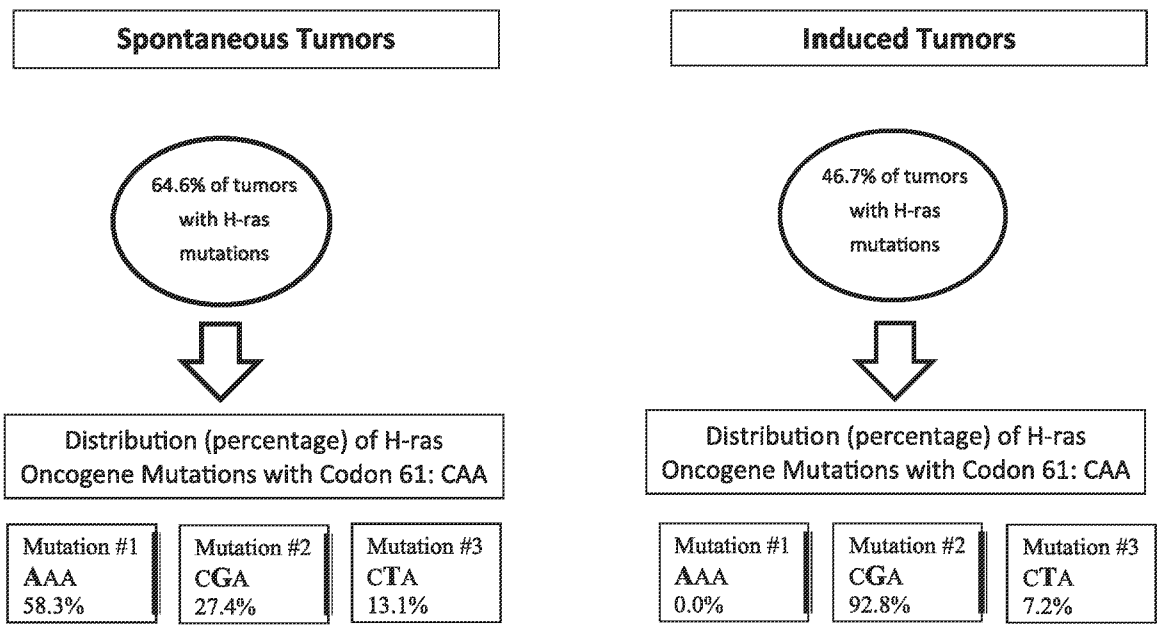

Fig. 3. Spontaneous vs NDEA induced liver tumors with H-ras oncogene mutations* in codon 61 of the B6C3F1 mouse (Source: Chen et al., 1993); marked boxes indicate oncogene mutations that differ between spontaneous and induced tumors. **Conclusion**: Induced tumors showed a significantly different mutation spectra as highlighted for mutations #1 and #2 than the spontaneous tumors. *Mutation percentages were summed across the three types of mutations in codon 61 for both spontaneous and induced tumors. Bolded, enlarged letters represent the location of mutation in codon in Figures 3–10.

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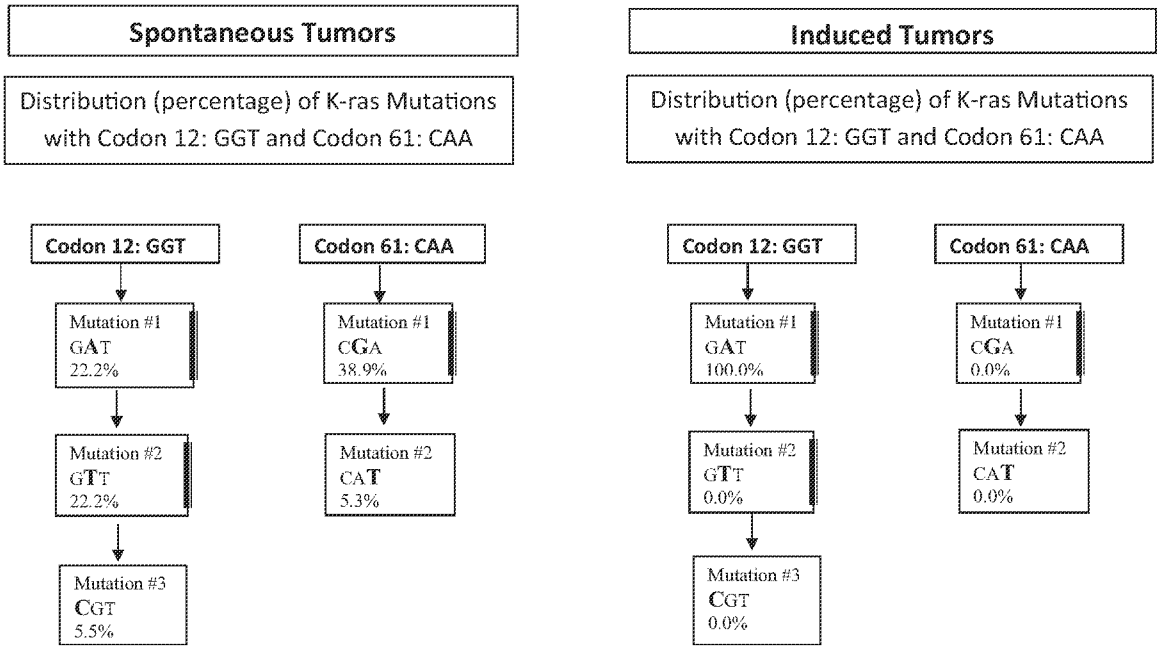

Fig. 4. Spontaneous vs NNK induced lung tumors with K-ras oncogene mutations* with codons 12 and 61 of the B6C3F1 mouse (Source: Chen et al., 1993);); marked boxes indicate oncogene mutations that differ between spontaneous and induced tumors. **Conclusion**: Induced tumors showed a significantly different mutation spectra as highlighted in codon 12 (i.e., mutations #1 and 2) and codon 61 (i.e., mutation #1) than the spontaneous tumors. *Mutation percentages were summed across the codons 12 and 61 for both spontaneous and induced tumors.

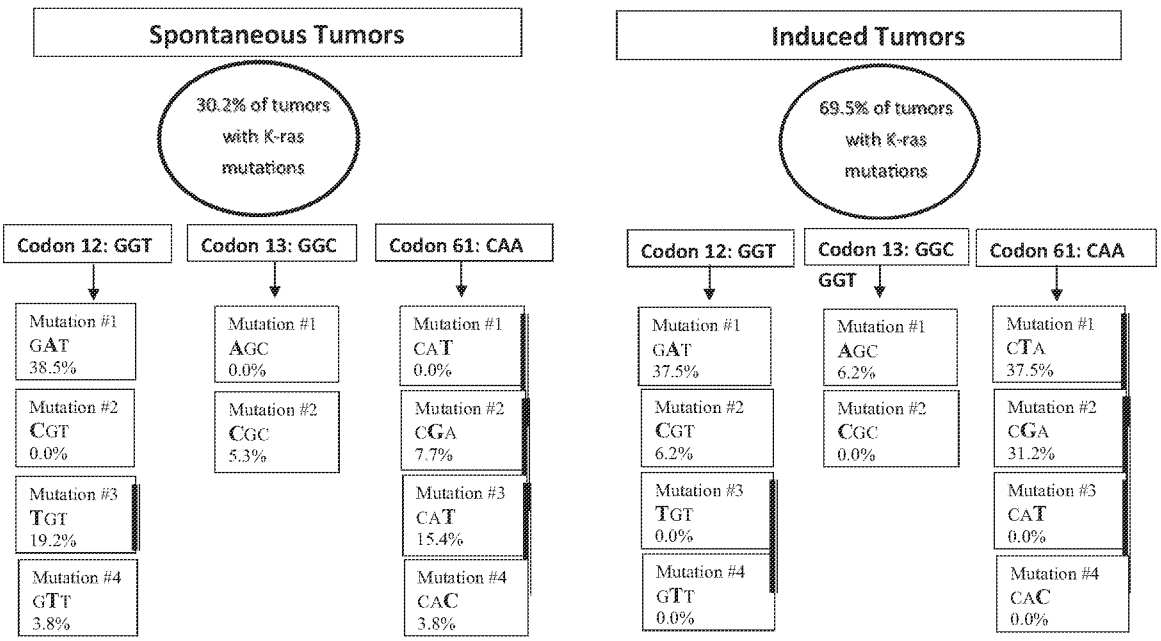

Fig. 5. Frequency/spectra of K-ras mutations* in lung tumors of B6C3F1 mouse study of ADBAQ (Source: Hayashi et al., 2001, Table 4, Page 426)' marked boxes indicate oncogene mutations that differ between spontaneous and induced tumors. **Conclusion**: Induced tumors showed a significantly different mutation spectra as highlighted in codon 12 (i.e., mutation #3) and codon 61 (i.e., mutations #1, #2, and #3) than the spontaneous tumors. *Mutation percentages were summed across the codons 12, 13, and 61 for both spontaneous and induced tumors.

responses across a broad range of radiation doses prior to reaching and exceeding a threshold (Ricci and Tharmalingam, 2018).

4.5. Tumor mutation complexity, hyperindividualistic tumor progression and challenges to additive to background

Of considerable relevance to the issue of additivity to background were a series of findings from large-scale efforts to systematically screen individual tumors for somatic mutation using human breast, colon, pancreas, and brain (i.e., glioblastoma) tumor samples (Sjoblom et al., 2006; Wood et al., 2007; Vogelstein et al., 2013). These tumor types were selected since they had a graded progression prior to reaching advanced, invasive stages. The guiding hypothesis was that there was a progressive mutational sequence that should be clinically related, reflecting an orderly, sequential pattern. The concept of cancer as a mutation-driven orderly disease as framed by Vogelstein et al. (2013) was born in the earlier multi-stage models of Armitage and Doll (1957) and Crump et al. (1976). The Vogelstein et al. studies are striking,

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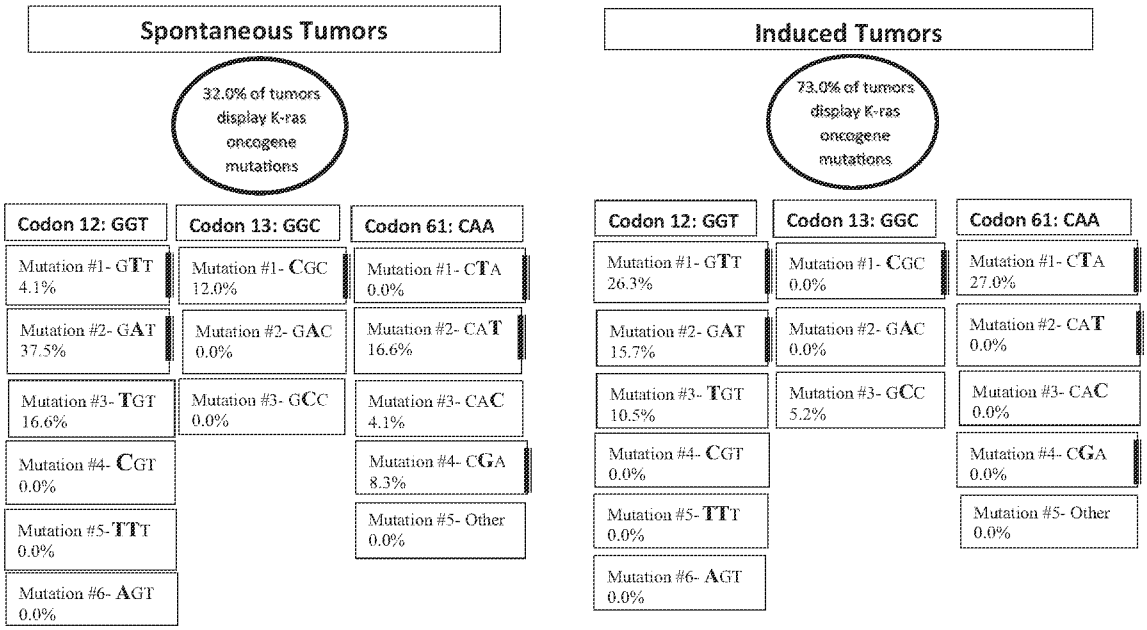

Fig. 6. Frequency and spectra of K-ras mutations* in controls and ozone exposed B6C3F1 mice (Source: Sills et al., 1995); marked boxes indicate oncogene mutations that differ between spontaneous and induced lung tumors. **Conclusion:** Induced tumors showed a significantly different mutation spectra as highlighted for Codon 12 (i.e., mutations #1 and #2), codon 13 (i.e., mutation #1) and codon 61 (mutation #1, #2, and #4) than the spontaneous tumors. *Mutation percentages were summed across the codons 12, 13, and 61 for both spontaneous and induced tumors.

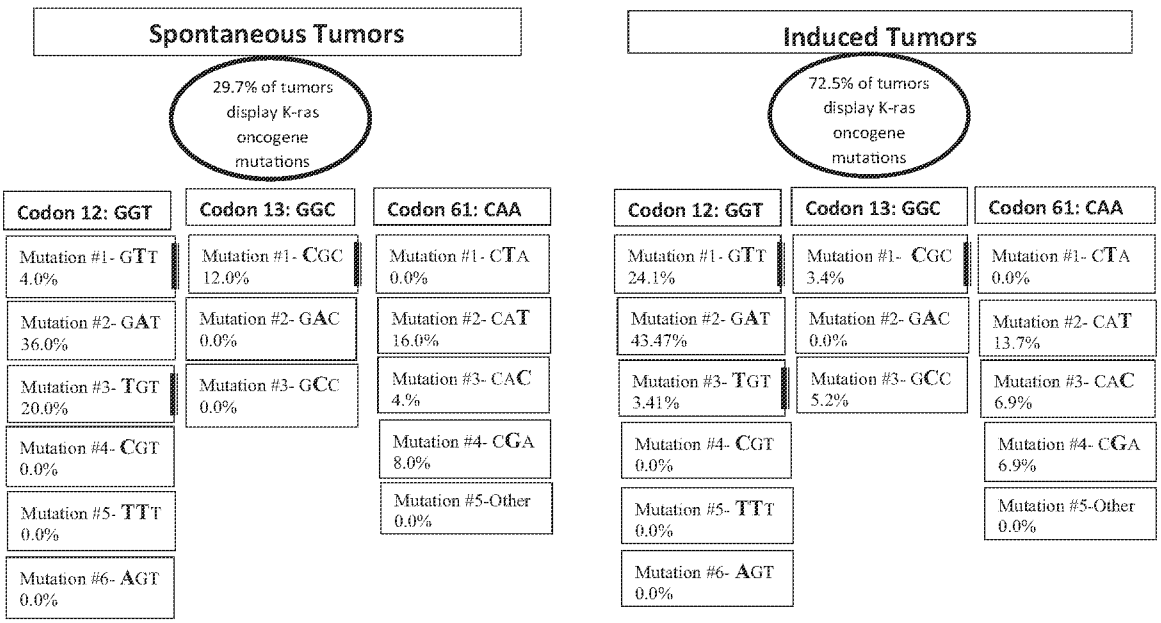

Fig. 7. Frequency and spectra of K-ras mutations in controls and vanadium pentoxide exposed B6C3F1 mice (Source: NTP Tech Rep 507, 2002; Ton et al., 2004, Table 2); marked boxes indicate oncogene mutations that differ between spontaneous and induced lung tumors. **Conclusion:** Induced tumors showed a significantly different mutation spectra as highlighted for Codon 12 (i.e., mutations #1, and #3), and codon 13 (i.e., mutation #1) than the spontaneous tumors. *Mutation percentages were summed across the codons 12, 13, and 61 for both spontaneous and induced tumors.

challenging this orderly progressive assumption. This perspective emerged from the substantial degree of complex intertumoral heterogeneity, and its progressively highly individualistic nature.

Driver mutations (i.e., genes that confer a selective growth advantage) appeared present for many cancer genes within the studied tumors. However, many infrequently altered non-driver passenger mutations (i.e., mutations with no direct or indirect effects of the selective growth advantage of the cell in which it occurred) when collectively combined make substantial contributions to tumor occurrence. In the case of breast cancer, the maximum number of mutated cancer genes (i.e., driver-like mutations) were six, along with about 50 possible passenger mutations. Nearly 30% of these tumors had a single driver mutation along with several passenger mutations, while about 5% had no identifiable oncogene plus tumor suppression gene mutations (Vogelstein et al., 2013).

While it is has long been established that cigarette smoking is a major risk of lung cancer, non-smokers still comprise about 10–15% of those displaying this disease (McCarthy et al., 2012). This relatively high occurrence of lung cancer in non-smokers offers the potential to evaluate the additive to background assumption within a population of

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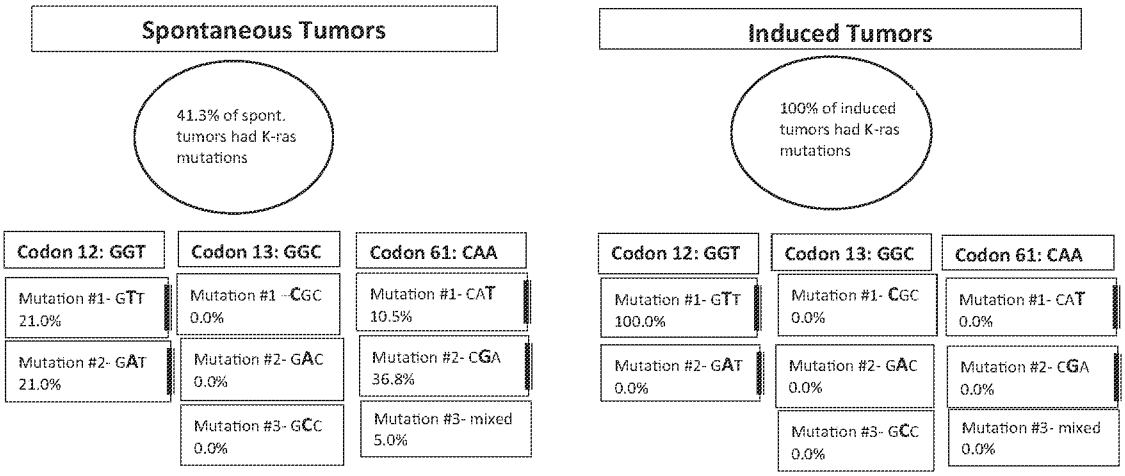

Fig. 8. Comparison of K-ras mutation spectra for spontaneous tumor and NNK-induced tumors in A/J lung tumors (Source: Matzinger et al., 1994; Ronai et al., 1993;Sills et al., 1999b); marked boxes indicate oncogene mutations that differ between spontaneous and induced tumors. **Conclusion**: Induced lung tumors showed a significantly different mutation spectra as highlighted for Codon 12 (i.e., mutations #1 and #2), and codon 61 (mutations #1 and #2) than the spontaneous tumors. *Mutation percentages were summed across the codons 12, 13, and 61 for both spontaneous and induced tumors.

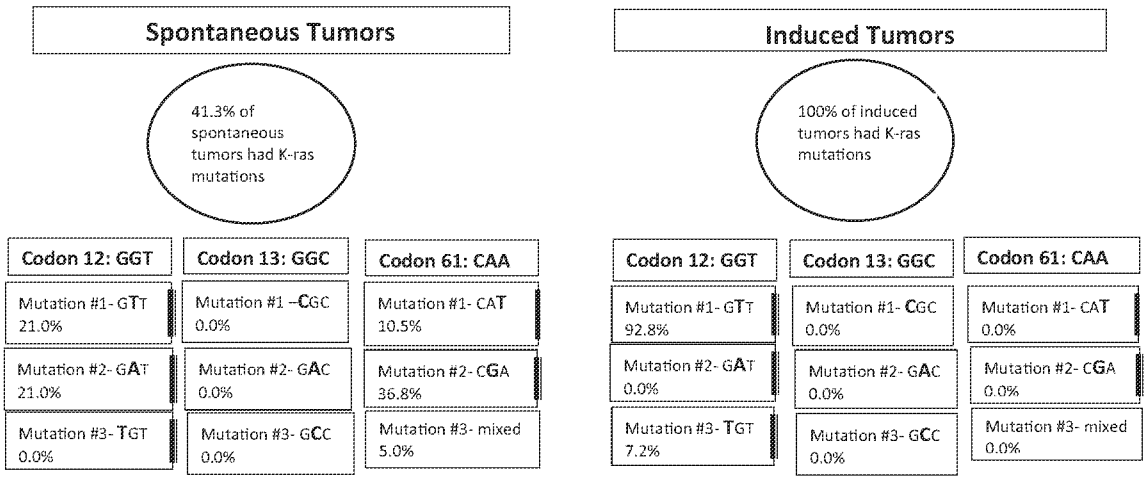

Fig. 9. Comparison of K-ras mutation spectra for spontaneous tumor and NNK-induced tumors in A/J lung tumors (Source: Matzinger et al., 1994; Ronai et al., 1993); marked boxes indicate oncogene mutations that differ between spontaneous and induced tumors. **Conclusion**: Induced lung tumors showed a significantly different mutation spectra as highlighted for Codon 12 (i.e., mutations #1 - #3), and codon 61 (mutations #1 and #2) than the spontaneous tumors. *Mutation percentages were summed across the codons 12, 13, and 61 for both spontaneous and induced tumors.

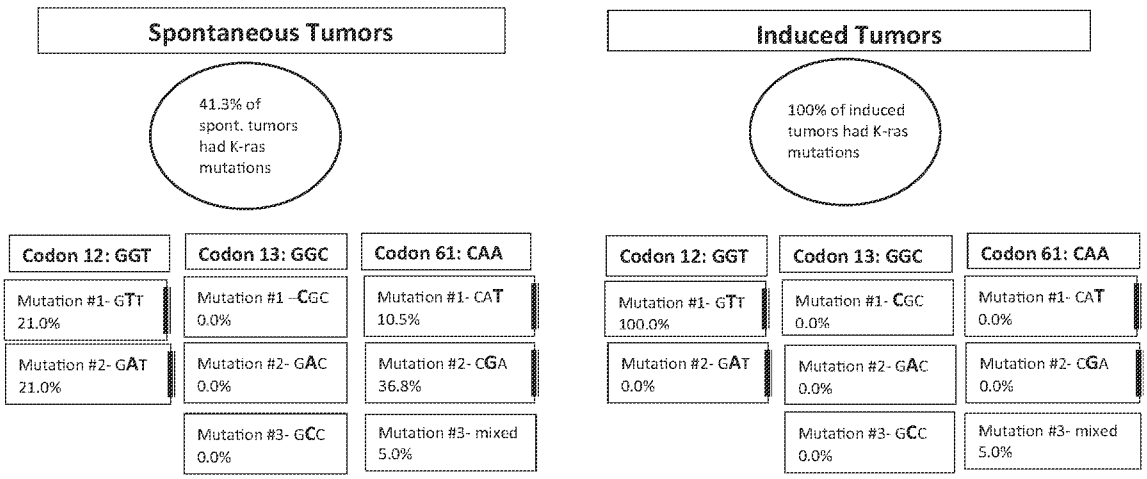

Fig. 10. Comparison of K-ras mutation spectra for spontaneous tumor and AMMN-induced tumors in A/J lung tumors (Source: Matzinger et al., 1994; Ronai et al., 1993; Sill et al., 1999b); marked boxes indicate oncogene mutations that differ between spontaneous and induced tumors. **Conclusion**: Induced lung tumors showed a significantly different mutation spectra as highlighted for Codon 12 (i.e., mutations #1 and #2), and codon 61 (mutations #1 and #2) than the spontaneous tumors. *Mutation percentages were summed across codons 12, 13, and 61 for both spontaneous and induced tumors.

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Table 19
Differentiating spontaneous vs induced mutations: Perspectives offered by leading researchers.

References	Quotes
Antal et al. (2002)	"In lung tumors…the frequencies of many alterations were different in radiation-induced and spontaneous tumors, suggesting that different oncogenic pathways were activated during spontaneous and radiation-induced lung carcinogenesis of mice." Page 122
Hayashi et al. (2001)	"Evaluation of ras mutations in ADBAQ-induced forestomach tumors showed a high frequency of chemical-specific point mutations. Predominant H-ras codon 61 CAA to CTA transversions were detected in ADBAQ-induced but not spontaneous tumors. The A- > T transversions were not considered to be spontaneous because such mutations have not been detected in spontaneous forestomach tumors examined to date from $B6C3F_1$ mice." Page 427, left column
Hoenerhoff et al. (2013)	"While spontaneous and GBE-treated HCC in this study were morphologically very similar, in terms of their gene expression and mutation spectra, these tumors are actually quite different. HCCs in mice exposed to GBE were characterized by dose-dependent *Ctnnb1* mutations, with an increased incidence of deletions and multiple mutations per tumor in some high-dose animals. These features are markedly different from spontaneous HCC in this strain, which does not typically harbor deletion mutations or multiple mutations, and has a relatively low concurrent (0%) and historical control (2%) incidence rate of *Ctnnb1* mutations (Hayashi et al., 2003)." Page 12, Discussion section "…while spontaneous and GBE-treated HCC in B6C3F1 mice are very similar at the morphologic level, we have shown that the molecular alterations in GBE-treated tumors are very different from those seen in spontaneous tumors. These include unique alterations in *Ctnnb1* gene and protein expression, structure, and function;…" Page 14
Hoenerhoff et al. (2013) (Continued)	"Additionally, marked differences in global gene expression profiling, including overrepresentation of cancer signaling pathways, xenobiotic metabolism, and oxidative stress, shows that while spontaneous and GBE-treated HCC are morphologically indistinguishable, they may be distinguished based upon their transcriptomic profiles. This is of considerable importance when distinguishing between a background tumor incidence and chemically induced neoplasms, particularly in strains with moderate background tumor rates." Page 14
Hong et al. (2003)	"Spontaneous hemangiosarcomas from control mice lacked both p53 and β-catenin protein expression and ras mutations. Our data indicated that p53 and β-catenin mutations in the *o*-nitrotoluene-induced hemangiosarcomas and K-ras mutations and p53 protein expression in riddelliine-induced hemangiosarcomas most likely occurred as a result of the genotoxic effects of these chemicals." Page 227, Abstract
Hong et al. (2003)	"…in some neoplasms the profiles of activation mutations in ras genes or inactivating mutations in the p53 gene are specific for particular chemicals and differ from those detected in spontaneous neoplasms." Page 228, left column
Hong et al. (2015)	"In summary, there was a significantly elevated incidence of Kras mutations, accompanied by a lower incidence of Egfr and Tp53 mutation in lung tumors from mice and rats chronically exposed to CMD compared to SL tumors. The mutations detected in the Kras, Egfr, and Tp53 genes in CMD-exposed mice and rats clearly imply those genetic events are related to chemical exposure, since those mutations were not detected in the concurrent spontaneous tumors in mice and SL tumors from previous NTP studies in rats." Page 880, left column
Houle et al. (2006)	"…the chemically induced tumors exhibited a distinct shift in the P53 and H-ras mutational spectra compared to spontaneous tumors suggesting that benzene and EtO exposure induced mammary specific alterations predisposing female mice to mammary tumor development. The difference in mutation profiles between spontaneous and chemically induced neoplasms suggest that different mechanisms are likely involved." Page 756, Discussion, right column
Houle et al. (2006)	"A comparison…the cumene-induced tumors displayed specific p53 mutations. P53 mutations were observed only in exon 5 (24/27, 89%) and exon 7 (3/27, 11%). The mutations observed in the p53 gene in cumene-exposed mice clearly imply this genetic event is related to chemical exposure, since these mutations were not detected in spontaneous tumors." Page 725, left column
Hong et al. (2007)	"The predominant [K-ras] mutations [in B6C3F1 mice] in EO-induced Harderian Gland (HG) neoplasms consisted of GGC to CGC transversions at codon 13 (15/18, 83%) and GGT to TGT transversions at codon 12 (8/18, 44%). Neither of these mutations was found in spontaneous HG neoplasms (0/27)." Page 82, right column
Iizuka et al. (2010)	"To clarify how ionizing radiation induces mammary carcinogenesis, we characterized genomic copy number aberrations for γ-ray-induced rat mammary carcinomas using micro-array-based comparative genomic hybridization. We examined 14 carcinomas induced by γ-radiation (2 Gy) and found 26 aberrations, including trisomies of chromosomes 4 and 10 for three and one carcinomas, respectively, an amplification of the chromosomal regions 3g35g36, Sg32 and 7911 in two, two and four carcinomas, respectively. These aberrations were not observed in seven spontaneous carcinomas". Page 206, abstract
Iizuka et al. (2010)	"…we found that the majority of radiation-induced carcinomas, but not spontaneous ones, had some form of DNA copy number aberration, illustrating the association between copy number aberrations and radiation-induced rat mammary carcinomas." Page 212, left column
Imaoka et al. (2008)	"Gene expression profiles of three spontaneous and four radiation-induced carcinomas, as well as those of normal mammary glands, were analyzed by microarrays…we identified 50 genes that had different expression levels between spontaneous and radiogenic carcinomas… Thus, gene expression analysis distinguished between spontaneous and radiogenic carcinomas suggesting possible difference in their carcinogenic mechanisms." Page 349, Abstract
Imaoka et al. (2008)	"We show for the first time that radiation-induced rat mammary cancer is distinguishable from spontaneous ones according to their gene expression." Page 357, left column
Imaoka et al. (2008)	"This data indicates that spontaneous and radiogenic mammary cancer development involves distinct molecular and cellular mechanisms." Page 359, left column
Kawano et al. (1996)	"In the present study, K-ras gene mutations were identified in 72.2% of all the NNK-induced lung lesions examined and the major mutation was G to A transition at the 2nd base of codon 12, which clearly differed from the mutational pattern in untreated control mice [tumors]." Page 48, Right column.

(*continued on next page*)

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Table 19 (*continued*)

References	Quotes
Liu et al. (2003)	"Total exon deletion did not exist in any spontaneous mutants but in γ-rays- and ENU-induced mutants. The proportions of deletion mutations were quite different between spontaneous mutants and induced mutants, and similar change of γ-rays- and ENU-induced mutants occurred at the hprt locus." Page 580, right column
Loktionov (1991)	"…A- > T transversions in the second position of codon 61 of Ha-ras were present only in liver tumors [CD− 1 mice] that developed in mice treated with DMBA…" Page 1189, Abstract
Lutz et al. (2002)	"The "additivity to background" concept which suggests low-dose linearity may also be questioned. The incremental DNA damage exerted by a genotoxic carcinogen may not always increase the probability of mutation. For instance, if exposure to a genotoxic agent induces DNA repair, and if the induced repair capacity also repairs background DNA damage, a non-monotonic (U-shaped) dose response might result. This type of dose response can no longer be dismissed (Calabrese and Baldwin, 2001a,b). It could also mean that a threshold-like dose response may in fact be U-shaped, and that the process of spontaneous carcinogenesis could even be slowed down at low dose of a "carcinogen"." Page 336, left column
Marxfeld et al. (2006)	"In this study, the histologically similar spontaneous and DMBA-induced adenocarcinomas (Figs. 1 and 2) could be separated by gene expression profiling." Page 159, right column
Maas et al. (1996)	"The distribution of these mutations is different from those in untreated animals from two previous studies." Page 1703 Note: These mutations are in lung tumors of A/J/ mice treated with benzo(b)fluoranthene
Nishimura et al., 1999	"To gain information on the possible role of Ras activation in development of thymic lymphomas in scid mice, we have examined both the frequency and the spectrum of Kras and Nras mutations in spontaneous and radiation-induced lymphomas. Neither activated Kras nor Nras genes were detected in spontaneous lymphomas, while Kras mutations increased in a dose-dependent manner in radiation-induced lymphomas." Page 142, Abstract
Schwartz et al. (1994)	"In the spontaneous mutants, most of the partial gene deletion mutations involved exons 4–6. In contrast, only exon 1 was deleted in the γ-induced partial deletion mutants so far, and in the α-induced spectra, deletion of exons 1–3 and 6–9 were found; no deletions of exons 4 or 5 were seen in either radiation-induced spectrum." Page 539, right column
Sills et al. (1995)	"…almost a third of the neoplasms induced by ozone exposure had an A- > T transversion in the second base of codon 61, a mutation not detected previously in 66 spontaneously arising lung neoplasms of B6C3F1 mice (19, 28) or in lung neoplasms from concurrent air controls." Page 1624, right column
Sills et al. (2001)	"…a high frequency of H-ras codon 61 CAA- > CTA transversion (10/41; 24%) was detected in chemically induced forestomach neoplasms, but none were present in the spontaneous forestomach neoplasms examined." Page 373, Abstract
Sills et al. (2001) (Continued)	"This is the first report in which the ras mutation frequency and spectra had been determined for spontaneous forestomach neoplasms of the B6C3F1 mouse… The exposure-related changes in ras mutations observed in this study were qualitative and quantitative, presenting both a different mutation spectrum from that of spontaneous occurring neoplasms of the forestomach, and an increase in the fraction of tumors containing ras mutations." Page 381 "The lack of H-ras codon 61 CTA mutations and the rare detection of K-ras codon 13 CGC mutations in the spontaneous forestomach neoplasms strengthens the hypothesis for a causal link between chemical exposure, ras mutations, and forestomach neoplasia following exposure to 1,3-butadiene and the structurally related analogs." Page 383
Tou et al. (2004)	"BMP-Induced Lung Tumors" "The predominant pattern of K-ras mutation detected in BMP-induced lung neoplasms consisted of G- > A transition (GGT- > GAT) at codon 12 (20/29)…it was significantly different from that observed in historical controls…" Page 17, right column
Tou et al. (2004)	"TNM-Induced Lung Tumors" "The predominant K-ras mutation detected in TNM-induced lung neoplasms consisted of G- > A transitions (GGT- > GAT) codon 12 (13/15) compared to none in spontaneous lung neoplasms from the inhalation control mice…" Page 18, left column

affected individuals that have been the object of substantial focused investigation with respect to this genomic landscape. Such investigations have revealed marked mutational differences in the tumors of smokers and non-smokers lungs with non-small cell lung cancer (Govindan et al., 2012). These include a different mutation spectrum, with C:G- > A:T predominating in smokers while in non-smokers C:G- > T:A predominated. There are also specific groups of mutations found in never smokers (i.e., EGFR mutations and ROS1 and ALK fusions) with KRAS, TP53, BRAF, JAK2, and JAK3 and mismatched repair gene mutations in smokers. These differences between smoker and non-smoker lung cancer subjects are therefore substantial and not linked to a few genes (Subramanian and Govindan, 2013). The findings indicate that induced and spontaneous lung cancers in humans are fundamentally different with respect to driver mutations.

These developments challenge both the biological foundation between spontaneous and induced tumors for driver mutations and the accompanying uncertainty of the additivity to background assumption in multiple ways, including the complexity of the process of carcinogenesis, its progressively hyperindividualistic tumor development, the presence of differing driver mutations between spontaneous and induced tumors, and the difference in the number and sequence of contributing mutations.

Given this complexity and the growing recognition of the different mutational signatures, there is no convincing biological justification for the use of the additive to background assumption as a default feature for cancer risk assessments. It is possible to speculate that a certain proportion of tumors may have some unknown mechanistic overlap, but how these occur and what an overlap means biologically, and how it may affect tumor progression for spontaneous and induced tumors is unknown. The closest linkage of these recent tumor complexity developments (Lin et al., 2007; Jones et al., 2008; Killela et al., 2013; Vogelstein et al., 2013) to the present additive to background

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assessment is that spontaneous and induced tumors have significant mutational differences which are likely to contribute to the individual tumor progression and hyperindividualisticity making the comparison between spontaneous and induced tumors highly tenuous and excessively speculative.

4.6. Additive to background for cancer vs non-cancer endpoints

The issue of additive to background was formulated to address low dose cancer risk assessment concerns. The validity of the additive to background assumption in this cancer risk assessment context is the focus of the present paper. However, there has been a debate over whether the additive to background concept would also apply to non-cancer endpoints. While this debate does not seem unlike the cancer risk assessment issue with discussion focusing on the occurrence of ongoing disease processes and heterogenicity within the human population, Rhomberg et al. (2011) argued that cancer risk from genotoxic agents is qualitatively different with the discrete and stochastic features of induced mutations, which is assumed to originate in a single cell, with subsequent monoclonal expansion. The cancer disease process is profoundly different from how most non-cancer effects seem to occur. However, even with such markedly different aspects to the disease processes for cancer and non-cancer effects, the additive to background assumption still would require that non-cancer endpoints occur via the same mechanisms for the inducing agents and the background disease processes. As seen in the present paper, advances in molecular biology have revealed that different mechanisms seem to be the rule rather than the exception. If this is the case for non-carcinogen endpoints, then current theoretical arguments made on behalf of this hypothesis (White et al., 2009) (see Crump, 2017 and Bogen, 2017 debate) would be challenged to provide the specific mechanistic data.

5. Conclusions

The question proposed in this paper is that posed by Hoel (1997), that is:

> "Whether or not the original simple idea of background additivity is consistent with today's biology and whether the concept, if true, has any value for quantitative risk estimation."

1. Multiple, complementary and converging lines of evidence indicate that the "original simple idea" of additive to background for the induction of tumors that became incorporated into regulatory agency (i.e., EPA) cancer risk assessment is **not** consistent with modern molecular biology and toxicology.
2. Studies from 45 carcinogens, over a dozen animal models and a broad range of organ- specific tumors contradict the additive to background assumption that induced and spontaneous tumors act via identical mechanisms.
3. Detailed genetic landscape studies of multiple human tumors, based on detailed assessments of driver and passenger mutations, support these animal bioassay studies by their illustration of the progressive hyperindividualistic tumor development.
4. Carcinogen treatment in the chronic bioassay commonly reprograms biological processes markedly altering oncogene activities, mutation frequency and the mutation spectra of normally developing spontaneous tumor development processes. These changes can profoundly alter spontaneous tumor incidence and phenotype and the control group reference for carcinogen treatment evaluation. These findings indicate that the traditional control group may not be a useful standard for comparison, since the biological/genetic reprogramming, due to carcinogen treatment, can significantly change the "background" tumor expectation observed in the treatment group. These findings challenge the validity and utility of the additive to background and the independent of background concepts.
5. While it is now known that the induced tumor mechanisms are very likely to be profoundly different than spontaneous tumor mechanisms, a principal risk assessment question is what proportion of the overall cancer mechanistic progress may overlap between these tumors and to what extent would any degree of overlapping affect the risk estimation. Since this area is extremely speculative and complex, it is not possible to provide specific qualitative and quantitative estimates. It would also not be possible to extrapolate information from one tumor type to another.
6. The present assessment reveals that the original additive to background assumption is not supported by modern molecular biology and toxicology. Numerous findings contradict the additive to background hypothesis of identical mechanisms for spontaneous/ induced tumors. There is also a lack of information concerning whether and to what extent there may be some degree of mechanistic overlap between the spontaneous/ induced tumor processes or even if this is an appropriate question. It is not known if similar partial pathway(s) occurring at different time(s) affect the cancer process, time to tumor, how this may be affected by dose and any biological implications if mediated by driver or passenger mutations in unique combinations and/or sequences.

Trying to formulate a modified additive to background policy on a hypothetic basis of what proportion of assumed processes might be identical for spontaneous/induced tumors adds an even more uncertain perspective which should caution against governmental risk assessment policy/procedures on such matters. Furthermore, observations that carcinogen treatment can reprogram spontaneous tumor endpoints may have significant risk assessment implications, contradicting the additive to background and independent of background assumptions. Neither the continued use of the additive to background assumption/procedure or a switch to an independent of background assessment process appears justified. In their absence this would return the evaluative process to a direct experimental comparison without underlying hypothetic assumptions.

Declaration of Interest

None.

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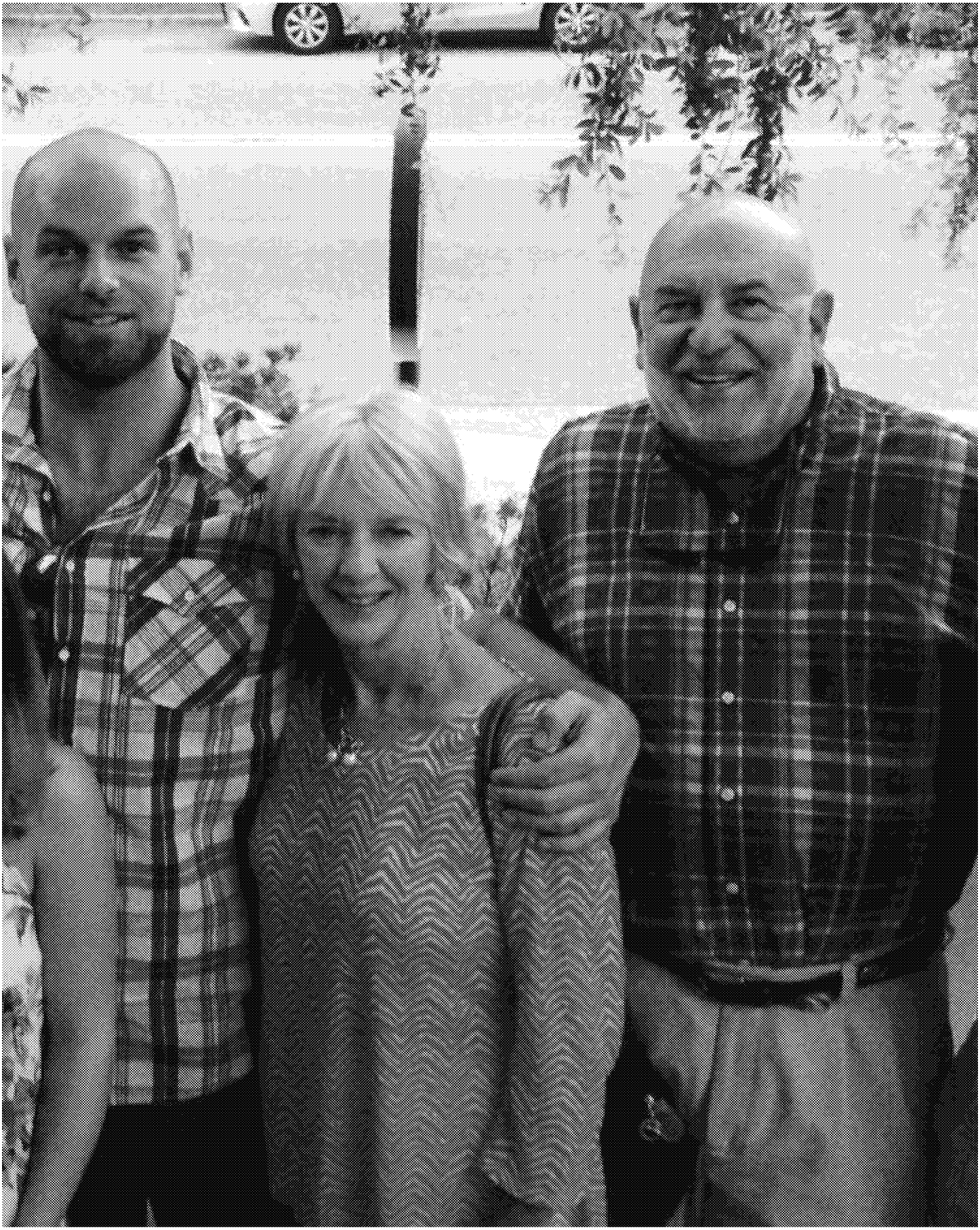
Message

From: Brian Wynne Ex. 6
Sent: 7/16/2018 10:44:28 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Brian Wynne- requesting update on Meth Chloride ban

Good evening Ryan. I'm holding you all to your word. Drew is pictured below with my mom and dad. Don't slow roll us. Do the right thing and put the official word out.



Sent from my iPhone

Message

From: Wendy H Ex. 6
Sent: 7/13/2018 2:07:54 PM
To: Wheeler, Andrew [wheeler.andrew@epa.gov]
CC: Jackson, Ryan [jackson.ryan@epa.gov]; Cindy Wynne Ex. 6 Wendy H Ex. 6
Subject: Letter urging immediate ban of methylene chloride in paint strippers from grieving mothers who met with Pruitt in May

July 13, 2018

The Honorable Andrew Wheeler
Acting Administrator
USEPA Headquarters
William Jefferson Clinton Building
1200 Pennsylvania Avenue, N.W.
Mail Code: 1101A
Washington, D.C. 20460

Dear Acting Administrator Wheeler:

We write to request that the Environmental Protection Agency (EPA) immediately send the draft final rule banning certain uses of methylene chloride to the Office of Information and Regulatory Affairs (OIRA). We met with former Administrator Pruitt in May to talk about the tragic deaths of our sons and the urgent need for EPA to finalize its proposed ban on methylene chloride. Several days after our meeting, former Administrator Pruitt announced that the EPA would be taking action on the chemical. Over two months have now passed, the ban has not moved forward, and methylene chloride-based paint strippers are still widely available.

Both of our families lost sons to acute methylene chloride exposure in 2017. Drew Wynne, 31 years old, Ex. 6 Ex. 6 The product and the mask he was wearing were bought at a popular home improvement store. Ex. 6 Ex. 6 CBS Morning Show covered both Kevin's and Drew's tragic stories. And just this February, Ex. 6 Ex. 6 There will no doubt be more tragedies if methylene chloride-based paint strippers stay on the market.

EPA's ban was first proposed back in January 2017, under the nation's newly strengthened chemical safety law. The agency had taken a close look at the evidence – including the dozens of deaths from high risk uses of the chemical – and decided that methylene chloride should no longer be allowed in paint strippers. It is simply too dangerous.

Unfortunately, the EPA has delayed this ban in the many months since it was proposed – including relegating it to "long term action" in the administration's Unified Agenda. Kevin, Drew, and Joshua all passed away in the time since the ban was first proposed.

In an effort to prevent more deaths, we ask that the proposed rule (EPA-HQ-OPPT-2016-0231) to ban all consumer and most commercial uses of methylene chloride as a paint stripper be finalized. Senators Graham and Scott and Representative Sanford have joined us in calling for action in a joint letter to EPA. As EPA has stalled critical action on the chemical, many stores have stepped up and announced that they will stop carrying paint strippers containing methylene chloride because of the acute dangers.

Please ensure that no other families experience such a terrible loss and send the draft final rule banning all consumer and most commercial uses of methylene chloride in paint strippers and coating removers to OIRA immediately.

Sincerely,
Wendy Hartley and Cindy Wynne

Wendy Hartley
Ex. 6

Ex. 6

Cindy Wynne

Ex. 6

This e-mail and any attachments may contain confidential and privileged information. If you are not the intended recipient, please notify the sender immediately by return e-mail, delete this e-mail and destroy any copies. Any dissemination or use of this information by a person other than the intended recipient is unauthorized and may be illegal.

Message

From: Freedhoff, Michal (EPW) [Michal_Freedhoff@epw.senate.gov]
Sent: 7/6/2018 3:06:24 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Lyons, Troy [lyons.troy@epa.gov]; Palich, Christian [palich.christian@epa.gov]
Subject: letter to the Acting Administrator
Attachments: 07-06-18TC Letter to Wheeler.pdf

Good morning!

Please see the attached

Thanks
Michal

Michal Ilana Freedhoff, Ph.D.
Director of Oversight
Committee on Environment and Public Works Democratic Staff

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MARY FRANCES REPKO, MINORITY STAFF DIRECTOR

United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
WASHINGTON, DC 20510-6175

July 6, 2018

The Honorable Andrew Wheeler
Acting Administrator
U.S. Environmental Protection Agency (EPA)
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Andrew:

I write to congratulate you on being named Acting Administrator of the EPA and to ask you to do all that you can to restore the American people's confidence in the agency's mission, which is the protection of human health and our environment.

Scott Pruitt's record of corruption, wasteful spending on himself while attempting to slash the EPA budget and workforce, secrecy, retaliation against those who dared object, and legally questionable rulemaking proposals have been well-documented.

They say that history doesn't always repeat itself, but it often rhymes. A review of a different chapter in EPA's history reveals the truth of that adage. Mr. Pruitt's tenure at the agency brings to mind the tenure of former EPA-Administrator Anne Gorsuch, which was described as "marked by sharp budget cuts, rifts with career EPA employees, a steep decline in cases filed against polluters and a scandal over the mismanagement of the Superfund cleanup program that ultimately led to her resignation in 1983….She filled various departments at EPA with subordinates recruited from the very industries the agency was supposed to be regulating.[1]"

When Ms. Gorsuch was forced to resign, President Reagan nominated William Ruckelshaus, who had served as the nation's first EPA Administrator, and who had since that time also worked on behalf of many companies regulated by EPA, to serve as Ms. Gorsuch's replacement. Much like your nomination to serve as EPA's Deputy Administrator, Mr. Ruckelshaus's industry ties[2] led to considerable skepticism[3] when his nomination was considered by the Environment and Public Works Committee.

In his opening statement (attached), he observed that the opposition to his nomination during the two days of hearings that preceded his appearance gave him "a sense that I was witnessing my own

[1] https://www.washingtonpost.com/news/energy-environment/wp/2017/02/01/neil-gorsuchs-mother-once-ran-the-epa-it-was-a-disaster/?utm_term=.1417a04c3592
[2] https://www.nytimes.com/1983/03/26/us/ruckelshaus-s-ties-split-environmental-leaders.html
[3] https://www.washingtonpost.com/archive/politics/1983/05/04/wildlife-federation-endorses-ruckelshaus-other-groups-neutral/b649ff6f-c7aa-4fee-896c-6324974f52a0/?utm_term=.13b427678ce7

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lynching." During his confirmation hearing, Mr. Ruckelshaus committed to following and enforcing environmental laws, said he would request and use the advice provided to him by EPA's career staff, and also said: "There will be no hit list. There will be no "Big P" political decisions, there will be no sweetheart deals.... I will seek help from scientists, from environmentalists, from economists, from industrialists and from the general public... Recognizing the important oversight function that Congress must play, a better dialogue and increased trust between the legislative and administering authorities in this area will be a high priority of mine."

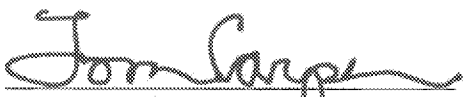
After he was nominated, the Washington Post reported (attached) that he received "an emotional hero's welcome" from the beleaguered EPA employees as he promised that "the atmosphere of the demoralized agency will change dramatically." Within a week after he re-assumed the helm of the agency, Mr. Ruckelshaus authored the 'fishbowl memo' (attached) to establish strong transparency and ethics procedures at EPA. When he resigned in 1985, The New York Times said[4] that "he has widely been credited with restoring the morale of the career employees at the agency, bringing in a cadre of competent, experienced assistant administrators and restoring much of the agency's will and capacity to carry out the environmental laws. He also insisted that the agency's enforcement staff step up its operations against violators of the environmental laws."

Mr. Ruckelshaus recently opined,[5] of Scott Pruitt's EPA, that the "EPA should have no natural constituency but the public whose health it is mandated to protect.... the consequence of such conduct is the slow, destructive erosion of public trust in the EPA. Once trust is lost and warnings of unsafe air or contaminated water are ignored, Americans will pay the price. Without that trust, not only will people question whether they can believe their government but also business and industry will face public backlash."

Andrew, you have been granted an enormous challenge and responsibility, but an even greater opportunity. The damage Scott Pruitt has done to the Agency will not easily be undone. While you and I have not always agreed, and will not always agree, on every environmental policy matter, it is my hope and expectation that you will carefully consider the lessons of the past as you prepare to chart the Agency's future. My staff and I stand ready to help, and to that end, I request a meeting in the near future to discuss what we feel are some of the most important near-term steps you could take to restore confidence in the Environmental Protection Agency (attached).

With best personal regards, I am,

Sincerely yours,



Tom Carper
Ranking Member

[4] https://www.nytimes.com/1984/11/29/us/ruckelshaus-resigning-post-as-chief-of-the-epa.html
[5] https://www.washingtonpost.com/opinions/pruitt-is-turning-his-back-on-transparency-at-the-epa/2017/11/01/cd2c1b84-bd88-11e7-8444-a0d4f04b89eb_story.html?utm_term=.67fb14489d0a

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Restoring Trust in the EPA

This is a non-exhaustive list that does not include all EPA actions that are of concern. Rather, this list represents ways to remedy some of Administrator Pruitt's most egregious proposals, practices and missed opportunities.

Restore transparency, trust and accountability

1. Provide daily, more detailed information about the activities of confirmed and other senior unconfirmed EPA officials.
2. Ensure that all policy and other decisions are properly documented in writing.
3. Respond to Freedom of Information Act requests in a complete, minimally redacted, and timely manner.
4. Respond to Congressional oversight letters in a complete, accurate, and timely manner.
5. Cease efforts to dramatically shrink, exclude, or retaliate against members of the EPA workforce.
6. Restore scientific information that was removed from EPA's website.
7. Advocate in support of a budget that appropriately reflects the agency's needs and responsibilities.
8. Ensure that environmental laws are enforced through enabling the detection and deterrence of potential violations and requiring appropriate monetary and/or environmental remedies.

Abandon legally questionable policies and proposals

1. Withdraw EPA's proposal to repeal air emission standards for glider trucks, which appears to largely benefit a single company while being opposed by the vast majority of industry, and was influenced by an industry-funded "study" that is currently the subject of an official investigation into research misconduct for failing to adhere to basic scientific standards.
2. Withdraw EPA's "secret science" proposal, which will require EPA—when developing rules—to rely only on scientific studies where the underlying data have been made public and are available to be reproduced. Such a policy would likely violate several laws that mandate the use of "best available science," including the Toxic Substances Control Act and Safe Drinking Water Act because it would require EPA to ignore some of the "best" scientific studies, and would also likely run afoul of the Administrative Procedure Act, which requires agencies to consider and respond to all information presented to it pursuant to a rulemaking.
3. Abandon efforts to complete the draft proposed rule that seeks to dramatically weaken vehicle fuel economy and greenhouse gas tailpipe standards and preempt California's authority to set and enforce its own greenhouse gas tailpipe standards (as well as that of the 12 additional states, including Delaware, that have adopted them). Instead, work to negotiate a 'win-win' solution on federal fuel economy and tailpipe emissions standards that can be supported by both the automobile industry and the State of California.

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4. Implement the near-unanimously enacted Toxic Substances Control Act in a manner consistent with Congressional intent that new and existing chemical safety reviews be conducted for all uses of a chemical substance, and additionally, that proposed bans for some uses of three chemical substances be quickly finalized.
5. Follow the law when revising, implementing and enforcing rules to limit air pollution under the Clean Air Act, abandon efforts to weaken existing mercury and air toxics and ozone rules, and live up to the responsibility to protect downwind states from air pollution blown in from upwind states.

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Senator STAFFORD. Thank you very much, Senator Simpson.
Mr. Ruckelshaus, we would be glad to hear your statement.

STATEMENT OF WILLIAM D. RUCKELSHAUS, ADMINISTRATOR-DESIGNATE, ENVIRONMENTAL PROTECTION AGENCY

Mr. RUCKELSHAUS. Thank you very much, Mr. Chairman and members of this committee.

I appreciate very much those kind comments that many of you have made in your charge to me to take my new assignment seriously. I watched these committee proceedings yesterday on television, and I must confess I had a sense that I was witnessing my own lynching. Here this morning, I have a sense in part that I have been at my own funeral.

Somewhere in between, I am sure, lies the real me.

Twelve years ago I appeared before this same committee and I asked the members to recommend that the full Senate confirm me as the first Administrator of the Environmental Protection Agency. I am today asking the committee to repeat its earlier vote of confidence.

The committee has amassed more information about me than I knew existed 6 weeks ago. You have all my financial data, my personal recusal statement, my work history, and virtually everything I have said, written, or thought about the environment or public health for the last 12 years. You even have every personal letter I have been able to find in my files relating to the job of Administrator of EPA, and all of this information has been furnished by me or at my direction by the organizations with which I am affiliated.

Mr. Chairman, I am about to note in passing the personal letters that the committee has. When the President announced his intention to nominate me some 6 weeks ago, I told my staff at Weyerhaeuser and elsewhere to cooperate with the committee fully, to give them anything they wanted. I gathered all of the speeches, testimony, articles that I had written. I even gathered all my personal correspondence, and I gave all that material to my staff and told them to give it to the committee. It never occurred to me, frankly, that the Committee would want my personal correspondence, but it was requested and turned over to the committee by my staff.

I didn't realize that this had happened until last Friday. By way of explanation, Mr. Chairman, of a letter that I wrote to you on Thursday enclosing some of the correspondencec that had appeared in the New York Times, I indicated to you I didn't know where it was coming from. On Friday, a member of my staff brought up the bundle he had sent and he was very proud of the fact that he had followed my instructions and turned everything over to the committee. That is how it happened.

I did find over the weekend some mention of the environment in a couple of letters that I sent to my mother which I would be glad to turn over to the committee.

She, like some other members of this committee, had a question about judgment in returning. She asked me on the phone how I could possibly take a job 10 years later in which I was not getting a promotion.

I told her she wouldn't want to hear the whole thing.

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Well, I don't believe it is possible, Mr. Chairman, for this committee to know any more about me than you now do. What you see is really what you get. I will, of course, answer any questions that you might have regarding the material that I have given you, and I would respond to any questions that might have arisen at the hearing yesterday.

In this statement I will not dwell on the record before you but instead will tell you what I plan to do if confirmed, how I intend to do it and what I hope to accomplish my second time around.

Before I start, let me make clear my personal perception of the issues the EPA was created to address. To the American people, protection of public health and our national environment embodies a terribly important and enduring set of values. The survey data I have seen and my own experience strongly indicate that Americans feel more deeply committed to the protection of public health and the environment than any people on earth.

Our country, acting through Federal, State and local governments over the past two decades, has translated that commitment into a massive network of laws and regulations to protect the health of our people, the air, water and earth that they all share. As these laws attest, the debate in this country over whether we are going to protect public health and our environment has long since ended.

I completely share our Nation's commitment to the values of public health and the environment. Since first coming to EPA in 1970, I have participated in the national dialog about how to translate those values into achievable goals. I intend, while at EPA, to continue to participate, and if confirmed, many of the same arguments I have made in the past whether in or out of the government.

Now, if I am confirmed, what do I plan to do? I discussed the nature of the Administrator's job with the President and his immediate staff before he asked me to serve. We agreed that people and resources to do the job were essential ingredients of success.

My first priority will be to recruit the best people I can find to manage the agency. I am gratified that in the last 6 weeks, there have been literally thousands of offers to help. Many have come from people who were there before who have proven themselves under fire and who are willing to disrupt their lives to help their country.

I am confident that from that group and others a superior group of people can be assembled.

As to the resources to do the job, it will be a very high priority of mine to review the existing budgetary ceilings to see if additional money or people are needed to carry out the mandate of Congress. If I conclude we need more help, working with the administraion, we will submit an amended 1984 budget request and supplemental 1983 budget request consistent with the 1984 amendments.

Many of you have expressed an interest in whether I intend to request additional budgetary authority or whether I will seek policy changes on virtually every program area the agency administers. These questions are hard, if not impossible, to answer in the abstract, and many of them I simply cannot properly respond to until I have a chance to review the policies and program needs in more detail.

I can offer some guidance on what I now see as high-priority issues. Much has been said and written in criticism of EPA's enforcement

policies. The questions seem to focus on three aspects of enforcement. The will, capacity and organization.

As to will, let me disabuse anyone who believes EPA, while I am there, will not have the requisite determination to enforce the laws as written by Congress. The environmental laws of this country were passed by Congress and were meant to be taken seriously by the administering authorities. I do take the Congressional charge seriously, and if I am confirmed, EPA will take that charge seriously.

We will enforce the laws of this country. We will be firm, and we will be fair. We must never forget that in a time of high emotion such as we now face where the public interest demands fairness in the enforcement of our law, the public good mirrored in the Bill of Rights demands that due process not be abandoned. The EPA I head will adhere to both principles.

I have asked the people now at EPA for a review of both the capacity to enforce, which is a resource question, and the organization of the enforcement function, which is a management question. I have had a preliminary response to both questions but have come to no final conclusions as to what makes the most sense for the agency.

The whole issue of toxic substances, as some of you have already mentioned, is of much greater prominence than when I was first at EPA. The law to regulate pesticides, FIFRA, was already enacted. There were provisions in the Clean Air Act and Clean Water Act that related to toxic substances, but only since I left has EPA established the basic structure to control the manufacture, distribution, use and ultimate disposal of toxic substances.

In the last 6 weeks, I have seen in the press that the number of problems, this has had an impact on me. Mr. Chairman and members of the committee, I had some feeling for the scope of this problem, but nothing like I received in the last 6 months by reviewing the clippings that EPA gets from all over the country relating to toxic substances. I have seen that the number of problems surfacing all over the country relating to toxic substances and toxic chemicals is truly staggering.

We have in place a complex set of laws and regulations to deal with the toxic substance problems. I certainly have no preconception whether these laws or regulations or the resources we have committed to their implementation are adequate. I do know that wise and aggressive implementation of these laws must be a very high priority of mine, and it will be.

There are other matters which will immediately demand my attention such as the reauthorization of most of the organic laws of EPA—8 out of 10 have expired—along with specific issues such as acid rain.

Last and certainly not least, I will make a concerted effort to harness the energies and the talents of the people at EPA toward the Agency's mission.

EPA's greatest resource today is the same as when we started: It's people. Mr. Chairman, when EPA was created in 1970, in the first 45 days of its existence, we received 250,000 applications for jobs from all over this country. That was an expression that was impressive to me at the time of the concern of the people of this country about the environment, and as best I can tell, that concerns has not diminished since.

If these people there are trusted, if they are included in and given clear guidance as to what is expected of them, they will perform to a very high standard. I will work hard, and they will work hard toward our common objective.

To carry this message of trust and reliance forward, I intend to personally visit and talk to as many people at EPA here and in the 10 regions and laboratories in the first few weeks after confirmation.

That is what I intend to do. How am I going to do it? In my judgment, it is important for this committee's deliberations to know what I intend to do. It is also important to know how I will do it.

The charges currently lodged against some of the people of EPA focus primarily on abuse of process. There are many policy differences, but the main allegations concentrate on the way the existing laws are administered. Without commenting on the substance of those charges, this committee should know how I intend to operate.

The existing laws will be administered as written. I will continue to bring to this committee's attention recommendations for change where I believe change is warranted, but in the meantime, ours remains a Nation of laws and not of men, and the laws will remain supreme.

As I did before when I was there, I will do now, and that is, operate EPA as honestly as I know how. There will be no hit list. There will be no "Big P" political decisions, there will be no sweetheart deals. We will attempt to communicate with everyone from the environmentalists to those we regulate, and we will do as openly as possible.

Mr. Chairman, I have already directed that my staff attempt to prepare—assuming this body confirms me—to prepare some guidance for how we will communicate so that it will be clear to everyone exactly how this communication can take place, and it will be as open as we know how to make it.

I will seek the best advice I can get on how to deal with the terribly complex problems EPA must confront. I will seek help from scientists, from environmentalists, from economists, from industrialists and from the general public. I hope to engage former administrators of EPA in a constant dialogue to take advantage of their collective wisdom.

Lastly, I hope to engage this committee—and I know, Mr. Chairman, every Committee that ever confirms anybody, and this body hears the same pledge made by the person they confirm, but I am going to do the best I can to live up to this pledge. I hope to engage this Committee, this Committee's staff and other committees of Congress and their staffs in a joint effort to improve our Nation's ability to respond to the mission of health and environmental problems facing EPA.

Recognizing the important oversight function that Congress must play, a better dialogue and increased trust between the legislative and administering authorities in this area will be a high priority of mine.

In the past weeks, I have given a good deal of thought to what I would like to do at EPA, what goals I would set for myself, what I would like to accomplish, and I thought it might be well to share with this committee at least my preliminary thoughts about those goals. First and foremost, the American people need to believe that the agency charged with protecting so many aspects of their health and their natural environment is staffed with first-rate people doing their very best. The problems EPA confronts are hard ones. Some of these prob-

lems just defy solution. Throughout, from the definition of the problem to its solution, the agency must deal with enormous scientific uncertainty. It often must act before it is clear what the optimum solution would be.

To function at all in such uncharted waters, the American people must trust EPA's motivation and ability. To insure that necessary trust will be a prime objective of mine.

I will endeavor to instill in the employees of EPA a sense of mission and dedication to excellence. I will try to convince them that EPA's mission must be carried out by people who recognize they are servants of the public and not their masters and by people who are as dedicated to fairness and civility to others as to excellence in themselves. An agency steeped in this tradition is a legacy to which I will aspire.

I will attempt to put a management system in place that can meet our goals effectively and efficiently. To accomplish this, EPA and all its elements must first understand our mission and objectives so we know what we are managing toward.

Most of EPA's mission and objectives are defined by statute. I would hope, working with the Congress, to create for the country a more effective legal framework to attain our goals. As I have stated, my obligation as an Administrator is to faithfully execute the laws of the country. In the process of such execution, I will seek to evaluate the impact of the law on both the intended and unintended targets.

Where I think we can lessen the effect on the unintended target without sacrificing our objectives, I will recommend change to the Congress. I did this at EPA before, and I will do it again.

As part of my effort to improve our legal framework, I intend to address the question of the role that the various levels of government play in administering our environmental and health laws.

Too much time is spent by one level of government overseeing the work of the other. With a more clear definition of understanding of who is supposed to do what and who pays for it, we could eliminate much of the public and private frustration over environmental laws. That is a tall order in our Federal system, but with a joint effort by the EPA, the Congress, and the States, more clarity and less redundancy is possible.

I will work toward gaining greater public comprehension of the complexities of managing risk in a free society. I also hope to enlist the scientific community in a more aggressive participation in the public dialog. In my view, the public needs to hear more of what the Administrator of a place like EPA hears regarding scientific uncertainty if they can be expected to support sound public policies.

I will work particularly hard to foster a better dialog between government and environmentalists and the regulated industries. The endless public and private acrimony that surrounds the mix of problems before EPA deflects energy, saps resources, and is ultimately debilitating to the whole effort. Over the last several years, I have become convinced that as Americans, we must first remember we all share this geography of our country, if we are to convince the rest of mankind that we must share and conserve the geography of our planet.

I have other goals regarding such things as developing new and accepted ways of measuring progress against our environmental and health goals and fashioning effective long-term strategies for controlling toxic substances.

I could go on, but accomplishing even a fraction of these objectives will be task enough. I will welcome suggestions from this committee regarding the what and how of my hopes.

I did not seek this job. But having decided to accept it, I am energized and excited by the challenge. If confirmed, I pledge to this committee and to the American people to do the best I can as long as I'm there.

Thank you, Mr. Chairman.

Senator STAFFORD. Thank you very much, Mr. Ruckelshaus, for your excellent opening statement.

I have conferred with Senator Randolph, and we would propose to our colleagues on the committee that we limit ourselves in the first round to 10 minutes per member for questions.

There will be as many rounds as necessary to satisfy all members of the committee. Questions which they wish to addres to Mr. Ruckelshaus will be addressed to him, and he will have a chance to respond to them. Is there objection to following that procedure?

[No response.]

Senator STAFFORD. I hear none, and that being the case, we will start. Again, Senator Randolph and I have conferred, and we would like to propose continuing the hearing today until 1 o'clock, at least, and then starting again at 10 o'clock tomorrow morning and running as long as necessary to see that the members are satisfied in connection with questions and answers.

Is there objection to following that procedure?

[No response.]

Senator STAFFORD. Before going to questions, the Chair is delighted to see that Senator Moynihan, a most valuable member of this committee, has joined us.

Senator Moynihan, do you have any opening statements that you would like to make? We would put them in an appropriate place in the record for you.

Senator MOYNIHAN. I would like to welcome my old friend, Mr. Ruckelshaus. We were together at the time of the drafting of the Executive order which created the EPA and which is still its basis. We welcome you back, sir. May I be the first to congratulate you on a superb opening statement.

Senator STAFFORD. Mr. Ruckelshaus, in my opening statement, I alluded to the fact that some decisions are entrusted by law to the Administrator of the Environmental Protection Agency and to no other person. It has long been the collective view of this committee that there are some decisions which even the President himself cannot make, even though the Administrator is a Presidential appointee. One example is the requirement of the Clean Air Act that the Administrator establish the ambient standards for air pollutants. I would like to ask you some questions regarding your view of the Administrator's independence in the administration as well as what assurances you have received, and from whom?

But first, let me make this brief observation: After the election of 1980, but before the administration had actually changed hands, David Stockman wrote an article laying out what he called a "regulatory blueprint." This article, entitled "Avoiding a GOP Economic

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Wash. Post

Ruckelshaus Given an Emotional Welcome By 1,000 Employes of Embattled EPA

By Dale Russakoff
Washington Post Staff Writer

William D. Ruckelshaus returned yesterday to the embattled Environmental Protection Agency, receiving an emotional hero's welcome from more than 1,000 agency employes who applauded him noisily, laughed at his jokes and hoisted a banner reading: "How do you spell relief? RUCKELSHAUS."

Ruckelshaus, the EPA's first administrator who was nominated Monday by President Reagan to return to his old post, pledged to restore public trust in the troubled agency, to make it "adhere to an iron integrity," to respect civil servants and to "administer and enforce the laws as they're written by Congress."

Those simple promises drew thunderous ovations from the employes, who crowded into Waterside Mall, where the agency is headquartered, to hear Ruckelshaus' first major address since his nomination. He did not mention his predecessor, Anne M. Burford, and made no specific commitments on policy or personnel shifts, but he appeared to be sending a message that the atmosphere of the demoralized agency will change dramatically.

The mood was reminiscent, many employes said, of the early 1970s, when the agency was founded amid a national clamor for environmental protection. Many of the EPA workers said they came to the agency as young college graduates with a sense of mission and they viewed Ruckelshaus as their comrade.

"The agency and the world were different then," said Hugh Kaufman, a self-styled "whistle blower" in the EPA toxic waste cleanup program. "In the last two years, we have been very much oppressed. We had poor management, outrageous management, potential criminal mismanagement, oppression of civil servants, a feeling that we as EPA regulators were being spat on by the White House. Seeing Bill Ruckelshaus come back is like opening the gates and tearing down the bars."

Ruckelshaus waded into the [illegible] and said through tears: "I'm so happy you're back, I missed you."

Another woman put one hand on each of his shoulders and said with feeling: "The toxic waste program needs you badly." Ruckelshaus answered confidently: "Great, we're going to straighten her out."

Ruckelshaus told the employes he is convinced that Reagan "is committed to doing the job we have been assigned by Congress and to giving us adequate resources to do it," one of the few statements in the speech that was not followed by cheers. He also portrayed himself as a supporter of Reagan's positions.

Ruckelshaus indicated that he will support the administration's effort to revise the Clean Air Act and other landmark environmental laws, despite strong resistance from Congress in the last two years. White House-sponsored amendments to relax portions of the Clean Air Act have been defeated, with members of Congress denouncing them as an effort to favor industry over the public.

"We need to examine the means to achieving these goals [of environmental protection] and where we find or where we believe that better means can be used, we should ask the Congress for the authority necessary to adopt those means," he said. "In the meantime, we will administer and enforce the laws as they are written by Congress."

Interior Secretary James G. Watt said yesterday that he had talked with Ruckelshaus and was "greatly impressed with his commitment to the Reagan philosophy."

Ruckelshaus acknowledged that he had worked on behalf of many industries regulated by the EPA since leaving the Nixon administration in 1973, and said he expects close scrutiny for those ties during his Senate confirmation hearings.

As a Washington attorney he represented manufacturers of vinyl chloride and aluminum and other products. Since 1975 he has been senior vice president of the huge forest products concern, Weyerhaeuser Co. of Tacoma, Wash., named one of the nation's "Filthy Five" companies by Environmental Action, an environmentalist lobbying group.

Weyerhaeuser has contested EPA efforts to curb spraying of forests with herbicides containing toxic chemicals, including dioxin.

"My job as a lawyer was to represent my clients. My job at Weyerhaeuser was to represent all the stakeholders in that enterprise," Ruckelshaus said. "My job as EPA administrator is the same today as it was when I held that job before, and that is to represent the public interest to the best of my ability." That comment also drew loud applause.

Ruckelshaus also hinted at plans to bring in a new team of top EPA managers, but gave no specifics other than saying that Reagan "is committed to getting the best people we can find in this agency, the best people with iron integrity." Employes cheered those words as several top EPA political appointees, targets of congressional and Justice Department probes, watched quietly. They included acting EPA Administrator John W. Hernandez, Assistant Administrator John Todhunter and general counsel Robert M. Perry.

Todhunter and Hernandez came under new fire yesterday as a draft report by a House subcommittee accused them of allowing the formaldehyde industry to influence an agency decision not to regulate the suspected cancer-causing substance. Both men have denied showing favoritism toward industry.

White House officials yesterday told presidential aides to report to White House counsel Fred F. Fielding all contacts with EPA officials in the last two years, regardless of how insignificant they may seem.

The instructions came after reports that James Medas, special assistant in the White House office of intergovernmental affairs, had not reported a discussion with ousted EPA official Rita M. Lavelle on the political impact of toxic-waste cleanup decisions.

United States Environmental Protection Agency
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EPA

Environmental News

3472

FOR RELEASE: THURSDAY, MAY 19, 1983

(202) 382-4355

RUCKELSHAUS TAKES STEPS TO IMPROVE FLOW OF AGENCY INFORMATION

William D. Ruckelshaus, Administrator of the U.S. Environmental Protection Agency, today set forth a number of operating principles to carry out his pledge that EPA will operate "in a fish-bowl."

In addition, his legal staff has established a recusal system to assure his avoiding conflicts of interest and the appearance of conflicts of interest in the performance of his duties. Agency matters in which he excuses (recuses) himself from taking part will be made available to the public.

In a memorandum to all EPA employees, the Administrator said, "When I recently appeared before the Senate Committee on Environment and Public Works, I promised that EPA would operate 'in a fishbowl.' I said, 'We will attempt to communicate with everyone from the environmentalists to those we regulate and we will do so as openly as possible.'"

Ruckelshaus said he thought it was critical to set out for the guidance of all EPA employees a set of basic principles to guide their communications with the public.

Ruckelshaus' letter covers four areas: general principles, appointment calendars, litigation and formal adjudication, and rulemaking proceedings. They call for:

-- General principles. EPA will provide, in all its programs, for the fullest possible public participation in decision-making. This requires not only that EPA employees remain open and accessible to those representing all points of view, but also that

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EPA employees responsible for decisions take affirmative steps in an open manner to seek out the views of those who will be affected by the decisions. EPA will not accord privileged status to any special interest group, nor will it accept any recommendation without careful critical examination.

He added that the guidelines would be disseminated to the public for its comments. "While this is not a formal solicitation of views, we will have a 30-day waiting period in which to receive the opinions of the public. We want to get feedback from the public because of the high and continuing degree of interest in how the agency deals with the regulated community and other affected parties."

Ruckelshaus pointed out that the principles are general in nature "because you can't cover every eventuality." But he said that even while awaiting public comment which could lead to modifications, these guidelines will be in effect as agency policy.

-- Appointment Calendars. "In order to make the public fully aware of any contacts with interested persons," Ruckelshaus wrote, "I have directed that a copy of my appointment calendar for each week be placed in the Office of Public Affairs and made available to the public at the end of the week." He added that all other key EPA officials will make their appointment calendars available in a similar manner.

-- Litigation and formal adjudication. All communication with parties in litigation must be through the attorneys assigned to the case. Program personnel who receive inquiries from parties in matters under litigation should immediately notify the assigned attorney, and should refer the caller to that attorney. Formal adjudications, such as pesticide cancellation proceedings, are governed by specific requirements to which Ruckelshaus said he would adhere and which he expected all EPA employees to meet. All adjudicatory rules governing ex parte (the interest of one party only) communications will be made available to all EPA employees and to the public to assure a policy of openness and candor.

-- Rulemaking proceedings. EPA employees must ensure that the basis for the agency's decisions appear in the record. Ruckelshaus instructed employees to be certain that all written comments received from persons outside the agency be entered in the rulemaking docket, and that a memorandum summarizing any significant new factual information likely to affect the final decision received during a meeting or other conversations be placed in the rulemaking docket.

"You are encouraged to reach out as broadly as possible for views to assist you in arriving at final rules," Ruckelshaus said. "How-

ever, you should do so in a manner that ensures, as far as practicable, that final decisions are not taken on the basis of information which has not been disclosed to members of the public in a timely manner."

To avoid conflicts of interest or the appearance of them, a system has been established in which agency officials will use a recusal form to warn the Administrator of issues from which he should excuse himself.

Ruckelshaus has provided a list of companies in which he is in the process of divesting his financial interests as well as a list of various public institutions with which he has been associated as guidance in determining areas where conflicts of interest could exist. (lists attached.)

Gerald H. Yamada, Deputy General Counsel and the agency's chief ethics officer, said that the Administrator must, in instances where he still has a financial involvement, excuse himself. These instances are mandatory recusals covered by statute, Yamada said.

There also are discretionary recusals in which the Administrator will recuse himself because of the appearance of an impropriety or conflict of interest. Ruckelshaus' associations with public institutions, such as the Bio-Energy Council as an example, would fall into this discretionary category, Yamada said.

Some issues will be decided on a case-by-case basis. Once program officials have provided advice in discretionary matters, a final decision will be made by the Administrator, with the advice of Yamada. In a memorandum on the subject, it was noted that specific procedures must be followed to identify and track matters involving rulemaking, correspondence, litigation and enforcement, formal adjudication, policy statements, grants and contracts.

The memo on recusal to agency officials states, "When Mr. Ruckelshaus has recused himself from participating in any particular matter, your office is not to send him any written material or give him any briefings on such matters. His recusals will be made available to the public."

Yamada said the recusal system, however, does not mean that the Administrator will not be kept informed of everything that is going on at the agency. "He has to be made aware of what is happening, even if he can't participate in some of these matters," Yamada pointed out.

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In developing the guidance principles he announced today, Ruckelshaus had his staff meet with staff members of the Administrative Conference of the United States, an independent agency that develops improvements to legal procedures used by federal agencies in administering their programs. The principles are based on recommendations made by this group and EPA's Office of General Counsel.

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NOTE:

Attachment A lists those firms in which Mr. Ruckelshaus has a financial interest and is in the process of divesting himself of his financial involvement.

Attachment B is a list of public institutions with which Mr. Ruckelshaus has been associated. There may be instances involving some of these groups in which Mr. Ruckelshaus may decide to recuse himself because of the appearance of a conflict of interest.

Until Mr. Ruckelshaus finishes divesting himself of his financial interest in the firms listed on Attachment A, he is prohibited by statute from participating in any particular matter that would involve any of the firms. Once his divesiture is completed, the firms on Attachment A will be moved to the Attachment B list.

# # #

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3472-6

3472-6

Attachment A

Weyerhaeuser Company (pulp and paper manufacturing, logging, wood and plywood products)
Cummins Engine Company, Inc. (diesel engine manufacturing)
Peabody International Corp. (manufacture of solid and hazardous waste cleanup equipment, manufacture of wet and dry scrubbers and electrostatic precipitators)
Nordstrom, Inc. (wearing apparel, shoes)
Pacific Gas Transmission Company (gas transmission)
U.S. West (telephone services holding company)
United Siscoe Mines, Ltd. (on-shore oil and gas extraction, gold mining)
Geothermal Kinetics, Inc. (a subsidiary of United Siscoe Mines)
SeaFirst Corp. (variety of financial services- mortgage lending, leasing, computers, insurance)
Seattle First National Bank (banking services- a subsidiary of SeaFirst Corp.)
Lincoln National Corp. (insurance services-life, health, property, pension)

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3472-7

Attachment B

3472-7

AFS International/Intercultural Programs
American Enterprise Institute for Public Policy Research
American Paper Institute
American Refugee Committee
Bio-Energy Council
Conservation Foundation
Council for Public Interest Law
Council on Foreign Relations, Inc.
Council on Solar Bio Fuels
The Diet
Economic Development Council of Puget Sound
Environmental & Energy Study Institute
Environmental Law Institute
Explorers Club
Handgun Control, Inc.
Harvard University
Harvard/Monsanto Advisory Board
Indiana Academy
INFORM
Monday Club
National Business Council for ERA
National Research Council
National Victims of Crime
Pacific Science Center
Public Agenda Foundation
Resolve (Center for Environmental Conflict Resolution)
Seattle Art Museum
Seattle Chamber of Commerce
Seattle University
Twentieth Century Fund
University of Puget Sound
University of Washington
Urban Institute
U.S. Business Commission on the Reconstruction of Lebanon
Weyerhaeuser Company Archives
Weyerhaeser Company Foundation

ED_002480_00068237-00018

3412-8

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

3472-8

THE ADMINISTRATOR

MEMORANDUM

SUBJECT: Contacts with Persons Outside the Agency

TO: All EPA Employees

When I recently appeared before the Senate Committee on Environment and Public Works, I promised that EPA would operate "in a fishbowl." I said, "We will attempt to communicate with everyone from the environmentalists to those we regulate and we will do so as openly as possible." Therefore, I believe it is important to set out for the guidance of all EPA employees a set of basic principles to guide our communications with the public.

In formulating these principles I considered more stringent restrictions on contacts with those outside the Agency than those described below. At my request, my staff met with staff members of the Administrative Conference of the United States to discuss these issues. This organization is an independent agency that develops improvements to the legal procedures by which Federal agencies administer their programs. Based on the recommendations of the staff members of the Administrative Conference and those of the Office of General Counsel, I am convinced that restrictions beyond those set out below would unnecessarily inhibit the free flow of information and views. In adopting these flexible procedures I am relying on EPA employees to use their common sense and good judgment to conduct themselves with the openness and integrity which alone can ensure public trust in the Agency.

General Principles

EPA will provide, in all its programs, for the fullest possible public participation in decision-making. This requires not only that EPA employees remain open and accessible to those representing all points of view, but also that EPA employees responsible for

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decisions take affirmative steps to seek out the views of those who will be affected by the decisions. EPA will not accord privileged status to any special interest group, nor will it accept any recommendation without careful critical examination.

Appointment Calendars

In order to make the public fully aware of my contacts with interested persons, I have directed that a copy of my appointment calendar for each week be placed in the Office of Public Affairs and made available to the public at the end of the week. The Deputy Administrator, and all Assistant Administrators, Associate Administrators, Regional Administrators, and Staff Office Directors shall make their appointment calendars available in a similar manner.

Litigation and Formal Adjudication

EPA is engaged in a wide range of litigation, both enforcement and defensive in nature. All communication with parties in litigation must be through the attorneys assigned to the case. Program personnel who receive inquiries from parties in matters under litigation should immediately notify the assigned attorney, and should refer the caller to that attorney.

Formal adjudications, such as pesticide cancellation proceedings, are governed by specific requirements concerning ex parte communications, which appear in the various EPA rules governing those proceedings. These rules are collected and available in the Office of General Counsel, Room 545, West Tower. I will conduct myself in accordance with these rules, and I expect all EPA employees to do the same.

Rulemaking Proceedings

In either formal or informal rulemaking proceedings under the Administrative Procedure Act, EPA employees must ensure that the basis for the Agency's decision appears in the record. Therefore, be certain (1) that all written comments received from persons outside the Agency (whether during or after the comment period) are entered in the rulemaking docket, and (2) that a memorandum summarizing any significant new factual information or argument likely to affect the final decision received during a meeting or other conversations is placed in the rulemaking docket.

3472-10

3472-10

You are encouraged to reach out as broadly as possible for views to assist you in arriving at final rules. However, you should do so in a manner that ensures, as far as practicable, that final decisions are not taken on the basis of information or arguments which have not been disclosed to members of the public in a timely manner. This does not mean that you may not meet with one special interest group without inviting all other interest groups to the same meeting, although all such groups should have an equal opportunity to meet with EPA. It does mean, however, that any oral communication regarding significant new factual information or argument affecting a rule, including a meeting with an interest group, should be summarized in writing and placed in the rulemaking docket for the information of all members of the public.

William D. Ruckelshaus

227

Message

From: Davenport, Coral [coral.davenport@nytimes.com]
Sent: 7/5/2018 9:18:20 PM
To: Wilcox, Jahan [wilcox.jahan@epa.gov]; Jackson, Ryan [jackson.ryan@epa.gov]
Subject: can you guys confirm that Pruitt got a call from the Situation room at 2 pm

and was told Kelly was looking for him?

--
Coral Davenport
Energy and Environment Correspondent
The New York Times
Washington Bureau
1627 I St. NW, Suite 700
Washington, DC 20006
coral.davenport@nytimes.com
O 202-862-0359
Ex. 6
Twitter @CoralMDavenport

Message

From: rich.gold@hklaw.com [rich.gold@hklaw.com]
Sent: 7/13/2018 4:56:08 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Dickerson, Aaron [dickerson.aaron@epa.gov]
Subject: Fwd: Acting Administrator Wheeler Meeting Request - July 17
Attachments: July 2018 AROW Members List.pdf; ATT00001.htm

Just fyi she's gone dark on us after committing to mtg while Andy was deputy. If we need to resched for Sept that's ok but folks are flying in for our mtg and we need to lock down schedule.

Rich Gold | Holland & Knight
Practice Group Leader
Public Policy & Regulation Group
Holland & Knight LLP
800 17th Street N.W., Suite 1100 | Washington, DC 20006<x-apple-data-detectors://1/1>
T 202.457.7143<tel:202.457.7143> [redacted] Ex. 6
rich.gold@hklaw.com<mailto:rich.gold@hklaw.com> | @HK_PPR

Add to address book<http://www.hklaw.com/vcard.aspx?user=Rgold> | View professional biography<http://www.hklaw.com/id77/biosRgold>

Begin forwarded message:

From: "Serafino, Marissa C (WAS - X75414)" <Marissa.Serafino@hklaw.com<mailto:Marissa.Serafino@hklaw.com>>
Date: July 13, 2018 at 11:56:07 AM EDT
To: "Burton, Tamika" <burton.tamika@epa.gov<mailto:burton.tamika@epa.gov>>
Cc: "Gold, Richard (WAS - X77143)" <rich.gold@hklaw.com<mailto:rich.gold@hklaw.com>>, "Karakitsos, Dimitrios J (WAS - X75132)" <Dimitri.Karakitsos@hklaw.com<mailto:Dimitri.Karakitsos@hklaw.com>>, "Dickerson, Aaron" <dickerson.aaron@epa.gov<mailto:dickerson.aaron@epa.gov>>
Subject: RE: Acting Administrator Wheeler Meeting Request - July 17

Hi Tamika,

I left you a message this morning following up on this meeting request for next Tuesday, July 17 with the Alliance to Restore Our Waterways (AROW). A dozen or so representatives from AROW member companies would need to travel to attend. I've attached a list of member companies here.

Please let us know Acting Administrator Wheeler's availability as soon as possible.

Thank you for your assistance,
Marissa

Marissa Serafino | Holland & Knight
Summer Associate
Holland & Knight LLP
800 17th Street N.W., Suite 1100 | Washington, DC 20006
Phone 202.469.5414 [redacted] Ex. 6
marissa.serafino@hklaw.com<mailto:marissa.serafino@hklaw.com> | www.hklaw.com<http://www.hklaw.com/>

Add to address book<http://www.hklaw.com/vcard.aspx?user=mcserafino> | View professional biography<http://www.hklaw.com/id77/biosmcserafino>

From: Serafino, Marissa C (WAS - X75414)
Sent: Monday, July 09, 2018 9:32 AM
To: 'Burton, Tamika' <burton.tamika@epa.gov<mailto:burton.tamika@epa.gov>>
Cc: Gold, Richard (WAS - X77143) <rich.gold@hklaw.com<mailto:rich.gold@hklaw.com>>; Karakitsos, Dimitrios J (WAS - X75132) <Dimitri.Karakitsos@hklaw.com<mailto:Dimitri.Karakitsos@hklaw.com>>
Subject: RE: Acting Administrator Wheeler Meeting Request - July 17

Hi Tamika,

I hope you had a good weekend. I wanted to follow up on potential times for AROW to meet with Acting Administrator Wheeler on July 17.

Thank you,
Marissa

Marissa Serafino | Holland & Knight

Summer Associate
Holland & Knight LLP
800 17th Street N.W., Suite 1100 | Washington, DC 20006
Phone 202.469.5414 Ex. 6
marissa.serafino@hklaw.com<mailto:marissa.serafino@hklaw.com> | www.hklaw.com<http://www.hklaw.com/>
_____
Add to address book<http://www.hklaw.com/vcard.aspx?user=mcserafino> | View professional biography<http://www.hklaw.com/id77/biosmcserafino>

From: Serafino, Marissa C (WAS - X75414)
Sent: Wednesday, June 20, 2018 10:27 AM
To: 'Burton, Tamika' <burton.tamika@epa.gov<mailto:burton.tamika@epa.gov>>
Cc: Gold, Richard (WAS - X77143) <rich.gold@hklaw.com<mailto:rich.gold@hklaw.com>>; Karakitsos, Dimitrios J (WAS - X75132) <Dimitri.Karakitsos@hklaw.com<mailto:Dimitri.Karakitsos@hklaw.com>>
Subject: RE: Deputy Administrator Wheeler Meeting Request - July 17

Thank you, Tamika.

Marissa Serafino | Holland & Knight
Senior Public Affairs Advisor
Holland & Knight LLP
800 17th Street N.W., Suite 1100 | Washington, DC 20006
Phone 202.469.5414 Ex. 6
marissa.serafino@hklaw.com<mailto:marissa.serafino@hklaw.com> | www.hklaw.com<http://www.hklaw.com/>
_____
Add to address book<http://www.hklaw.com/vcard.aspx?user=mcserafino> | View professional biography<http://www.hklaw.com/id77/biosmcserafino>

From: Burton, Tamika [mailto:burton.tamika@epa.gov]
Sent: Wednesday, June 20, 2018 10:26 AM
To: Serafino, Marissa C (WAS - X75414) <Marissa.Serafino@hklaw.com<mailto:Marissa.Serafino@hklaw.com>>
Subject: RE: Deputy Administrator Wheeler Meeting Request - July 17

Hi Marrisa,
I will follow-up shortly with proposed times for this meeting.

Best Regards,
Tamika Burton
Staff Assistant to the Deputy Administrator Andrew Wheeler
Immediate Office of the Administrator
MC 1104A Room 3412 WJC North
(202) 564-4771 (d)
Ex. 6
burton.tamika@epa.gov<mailto:burton.tamika@epa.gov>

From: Marissa.Serafino@hklaw.com<mailto:Marissa.Serafino@hklaw.com> [mailto:Marissa.Serafino@hklaw.com]
Sent: Wednesday, June 20, 2018 10:08 AM
To: Burton, Tamika <burton.tamika@epa.gov<mailto:burton.tamika@epa.gov>>
Cc: joel.roberson@hklaw.com<mailto:joel.roberson@hklaw.com>;
rich.gold@hklaw.com<mailto:rich.gold@hklaw.com>
Subject: Deputy Administrator Wheeler Meeting Request - July 17

Hi Tamika,

Please find attached a request for EPA Deputy Administrator Wheeler to meet with the Alliance to Restore Our Waterways (AROW) on July 17. AROW is a coalition made of industry stakeholders committed to helping remediate contaminated sediment in our waterways and putting these sites back into productive use.

Thank you,
Marissa

Marissa Serafino | Holland & Knight
Senior Public Affairs Advisor
Holland & Knight LLP
800 17th Street N.W., Suite 1100 | Washington, DC 20006
Phone 202.469.5414 Ex. 6
marissa.serafino@hklaw.com<mailto:marissa.serafino@hklaw.com> | www.hklaw.com<http://www.hklaw.com/>
_____
Add to address book<http://www.hklaw.com/vcard.aspx?user=mcserafino> | View professional biography<http://www.hklaw.com/id77/biosmcserafino>

_____

NOTE: This e-mail is from a law firm, Holland & Knight LLP ("H&K"), and is intended solely for the use of the individual(s) to whom it is addressed. If you believe you received this e-mail in error, please notify the sender immediately, delete the e-mail from your computer and do not copy or disclose it to anyone else. If you are not an existing client of H&K, do not construe anything in this e-mail to make

you a client unless it contains a specific statement to that effect and do not disclose anything to H&K in reply that you expect it to hold in confidence. If you properly received this e-mail as a client, co-counsel or retained expert of H&K, you should maintain its contents in confidence in order to preserve the attorney-client or work product privilege that may be available to protect confidentiality.

Alliance to Restore Our Waterways
Membership List
July 2018

1. Dow
2. DuPont
3. BASF
4. Honeywell
5. Celanese
6. Chevron
7. ExxonMobil
8. Schnitzer Steel
9. Boeing
10. International Paper

Message

From: Robin Bravender [rbravender@eenews.net]
Sent: 7/5/2018 9:02:47 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Quick chat?

Hi Ryan,

I'd love to chat off-record for 5 minutes or so if you're willing.

Thank you,

Robin Bravender
Climatewire deputy editor, E&E News
rbravender@eenews.net
202-446-0410 (desk)
Ex. 6
@rbravender

E&E NEWS
122 C Street NW 7th Floor Washington, DC 20001
www.eenews.net | @EENewsUpdates
Energywire, Climatewire, Greenwire, E&E Daily, E&E News PM, E&ETV

Message

From: Pete Regan [pete@devonshirelaw.com]
Sent: 7/12/2018 10:31:06 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Get this?

Peter J. Regan
Devonshire Law, PC
4124 S. Rockford Ave., Suite 201
Tulsa, OK 74105
T: 918-293-3921
pete@devonshirelaw.com

Message

From: Marty Kady [prosummit2018@splash.events]
Sent: 7/17/2018 1:16:29 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: Watch Live | POLITICO Pro Summit
Attachments:invite.ics

Join POLITICO as we host our second Pro Summit.
The Pro Summit will bring together Pro subscribers, expert reporters, key decision-makers, and others who are shaping the policy landscape for a full day of incisive conversations.

WATCH LIVESTREAM HERE

9:10 A.M. Morning Session Begins

9:20 A.M. Keynote with **Scott Gottlieb, MD, Commissioner, Food and Drug Administration**

9:40 A.M. Seeking Light in the Opioid Tunnel

10:10 A.M. Trade: Where Are We Headed with Mexico and Canada?

11:05 A.M. What's Next for U.S.- China relations?

11:35 A.M. A Conversation with Duke Energy's **Lynn Good, Chairman, President and Chief Executive Officer***

12:00 P.M. Shaping America's Energy Future

12:25 P.M. Morning Session Ends

Agenda is subject to change.

**Duke Energy & CVS Health are Presenting Sponsors of the 2018 Pro Summit.*

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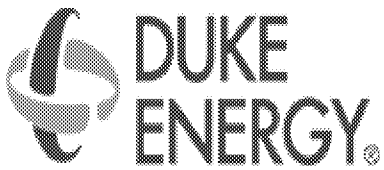

Unsubscribe

Appointment

Subject: Pro Summit 2018
Location: Renaissance Washington DC 999 9th Street NW Washington D.C. 20001

Start: 7/17/2018 12:30:00 PM
End: 7/17/2018 9:00:00 PM
Show Time As: Tentative

Recurrence: (none)

For more information - https://prosummit2018.splashthat.com

Message

From: Brent Fewell [brent.fewell@earthandwatergroup.com]
Sent: 7/9/2018 11:29:34 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Attachments: ATT00001.txt

Got time for a quick call this morning?

Brent

Brent Fewell, Esq. | Earth & Water Law Group
1455 Pennsylvania Ave., NW, Suite 400, Washington, DC 20004
(202) 280-6362 (o) Ex. 6 www.earthandwatergroup.com

Linked

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Message

From: Friedman, Lisa [lisa.friedman@nytimes.com]
Sent: 5/10/2018 3:09:13 AM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: I know it's late. Can we talk?

Ex. 6 I know Coral reached out to you. We're running a story tomorrow and I'd really like to get your input. Thanks for considering it.

--
Lisa Friedman
Reporter, New York Times
(202) 862-0306 office
Ex. 6

Message

From: Annie Snider [asnider@politico.com]
Sent: 5/10/2018 7:05:28 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: PFAS CDC study 2.pdf
Attachments: PFAS CDC study 2.pdf

To: Beck, Nancy[Beck.Nancy@epa.gov]
From: Yamada, Richard (Yujiro)
Sent: Tue 1/30/2018 6:00:01 PM
Subject: Re: Question

FYI - ORD going to DoD to discuss - this was arranged a few weeks back - thanks

Sent from my iPhone

On Jan 30, 2018, at 11:36 AM, Beck, Nancy <Beck.Nancy@epa.gov> wrote:

If there are DOD concerns, perhaps OMB can step up and coordinate interagency review of this important guidance document before it is released.

They may be a good neutral arbiter and OIRA has a toxicologist who could lead this effort.

OMB/OIRA played this role quite a bit under the Bush Administration, but under Obama they just let each agency do their own thing…

Nancy B. Beck, Ph.D., DABT

Deputy Assistant Administrator, OCSPP

P: 202-564-1273

Ex. 6

beck.nancy@epa.gov

From: Yamada, Richard (Yujiro)
Sent: Tuesday, January 30, 2018 10:01 AM
To: Greaves, Holly <greaves.holly@epa.gov>
Cc: Jackson, Ryan <jackson.ryan@epa.gov>; Beck, Nancy <Beck.Nancy@epa.gov>
Subject: Re: Question

This is the issue that me Nancy and others have been working with CDC - I thought we were going to continue the discussion on science with them - seems like they want to roll

out and do they own thing - estimate they use is 10 fold lower than most because of use of immuno Tox studies - not sure our scientists agree

Sent from my iPhone

On Jan 30, 2018, at 9:46 AM, Greaves, Holly <greaves.holly@epa.gov> wrote:

Ryan/Richard- is there anything more you can share with me about this?

Thanks,

Holly

Begin forwarded message:

From: "Herz, James P. EOP/OMB" Ex. 6
Date: January 30, 2018 at 9:09:19 AM EST
To: "Greaves, Holly" <greaves.holly@epa.gov>
Subject: Question

Holly - I was copied on this email below from WH intergovernmental affairs. Do you know anything about this issue? If yes, can you fill me in? Thanks

---

Hi all,

Got a call from a DOD contact expressing some concern about pending HHS rollout on perfluoorooctane sulfonate (PFOS) and perflurooctanoic acid (PFOA) contaminates between HHS, DOD, EPA, and OMB. Sounds like there might need to be some more robust rollout and perhaps policy and budget discussions on this front. Glad to help coordinate further as appropriate.

Background based on feedback from DOD: HHS's Agency for Toxic Substances and Disease Registry (ATSDR) has a draft Toxicological Profile for 4 PFAS (PFOS,PFOA, PFHX, and PFNA) and they are getting ready to publish the draft in the Fed Register for public comment. The Tox. Profile has some very, very low "Minimal Risk Level" (MRL) numbers. There are numbers for adults and children for each compound, ranging from as low as 12 ppt to 516 ppt. But the public and the media are going to go with the lowest number -- 12 ppt. Although the Director of ATSDR, Dr. Breysse, was willing to tell us the numbers, he wouldn't share the detailed draft Tox. Profile with us and could not/would not tell us when they are going to publish in the Federal Register.

The public, media, and Congressional reaction to these new numbers is going to be huge. The impact to EPA and DoD is going be extremely painful. We (DoD and EPA) cannot seem to get ATSDR to realize the potential public relations nightmare this is going to be.

EPA's COS is likely reaching out to HHS COS.

Message

From: Bryan Shaw Ex. 6
Sent: 5/1/2018 4:10:57 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
Subject: ORD
Attachments: Ex. 6 Irrigation CV March 2018 (1).pdf

I'm attaching the biodata for Ex. 6 Please let me know if you have any questions. I have not shared with her that I was passing her name along to you.

I'll keep thinking of viable candidates.

Bryan

Ex. 6

Ex. 6

Ex. 6

Ex. 6

Message

From: Jackson, Ryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=38BC8E18791A47D88A279DB2FEC8BD60-JACKSON, RY]
Sent: 3/26/2019 1:05:42 PM
To: Brian Wynne Ex. 6
Subject: RE: Wynne Thanks!

For better or worse, working in rulemakings requires patience, perseverance, and often an eye to the "long game." We are glad we could meet again.

From: Brian Wynne Ex. 6
Sent: Sunday, March 24, 2019 12:42 PM
To: Wheeler, Andrew <wheeler.andrew@epa.gov>; Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Wynne Thanks!

I think the coverage was pretty unfair, as someone that leans Dem it was an eye opening experience to see how media can shape narrative (nothing new to you). Thank you for taking the meeting, we look forward to continuing the conversation on training and safety.

Ex. 6

Sent from my iPhone

Message

From: Jackson, Ryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=38BC8E18791A47D88A279DB2FEC8BD60-JACKSON, RY]
Sent: 10/3/2018 2:02:53 PM
To: Jim Massie [jmassie@massiepartners.com]
Subject: Re: thank you!

Any time.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

On Oct 3, 2018, at 9:42 AM, Jim Massie <jmassie@massiepartners.com> wrote:

> Great to see you Monday. Appreciate you all giving us time. And we intentionally kept the meeting short and sweet. We will have problems in the future right now is not the time to get in-between the elephants.

<image003.png>

Jim Massie

Massie Partners
(202) 841-8037
jmassie@massiepartners.com
massiepartners.com

Message

From: Jackson, Ryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=38BC8E18791A47D88A279DB2FEC8BD60-JACKSON, RY]
Sent: 9/24/2018 4:46:23 PM
To: Hayly Humphreys Ex. 6
Subject: RE: Thank you and Resume

Perfect. Well, I will call you later today with that.

From: Hayly Humphreys Ex. 6
Sent: Monday, September 24, 2018 12:44 PM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Re: Thank you and Resume

Hi Ryan,

Hope you had a great weekend! I just wanted to follow up on the email below. I am still very interested in the position and think it would be a great fit. Would it be possible to know a range of what the salary might be? Also, is there a time frame that you and the Acting Administrator had in mind for a start date?

Thanks!

Hayly Humphreys
Ex. 6

On Wed, Sep 19, 2018 at 3:59 PM Hayly Humphreys Ex. 6 wrote:

Hi Ryan,

Here is the email I sent to Kaitlyn with salary estimations from my time in the Senate. I should note that 2018 estimated would now be Ex. 6 Just to clarify on the numbers below, I started in June 2014 so my base salary was Ex. 6 per year, but my gross for 2014 was approximately Ex. 6 Additionally, I receive a student loan reimbursement of Ex. 6 per month.

Please let me know if you need additional information.

Thanks!
Hayly

---------- Forwarded message ---------
From: **Hayly Humphreys** Ex. 6
Date: Fri, Aug 17, 2018 at 2:52 PM
Subject: Re: Thank you and Resume
To: Shimmin, Kaitlyn <shimmin.kaitlyn@epa.gov>

Thank you! I have attached the paperwork and provided the candidate information below.
Please let me know if you need anything else from me.

CANDIDATE INFORMATION (To be completed by applicant)

- **Name:** Martha Humphreys

- **Phone:** Ex. 6
- **Email:** Ex. 6
- **Date of Birth** Ex. 6
- **Place of Birth** Ex. 6
- **Current Address:** Ex. 6
- **Social Security Number:** Ex. 6
- **5 Year Salary History:**
    - **2018 (estimated)** Ex. 6
    - **2017:** Ex. 6
    - **2016:** Ex. 6
    - **2015:** Ex. 6
    - **2014:** Ex. 6

On Fri, Aug 17, 2018 at 11:16 AM, Shimmin, Kaitlyn <shimmin.kaitlyn@epa.gov> wrote:

Thanks Hayly, attached is the vetting docs for the White House if you could please fill them out and the candidate information below. Call me if you have any questions. Thanks!

CANDIDATE INFORMATION (To be completed by applicant)

- **Name:**
- **Phone:**
- **Email:**
- **Date of Birth:**
- **Place of Birth:**
- **Current Address:**
- **Social Security Number:**
- **5 Year Salary History:**
    - **2018 (estimated):**
    - **2017:**
    - **2016:**
    - **2015:**
    - **2014:**

Kaitlyn Shimmin

White House Liaison

U.S. Environmental Protection Agency

1200 Pennsylvania Ave., N.W.

Washington, D.C. 20460

O: (202) 564-4108

Ex. 6

Shimmin.Kaitlyn@epa.gov

From: Hayly Humphreys [mailto: Ex. 6
Sent: Friday, August 17, 2018 10:50 AM
To: Shimmin, Kaitlyn <shimmin.kaitlyn@epa.gov>
Subject: Thank you and Resume

Hi Kaitlyn,

It was great to meet you earlier this week! Thank you so much for taking the time to speak with me about the vacant scheduling position for Administrator Wheeler. I wanted to go ahead and send you my contact information and resume.

Thanks again, and please let me know if you need additional information.

Best,

Hayly

Message

From: Jackson, Ryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=38BC8E18791A47D88A279DB2FEC8BD60-JACKSON, RY]
Sent: 6/19/2018 4:50:37 PM
To: Marin, Mark [Mark.Marin@mail.house.gov]; Brazauskas, Joseph [Joseph.Brazauskas@mail.house.gov]
Subject: GSA and EPA FOIAs
Attachments: EPA Tulsa Responsive docs_Redacted.pdf; Tulsa Office.pdf

Gentlemen, the Science Committee minority office has a request in with GSA to provide documents about conversations on the Tulsa Office.

The attached is the production from GSA that the minority office will receive sometime today. Also attached are the EPA documents about the conversations within EPA. I think this is simply a duplicate of what I provided in early May from EPA, but I wanted you to have both in the same place.

Ryan Jackson
Chief of Staff
U.S. Environmental Protection Agency
(202) 564-6999

Subject: Cabinet Officer Remote Work Arrangement
Date: Tue, 31 Jan 2017 15:28:41 +0000
From: "Blizzard, James" <Blizzard.James@epa.gov>
To: "GSAcongressionalaffairs@gsa.gov" <GSAcongressionalaffairs@gsa.gov>
Message-ID: <SN1PR09MB0816187F93C0CD9A470EAB7904A0@SN1PR09MB0816.namprd09.prod.outlook.com>
MD5: 080d395d9fb5af2424ee1017936cc6dd

Hello.
The incoming Administrator of US EPA, Scott Pruitt, is from Tulsa, OK. While he will have an episodic telework agreement, he is interested in office space in Tulsa when he is home. US EPA does not have office space in Tulsa, but other federal agencies do have some. We are wondering if there is any precedent for working with GSA or with another federal agency directly to accommodate Mr. Pruitt. I do not believe he is interested in contracting for new space – but arranging a temporary set-up when he is in Tulsa.

I'd appreciate being pointed in the right direction and thank you for your help.

Working from home today – [redacted]

Jim Blizzard
Senior Policy Advisor
Office of Congressional Relations
U. S. Environmental Protection Agency
(202) 564-1695
blizzard.james@epa.gov

Subject: Cabinet Officer Remote Work Arrangement
Date: Tue, 31 Jan 2017 15:28:41 +0000
From: "Blizzard, James" <Blizzard.James@epa.gov>
To: "GSAcongressionalaffairs@gsa.gov" <GSAcongressionalaffairs@gsa.gov>
Message-ID:
<SN1PR09MB0816187F93C0CD9A470EA87904A0@SN1PR09MB0816.namprd09.prod.outlook.com>
MD5: edbdc8e2aedd392636dc7d5473ff1521

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Message-ID: <SN1PR09MB0B161807F93C0CD9A470EA87904A0@SN1PR09MB0816.namprd09.prod.outlook.com>
MD5: 8e129b3b1b8581c6219592 1f1b7f81e4

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Working from home today – [redacted]

Jim Blizzard
Senior Policy Advisor
Office of Congressional Relations
U. S. Environmental Protection Agency
(202) 564-1695
blizzard.james@epa.gov

Subject: 224 S Boulder Ave., Tulsa, OK
Date: Fri, 24 Feb 2017 15:36:18 +0000
From: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>
To: "nancy.casto@gsa.gov" <nancy.casto@gsa.gov>
Message-ID: <MWHPR09MB11813F1E6A28B2410F88B4ED8A520@MWHPR09MB1181.namprd09.prod.outlook.com>
MD5: f5c83da2d7b030036ae6238486cfa20a

Good morning Ms. Casto,

Per our conversation please provide me with information concerning vacant s{ace in subject location. We are looking to occupy approximately 1,000 to 1,500 of office space. I'm trying to obtain any and all information of concerning but no limited to floor location, schematic designs, furniture (in place) etc. Please provide me with this information at your earliest convenience.

Thanks,
Ray Daniels, Realty Specialist
EPA
202.564.9770

Subject: RE: 224 S Boulder Ave., Tulsa, OK
Date: Wed, 1 Mar 2017 18:33:45 +0000
From: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>
To: Nancy Casto - 7PSN <nancy.casto@gsa.gov>, Stan McCourry <stan.mccourry@gsa.gov>
Cc: Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <MWHPR09MB1181B7B2DF31C2C4D9C90378A29D@MWHPR09MB1181.namprd09.prod.outlook.com>
MD5: a8f2a7c59bb30943cd631a85afca5a7d

Good afternoon Nancy,

We have decided not to pursue the additional space in the Tulsa Federal building. Thanks for your patience.

Ray

From: Nancy Casto - 7PSN [mailto:nancy.casto@gsa.gov]
Sent: Friday, February 24, 2017 1:03 PM
To: Daniels, Raynaldo <Daniels.Raynaldo@epa.gov>; Stan McCourry <stan.mccourry@gsa.gov>
Cc: Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Subject: RE: 224 S Boulder Ave., Tulsa, OK

Raynaldo,

That will be fine.

On Feb 24, 2017 11:20 AM, "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov> wrote:

Good morning Nancy,

I've been told to notify GSA that we might want to occupy the offered (available) space. We will have a better determination on Monday February 27, 2017. If you can, please allow us until COB Monday to get back to you.

Thanks,
Ray

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Sent: Friday, February 24, 2017 10:53 AM
To: Daniels, Raynaldo <Daniels.Raynaldo@epa.gov>; Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Subject: Re: 224 S Boulder Ave., Tulsa, OK

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Feel free to call me if you have questions.

Nancy Casto, CFM PMP

Property Manager

General Services Administration

224 S Boulder Avenue Ste B-02

Tulsa, OK 74103

Fax (918) 581-6939

Office Phone (918) 581-6938

Cell [redacted]

nancy.casto@gsa.gov

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EPA
202.564.9770

Subject: RE: 224 S Boulder Ave., Tulsa, OK
Date: Fri, 24 Feb 2017 16:08:40 +0000
From: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>
To: Nancy Casto - 7PSN <nancy.casto@gsa.gov>, Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <MWHPR09MB1181A643B98E8E5009C8E8ED8A520@MWHPR09MB1181.namprd09.prod.outlook.com>
MD5: 17d06381c964a1820a95935a1fa44cbc

Two additional questions from my Director, for you.

1) How big is the furnished offices? I am assuming the large open space is the 4,000 sq.ft space.
2) Does GSA have any other federal building in Tulsa with space?

Thanks,
Ray

From: Nancy Casto - 7PSN [mailto:nancy.casto@gsa.gov]
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EPA
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Subject: RE: 224 S Boulder Ave., Tulsa, OK
Date: Fri, 24 Feb 2017 12:03:20 -0600
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To: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>, Stan McCourry <stan.mccourry@gsa.gov>
Cc: Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <CAFSdr9XVVjo-Bk_8R7NNJvZRs12OEvpVEuLt3P3XDUkR4Iu-fg@mail.gmail.com>
MD5: 8f98b139e334096261 02f1e2e56aedf1

Raynaldo,

That will be fine.

On Feb 24, 2017 11:20 AM, "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov> wrote:

Good morning Nancy,

I've been told to notify CBA that we might want to occupy the offered (available) space. We will have a better determination on Monday February 27, 2017. If you can, please allow us until COB Monday to get back to you.

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Cel[redacted]

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Subject: RE: 224 S Boulder Ave., Tulsa, OK
Date: Fri, 24 Feb 2017 16:16:32 +0000
From: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>
To: Nancy Casto - 7PSN <nancy.casto@gsa.gov>, Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <MWHPR09MB118140BE469F89BDBEF746AA8A520@MWHPR09MB11B1.namprd09.prod.outlook.com>
MD5: ccaa18fba7d02191db84823ccec45c11

Also, can you provide me the estimated rent cost for the location(s)?

From: Daniels, Raynaldo
Sent: Friday, February 24, 2017 11:09 AM
To: 'Nancy Casto - 7PSN' <nancy.casto@gsa.gov>; Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Subject: RE: 224 S Boulder Ave., Tulsa, OK

Two additional questions from my Director, for you.

1) How big is the furnished office? I am assuming the large open space is the 4,000 sq.ft space.
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Subject: RE: 224 S Boulder Ave., Tulsa, OK
Date: Fri, 24 Feb 2017 17:20:51 +0000
From: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>
To: Nancy Casto - 7PSN <nancy.casto@gsa.gov>, Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <MWHPR09MB118198C653A855D32F34C98A8A520@MWHPR09MB1181.namprd09.prod.outlook.com>
MD5: 823c08457fd71c213e92ca43ad52fbcf

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Cel [redacted]

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Subject: RE: 224 S Boulder Ave., Tulsa, OK
Date: Fri, 24 Feb 2017 10:21:08 -0600
From: Nancy Casto - 7PSN <nancy.casto@gsa.gov>
To: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>
Cc: Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <CAFSdr9VX+LTCRnRmaDs=V2=Jr1_gyfhnzvaVEJ6O1XAURDorxQ@mail.gmail.com>
MD5: b941970450daf44c59fe99850696f694

We have no other federally owned space in Tulsa. The rent price needs to come from Aaron.

On Feb 24, 2017 10:16 AM, "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov> wrote:

Also, can you provide me the estimated rent cost for the location(s)?

From: Daniels, Raynaldo
Sent: Friday, February 24, 2017 11:09 AM
To: 'Nancy Casto - 7PSN' <nancy.casto@gsa.gov>; Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Subject: RE: 224 S Boulder Ave., Tulsa, OK

Two additional questions from my Director, for you.

1) How big is the furnished office? I am assuming the large open space is the 4,000 sq ft space.
2) Does GSA have any other federal building in Tulsa with space?

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Ray

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Sent: Friday, February 24, 2017 10:53 AM
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Property Manager

General Services Administration

324 S Boulder Avenue Ste B-02

Tulsa, OK 74103

Fax (918) 581-6939

Office Phone (918) 581-6938

Cell [redacted]

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EPA
202 564 9770

Subject: RE: 224 S Boulder Ave., Tulsa, OK
Date: Fri, 24 Feb 2017 10:18:25 -0600
From: Nancy Casto - 7PSN <nancy.casto@gsa.gov>
To: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>
Cc: Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <CAFSdr9UMxTQhfU_gdd78icV5C5AA2syRyy+4q063-3gsf6WMnA@mail.gmail.com>
MD5: 780cac0e6caf1ca9fd51a4c63d108187

Each drawing has the square footage in the text. The offices are about 150 each.

On Feb 24, 2017 10:08 AM, "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov> wrote:

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Cell (b) (6) [redacted]

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Subject: Re: 224 S Boulder Ave., Tulsa, OK
Date: Fri, 24 Feb 2017 09:52:44 -0600
From: Nancy Casto - 7PSN <nancy.casto@gsa.gov>
To: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>, Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <CAFSdr9VRAeJOs-dRYFeNPkUnL3dGj5OkYnCMxt1n9RV_-HWF1g@mail.gmail.com>
MD5: 2f1be53e42f1e4e869f6730cf8a0d76b
Attachments: OK0063_02_Vacant.png ; OK0063ZZ_03 Vacant.pdf

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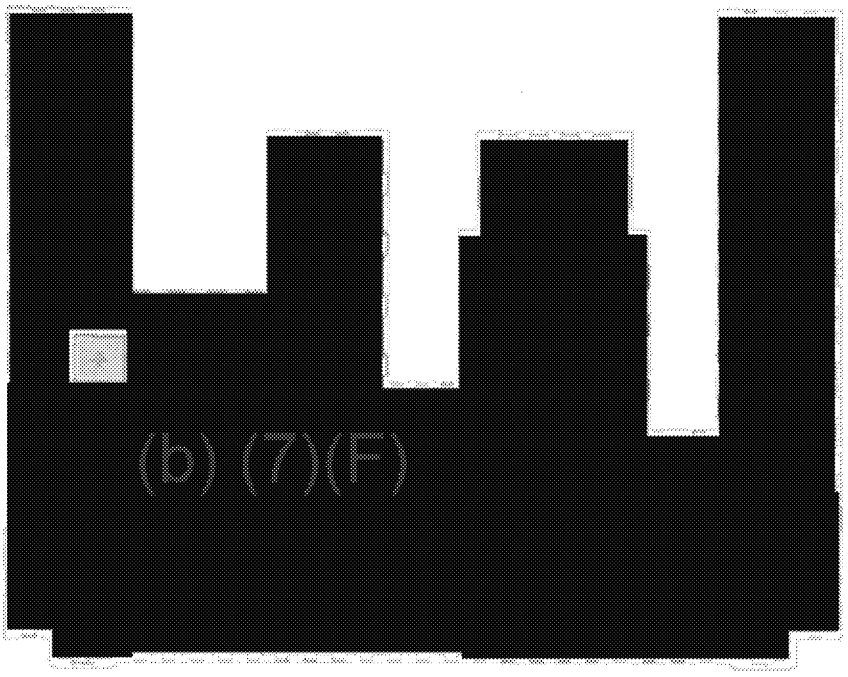
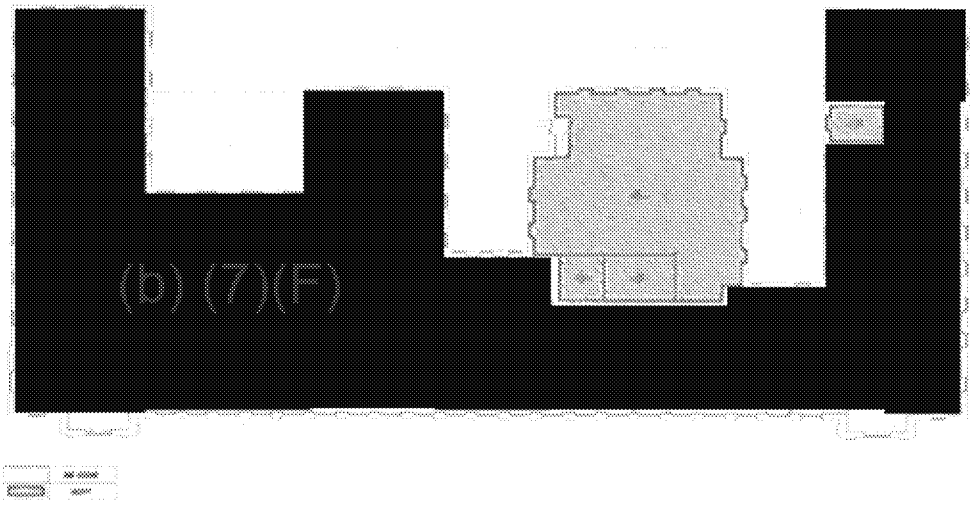

(b) (7)(F)


(b) (7)(F)

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Message-ID: <CAFSdr9XVVjo-Bk_8R7NNJvZRs12DEvpVEuLt3P3XDUkR4Ju-fg@mail.gmail.com>
MD5: c5d04af520eb8384556221d69837016b7

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Thanks,
Ray

From: Nancy Casto - 7PSN [mailto:nancy.casto@gsa.gov]
Sent: Friday, February 24, 2017 10:53 AM
To: Daniels, Raynaldo <Daniels.Raynaldo@epa.gov>; Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Subject: Re: 224 S Boulder Ave., Tulsa, OK

Attached are the drawings of the space in OK0063ZZ that is vacant. Note that on the second floor it shows a large area plus 2 adjacent offices vacant. The 2 adjacent office have been leased.

There is furniture in the small offices but not in the large space. The large space is all open. All space has painted walls and carpet. The carpet is not new but is in good shape.

Feel free to call me if you have questions.

Nancy Casto, CFM PMP

Property Manager

General Services Administration

224 S Boulder Avenue Ste B-02

Tulsa, OK 74103

Fax (918) 581-6939

Office Phone (918) 581-6938

Cell [redacted]

nancy.casto@gsa.gov

On Fri, Feb 24, 2017 at 9:36 AM, Daniels, Raynaldo <Daniels.Raynaldo@epa.gov> wrote:

Good morning Ms. Casto,

Per our conversation please provide me with information concerning vacant sjace in subject location. We are looking to occupy approximately 1,000 to 1,500 of office space. I'm trying to obtain any and all information of concerning but no limited to floor location, schematic designs, furniture (in place) etc. Please provide me with this information at your earliest convenience.

Thanks,
Ray Daniels, Realty Specialist
EPA
202.564.9770

Subject: RE: 224 S Boulder Ave., Tulsa, OK
Date: Wed, 1 Mar 2017 18:33:45 +0000
From: "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov>
To: Nancy Casto - 7PSN <nancy.casto@gsa.gov>, Stan McCourry <stan.mccourry@gsa.gov>
Cc: Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Message-ID: <MWHPR09MB1181BB7B2DF31C2C4D9C90378A290@MWHPR09MB1181.namprd09.prod.outlook.com>
MD5: f072ae16df956629cafe03d8cbca4587

Good afternoon Nancy,

We have decided not to pursue the additional space in the Tulsa Federal building. Thanks for your patience.

Ray

From: Nancy Casto - 7PSN [mailto:nancy.casto@gsa.gov]
Sent: Friday, February 24, 2017 1:03 PM
To: Daniels, Raynaldo <Daniels.Raynaldo@epa.gov>; Stan McCourry <stan.mccourry@gsa.gov>
Cc: Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Subject: RE: 224 S Boulder Ave., Tulsa, OK

Raynaldo,

That will be fine.

On Feb 24, 2017 11:20 AM, "Daniels, Raynaldo" <Daniels.Raynaldo@epa.gov> wrote:

Good morning Nancy,

I've been told to notify GSA that we might want to occupy the offered (available) space. We will have a better determination on Monday February 27, 2017. If you can, please allow us until COB Monday to get back to you.

Thanks,
Ray

From: Nancy Casto - 7PSN [mailto:nancy.casto@gsa.gov]
Sent: Friday, February 24, 2017 10:53 AM
To: Daniels, Raynaldo <Daniels.Raynaldo@epa.gov>; Aaron Claggett - 7PTA <aaron.claggett@gsa.gov>
Subject: Re: 224 S Boulder Ave., Tulsa, OK

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There is furniture in the small offices but not in the large space. The large space is all open. All space has painted walls and carpet. The carpet is not new but is in good shape.

Feel free to call me if you have questions.

Nancy Casto, CFM PMP

Property Manager

General Services Administration

224 S Boulder Avenue Ste B-02

Tulsa, OK 74103

Fax (918) 581-6939

Office Phone (918) 581-6936

Cell [redacted]

nancy.casto@gsa.gov

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Good morning Ms. Casto,

Per our conversation please provide me with information concerning vacant s[ace in subject location. We are looking to occupy approximately 1,000 to 1,500 of office space. I'm trying to obtain any and all information of concerning but no limited to floor location, schematic designs, furniture (in place) etc. Please provide me with this information at your earliest convenience.

Thanks,
Ray Daniels, Realty Specialist
EPA
202 564 9770

Subject: RE: Suite Number for EPA Space at the Tulsa Boulder Federal Building
Date: Tue, 30 May 2017 21:15:02 +0000
From: "McFarland, Verne" <McFarland.Verne@epa.gov>
To: "nancy.casto@gsa.gov" <nancy.casto@gsa.gov>
Cc: "Reynolds, Matthew" <Reynolds.Matthew@epa.gov>, "McDonald, James" <McDonald.James@epa.gov>
Message-ID: <BL2PR09MB10590A7936D52A314037655DE6F00@BL2PR09MB1059.namprd09.prod.outlook.com>
MD5: a37acaad1633e6e9adc8090360d8700a

Please disregard this request. We have located the information. Thanks

Verne McFarland
Chief, Enterprise Operations Branch
EPA Region 6
Desk: 214-665-6617
Cell: [redacted]

From: McFarland, Verne
Sent: Tuesday, May 30, 2017 3:42 PM
To: 'nancy.casto@gsa.gov' <nancy.casto@gsa.gov>
Cc: Reynolds, Matthew <Reynolds.Matthew@epa.gov>; James McDonald (mcdonald.james@epa.gov) <mcdonald.james@epa.gov>
Subject: Suite Number for EPA Space at the Tulsa Boulder Federal Building

Hi, Nancy –

Per your request, this is the email requesting the suite number of the small EPA space we have in the Boulder Federal Building in Tulsa, OK. Thanks for your assistance!

Verne McFarland
Chief, Enterprise Operations Branch
EPA Region 6
Desk: 214-665-6617
Cell: [redacted]

Subject: Re: Tulsa Office Space
Date: Fri, 3 Feb 2017 17:34:58 -0500
From: Saul Japson - S <saul.japson@gsa.gov>
To: "Blizzard, James" <Blizzard.James@epa.gov>, Jim Weller - 7P <jim.weller@gsa.gov>
Bcc: Michael Gelber - 9Q <michael.gelber@gsa.gov>
Message-ID: <CAM9KLL3bwLmchTkU4Er--JSr-ecY_rTmyayVBFdu_dgOAbRvjg@mail.gmail.com>
MD5: edcc787bc146792d995c8826869511c4

Hi Jim - As discussed, our program staff have informed me that there is one location that could be a possibility based on the stated requirements. Please have appropriate staff at EPA contact Jim Weller, Region 7 Commissioner for the Public Building Service. Number: 817-978-2522. E-mail: jim.weller@gsa.gov>

Regards,

Saul

On Wed, Feb 1, 2017 at 7:42 AM, Blizzard, James <Blizzard.James@epa.gov> wrote:

Saul, based on our conversation, I can give you the following personal, security, and IT parameters for you to see if such space is available in a Tulsa federal building or facility. I appreciate your help. I would imagine that when there is some information from GSA, I would connect the proper folks at GSA with the proper folks here at EPA. Thanks for your help.

Mr. Pruitt is interested in a small space – lobby, conference room, personal office. 24-hour access. Garage parking preferred. He will travel with security detail and they will need appropriate space – whatever that is. He will need a secure cabinet or safe, a SCIF for classified communications/information – able to accommodate Presidential communications with cabinet-level officials. I would think a secure computer and phone is necessary, printer, dedicated fax, and the usual office equipment, such as the standard docking station and lap top.

Please let me know if you need anything else.

Jim Blizzard
Senior Policy Advisor
Office of Congressional Relations
U. S. Environmental Protection Agency
(202) 564-1695
blizzard.james@epa.gov

Subject: Re: Tulsa Office Space
Date: Fri, 3 Feb 2017 17:34:58 -0500
From: Saul Japson - $ <saul.japson@gsa.gov>
To: "Blizzard, James" <Blizzard.James@epa.gov>, Jim Weller - 7P <jim.weller@gsa.gov>
Bcc: michael.gelber@gsa.gov
Message-ID: <CAM9KLL3bwLmchTkU4Er-JSr-ecY_rTmyayV8Fdu_dgOAbRvjg@mail.gmail.com>
MD5: bdb5d00d5a926b5bd67f69ccb189257d

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Regards,

Saul

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Jim Blizzard
Senior Policy Advisor
Office of Congressional Relations
U. S. Environmental Protection Agency
(202) 564-1695
blizzard.james@epa.gov

Subject: Re: Tulsa Office Space
Date: Fri, 3 Feb 2017 17:34:58 -0500
From: Saul Japson - S <saul.japson@gsa.gov>
To: "Blizzard, James" <Blizzard.James@epa.gov>, Jim Weller - 7P <jim.weller@gsa.gov>
Message-ID: <CAM9KLL3bwLmchTkU4Er-JSr-ecY_rTmyayV8Fdu_dgOAbRvjg@mail.gmail.com>
MD5: 1914f3f91dcb11c45bf9d208c88606db

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Regards,

Saul

On Wed, Feb 1, 2017 at 7:42 AM, Blizzard, James <Blizzard.James@epa.gov> wrote:

Saul, based on our conversation, I can give you the following personal, security, and IT parameters for you to see if such space is available in a Tulsa federal building or facility. I appreciate your help. I would imagine that when there is some information from GSA, I would connect the proper folks at GSA with the proper folks here at EPA. Thanks for your help.

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Jim Blizzard
Senior Policy Advisor
Office of Congressional Relations
U. S. Environmental Protection Agency
(202) 564-1695
blizzard.james@epa.gov

Subject: Suite Number for EPA Space at the Tulsa Boulder Federal Building
Date: Tue, 30 May 2017 20:41:44 +0000
From: "McFarland, Verne" <McFarland.Verne@epa.gov>
To: "nancy.casto@gsa.gov" <nancy.casto@gsa.gov>
Cc: "Reynolds, Matthew" <Reynolds.Matthew@epa.gov>, "McDonald, James" <McDonald.James@epa.gov>
Message-ID: <BL2PR09MB1059E6488E0425A14C9497F2E6F00@BL2PR09MB1059.namprd09.prod.outlook.com>
MD5: b34c34b6614379204c58dd7dff6e4e09

Hi, Nancy –

Per your request, this is the email requesting the suite number of the small EPA space we have in the Boulder Federal Building in Tulsa, OK. Thanks for your assistance!

Verne McFarland
Chief, Enterprise Operations Branch
EPA Region 6
Desk: 214-665-6617
Cell: 214-505-2876

Subject: Tulsa Office Space
Date: Wed, 1 Feb 2017 12:42:05 +0000
From: "Blizzard, James" <Blizzard.James@epa.gov>
To: "saul.japson@gsa.gov" <saul.japson@gsa.gov>
Message-ID: <SN1PR09MB0816598F385CA6CEF804149904D0@SN1PR09MB0816.namprd09.prod.outlook.com>
MD5: 5e37147b7da021d5c573593d10e2a177

Saul, based on our conversation, I can give you the following personal, security, and IT parameters for you to see if such space is available in a Tulsa federal building or facility. I appreciate your help. I would imagine that when there is some information from GSA, I would connect the proper folks at GSA with the proper folks here at EPA. Thanks for your help.

Mr. Pruitt is interested in a small space – lobby, conference room, personal office. 24-hour access. Garage parking preferred. He will travel with security detail and they will need appropriate space – whatever that is. He will need a secure cabinet or safe, a SCIF for classified communications/information – able to accommodate Presidential communications with cabinet-level officials. I would think a secure computer and phone is necessary, printer, dedicated fax, and the usual office equipment, such as the standard docking station and lap top.

Please let me know if you need anything else.

Jim Blizzard
Senior Policy Advisor
Office of Congressional Relations
U. S. Environmental Protection Agency
(202) 564-1695
blizzard.james@epa.gov

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 2/6/2017 1:31:34 PM
Subject: FW: Tulsa Office Space

From: Blizzard, James
Sent: Wednesday, February 01, 2017 8:43 AM
To: Reeder, John
Subject: RE: Tulsa Office Space

Just scoping it out.
Yes, I am in.

From: Reeder, John
Sent: Wednesday, February 01, 2017 8:41 AM
To: Blizzard, James <Blizzard.James@epa.gov>
Subject: RE: Tulsa Office Space

And we need to know who is representing Mr. Pruitt. Until he's actually confirmed, even working on this can be tricky. Are you in the office today?

From: Blizzard, James
Sent: Wednesday, February 01, 2017 8:35 AM
To: Reeder, John <Reeder.John@epa.gov>
Subject: RE: Tulsa Office Space

I agree. I'll let you know who to connect with at GSA.

From: Reeder, John
Sent: Wednesday, February 01, 2017 8:33 AM
To: Blizzard, James <Blizzard.James@epa.gov>
Subject: RE: Tulsa Office Space

Jim,
I think it's time to bring in Donna Vizian and her team, especially since EPA will likely need to pay for such space. GSA rents to agencies... doesn't provide without cost, at least based on anything I've heard before. This is moving quickly out of the OCIR realm.

Let me know if you agree and we can get them interfacing directly with OARM.

Thanks
JReeder

From: Blizzard, James
Sent: Wednesday, February 01, 2017 7:51 AM
To: Reeder, John <Reeder.John@epa.gov>

Subject: Tulsa Office Space

Based on my conversations with Mr. Pruitt's handlers, I have asked GSA to see if there is space in a Tulsa, OK federal building or facility consistent with the following personal, security, and IT parameters:

Mr. Pruitt is interested in a small space – lobby, conference room, personal office. 24-hour access. Garage parking preferred. He will travel with security detail and they will need appropriate space – whatever that is. He will need a secure cabinet or safe, a SCIF for classified communications/information – able to accommodate Presidential communications with cabinet-level officials. I would think a secure computer and phone is necessary, printer, dedicated fax, and the usual office equipment, such as the standard docking station and lap top.

I have indicated to GSA that if such space is identified, I would connect the proper GSA and EPA folks. I trust you will share this with the proper GSA folks. Thanks.

Jim Blizzard
Senior Policy Advisor
Office of Congressional Relations
U. S. Environmental Protection Agency
(202) 564-1695
blizzard.james@epa.gov

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 2/6/2017 1:30:42 PM
Subject: FW: Tulsa Office Space

From: Blizzard, James
Sent: Saturday, February 04, 2017 7:23 AM
To: Reeder, John
Subject: Tulsa Office Space

I am not working this any longer, but yesterday my contact at GSA said that there is one location that could be a possibility based on the stated requirements. It is about 40,000 sq. feet and could be cut down. It is in a GSA-leased building, as the federal building in Tulsa is full. The GSA regional folks are unaware at this point that Mr. Pruitt or EPA is the potential occupier of the space. Appropriate staff at EPA should contact Jim Weller, Region 7 GSA Commissioner for the Public Building Service. Number: 817-978-2522. E-mail: jim.weller@gsa.gov>

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 2/6/2017 1:15:48 PM
Subject: Tulsa Space

Ryan – heard from my GSA contact Friday night – the federal building is full, but they have identified space in a GSA-leased building that could work – fits most of the requirements – it is large - 40,000 sq. ft., but can be reconfigured. I sent John Reeder, acting chief of staff, the GSA Regional Commissioner contact info so he could get it to OARM folks. I hope they are following through, but I have no way of knowing.

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 2/1/2017 2:01:57 PM
Subject: FW: Tulsa Office Space

Wheels in motion - I have also let folks here (OARM, etc.) know, since other than my ask, I would be way out of my league and lane here
I'll keep you posted – let me know if there's anything else you need.

From: Blizzard, James
Sent: Wednesday, February 01, 2017 7:42 AM
To: 'saul.japson@gsa.gov'
Subject: Tulsa Office Space

Saul, based on our conversation, I can give you the following personal, security, and IT parameters for you to see if such space is available in a Tulsa federal building or facility. I appreciate your help. I would imagine that when there is some information from GSA, I would connect the proper folks at GSA with the proper folks here at EPA. Thanks for your help.

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Please let me know if you need anything else.

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Office of Congressional Relations
U. S. Environmental Protection Agency
(202) 564-1695
blizzard.james@epa.gov

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/31/2017 6:04:13 PM
Subject: RE: Tulsa

Yes – I'll go back to GSA folks

From: Jackson, Ryan (Inhofe) [mailto:Ryan_Jackson@inhofe.senate.gov]
Sent: Tuesday, January 31, 2017 12:56 PM
To: Blizzard, James
Subject: RE: Tulsa

Yes, so a small space. Office for him, meeting room, lobby space but that's largely it I think. I don't envisions after hours but I'm sure he would like 24 hour access. Parking in garage would be preferred since he does have a detail and the position is what it is.

He will always travel with OECA. They would need space, however, I'm not sure what to suggest. Simply something consistent with previous Administrators. He will need a SCIF in the event he is working on spill info or otherwise protected information. Of course when the President communicates with the Cabinet those communications are protected so we will need to be able to accommodate that. I think a secure computer and phone is necessary, printer, fax, and usual office equipment. I'm unsure about the docking station and lap top. Let's go with that set up because it seems more convenient to me.

Why are we worried about a line item in an appropriations bill? That's not a good idea and other EPA space around the country isn't listed in Interior Appropriations bills each year.

Much appreciated for this. Does this help?

From: Blizzard, James [mailto:Blizzard.James@epa.gov]
Sent: Tuesday, January 31, 2017 12:49 PM
To: Jackson, Ryan (Inhofe) <Ryan_Jackson@inhofe.senate.gov>
Subject: Tulsa

Spoke with guys at GSA – they indicate there is a federal building or facility there – the questions:

Personal

How much space is he looking for – one room? – anteroom? Private bathroom? After hours/weekend access? Parking in garage or open lot?

Security

Security detail with him? Do they need space? Safe or other secure cabinet? Secure room for classified information access?

IT

Secure computer? Secure phone? Computer requirements beyond standard lap top? Docking station? Monitor? Dedicated Fax? Printer?

They were going to check to see if the cost for the space would be rolled into EPA bill and not show as a specific line item. They thought these questions would be the same if we were to lease our own EPA space or whether we would come to some arrangement with another agency.

What would you like me to do?

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/31/2017 5:49:26 PM
Subject: Tulsa

Spoke with guys at GSA – they indicate there is a federal building or facility there – the questions:

Personal

How much space is he looking for – one room? – anteroom? Private bathroom? After hours/weekend access? Parking in garage or open lot?

Security

Security detail with him? Do they need space? Safe or other secure cabinet? Secure room for classified information access?

IT

Secure computer? Secure phone? Computer requirements beyond standard lap top? Docking station? Monitor? Dedicated Fax? Printer?

They were going to check to see if the cost for the space would be rolled into EPA bill and not show as a specific line item. They thought these questions would be the same if we were to lease our own EPA space or whether we would come to some arrangement with another agency.

What would you like me to do?

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/31/2017 1:51:08 PM
Subject: RE: Tulsa

Only if there's precedent – then 'acting' might be more inclined to move on it.

From: Jackson, Ryan (Inhofe) [mailto:Ryan_Jackson@inhofe.senate.gov]
Sent: Tuesday, January 31, 2017 8:45 AM
To: Blizzard, James
Subject: Re: Tulsa

Is it worth us talking to the OARM acting?

Ryan Jackson
Chief of Staff
U.S. Senator James M. Inhofe
205 Russell Senate Office Bldg.
Washington, D.C. 20510
(202) 224-4721

On Jan 31, 2017, at 8:38 AM, Blizzard, James <Blizzard.James@epa.gov> wrote:

I'll look for precedents and talk with GSA.
Alice Yates that used to be with Levin? I know her.

From: Jackson, Ryan (Inhofe) [mailto:Ryan_Jackson@inhofe.senate.gov]
Sent: Tuesday, January 31, 2017 8:37 AM
To: Blizzard, James <Blizzard.James@epa.gov>
Subject: Re: Tulsa

There's a big corps of engineers presence in Tulsa and BLM space downtown Tulsa. All my GSA contacts left at the end of obama administration. Not particularly that great except Alice Yates.

Ryan Jackson
Chief of Staff
U.S. Senator James M. Inhofe
205 Russell Senate Office Bldg.
Washington, D.C. 20510
(202) 224-4721

On Jan 31, 2017, at 8:32 AM, Blizzard, James <Blizzard.James@epa.gov> wrote:

With that I'll ask some more.

From: Jackson, Ryan (Inhofe) [mailto:Ryan_Jackson@inhofe.senate.gov]
Sent: Tuesday, January 31, 2017 8:02 AM
To: Blizzard, James <Blizzard.James@epa.gov>
Subject: Re: Tulsa

Yeah I agreed that gifted spaces are a problem. I'd rather keep it official and in some GSA space. He'll work from home for sure. Everyone does but I know he'll appreciate an actual office in Tulsa to take meetings.

Ryan Jackson
Chief of Staff
U.S. Senator James M. Inhofe
205 Russell Senate Office Bldg.
Washington, D.C. 20510
(202) 224-4721

On Jan 31, 2017, at 7:54 AM, Blizzard, James <Blizzard.James@epa.gov> wrote:

Ryan – I've done some preliminary checking and it seems that as Administrator, the nature of the beast is that he is always working – never 'off-the-clock' so to speak. When he is at home in Tulsa, he can have (and I understand Gina had) an episodic telework agreement – that affords him the opportunity to work from home officially. I have attached my agreement so you can get an idea of the details.

If that is not the preferred option, let me know. Telework agreements do not have to be only at personal residences, but 'gifted' or 'donated' space could be an optics issue. We can investigate other Federal agencies with office space in Tulsa, or even Congressional space in Tulsa, such as Sen. Inhofe's district office, but I didn't want to wave that flag yet. Again, optics. But let me know.

Thx.

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/31/2017 1:38:42 PM
Subject: RE: Tulsa

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Thx.

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To: Jackson, Ryan (Inhofe)
Sent: 1/31/2017 1:32:11 PM
Subject: RE: Tulsa

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From: Jackson, Ryan (Inhofe) [mailto:Ryan_Jackson@inhofe.senate.gov]
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To: Blizzard, James
Subject: Re: Tulsa

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(202) 224-4721

On Jan 31, 2017, at 7:54 AM, Blizzard, James <Blizzard.James@epa.gov> wrote:

Ryan – I've done some preliminary checking and it seems that as Administrator, the nature of the beast is that he is always working – never 'off-the-clock' so to speak. When he is at home in Tulsa, he can have (and I understand Gina had) an episodic telework agreement – that affords him the opportunity to work from home officially. I have attached my agreement so you can get an idea of the details.

If that is not the preferred option, let me know. Telework agreements do not have to be only at personal residences, but 'gifted' or 'donated' space could be an optics issue. We can investigate other Federal agencies with office space in Tulsa, or even Congressional space in Tulsa, such as Sen. Inhofe's district office, but I didn't want to wave that flag yet. Again, optics. But let me know.

Thx.

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/31/2017 12:52:43 PM
Subject: Tulsa
Attachments: Untitled.msg

Ryan – I've done some preliminary checking and it seems that as Administrator, the nature of the beast is that he is always working – never 'off-the-clock' so to speak. When he is at home in Tulsa, he can have (and I understand Gina had) an episodic telework agreement – that affords him the opportunity to work from home officially. I have attached my agreement so you can get an idea of the details.

If that is not the preferred option, let me know. Telework agreements do not have to be only at personal residences, but 'gifted' or 'donated' space could be an optics issue. We can investigate other Federal agencies with office space in Tulsa, or even Congressional space in Tulsa, such as Sen. Inhofe's district office, but I didn't want to wave that flag yet. Again, optics. But let me know.

Thx.

From: DC-WJCN-3443-M@epa.gov
To: Blizzard, James
Sent: 1/31/2017 12:47:41 PM
Subject:
Attachments: image2017-01-31-074741.pdf

FILE COPY

AFGE/EPA FLEXIPLACE APPLICATION FORM

Employee Name Jim Blizzard Telephone Ext. 564 1695 Mailcode 1301A
Job Title/Series/Grade Team Ldr.
Division/Office OCIR
X New Request ____ Change Request ____ Annual Recertification

Home/Alternate Work Site Address
Home/Alternate Work Site Telephone
First Line Supervisor Mark O'Connell Telephone Ext. 564-3109
Type of Flexiplace ____ Regular ____ Episodic X Medical
Number of days/duration of Flexiplace requested 18

Ex. 6

Description of work to be performed at Alternate Duty Station:

Regular work

X I certify that I received at least a Fully Successful or Pass performance appraisal rating
X I certify that I have work space at the alternate work location suitable for performing work.
X I certify that I am willing to sign and abide by the Flexiplace Program Work Agreement.

____ If request is for medical flexiplace, medical documentation justifying the reason for the request and the projected duration that it will be needed is attached to the application.

Employee Signature [signature] Date 10-27-08

****

ACTION ON APPLICATION

Approved X Disapproved ____

Specific Reason for Disapproval: ____

Supervisor's Signature [signature] Date 10-27-08

Approving Official's Signature [signature] Date 10-27-08

NOTE: A copy of this form should be maintained by the employee, the supervisor and a copy sent to the appropriate Flexiplace Coordinators.

Appendix (1)

Appendix (2)

EMPLOYEE SELF-CERTIFICATION SAFETY CHECKLIST

The following checklist is designed to assess the overall safety of the AWL and must be completed, signed and given to your supervisor with your application for the Flexiplace program.

	Yes	No	WA	Comments
1. Is the space free of asbestos material?	✓			
2. If NO, is the asbestos undamaged and in good condition?	✓			
3. Does the space appear to be free of indoor air quality problems?	✓			
4. Is the work space free from excess now?	✓			
5. Is water available and drinkable in the space?	✓			
6. Is ventilation adequate?	✓			
7. Is a bathroom available with hot and cold running water?	✓			
8. Are there handrails for stairs with more than 3 steps?	✓			
9. Are circuit breakers/fuses in the electrical panel labeled as to intended service?	✓			
10. Do circuit breakers clearly indicate if they are opened or closed?	✓			
11. Is electrical equipment free of recognized hazards that would cause physical harm (for example, frayed wires, bare conductors, loose wires, exposed wires fixed to the ceiling, a rat's nest of plugs in a single outlet and so on)?	✓			
12. Will the building's electrical system permit the grounding of electrical equipment?	✓			
13. Are aisles, doorways and corners free of obstructions to permit visibility and movement?	✓			
14. Do file cabinets and storage closets open so they do not obstruct walkways?	✓			
15. Do chairs have stable and secure wheels/casters?	✓			
16. Are rungs and legs of chairs stable and sturdy?	✓			
17. Are the phone lines, electrical cords and extension wires safely secured?	✓			
18. Is the office free of combustible or materials?	✓			
19. Is there adequate electrical lighting to accomplish the work assignments?	✓			
20. Are floor surfaces clean, dry and level?	✓			
21. Are carpets well secured to the floor and free of frayed or worn seams?	✓			
22. Are there any other known safety issues that should be addressed for this work space?	✓			

Signing this form does not guarantee that the AWL is hazard free, but does verify that the employee has made a reasonably careful inspection for potential hazards. Employees are responsible for informing their supervisors of any changes to their AWL which could impact on health and safety of the employee and others.

Employee's Signature _____ Date 10-27-08

Supervisor's Signature _____ Date 10-22-08

AFGE/EPA FLEXIPLACE WORK AGREEMENT

All terms set forth in the AFGE/EPA Flexiplace Agreement ("Flexiplace Agreement") are hereby incorporated by reference in this work agreement.

Name Jim Blizzard Mailcode 1301A

1. Employee agrees to adhere to the AFGE/EPA Flexiplace Agreement. EPA, hereinafter referred to as Agency, concurs with employee participation and agrees to adhere to the AFGE/EPA Flexiplace Agreement.

2. Duty Station. All pay, special salary rates, leave and travel entitlements will be based on the employee's official duty station.

Official duty station: ARN

Alternate Work Location (the location in which the employee is designated to work while not at the official duty station): Ex. 6

3. Please describe the desig

Regular work

4. Employee's timekeeper will have a copy of the employee's Flexiplace schedule. Employee's time and attendance will be recorded as Flexiplace Time using a special code established for this purpose. Employee's supervisor will certify bi-weekly time and attendance for hours worked. Employee must complete the "Employee Self-Certification Time and Attendance Report" (Attachment 1) and return it to his or her supervisor on a bi-weekly basis.

5. Employees performing work at the alternative work location will follow established procedures for requesting and obtaining approval of leave, consistent with Article 29 of the Master Collective Bargaining Agreement.

6. Employees performing work at the AWL are subject to the same maximum workday limits as they would be if they were performing work at the official duty station. Employees performing work at the AWL are not authorized to work overtime or official compensatory time, except in special circumstances (e.g., to meet priority needs of the Agency). In these situations, prior approval must be obtained from their supervisor.

7. An employee who is authorized to use Agency equipment will protect the Agency equipment in accordance with the procedures established in FIRMR Bulletin 30, dated October 15, 1985. An employee who provides his/her own equipment is responsible for installing, servicing, and maintaining it.

8. Provided the employee is given at least 24 hours advance notice, the employee agrees to permit periodic inspections of his/her AWL during the employee's normal working hours to ensure site conformance with safety standards and other specifications in these guidelines. Such inspections will occur only on days when the employee is working at the AWL.

9. Questions related to claims for personal property damage or loss or personal injury related to the employee's performance of official duties should be directed to the servicing Human Resources Office. The Agency will address issues of employee or Agency liability in accordance with the specific facts of each case and under the provisions of the Federal Employees Claims Act, the Federal Tort Claims Act, the Military Personnel and Civilian Employees Claims Act, and local law as appropriate .

10. The Agency will not be responsible for operating costs, home maintenance, homeowners or renters insurance, or other residential costs except the Agency will install and pay the cost for authorized telephone expenses (including toll calls) incurred for official Agency business.

11. The Agency will provide necessary office supplies that are regularly available at the Agency (such as paper, pens, printer ribbons, diskettes, envelopes, tape, staples, etc.).

12. EPA may provide telephone credit cards or may reimburse an employee working under an approved Flexiplace Agreement for business-related long-distance and toll calls on his/her personal phone. EPA may install telephone lines and other necessary equipment and pay monthly telephone charges in private residences under special circumstances. The Agency reserves the right to determine the most cost-effective manner of covering telecommunications costs.

13. Employees are expected to plan for and accomplish necessary photocopying, mail, and facsimile transmissions at the regular work site. In emergency situations, and with the prior approval of the supervisor, costs associated with the copying of work-related materials, facsimile charges, express mail, etc., may be reimbursed.

14. The employee is covered under the Federal Employee's Compensation Act (FECA) if injured in the course of performing official duties at the official or alternate duty location, in accordance with applicable Department of Labor regulations and standards governing FECA liability. **(NOTE:** Any accident or injury occurring at the alternate duty station must be brought to the immediate attention of the supervisor and the servicing Human Resources Office. Because an employment-related accident sustained by an employee participating in the Flexiplace Program could occur outside the premises of the official duty station, the supervisor must investigate all reports immediately following notification.)

15. The employee must complete the "Employee Self-Certification Safety Checklist," which identifies significant safety standards that should be met, and submit it to his/her supervisor prior to participating in the Flexiplace Program.

16. The employee will communicate as needed with his/her supervisor to receive assignments and have completed work reviewed in accordance with the supervisor's instructions.

17. The employee will complete all assigned work in accordance with his/her supervisor's instructions. Progress reviews under Article 34 as revised by the parties will be used by the supervisor in his/her assessment of the employee's job performance. The supervisor will evaluate employee's job performance against performance standards established in the employee's performance agreement.

18. To participate in the Flexiplace Program, an employee must have a performance rating of at least Fully Successful (level 3 or equivalent) in the rating of record.

19. The employee agrees to use approved safeguards to protect Agency records from unauthorized disclosure or damage and to comply with the requirements set forth in the Privacy Act of 1974, as amended, 5 U.S.C. 552a, and those concerning release of confidential business information (CBI) as set forth in 40 C.F.R. Part U, Subpart B and EPA's TSCA Confidential Business Information Security Manual .

20. An employee may terminate his/her Flexiplace arrangement at any time without prejudice and return to his/her official duty station. Employee notice to the supervisor should be in writing and acknowledged by the supervisor to prevent misunderstandings about the employee's work location.

21. The Agency may remove an employee from the Flexiplace Program based on the employee's failure to adhere to the requirements specified in the Flexiplace Program Agreement and/or any performance or conduct issues or concerns which adversely affect or alter the terms of this agreement. When a decision is made to remove an employee from the Flexiplace Program, the employee must be given written notice indicating the reason(s) for removal. The employee may reapply for Flexiplace Program participation one year after removal from the Program, provided that her/his performance and conduct are fully satisfactory, and meets all other eligibility requirements.

22. The employee agrees to perform his/her officially assigned duties at either the official duty station , the alternative work location or while on official travel. Failure to comply with this provision may result in administrative action, such as charge of leave, loss of pay, termination of participation in the program, or disciplinary action, as warranted, based on the situation.

23. The employee agrees not to conduct unauthorized personal business while in official duty status at the official or alternate work location (e.g., dependent care, home repairs, real estate transactions). The employee agrees to arrange for any dependent care and other personal responsibilities so as to insure that the employee can work without interuption. Flexiplace is not a substitute for dependent care.

24. This Agreement does not restrict the employee's right to change schedules in accordance with existing agreements. If a permanent change of schedule is approved, the schedule in the application package will be changed accordingly and initialed by both the employee and the supervisor.

25. The employee and the supervisor agree to attend the required training and orientation prior to participation in the Flexiplace Program.

26. An employee must be willing to report to the official work site without delay if unexpectedly needed.

I have read and understood all the provisions of this work agreement and agree to abide by them.

Employee's Signature _____ Date 10-27-08

EPA concurs with the participation of this employee and agrees to adhere to the provisions of this agreement.

Supervisor's Signature _____ Date 10-27-08

Approving Official's Signature _____ Date 10-27/08

Employee Name _____

Official Tour of Duty:

Pay Period Work Week	Day	Hours		Duty Station	
		From	To	Official	Alternate
Week 1	Sunday				
	Monday	730	430		
	Tuesday				
	Wednesday				
	Thursday				
	Friday		3:30		
	Saturday				
Week 2	Sunday				
	Monday	730	430		
	Tuesday				
	Wednesday				
	Thursday				
	Friday				
	Saturday				

Appendix (4)

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/30/2017 3:24:44 PM
Subject: Re: RE: RE:

Got it
Let me see

Sent from my iPhone

> On Jan 30, 2017, at 10:22 AM, Jackson, Ryan (Inhofe) wrote:
>
> Left you a message to explain it more but essentially I want to talk to OARM. Pruitt wants to know when he goes home to Tulsa, Oklahoma where he can work.
>
> I don't think EPA has any offices in Oklahoma with the big exception of the Ada lab. But Ada is 150 miles from Tulsa.
>
> I wanted to see if OARM and GSA could put their heads together to get something prepared for him.
>
> -----Original Message-----
> From: Blizzard, James [mailto:Blizzard.James@epa.gov]
> Sent: Monday, January 30, 2017 10:12 AM
> To: Jackson, Ryan (Inhofe)
> Subject: Re: RE:
>
> Yes And yes
> Just let me know
>
> Sent from my iPhone
>
>> On Jan 30, 2017, at 10:02 AM, Jackson, Ryan (Inhofe) wrote:
>>
>> Are you staying?
>>
>> Can you help me with something?
>>
>> -----Original Message-----
>> From: Blizzard, James [mailto:Blizzard.James@epa.gov]
>> Sent: Monday, January 30, 2017 8:43 AM
>> To: Jackson, Ryan (Inhofe)
>> Subject: Re:
>>
>> I don't want to miss this show!
>>
>>
>> Sent from my iPhone
>>
>>> On Jan 30, 2017, at 8:29 AM, Jackson, Ryan (Inhofe) wrote:
>>>
>>> Jim, I wanted to see if you retired from EPA.
>>>
>>> _____
>>> Ryan Jackson
>>> Chief of Staff
>>> U.S. Senator James M. Inhofe
>>> 205 Russell Senate Office Bldg.
>>> Washington, D.C. 20510
>>> (202) 224-4721
>>>
>>
>

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/30/2017 3:11:47 PM
Subject: Re: RE:

Yes And yes
Just let me know

Sent from my iPhone

> On Jan 30, 2017, at 10:02 AM, Jackson, Ryan (Inhofe) wrote:
>
> Are you staying?
>
> Can you help me with something?
>
> -----Original Message-----
> From: Blizzard, James [mailto:Blizzard.James@epa.gov]
> Sent: Monday, January 30, 2017 8:43 AM
> To: Jackson, Ryan (Inhofe)
> Subject: Re:
>
> I don't want to miss this show!
>
>
> Sent from my iPhone
>
>> On Jan 30, 2017, at 8:29 AM, Jackson, Ryan (Inhofe) wrote:
>>
>> Jim, I wanted to see if you retired from EPA.
>>
>> _____
>> Ryan Jackson
>> Chief of Staff
>> U.S. Senator James M. Inhofe
>> 205 Russell Senate Office Bldg.
>> Washington, D.C. 20510
>> (202) 224-4721
>>
>

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/30/2017 1:43:06 PM
Subject: Re:

I don't want to miss this show!

Sent from my iPhone

> On Jan 30, 2017, at 8:29 AM, Jackson, Ryan (Inhofe) wrote:
>
> Jim, I wanted to see if you retired from EPA.
>
> _____
> Ryan Jackson
> Chief of Staff
> U.S. Senator James M. Inhofe
> 205 Russell Senate Office Bldg.
> Washington, D.C. 20510
> (202) 224-4721
>

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/4/2017 2:06:20 PM
Subject: RE: Happy New Year

Thanks Ryan
Thoughts on reaching out to Rob? I don't have any ties to Hatch – this agency doesn't interact with him much – but I'd like to make sure this office does its part in helping with the process when it is able and when it can.
Could be a rough ride for Pruitt's son during this process –

Always here to help if I can.

From: Jackson, Ryan (Inhofe) [mailto:Ryan_Jackson@inhofe.senate.gov]
Sent: Wednesday, January 04, 2017 8:33 AM
To: Blizzard, James
Subject: RE: Happy New Year

Hey, happy new year.

I'm back in the personal office as of yesterday. I'm still Senator Inhofe's chief of staff. The meeting with the Senators tomorrow was just to help provide what to expect as you would imagine. The Sherpa for the nomination is Rob Porter. Rob is Senator Hatch's chief of staff. His transition email is Robert.r.porter@ptt.gov. Pruitt's made some member calls over the break and started meetings yesterday. He's getting some good Democratic response to his outreach. Most importantly helping him prepare for the hearing and meetings. Things actually look really good. He'll be a good guy. I've actually known him for some time, tried to help his AG office on issues from time to time, invited him to DC to testify. He's friends with Inhofe actually. They've campaigned together. In fact, nearly 20 years ago one of my best friends was his campaign manager when he ran for Congress in Tulsa unsuccessfully when he was in the state Senate. Pruitt's a studious guy, definitely a hard worker, ensures he's well prepared. I really like the guy. He's just a good guy. **Ex. 6** I think he has two kids. **Ex. 6** **Ex. 6** He's definitely coming over. I mean this guy's getting confirmed. He's just good and Dems will have to shift target to something else. You'll enjoy working with him.

From: Blizzard, James [mailto:Blizzard.James@epa.gov]
Sent: Wednesday, January 04, 2017 8:25 AM
To: Jackson, Ryan (Inhofe) <Ryan_Jackson@inhofe.senate.gov>
Subject: Happy New Year

Where are you landing? Staying with Committee or with the Senator?

I understand Pruitt was around – are you able to say who his handlers were? Any follow-up for Senator Inhofe or Barrasso if you know.

Thanks Ryan.

From: Blizzard, James
To: Jackson, Ryan (Inhofe)
Sent: 1/4/2017 1:25:27 PM
Subject: Happy New Year

Where are you landing? Staying with Committee or with the Senator?

I understand Pruitt was around – are you able to say who his handlers were? Any follow-up for Senator Inhofe or Barrasso if you know.

Thanks Ryan.

Message

From: Jackson, Ryan [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=38BC8E18791A47D88A279DB2FEC8BD60-JACKSON, RY]
Sent: 6/2/2018 2:04:30 PM
To: Niemeyer, Lucian L II HON OSD OUSD ATL (US) [lucian.l.niemeyer.civ@mail.mil]
Subject: Re: Draft EPA for RJ, re: Summit (UNCLASSIFIED)

Absolutely and sorry for the delay.

I worked in Brownfields in the Senate and really like the idea applied to pre BRAC sites. I just makes sense and it a great way to move this forward. Also Andrew is an old Inhofe guy. He was in Inhofe's office since 1995 and was the first staff director when Inhofe became EPW Committee chair in 2003. In other words he's part of the brethren. I don't know you may already know and have met him in our previous roles.

We'll continue to work of course in PFIOA and PFAS. As you've seen we've received criticism but simply because all the federal stakeholders ought to be at the table and informed whether that's EPA, DOD, HHS, or even more. Also will continue to work on Meth Chl final and appreciate the additional contribution on commercial airline paintstripping. It's on it's way to OMB for final.

Glad you came over the other day.

Ryan Jackson
Chief of Staff
U.S. EPA
202-564-6999

Referred to Department of Defense For Processing and Release

Message

From: Wheeler, Andrew R. [Andrew.Wheeler@FaegreBD.com]
Sent: 4/19/2018 5:18:36 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]; Sullivan, Patrick F. [Sullivan.Patrick@epa.gov]; Barnet, Henry [Barnet.Henry@epa.gov]; Wooden-Aguilar, Helena [Wooden-Aguilar.Helena@epa.gov]
Subject: RE: NOTIFICATION OF VOICEMAIL from Unknown sender (Unknown caller ID)

Patrick, did you want/need to check the message here at my firm? Today is my last day although we could probably still check it tomorrow or Monday if I accompany you back here. Thanks.

Andrew R. Wheeler
Principal
andrew.wheeler@FaegreBD.com Download vCard
D: +1 202 312 7424 Ex. 6 F: +1 202 312 7460

Faegre Baker Daniels Consulting
1050 K Street NW | Suite 400 | Washington, DC 20001, USA

From: Jackson, Ryan [mailto:jackson.ryan@epa.gov]
Sent: Friday, April 13, 2018 3:58 PM
To: Wheeler, Andrew R.; Sullivan, Patrick F.; Barnet, Henry; Wooden-Aguilar, Helena
Subject: FW: NOTIFICATION OF VOICEMAIL from Unknown sender (Unknown caller ID)

Andy, I wanted to connect you with Patrick Sullivan. He's an assistant IG in charge of investigations. I know you're in Ohio this weekend, but could we set up a time for some of our OIG agents to check your work phone to see if they can trace it back to a source? The OIG was concerned enough about the issue that it rises to a threat they would like to initially check into.

Welcome to the EPA.

From: Wheeler, Andrew R. [mailto:Andrew.Wheeler@FaegreBD.com]
Sent: Friday, April 13, 2018 8:42 AM
To: Jackson, Ryan <jackson.ryan@epa.gov>
Subject: Fwd: NOTIFICATION OF VOICEMAIL from Unknown sender (Unknown caller ID)

Is this a threat?

Sent from my iPhone

Begin forwarded message:

> **From:** Cisco Unity Connection Messaging System <unityconnection@faegrebd.com>
> **Date:** April 13, 2018 at 2:33:42 AM EDT
> **To:** <andrew.wheeler@faegrebd.com>
> **Subject: NOTIFICATION OF VOICEMAIL from Unknown sender (Unknown caller ID)**

Message

From: Venuto, Sarah (Manchin) [Sarah_Venuto@manchin.senate.gov]
Sent: 3/13/2018 10:29:49 PM
To: Jackson, Ryan [jackson.ryan@epa.gov]
CC: Davis, Bryer (Manchin) [Bryer_Davis@manchin.senate.gov]
Subject: Weirton Follow UP
Attachments: RLF Full Application Package.pdf

Hi Ryan –

Thanks for the call – very nice to catch up for a minute. I've attached the information I mentioned that the Senator would like to flag. Appreciate you working to connect our bosses. I've copied the Senator's scheduler, Bryer, here in case they don't connect tonight. We will be sure to reach out.

Thank you very much,
Sarah

Sarah Venuto
Chief Counsel
Senator Joe Manchin III (D-WV)
sarah_venuto@manchin.senate.gov
202.224.3954

CITY OF WEIRTON
OFFICE OF THE MAYOR

HAROLD E. MILLER
MAYOR

200 MUNICIPAL PLAZA
WEIRTON, WEST VIRGINIA 26062
TELEPHONE: 304-797-8501
FAX: 304-797-8598
MAYOR@CITYOFWEIRTON.COM

November 16, 2017

Felicia Fred
Region 3 Brownfields Coordinator
U.S. Environmental Protection Agency

Director David R. Lloyd
Office of Brownfields & Land Revitalization
Office of Solid Waste & Emergency Response
U.S. Environmental Protection Agency

Re: City of Weirton Seeks U.S. EPA Brownfields Cleanup Revolving Loan Fund Grant

Dear Regional Coordinator Fred and Director Lloyd:

The City of Weirton is seeking funding from the U.S. Environmental Protection Agency to initiate and implement a brownfields cleanup revolving loan fund to effectively finance and address decades of contamination and blight throughout the community.

Due to a sustained economic decline in recent decades, Weirton has not only lost jobs, but is also burdened with vast tracts of underutilized facilities and industrial spaces that unfortunately have come to dominate the community and region. These massive brownfields and abandoned properties present a challenge, but also provide a clear opportunity to revitalize and take advantage of prime location, existing infrastructure, and emerging manufacturing sectors to foster sustainable reinvention of the Weirton community. After decades of struggle and decline, Weirton is now poised for progress that can stem from the effective and purposeful reuse of these vacant industrial lands. However, to overcome the major barriers to brownfields redevelopment and re-industrialization of these Weirton properties, the community needs funding to directly cleanup and address contamination threatening human and environmental health.

Weirton has been collaborating with the Business Development Corporation of the Northern Panhandle, Brooke-Hancock Regional Planning and Development Council, and industry partners to create a Weirton Area Reuse Plan for repurposing, redeveloping, upgrading infrastructure, and attracting new investment to over 1,550 acres of former steel facilities and underutilized industrial land. Former ArcelorMittal land, Half Moon Industrial Park, and Three Springs Business Park will all be primary areas of focus for this comprehensive cleanup and revitalization effort. This application will better enable Weirton and its partners to support advanced manufacturing, infrastructure improvements, and community revitalization initiatives in Weirton and the Northern Panhandle region. As assessment funding progresses and reuse planning continues, Weirton needs substantial funding to assist public, non-profit, and private efforts with brownfields cleanup.

The Weirton Area Revitalization Fund will complement existing reuse planning and unite local, regional, and federal partners in truly revitalizing an economically-distressed community in the heart of Appalachia, with public-private partnerships, assessments, and reuse planning for vacant and abandoned sites to strengthen new national and regional manufacturing priorities.

The City of Weirton is excited by the prospect of collaborating with U.S. EPA and the city's regional partners to transform blighted and contaminated brownfields into new manufacturing and revitalization opportunities. We appreciate your thorough consideration of our request for this $1,000,000 revolving loan fund grant application. Please do not hesitate to contact me if you have questions or want to discuss next steps.

Weirton provides the following information to U.S. EPA:

a. **Applicant Identification:**	City of Weirton 200 Municipal Plaza Weirton, WV 26062
b. Funding Requested:	
i. Grant:	RLF
ii. Federal Funds Requested:	$1,000,000 (no waiver requested)
iii. Contamination:	$752,500 Hazardous Substances $247,500 Petroleum
c. Location:	City of Weirton Brooke County and Hancock County
d. Contacts:	
Project Director:	Travis Blosser City Manager, City of Weirton 200 Municipal Plaza, Weirton, WV 26062 Phone: 304-797-8500, x1001 E-mail: citymanager@cityofweirton.com
Chief Executive:	Harold E. Miller Mayor, City of Weirton 200 Municipal Plaza, Weirton, WV 26062 Phone: 304-797-8500, x1002 E-mail: mayor@cityofweirton.com
e. Population:	19,432
f. Other Factors Checklist:	See attached
g. Letter from WV DEP:	See attached

Thank you for your consideration of our application.

Sincerely,

Harold E. Miller
Mayor of Weirton, WV

Appendix 3
RLF Other Factors Checklist

Name of Applicant: City of Weirton

Please identify (with an ***x***) which, if any of the below items apply to your community or your project as described in your proposal. To be considered for an Other Factor, you must include the page number where each applicable factor is discussed in your proposal. EPA will verify these disclosures prior to selection and may consider this information during the selection process. If this information is not clearly discussed in your narrative proposal or in any other attachments, it will not be considered during the selection process.

	Other Factor	**Page #**
	None of the Other Factors are applicable.	
	Community population is 10,000 or less.	
	The jurisdiction is located within, or includes, a county experiencing "persistent poverty" where 20% or more of its population has lived in poverty over the past 30 years, as measured by the 1990 and 2000 decennial censuses and the most recent Small Area Income and Poverty Estimates.	
	Applicant is, or will assist, a federally recognized Indian tribe or United States territory.	
	Target brownfield sites are impacted by mine-scarred land.	
X	Applicant demonstrates firm leveraging commitments for facilitating brownfield project completion, by identifying in the proposal the amounts and contributors of resources and including documentation that ties directly to the project.	10, Attached
	Applicant is a recipient of an EPA Brownfields Area-Wide Planning grant.	

ED_002480_00088495-00003

west virginia department of environmental protection

Office of Environmental Remediation
601 57th Street SE
Charleston, WV 25304
Phone: 304-926-0455

Jim Justice, Governor
Austin Caperton, Cabinet Secretary
dep.wv.gov

November 13, 2017

Mayor Harold Miller
City of Weirton
200 Municipal Plaza
Weirton, WV 26062

RE: EPA Brownfields Revolving Loan Fund Grant Proposal

Dear Mayor Miller,

Thank you for your continued efforts to further enhance your local community and the state's environment and economy by applying for a United States Environmental Protection Agency Brownfields Revolving Loan Fund Grant. The City of Weirton has struggled with the drastic decline of its once-prominent steel industry, and today over 1,300 acres of abandoned and underutilized former manufacturing sites span across the city. However, with new industries expressing interest and locating in the region, these brownfields now present an opportunity. Embracing these properties for redevelopment is essential to attract new investment, stimulate economic recovery, and revitalize the City.

As you prepare your application for this vital funding, WVDEP's Office of Environmental Remediation is in full support of your efforts. We are committed to assisting you assess, remediate, and redevelop vacant, underutilized, and contaminated properties into productive and positive new uses. Please do not hesitate to contact me with any questions or needs.

Sincerely,

Casey E. Korbini

Casey E. Korbini
Deputy Director for Remediation Programs

WEIRTON AREA REVITALIZATION FUND

1. COMMUNITY NEED

a. Target Area & Brownfields

i. Community and Target Area Descriptions

Located in the Northern Panhandle of West Virginia, the City of Weirton is an economically distressed community with over 1,550 acres of blighted, underutilized, former manufacturing sites gearing up for new revitalization opportunities. Weirton is situated immediately across the Ohio River from the City of Steubenville, Ohio, 18 miles west of the Pittsburgh International Airport, and 30 miles west from downtown Pittsburgh.

The Weirton area has suffered dramatic economic losses from the closing of coal, industrial and manufacturing facilities and contraction in the coal and steel sectors. West Virginia is among the hardest hit by the decline of coal, as the state had the greatest number of coal mining jobs annually from 2000 to 2015 and the second greatest decline in Appalachia (behind only Kentucky). Weirton is also the epitome of a Rust Belt community impacted by the decline of the steel industry. Founded upon Weirton Steel in 1909 and incorporated as a city in 1947, Weirton grew to its peak of 28,000 residents in 1970. From 2003 to 2010, Weirton Steel (now ArcelorMittal) moved from the fifth largest employer in West Virginia to the 67th. Today, the employee count at the plant is less than 1,000 workers. The community must now address the impact and loss of those industries and the hazardous, and often dangerous, shells of the legacy facilities that remain.

Abandoned industrial buildings dominate the low-lying river valley of Weirton, some empty for decades. Many deteriorated buildings remain in a state of disrepair, attracting trespassers, illegal activity, and vandalism. Brownfield assessments and reuse planning are already underway on these contaminated properties with U.S. Environmental Protection Agency (EPA) and U.S. Economic Development Administration support to regional partners. This Revolving Loan Fund seeks to leverage more than $1.9 million in existing assessment and reuse planning grants to cleanup decades of industrial contamination and rehabilitate the Weirton area.

Former ArcelorMittal land (now owned by the Frontier Group of Companies), Half Moon Industrial Park, Three Springs Business Park, and other areas within the Weirton-Steubenville region will be primary targets of this comprehensive brownfields cleanup and revitalization. Weirton is currently working with the Business Development Corporation of the Northern Panhandle (BDC) and other partners to create a "Weirton Area Reuse Plan" for repurposing, redeveloping, and attracting new investment to over 1,300 acres of former steel facilities and underutilized industrial land. The EDA-funded reuse plan will provide strategic recommendations for pursuing advanced manufacturing, infrastructure improvements and community revitalization initiatives to support the transformation of Weirton and the Northern Panhandle region. As assessment funding progresses and reuse planning continues, Weirton needs substantial cleanup funding to assist public, non-profit, and private efforts to revitalize the Weirton community.

Due to this sustained decline, Weirton has not only lost jobs, but is also burdened with vast tracts of underutilized facilities and industrial spaces throughout the community. These massive brownfields and abandoned properties present a challenge, but also provide a clear opportunity to revitalize and take advantage of prime location, existing infrastructure, and emerging manufacturing sectors to foster sustainable reinvention of the Weirton community. After decades of struggle and decline, Weirton is now poised for progress that can stem from the effective and purposeful reuse of these vacant industrial lands. However, to overcome the major barriers to

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brownfields redevelopment and re-industrialization of these Weirton properties, the community needs funding to directly cleanup and address contamination threatening human and environmental health. The Weirton Area Revitalization Fund will complement existing planning and unite local, regional, and federal partners in truly revitalizing an economically-distressed community in the heart of Appalachia, with innovation, public-private partnerships, and supporting reuse planning for vacant and abandoned sites to bolster new national and regional manufacturing priorities.

ii. Demographic Information and Indicators of Need

	Weirton	Hancock County	Brooke County	West Virginia	United States
Population	19,432	30,201	23,665	1,851,420	316,515,021
Unemployment	4.6%	7.2%	6.4%	7.8%	8.3%[1]
Poverty Rate	*17.2%*	*16.2%*	*13.1%*	*18.0%*	*15.5%*[1]
Percent Minority	7.3%	5.4%	3.9%	7.5%	37.8%[2]
Median Household Income	*$39,832*	*$39,959*	*$46,215*	*$41,751*	*$53,889*[1]
Per Capita Income	*$25,849*	*$23,845*	*$23,819*	*23,450*	*$28,930*
Non-English at Home	2.9%	2.1%	1.3%	2.5%	21.0%
Percent Bachelor's Degree or Higher	*21.0%*	*17.8%*	*18.5%*	*19.2%*	*29.8%*
Fertility*	38	57	50	46	53
Children Under Age 5	4.8%	4.8%	4.1%	5.6%	6.3%
Residents Over Age 65	*21.2%*	*19.8%*	*20.6%*	*17.2%*	*14.1%*
**Births per 1,000 women ages 15-50*	*Source: U.S. Census Bureau, 2011-2015 American Community Survey 5-Year Estimates*				

iii. Description of Brownfields

Due to the declines of multiple industries previously integral to the Appalachian and local economy, Weirton is overwhelmed by more than 1,550 acres of underutilized, vacant, and contaminated sites. To date, assessments conducted on 445.9 acres in the city have identified a range of contamination including asbestos, petroleum, arsenic, and lead. Revitalizing these brownfield and former industrial sites is Weirton's top priority.

The City of Weirton has been partnering with the BDC, Brooke-Hancock-Jefferson Metropolitan Planning Commission, community members, and private sector to revitalize the 1,100 acres of closed ArcelorMittal (formerly Weirton Steel) facilities, former manufacturing sites, and brownfields littered throughout downtown Weirton and along Main Street. Not only are many of these sites located along the Ohio River, but they are also less than a mile from multiple residential neighborhoods, with some sites just steps away from adjacent houses. Some of the sites now owned by the Frontier Group of Companies, span 75 acres of former ArcelorMittal property. Assessments conducted to date have noted asbestos, petroleum, and other metal compounds in the soil and throughout the existing dilapidated structures. Additionally, 205 acres of Starvaggi property have been assessed along Main Street near Avenue F, identifying a range of hazardous materials and the presence of an underground storage tank. The sites are extremely blighted and deteriorating and undergoing additional assessments and reuse planning. Many of these sites are intended to support new energy, chemical, and metal production.

The Half Moon Industrial Park encompasses 200 acres of land located along the shore of the Ohio River and half a mile south of the Marland Heights community. The site is served by the Norfolk

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Southern Railroad and current tenants at the park include Impress USA, Bulldog Rack Company, Maple Manufacturing, Purina, and MBS Warehouse. An additional 250 acres around the Three Springs Business Park, south of U.S. Route 22, are also part of the intended next steps for assessment, cleanup, and reuse for Weirton and its partners, with residential neighborhoods located less than a mile from the center of the business park. For example, 24 acres of former ArcelorMittal property have had a Phase I Assessment identify the presence of arsenic and other heavy metal contamination. The site occupant, Pietro Fiorentini, is working to build new operations and productions upon the completion of remediation.

Other sites across Weirton include the following:

- Former Marathon Oil Station, which is vacant, had underground storage tanks removed, and has waste oil on site.
- Williams Lodge in Marland Heights, which has asbestos and lead.
- Former Jimmy Carey Stadium, which has identified asbestos and lead-based paints through two phases of environmental assessments.
- Margaret Manson Weir Memorial Pool in Marland Heights, which is currently vacant and has asbestos and lead-based paints present.

Brownfields are not just a small corner of Weirton. Nowadays, they define the cityscape and surround the main roads. Visitors and residents alike do not perceive Weirton to be a community on the cusp of a new horizon of reinvestment, but rather a stark reminder of the legacy of abandoned steel mills, coal terminals, and other manufacturing. These brownfield sites hinder both the morale and the future economic potential of a city otherwise well-positioned to embrace new industries and opportunities. With 445.9 acres already assessed, Weirton and its partners are well underway in understanding the contaminants and next steps for repurposing its brownfields. While Weirton could purpose individual cleanup grants, the city is ambitious with its revitalization plans and a revolving loan fund is ideal for Weirton to be able to address such pervasive brownfields.

b. Welfare, Environmental, and Public Health Impacts

i. Welfare Impacts

Brownfields have produced harmful psychological impacts on the Weirton community. These vacant brownfields remind residents daily of the struggling economic times and challenges hindering redevelopment. With brownfields adjacent to or nearby residential and retail areas, this blight slows growth. Vacant and neglected brownfields also provide an easy target for illegal activities and crime. Residents driving south along Route 2 through Downtown Weirton face blighted and vacant properties interspersed throughout the downtown commercial corridor and along the parallel railroad corridor. Driving north along Route 2/Main Street presents a different sight, as the road becomes a valley surrounded by massive industrial factories and facilities, many of which sit abandoned, rusting, and deteriorating. Between the frequent swaths of brownfields and closed facilities sit small houses, abandoned offices and retail, and the occasional church. For residents and community members, it appears that these blighted properties swallow the small city. Not only does this discourage locals, but it discourages tourism and investors from outside the city. With roads in disrepair, old facilities crumbling, and plots of land grossly underutilized, the City of Weirton has been overwhelmed trying to manage and police these sites, potential opportunities for redevelopment, and community concerns about contamination and other safety hazards.

ii. Cumulative Environmental Issues

With over 1,550 acres of brownfield sites and already 445.9 acres assessed, Weirton is aware of

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priority target areas for brownfields cleanup and reuse and their cumulative environmental concerns. Neighborhoods and industrial sites along the Upper Ohio River Valley are situated near existing or former industrial sites that contain or discharge recognized toxins such as heavy metals, solvents, polycyclic aromatic hydrocarbons, plasticizers, and insecticides. Many older educational, government, and commercial buildings contain asbestos, lead, potential high levels of PCB. Vehicle service facilities pose a risk from petroleum products. Active industrial and energy production sites release airborne pollutants such as fine particulate matter (PM2.5), volatile organic compounds (VOC), hydrocarbons (HC), nitrogen oxides (NOX), and ozone (O3), which are discharged along the Ohio River by westerly wests. Multiple Phase I and II environmental site assessments already conducted have confirmed the presence of hazardous materials and petroleum contamination in the soil and groundwater. Threats to the local watershed include direct runoff to Harmon Creek and Ohio River, as major brownfield sites are directly adjacent to the waterfront.

The EPA EJScreen Tool database indicates that, compared to the state, the Weirton target area is in the 98th percentile for Particulate Matter 2.5, the 91st percentile for ozone, the 92nd percentile for air toxics cancer risk, the 83rd percentile for lead paint risks in pre-1960s housing, the 85th percentile for proximity to facilities with chemical risk management plans, and the 98th percentile state-wide and nationally for wastewater discharge hazards. Additionally, the EPA Envirofacts database indicates that there are 151 sites and facilities reporting to EPA in the Weirton area.

iii. Cumulative Public Health Impacts

Considering the prior uses at a variety of sites and the assessments that have been conducted, Weirton intends to remediate: heavy metals including arsenic and lead; asbestos-containing materials and debris; and petroleum contamination including gasoline, No. 2 fuel oil, and free-floating petroleum products. EPA has designated some of these substances as priority pollutants. As such, they are highly carcinogenic, mutagenic and teratogenic. The existence of these contaminants, discharges, and risks pose significant health concerns, especially to the 4.8% of children under age five and 21% of seniors over age 65 who live in Weirton, with the potential to affect asthma rates and blood lead levels. Other concerns in existing sites include:

- *Volatile organic compounds* (VOCs), which ATSDR, EPA, and other studies have indicated that toxic compounds found in petroleum fuels including benzene, toluene, xylene, and ethylene dibromide, can result in low birth weights, delayed bone formation, and bone marrow damage.
- *Semivolatile organic compounds* (SVOCs), which the Center for Children's Environmental Health affirms that PAH exposure in pregnancy can cause adverse birth outcomes, such as low birth weight, premature delivery, and heart malformations and is linked with childhood asthma and lower IQ.
- *Polychlorinated biphenyls* (PCBs), which impacts on particularly vulnerable populations (pregnant women, children, and the elderly) include respiratory issues, weakened immune systems, kidney and liver damage, alteration of genetic material, lung cancer, and death.

Moreover, according to County Health Rankings, a project of the University of Wisconsin and Robert Wood Johnson Foundation. Brooke County ranks 41st out of 55 in West Virginia for physical environmental conditions, with air particulate matter more than 1.5 times that of the top U.S. performers and 1.2 times the state rate and 10% of the community having "severe housing problems". Hancock County ranks 44th out of 55 in West Virginia for physical environmental conditions, with air particulate matter 1.17 times that of the state and 11% of the community having "severe housing problems." In both counties, obesity is a challenge, with 39% of adults obese in Brooke County and 35% of adults obese in Hancock County.

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c. Financial Need

i. Economic Conditions

The Weirton region is significantly distressed. The median household incomes in Weirton, Brooke County and Hancock County are $39,832, $46,215, and $39,959, respectively, compared to $53,889 across the United States (U.S. Census Bureau's American Community Survey 2011-2015). Poverty levels exceed the national rate (15.5%) in Weirton (17.2%) and Hancock County (16.2%). The 24-month average unemployment rate for the Brooke-Hancock county region is 6.79%, nearly 2 points above the national level of 4.82% (Bureau of Labor Statistics).

The Weirton area has suffered dramatic economic losses from the closing of coal, industrial and manufacturing facilities and contraction in the coal and steel sectors. Certainly, West Virginia is among the hardest hit by coal's decline in America, as the state had the greatest number of coal mining jobs annually from 2000 to 2015 and the second greatest decline in Appalachia (behind only Kentucky). These losses have hit the Weirton area particularly hard. Between 2000 and 2015, coal jobs in Brooke County declined from 228 to 0, a 100% decline. Indeed, much of Weirton consists of former strip mines created by the former Weirton Steel to power their manufacturing operations.

Weirton is also a prime example of a Rust Belt city impacted by the decline of the steel industry. Founded upon Weirton Steel in 1909 and incorporated as a city in 1947, Weirton grew to its peak of more than 28,000 residents in 1970. Weirton Steel became West Virginia's largest private employer in 1979, and in 1980, Weirton Steel employed approximately 14,000, which was 57% of Weirton's population of 24,736. However, competition from foreign steel imports and other factors caused the facility to continuously cut jobs. From 2003 to 2010, Weirton Steel (now ArcelorMittal) moved from the 5th largest employer in West Virginia to the 67th. By 2005, only 2,100 were employed at the facility and, today, the employee count at the plant is less than 1,000 workers. The community must now address the impact and loss of those industries and the hazardous, and often dangerous, shells of the legacy facilities that remain. Weirton's workforce has had difficulty rebounding, and ArcelorMittal's prospects remain uncertain. Furthermore, in March of 2017, Weirton lost another 320 jobs due to a facility closure by the Ball Corporation, a metal packaging company. The Ball Corporation facility was in the center of Half Moon Industrial Park, and it had been a key anchor for years.

To make matters worse, in August 2011, the former West Virginia Governor Earl Ray Tomblin instructed state agencies to cut 7.5% of spending by 2015. In October 2015, the Governor cut another 4%, continuing a hiring freeze and limiting travel to balance dwindling revenues from coal and gas. These budgetary deficits have reduced the state's capacity to assist counties and cities with brownfield assessments and cleanup. A 2012 Hancock County Budget Report stated that Brooke and Hancock counties have lost a combined $3.5 million in revenues since 2009. County governments incurred major revenue loss when tax-reverted property increased by 185% directly related to reductions in manufacturing and downstream sector employment.

ii. Economic Effects of Brownfields

Due to this rapid and sustained decline, Weirton has not only lost jobs, but is also burdened with vast tracts of underutilized facilities and industrial spaces that are dispersed throughout the community. These brownfields and the resulting economic downturn have resulted in job losses in most sectors, and the population continues to decline with no end in sight. The population and tax base has dropped significantly in recent decades. According to the 1980 census, the two-county

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population was a solid 71,535. In 2016, the U.S. Census estimated the same area population at only 52,567, a stunning 26% decrease in just over three decades. The Federal Reserve Economic Data, Federal Reserve Bank of St. Louis (FRED), reported that in January 1990, manufacturing employment in the Weirton-Steubenville area was 17,200. As of December 2014, that number dropped to 5,600. Property values are stagnant at best in neighborhoods far removed from industrial brownfields, but many homes and communities border brownfield sites. With higher poverty and a lower median household income than the United States overall, Weirton struggles to advance the community and attract new business due to the current blight despite its potential for revitalization and strategic regional assets.

Weirton and the Brooke-Hancock region desperately need economic diversification with high-skilled and family-wage jobs to replace the losses of businesses, opportunities, and jobs that have taken place as coal- and steel-sector jobs have disappeared. The area's Comprehensive Economic Development Strategy (CEDS) for 2012-2017 adopted five overarching goals to help the region emerge from this decline. The first two goals are the redevelopment of vacant or underutilized brownfield sites and the promotion of new business. The CEDS is built in part upon a super-sector analysis dubbed a "Regional Investment Plan" conducted in 2011 for BDC with an EDA Economic Adjustment Assistance grant. This plan identified promising business clusters for the Weirton region, with a focus on manufacturing, energy, business services, and knowledge creation industries that have a high potential to create jobs. These massive brownfields and abandoned properties present a challenge, but also provide a clear opportunity to revitalize and take advantage of prime locations, existing infrastructure, and emerging manufacturing sectors to foster sustainable reinvention of Weirton. After decades of struggle and decline, Weirton is now poised for progress that can stem from the effective and purposeful reuse of these vacant industrial lands. However, to overcome the major barriers to brownfields redevelopment and re-industrialization of these Weirton properties, the community needs to plan accordingly to identify the most promising reuse opportunities, prioritize infrastructure investments, and transition effectively.

2. Project Description & Feasibility of Success

a. Program Description and Marketing Strategy

i. Program Description

The City of Weirton is preparing to transparently and effectively manage this RLF program with a clear process for borrowers and subgrantees. Through existing collaborations with the Brooke-Hancock-Jefferson Metropolitan Planning Commission (Commission), Business Development Corporation of the Northern Panhandle (BDC), and the Northern West Virginia Brownfields Assistance Center at West Virginia University in Morgantown, Weirton is already working to identify and prioritize sites. Weirton will take the following key steps:

- Continue its collaboration with the Commission, BDC, private sector industries, the WVDEP, neighborhood groups, and other stakeholders to ***identify priority and "cleanup ready" sites***.
- Develop ***requirements and procedures*** that will guide the administration of funding, including facilitation of site enrollment in the West Virginia Voluntary Cleanup Program.
- Designate and/or hire a ***Weirton Area Revitalization Fund (WARF) Program Manager*** who will directly oversee the revolving loan fund.
- Establish a ***Fund Review Board,*** led by the WARF Program Manager and comprised of City of Weirton leadership, the Commission, the BDC, consultants, citizen stakeholders, and other parties as appropriate, to transparently review potential sites, oversee a public comment process on final selections, approve of funding decisions, and conduct periodic site visits.

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- Conduct an ***independent, third-party technical review*** of the proposed plans and application to ensure compliance with regulations and the protection of human health and the environment.
- Oversee ***financial underwriting*** to determine whether the loan should be approved. Loan documents will be prepared for successful applicants and will be available for review by Weirton's legal team, EPA Region 3, WVDEP, and the borrower. Loan closings will be scheduled following the incorporation of any additional terms and conditions.
- ***Manage and administer the loan fund and subgrants*** to determine eligibility of applicants and sites, review and confirm potential sites with WVDEP and U.S. EPA, coordinate with regional planning partners, encourage leveraging, ensure compliance with local, state, and federal environmental regulations, evaluate consistency with local revitalization plans, evaluate legal and financial risks involved, and conduct oversight for each loan or subgrant issued.
- Manage and update a publicly accessible website that ***maintains an administrative record***.
- Work with private sector and community partners to prioritize sites that use loans and subgrants to leverage additional funding or matching funding for site redevelopment.
- ***Communicate progress*** to the community as appropriate to provide updates on site redevelopment, cleanup, and financial decisions.
- Weirton and the Fund Review Board will develop a ***long-term reporting system*** to provide U.S. EPA and Region 3 with progress reports for continued brownfield projects beyond the life of the five-year cooperative agreement.

Weirton's portfolio will include below-market-rate interest loans and limited subgrants to public entities. Loans with terms up to 15 years will be available to finance up to 80% of cleanup costs, with borrowers providing at least 20% match. Minimal processing, origination, and other fees will be charged to borrowers. Loan decisions will be made through a reasonable approval process within 60 days. Any public or private entity with control over or legal access to a brownfield property as well as an ability to incur debt will be able to participate. Prior to consideration for a loan or subgrant, Weirton will require applicants to complete and submit the following:

- An ***Analysis of Brownfields Cleanup Alternatives*** (ABCA), which considers site characteristics, land-use restrictions, potential reuse, and cleanup goals; and,
- A ***site-specific community plan*** describing how the recipient plans to satisfy the public involvement requirements (notice of ABCA, opportunity for community input, summary of responses, documentation of cleanup plan changes, and preparation of administrative record).

ii. Marketing Strategy

Upon approval of the revolving loan fund, Weirton will begin conducting outreach and promotion to its Commission and BDC partners as well as recipients of prior assessment funding. Specifically, Weirton will coordinate with the Commission and BDC to engage directly with site owners, including ArcelorMittal, Frontier Group of Companies, and Starvaggi to inform them of the existing of the cleanup revolving loan fund to support and accelerate site reuse. With 445.9 acres assessed across 15 sites already, the demand for cleanup funding will be high. Priority sites will be those assessed that will also yield ancillary community and welfare benefits that can spur surrounding economic growth and attract additional investors early. For instance, the 75-acre, 205-acre, and 24-acre sites described in Section I.a.iii will be strongly considered if the owners are willing and interested and the WARF Review Board approves of their plans. That said, there will not be a shortage of borrowers in the early stages of the fund.

Weirton will solicit interest through charrettes, neighborhood gatherings, and community meetings in specific jurisdictions and neighborhoods. Weirton will use this initial announcement to also seek

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interested parties for roles and involvement on the WARF Review Board. The City will connect with the community and site owners through public meetings, neighborhood association gatherings, community newsletters, websites, social media, handouts, and other outreach strategies. The initial focus will be to promote the revolving loan fund to key redevelopment firms, companies, and organizations in the region. As the loans are paid back, Weirton will continue to work with its partners to update potential site owners on the availability of funds. Weirton will maintain an active list of priority brownfield sites and maintain an accurate accounting of the revolving loan fund.

b. Task Description & Budget Table

i. Task Descriptions

- **Task 1. Project Management:** The Fund Manager and Weirton's City Manager will create and staff the Fund Review Board, establish program requirements and procedures, coordinate with West Virginia's Voluntary Cleanup Program and EPA Region 3, assure compliance with grant requirements, track progress, and prepare quarterly reports. Funding is also budgeted for WARF personnel to travel to and attend two EPA Brownfields Conferences. The cost estimate for Task 1 is $36,000 ($30,000 split between hazardous and petroleum funds for personnel (0.353 FTE), $3,000 split in travel, and $3,000 split in fringe benefits), with half as cost share.
- **Task 2. Marketing & Promotion of Fund**: This involves efforts to market and promote the availability of resources and opportunity to serve on the Review Board to businesses, community groups, and other interested stakeholders. Outreach will include public charrettes and forums, neighborhood gatherings, newsletters, websites, social media, and other tools. The estimate for Task 2 is $24,000 ($16,000 split between hazardous and petroleum funds for staff time, $2,000 split in fringe benefits, and $6,000 split in supplies), with half as cost share.
- **Task 3. Manage Fund:** This task includes time spent by the Fund Manager and legal staff to review applications, prepare loan documents, execute loan/subgrant agreements, and monitor repayments. The cost estimate is $63,000 ($30,000 split between hazardous and petroleum funds for contractual legal services, $30,000 split for personnel (0.353 FTE), and $3,000 split in fringe benefits), with half as cost share.
- **Task 4. Cleanup Oversight & Evaluation:** Task 4 supports the Fund Manager and procured environmental consultants to review of the borrowers' proposed cleanup plans, work with borrowers to enroll in the state Voluntary Remediation Program, manage the Review Board, help prepare community involvement plans, maintain administrative records, conduct oversight of cleanup to ensure compliance with approved plans and fund requirements (i.e. Davis-Bacon wages), and prepare cleanup completion reports following successful remediation. Weirton staff and consultants will also enter and maintain property profiles in the Assessment, Cleanup, and Redevelopment Exchange System (ACRES). The cost estimate for this task is $67,000 ($40,000 split between hazardous and petroleum funds for contractual consultants, $25,000 split for personnel (0.294 FTE), and $2,000 split in fringe benefits), with half as cost share.
- **Task 5. Allocation of Loans & Subgrants:** Loan and grant funding is the focus of this budget, with more than 84% of funding allocated to this task. Weirton expects to make up to six loans in the initial round, before revenue revolves back to the WARF. Up to two subgrants may also be provided to remediate publicly-held brownfields. The cost estimate is $1,010,000 ($705,500 in hazardous funds, $200,000 in petroleum funds and $105,000 of cost share).

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ii. Budget Table

Category	Task 1	Task 2	Task 3	Task 4	Task 5	TOTAL
Hazardous Substances – Project Tasks						
Personnel	$15,000	$8,000	$15,000	$12,500	$0	**$50,500**
Fringe Benefits	$1,500	$1,000	$1,500	$1,000	$0	**$5,000**
Travel	$1,500	$0	$0	$0	$0	**$1,500**
Equipment	$0	$0	$0	$0	$0	**$0**
Supplies	$0	$3,000	$0	$0	$0	**$3,000**
Contractual	$0	$0	$15,000	$20,000	$0	**$35,000**
Other: Loans/Subgrants	$0	$0	$0	$0	$757,500	**$757,500**
SUBTOTAL	**$18,000**	**$12,000**	**$31,500**	**$33,500**	**$757,500**	**$852,500**
Petroleum Contamination – Project Tasks						
Personnel	$15,000	$8,000	$15,000	$12,500	$0	**$50,500**
Fringe Benefits	$1,500	$1,000	$1,500	$1,000	$0	**$5,000**
Travel	$1,500	$0	$0	$0	$0	**$1,500**
Equipment	$0	$0	$0	$0	$0	**$0**
Supplies	$0	$3,000	$0	$0	$0	**$3,000**
Contractual	$0	$0	$15,000	$20,000	$0	**$35,000**
Other: Loans/Subgrants	$0	$0	$0	$0	$252,500	**$252,500**
SUBTOTAL	**$18,000**	**$12,000**	**$31,500**	**$33,500**	**$252,500**	**$347,500**
TOTAL	**$36,000**	**$24,000**	**$63,000**	**$67,000**	**$1,010,000**	**$1,200,000**

c. Ability to Leverage

Weirton is developing a solid track record of leveraging federal funding. Already, Weirton, despite its small population and rural character, has worked with its regional partners, the Commission, BDC, and West Virginia Brownfields Assistance Center to leverage over $1.9 million in funding through a Community-Wide Assessment grant, two Coalition Assessment grants, and, most recently, an EDA Assistance to Coal Communities grant for reuse planning and revitalization in the region. This revolving loan fund would be the icing on the cake – what makes these sites presentable and ready for reuse and redevelopment. Weirton also has a pending EDA application for a $2 million project to support site preparation and infrastructure upgrades to enable access and redevelopment approximately 50 acres of developable site pads all within the existing, but underutilized Three Springs Business Park. This application has been favorably received and the Weirton received initial approval to submit a full construction application from the Independent Review Board. To date, the following resources are being leveraged:

Source	Purpose/Role	Amount	Status
Brooke-Hancock-Jefferson Metropolitan Planning Commission	In-kind services for site selection and reuse planning; EPA Community-Wide and Coalition Assessment Grants	$1,000,000	Secured

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Business Development Corporation of the Northern Panhandle	In-kind services for site selection and reuse planning; EPA Coalition Assessment and EDA Assistance to Coal Communities Planning grants	$900,000	Secured
WV Brownfields Assistance Center	In-kind technical assistance for Review Board and site selection	$0	Secured
City of Weirton – Application for EDA Construction Funding	Funding for Three Springs Business Park Access Road & Site Preparation & Tax Increment Financing match	$2,000,000	Pending
Revolving Loan Fund Borrowers	20% cost share for loans/subgrants	Up to $202,000	Pending

3. COMMUNITY ENGAGEMENT & PARTNERSHIPS

a. Engaging the Community

Weirton will begin community outreach and engagement, using a community charrette and meetings in specific neighborhoods. The City will connect with the public and site owners through public meetings, neighborhood association gatherings, newsletters, dedicated websites, social media, print materials, and other outreach strategies. The initial focus will be to promote the revolving loan fund to key firms, companies, and organizations and seek interested parties for roles and involvement on the WARF Review Board. This will include residents, community leaders, and local business representatives. The Review Board will then be tasked with reviewing applications for loans and subgrants and create a transparent and open process for residents to contact, track the progress of, and express health, safety, noise, environmental, and disruption concerns. Weirton will create a new webpage for the Review Board with plans and contact information of each member. Having local representation in a transparent process should instill public confidence and accountability. By welcoming diverse stakeholder membership, proposed cleanup activities will be considered and conducted in a manner sensitive to impacted residents.

With brownfields permeating the city, Weirton will be sure to communicate with existing businesses, site owners, and developers as well. Through its ongoing partnership with the BDC and the Chamber of Commerce, Weirton is routinely in contact with regional developers and businesses. Specific communication, both in print and online, will be directed toward business leaders, new businesses, and interested developers as progress ensues. With multiple industrial brownfields as well as a few commercial and residential sites, Weirton will communicate progress and celebrate success as cleanup ensues. When appropriate, the Review Board will coordinate with the City Council and municipal staff to announce completed cleanup efforts to the community. Weirton will specifically share updates at the Greater Weirton Senior Center to share progress with the 21% of Weirton's residents above the age of 65. Additional signage on site, online and print newsletters, press releases, and website announcements will also enable the city to effectively communicate with all residents, property owners, prospective developers, and other stakeholders.

b. Partnerships with Government Agencies

i. Local/State/Tribal Environmental Authority

The West Virginia Department of Environmental Protection (WVDEP) is fully committed to supporting Weirton's brownfields revitalization efforts and will provide the necessary support and assistance to assess, remediate, and redevelop identified properties into productive new uses. Weirton has experience collaborating with and coordinating with U.S. EPA Region 3 as a partner with the BDC and will continue to do so as appropriate to ensure compliance and best practices.

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ii. Other Governmental Partnerships
The Brooke-Hancock-Jefferson Metropolitan Planning Commission is the economic development district (EDD) helping to grow business and jobs. Weirton will work with the Commission identify and prioritize sites for cleanup, based upon findings of the Commission's coalition assessments. Weirton is also part of the Greater Pittsburgh Metals Manufacturing Community's Investing in Manufacturing Communities Partnership, through the Economic Development Administration. More than 37% of the local workforce is employed in the Manufacturing-Advanced Materials-Energy cluster. Weirton and its partners will also continue to pursue additional EDA, HUD, DOT, and state funding to support infrastructure, housing, parks, and redevelopment in the region.

c. Partnerships with Community Organizations
i. Community Organization Description & Role

Organization	Brief Description	Project Roles & Commitments	Contact
BDC of Northern Panhandle	Supports brownfields redevelopment, planning, assistance, and project management	Key regional partner, overseeing site assessments, supporting reuse planning, and active member of existing Brownfields Task Force	Pat Ford
Brooke-Hancock-Jefferson Metropolitan Planning Commission	Supports tri-county regional planning to advance economic growth and quality of life	Oversees Regional Planning Council, serves on Brownfields Task Force, provides in-kind staff support	Michael Paprocki
WV Brownfields Assistance Center	Provides technical assistance to cities and communities in WV	Technical assistance, providing in-kind project management assistance	Patrick Kirby
Convention & Visitors Bureau	Supporting tourism to reinvent community	Active community partner, providing in-kind staff time	Dan Greathouse
Weirton Area Chamber of Commerce	Promotes and supports businesses in Weirton	Active partner, providing in-kind staff time and resources	Brenda Mull
ArcelorMittal	Company with multiple brownfield sites	Active private-sector partner, potential borrower	Brian James
Frontier Group of Companies	Company specializing in redevelopment and revitalization	Recently acquired 1,100+ acres of sites for redevelopment, potential borrower	David Franjoine

ii. Letters of Commitment – See Attached Letters of Commitment & Support

d. Partnerships with Workforce Development Programs
Weirton will continue to strengthen its relationships with Workforce West Virginia, building on its collaborations with the BDC, the Chamber of Commerce, and the Convention & Visitors Bureau to encourage job creation in conjunction with brownfields revitalization and seek training grants to prepare low-income workers for careers in the environmental field. West Virginia Northern Community College offers programs designed for entry-level positions in the fields of welding, computer engineering, environmental science, and green-collar jobs. These fields of employment are vital to successful brownfield redevelopment. Both offer many of these programs as customizable training options for companies. A $1.9 million POWER grant to retrain displaced coal workers will also help prepare workers for opportunities on repurposed brownfields. Weirton will encourage contractors and developers to hire low-income residents from the region.

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4. PROJECT BENEFITS

a. Welfare, Environmental, and Public Health Benefits

As Weirton and its partners implement this project, the community will be able to cleanup and physically address contamination that has been identified throughout the city. Cleanup will eliminate direct contact and indoor vapor intrusion from contaminants, improving air quality and reducing adverse health impacts, especially to Weirton's vulnerable older residents. While the national average of residents over age 65 is 14.1%, Weirton, Hancock County, and Brooke County vastly exceed that average at rates of 21.2%, 19.8%, and 20.6% respectively. Remediating identified contaminants, such as asbestos, lead, arsenic, petroleum, and other hazardous materials will limit exposure to carcinogenic, mutagenic and teratogenic substances and reduce these contaminants from reaching the Harmon Creek and Ohio River Watershed. Cleanup funding will address contaminated sites to improve air, surface water, groundwater, and soil quality – and reduce the likelihood of future environmental and human health hazards.

In addition, this revolving loan fund grant will directly support the development of new manufacturing on old brownfield sites, consistent with U.S. EPA recommendations and best practices. As recommended in the U.S. EPA guidebook "New Manufacturing on Old Brownfields", "former manufacturing sites and brownfields can be prime locations for new advanced manufacturing." Another advantage of these legacy brownfields is that many brownfields are already in prominent manufacturing clusters – where communities, businesses, and industries are in close proximity. Weirton is certainly seeking to leverage this to support its existing business and industrial parks. This will efficiently and sustainable repurpose existing sites, while "avoid[ing] the development of non-urban, greenfield, farmland, and other open spaces" – as encouraged in the U.S. EPA guidebook referenced above. By repurposing vast stretches of existing brownfields, Weirton preserves green space, maintains permeable and natural surfaces for better managing stormwater and reducing runoff, and reuses existing land for new endeavors.

With both lead and lead-based paints identified in existing structures, this project will enable Weirton to remediate key community sites including the Margaret Manson Weir Memorial Pool, Jimmy Carey Stadium, and Williams Lodge, improving the quality of life, recreational, and social opportunities for Weirton residents. The Weir Memorial Pool and surrounding park area is an historic and iconic part of Weirton that overlooks the valley and downtown. Though it has been closed since 2005, local leaders are seeking reopen and sustain the pool. The pool was built in 1934 and has been on the U.S. National Register of Historic Places since 1993. Recently, Weirton received funding for a planning study to assess the maintenance and needs of the pool and park, but it is estimated that an additional $365,000 is needed to fully rehabilitate and remediate this facility. These are potential communal and family-friendly sites, but health concerns have precluded community activities for years. Addressing health hazards such as lead contamination and asbestos will reduce the risk of asthma and high lead levels in the bloodstream for children, pregnant women, and other residents with weak immune systems.

Furthermore, cleanup funding will help remove blight, increase morale, and motivate new businesses and organizations. In a community plagued by high poverty and pervasive brownfields, residents struggle to envision a viable future. Moreover, compared to the national rate of 29.8%, only 21% of Weirton residents have a bachelor's degree or higher, severely limiting future opportunities unless new manufacturing opportunities can locate in Weirton. These industries would build upon the skills, commitment, and working-class culture of the city to advance the

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regional economy. With local and regional poverty rates exceeding the national average, this project will remove socioeconomic barriers to progress, education, and job opportunities.

b. Economic and Community Benefits

In a game-changing breakthrough, the Frontier Group of Companies, a Buffalo-based corporation, announced its purchase of 1,100 acres in Weirton from ArcelorMittal Steel in February 2017. While Frontier's initial focus will be on materials recovery, recycling, demolition, and brownfields cleanup, the company has a strong record of attracting both new manufacturing and mixed-use community development to its sites. For instance, Frontier transformed 150 acres of property from ArcelorMittal in 2010 in Lackawanna, New York into one million square feet of commercial space known as the "SteelWorks Industrial Park." At the Moundsville Industrial Park site, Frontier transformed a former AEP coal-fired power plant into a 58-acre commercial and industrial park that will take advantage of the emerging shale-manufacturing sector. At the 100-acre Mingo Junction Steel Works property near Weirton and Wheeling, Frontier is fostering manufacturing, distribution, pipe laydown, railroad siding, and other light industrial operations. In addition to industrial park development, the Frontier Group has successfully produced mixed-use, Class A office space, savvy living space, business incubator development, and other community revitalization projects. Frontier has already been actively coordinating with Weirton and its partners to advance new manufacturing and support redevelopment.

The 1,100-acre former ArcelorMittal and the 200-acre Half Moon Industrial Park properties along the Ohio River are well-suited for industrial and commercial development, boasting operational critical features including railroad sidings serviced by Norfolk Southern, Conrail, and Wheeling & Lake Erie railroads, barge cells on the Ohio River's west bank, slag processing operations, heavy industrial zoning and permitting for most industrial activity, permits to pull up to 100 million gallons per day of water from the river, large capacity utility services, and continuous security and monitoring. In addition to the railroad and shipping access, Weirton is connected by U.S. Route 22 and State Route 2 to the Greater Pittsburgh area, including Pittsburgh International Airport and smaller, local airports such as the Jefferson County Airpark and the Wheeling-Ohio County Airport. Already, companies are approaching BDC seeking industrial sites of between 40- and 500-acres of operational space, which are often challenging to find. These site and infrastructure advantages position Weirton well in the region. In July 2011, BDC partnered with EDA to develop the "Regional Investment Plan" for the Brooke-Hancock region. The plan outlines strategies for addressing the community and economic challenges in the region, focusing on key industrial cluster opportunities and the use of existing infrastructure and connections to support new industries. BDC found that the six clusters that presented the most promising opportunities for future development in the Brooke-Hancock region are: energy, manufacturing, transportation and logistics, health care and social assistance, education, and business and financial services.

Having suffered from a declining population and tax base over the past three decades, Weirton is seeking diversified economic revitalization. The Frontier sites will likely seek new manufacturing opportunities; Half Moon will continue to support new and existing operations, logistics, and production facilities right along the river; and Three Springs is a growing area of light manufacturing, retail, hotels, and restaurants. Diverse new opportunities will also reduce economic volatility. Median household and per capita incomes in Weirton are also much lower than the national averages, but with new opportunities in different sectors that are not dependent on a degree of higher education, more families and households will be able to find part-time and full-time job

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opportunities that meet their needs. Property values will also rise, especially for the downtown neighborhoods just blocks from Main Street that border blighted sites and vacant factories.

5. Programmatic Capability & Past Performance

a. Audit Findings

Weirton has not been cited for adverse findings from an OMB Circular A-133 or other audit. It has never been required to comply with "high risk" terms or conditions under OMB Circular A-102.

b. Programmatic Capability

The City will manage the project in coordination with its regional partners, including the BDC, the Brooke-Hancock-Jefferson Metropolitan Planning Commission, the West Virginia Brownfields Assistance Center in Morgantown, the West Virginia Development Office (WVDO), Brooke and Hancock Counties, community partners, and private sector stakeholders. This core team will be supported by a Reuse Task Force of key stakeholders from the two counties, the business community, WVU and other academic leaders, non-profit groups such as the WV Brownfields Assistance Center, and local community representatives.

Travis Blosser, Weirton's City Manager, will oversee the WARF program in conjunction with the Office of Planning and Development until the Fund Manager is designated or hired. Travis has managed and overseen municipal operations for six years and has partnered with regional organizations, developers, consultants, businesses, community members, and others to serve the residents of Weirton. Travis has experience overseeing the implementation of federal grant awards and previously managed loans, liquidation, and finance processes for BCBank, Inc. Mark Miller, the Director of Planning and Development, will assist with reuse planning and coordination with site owners, developers, and regional partners to ensure compliance with plans and regulations. Mark has been working with Weirton for two years as the Director of Planning and Development and has relevant experience managing various grants such as CDBG, SCBG, DOE, SHPO, and numerous brownfields grants through the Northern West Virginia Brownfields Assistance Center. Mark previously served as the Program Manager for the City of Fairmont's Planning and Development Department. Both Travis and Mark recently led the effort to seek and coordinate EDA funding for reuse planning across Weirton (awarded) and site preparation at the Three Springs Business Park (pending, favorable initial review). As noted in the budget, Weirton is requesting funding to supplement staff experience and time with legal counsel and environmental consultants to provide independent, third-party reviews of key documents and proposals.

The project will be assisted by BDC staff, who have a demonstrated track record of community and industrial redevelopment, project management and grants management. The BDC, Weirton's routine partner in redevelopment and brownfields efforts, has been the recipient of multiple EPA and EDA awards. These funds have been spent expeditiously and the investments have produced meaningful results in the Northern Panhandle region, including throughout the City of Weirton. BDC Executive Director Patrick Ford and Assistant Director Marvin Six have administered prior brownfields and planning grants. Both are experienced with federal funding requirements. Their brownfields efforts have resulted in the assessment, reuse planning, cleanup, and economic redevelopment of multiple brownfield sites for industrial and manufacturing reuse in the City of Weirton. BDC's capabilities were recently exemplified by the successful partnership with Weirton and the WVDO to recruit the Bidell Company into the Frontier project area for a new manufacturing enterprise, recruit the Pietro Fiorentini company into Weirton for a new manufacturing enterprise, and to prepare Frontier sites for brownfields assessment, redevelopment,

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and reinvestment. Moreover, the BDC has been involved in the redevelopment of almost 900 acres of brownfields, leveraged $70 million of investment, and created 1,200 jobs. The USEPA produced a podcast on the work of the BDC that aired at the 2015 National Brownfields Conference, illustrating the BDC approach as a model for other communities. Pat Ford also co-chairs the Brownfields Task Force with the West Virginia Brownfields Assistance Center in Morgantown, which has overseen and funded all brownfield projects in the City of Weirton since 2009.

c. Measuring Environmental Results: Anticipated Outputs and Outcomes

Weirton will track and identify outcomes to measure progress, including assessments conducted, reuse plans developed, remediation efforts, brownfield cleanups, stakeholders involved, economic plans realized, partnerships formed, jobs created, and resources leveraged. The Fund Manager will build upon and learn from previous assessments, regional partnerships, reuse planning, and redevelopment initiatives. Specific outputs will include the created of the WARF Review Board, up to six loans and up to two subgrants awarded in the first phase of the RLF, and at least three community meetings and forums held to publicize and provide updates on the RLF and Review Board. Outcomes will include acres of remediated sites, new developments on former brownfields, increased tax revenue from redevelopment, jobs created, new community spaces, and reduced blighted and vacant sites. Weirton and its Fund Review Board will also develop a long-term reporting system to provide U.S. EPA and Region 3 with progress reports for continued brownfield projects beyond the life of the five-year cooperative agreement.

d. Past Performance and Accomplishments

ii. Has not received an EPA Brownfields Grant but has received other federal/non-federal assistance agreements

Purpose and Accomplishments: Although Weirton has not directly received an EPA brownfields grant, it does have experience with federal grant requirements and the EPA brownfields program. Weirton was awarded $200,000 through the FEMA Assistance to Firefighters Grant program for supporting new investments in self-contained breathing apparatus (SCBAs) and has managed that grant responsibly and on-time. Weirton spent this funding expeditiously and efficiently, acquiring 26 new SCBAs and allowing the department to more safely respond to emergency calls.

The City of Weirton has also had representation on the board of directors for the BDC since 2009 when the Commission received its first brownfields assessment resources. Not only has the City been an applicant indirectly, but they have taken a leadership role in identifying Weirton priorities and selecting key sites for assessments and reuse planning. For almost a decade, Weirton has been engaged with regional partners, planning proactively for redevelopment, and actively working to revitalize over 1,550 acres of blighted properties and brownfields. While not directly administering the multiple grants, Weirton has been responsible for assisting in the management of an EPA Community-Wide Assessment grant and two EPA Coalition Assessment grants. These grants have been spent timely and appropriately throughout the City of Weirton and surrounding target areas.

Compliance with Grant Requirements: Since the first assessment grant in 2009, all requirements have been met, including the filing of quarterly reports. Weirton and its partners are on target to meet the project milestones and no corrective measures have been necessary. Project managers have established a cooperative relationship with EPA Region 3, the West Virginia Development Office, the WVDEP and the WV Brownfields Assistance Center. Project data is also routinely being submitted into ACRES. Though assessment funds have only been recently received, all will easily be expended by the end of the grant period.

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DOCUMENTATION OF LEVERAGE
Weirton Area Revitalization Fund

- Brooke-Hancock Regional Planning and Development Council:
  - $400,000 – U.S. EPA Community-Wide Assessment 2009
  - $600,000 – U.S. EPA Coalition Assessment 2017
- Business Development Corporation of the Northern Panhandle:
  - $600,000 – U.S. EPA Coalition Assessment 2016
  - $300,000 – U.S. EDA Assistance to Coal Communities 2017
- City of Weirton:
  - $2,000,000 – U.S. EDA Assistance to Coal Communities 2017 (Pending)
    - *See letter indicating application request and match commitment*

Brownfields 2009 Assessment Grant Fact Sheet
Brooke-Hancock Regional Planning and Development Council, WV

EPA Brownfields Program

EPA's Brownfields Program empowers states, communities, and other stakeholders to work together to prevent, assess, safely clean up, and sustainably reuse brownfields. A brownfield site is real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. In 2002, the Small Business Liability Relief and Brownfields Revitalization Act was passed to help states and communities around the country cleanup and revitalize brownfields sites. Under this law, EPA provides financial assistance to eligible applicants through four competitive grant programs: assessment grants, revolving loan fund grants, cleanup grants, and job training grants. Additionally, funding support is provided to state and tribal response programs through a separate mechanism.

Community Description

The Brooke-Hancock Regional Planning and Development Council was selected to receive two brownfields assessment grants. Located in the northern panhandle of West Virginia, the Brooke-Hancock region (population 53,850) was nationally recognized for steel manufacturing from 1900 to 1981. The nationwide decline in steel manufacturing in the 1980s had a major impact on the region's economy. In 1960, there were nearly 30,000 employees in primary steel jobs. By 2007, there were fewer than 5,000. The median household income in Brooke and Hancock Counties has consistently been more than 20 percent below the national median income. The percentage of elderly residents has increased to 150 percent above the national average. Many brownfield sites in the counties are unsecured. Potential groundwater contamination and public health issues pose serious concerns for area residents. Brownfield assessments are expected to resolve uncertainties about contamination and facilitate site redevelopment.

Assessment Grants

$200,000 for hazardous substances

$200,000 for petroleum

EPA has selected the Brooke-Hancock Regional Planning and Development Council for two brownfields assessment grants. Community-wide hazardous substances grant funds will be used to conduct 12 to 14 Phase I and about 8 Phase II environmental site assessments. Petroleum funds will be used to conduct 10 to 12 Phase I and about 5 Phase II environmental site assessments. Grant funds also will be used to update an inventory of sites, conduct cleanup planning, and support community involvement activities.

Contacts

For further information, including specific grant contacts, additional grant information, brownfields news and events, and publications and links, visit the EPA Brownfields Web site (http://www.epa.gov/brownfields).

EPA Region 3 Brownfields Team
(215) 814-3129
EPA Region 3 Brownfields Web site
(https://www.epa.gov/brownfields/brownfields-and-land-revitalization-delaware-maryland-pennsylvania-virginia-west)

Grant Recipient: Brooke-Hancock Regional Planning and Development Council, WV
(304) 797-9666

The information presented in this fact sheet comes from the grant proposal; EPA cannot attest to the accuracy of this information. The cooperative agreement for the grant has not yet been negotiated. Therefore, activities described in this fact sheet are subject to change.

United States
Environmental
Protection Agency
Washington, DC 20450

Solid Waste
and Emergency
Response (5105T)

EPA 560-F-09-259
May 2009

FY17 Brownfields Grants - Selections

Region 3

Applicant Name	Type of Grant	Site Name	Approved Total Funding
Maryland			
Baltimore, MD	Assessment	Community-wide	$200,000
Pennsylvania			
Earth Conservancy, Hanover Township and Nanticoke, PA	Cleanup	Bliss Bank, Parcel E	$200,000
	Cleanup	Espy Run	$200,000
	Cleanup	Bliss Bank, Parcel F	$200,000
Greenville, PA	Assessment	Community-wide	$300,000
North Side Industrial Development Company, Allegheny County, PA	Assessment	Assessment Coalition	$600,000
Turtle Creek Valley Council of Governments, Allegheny County, PA	Assessment	Community-wide	$300,000
Washington County Redevelopment Authority, PA	Assessment	Community-wide	$300,000
Westmoreland County Redevelopment Authority, PA	Assessment	Assessment Coalition	$600,000
Virginia			
Bedford, VA	Assessment	Community-wide	$300,000
Industrial Development Authority of Halifax County, VA	Assessment	Assessment Coalition	$590,000
Norfolk, VA	Assessment	Community-wide	$300,000
Pulaski, VA	Assessment	Community-wide	$300,000
Roanoke, VA	Assessment	Community-wide	$200,000
West Virginia			
Bath, WV	Cleanup	Railroad Depot Complex (former CSX site - Lot 3)	$100,000
Brooke-Hancock Regional Planning and Development Council, WV	Assessment	Assessment Coalition	$600,000
Thomas, WV	Assessment	Community-wide	$200,000
Upshur County Commission, WV	Cleanup	Upshur County Youth Camp Tar Pit	$200,000
Vienna, WV	Cleanup	Former Johns Manville Site	$200,000
West Virginia Department of Environmental Protection, Rainelle and Rupert, WV	Assessment	Community-wide	$300,000

Brownfields 2016 Assessment and Cleanup Grant Fact Sheet

Business Development Corporation of the Northern Panhandle, Brooke and Hancock Counties, WV, and Jefferson County, OH

EPA Brownfields Program

EPA's Brownfields Program empowers states, communities, and other stakeholders to work together to prevent, assess, safely clean up, and sustainably reuse brownfields. A brownfield site is real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. In 2002, the Small Business Liability Relief and Brownfields Revitalization Act was passed to help states and communities around the country cleanup and revitalize brownfields sites. Under this law, EPA provides financial assistance to eligible applicants through four competitive grant programs: assessment grants, revolving loan fund grants, cleanup grants, and job training grants. Additionally, funding support is provided to state and tribal response programs through a separate mechanism.

Assessment Grant

$395,000 for hazardous substances

$205,000 for petroleum

EPA has selected the Business Development Corporation of the Northern Panhandle for a brownfields assessment coalition grant. Community-wide hazardous substances grant funds will be used to conduct 10 Phase I and seven Phase II environmental site assessments, and prepare five cleanup plans. Community-wide petroleum grant funds will be used to conduct seven Phase I and four Phase II environmental site assessments, and prepare three cleanup plans. Grant funds of both types also will be used to inventory and prioritize brownfields, and conduct community outreach activities. Assessment activities will be conducted in Brooke and Hancock Counties, West Virginia, and Jefferson County, Ohio. Coalition partners are the Jefferson County Port Authority and Brooke-Hancock-Jefferson Metropolitan Planning Commission.

Cleanup Grants

$158,500 for hazardous substances

EPA has selected the Business Development Corporation of the Northern Panhandle for two brownfields cleanup grants. Hazardous substances grant funds will be used to clean up the former Jimmy Carey Stadium property at Orchard Street and Virginia Avenue in Weirton, West Virginia, and the Lodge at the Williams property at 1000 Williams Drive in Weirton. The 8.7-acre Jimmy Carey Stadium property formerly housed school buildings, a football stadium, and school bus parking. It is contaminated with polycyclic aromatic hydrocarbons, metals, and inorganic contaminants. Grant funds also will be used to conduct community involvement activities and redevelopment planning. The Lodge at the Williams was formerly a residence and location for business accommodations, and is contaminated with metals and inorganic contaminants. Grant funds also will be used to conduct community involvement activities.

Contacts

For further information, including specific grant contacts, additional grant information, brownfields news and events, and publications and links, visit the EPA Brownfields Web site (http://www.epa.gov/brownfields).

EPA Region 3 Brownfields Team
(215) 814-3129
EPA Region 3 Brownfields Web site
(https://www.epa.gov/brownfields/brownfields-and-land-revitalization-delaware-maryland-pennsylvania-virginia-west)

Grant Recipient: Business Development Corporation of the Northern Panhandle, WV
(304) 748-5041

The information presented in this fact sheet comes from the grant proposal; EPA cannot attest to the accuracy of this information. The cooperative agreement for the grant has not yet been negotiated. Therefore, activities described in this fact sheet are subject to change.

United States
Environmental
Protection Agency
Washington, DC 20450

Solid Waste
and Emergency
Response (5105T)

EPA-560-F-16-038
May 2016

OCTOBER 11, 2017

MANCHIN ANNOUNCES MORE THAN $8 MILLION IN ECONOMIC DEVELOPMENT GRANTS FOR WEST VIRGINIA

Washington, D.C. – Today, U.S. Senator Joe Manchin (D-WV) announced $8,335,145 in funding from Economic Development Administration (EDA) to assist in economic development projects in Mingo, Braxton, Randolph, Kanawha, Monongalia, Marion, Hancock and Mercer Counties. The grants are estimated to impact 1,289 jobs and leverage $75,750,000 in private investments.

"The West Virginian economy is dependent on the availability and access to jobs at all skill-levels, and it's important to make sure all West Virginians have access to quality job opportunities," **Senator Manchin said.** "This federal investment will support job creation, technology and educational opportunities in our state and I look forward to seeing the positive impact in our economy, businesses and workforce."

Individual Awards Listed Below:

$2,500,000 – Randolph County Development Authority: to fund the expansion of an existing manufacturing plant in Randolph County, West Virginia. The plant is one of the county's largest employers and requires additional space to accommodate its growing manufacturing needs. Completion of the project will support the development and growth of the innovation cluster, create and retain jobs and promote initiatives that expand the competitiveness of the region.

$1,478,100 – Flatwoods Canoe Run Public Service District: to support the replacement and extension of a water line and related infrastructure in Braxton County, West Virginia devastated by the downturn in the coal industry. The

completion of this project will provide adequate water supply to local businesses in the area especially during an emergency, help retain jobs, attract new businesses to the area and promote initiatives that expand the competitiveness of the region.

$1,392,480 – Mingo County Redevelopment Authority and Mingo County Public Service District: to fund construction of a waterline to provide water services to the new Twisted Gun Gap development and the Hatfield-McCoy trail system in Mingo County, West Virginia. Once completed, the project will serve as a catalyst for enhancing the region's tourism cluster and for attracting new commercial and industrial development and job creation to the area. This investment will provide economic stability, diversification and strengthen the local economy.

$767,442 – Pierpont Community and Technical College: to fund the purchase of training equipment and provide staffing to support the expansion of the Aviation Program, at the Robert C. Byrd Aerospace Center, operated by the Pierpont Community and Technical College in Marion County, West Virginia. Completion of the project will increase staff and upgrade the equipment to current industry standards to double the graduating classes from the college and provide highly-skilled workers to the recently announced Bombardier expansion project. This investment will provide economic diversification, create jobs, and strengthen the local economy.

$750,000 – Center for Applied Research and Technology: to fund technical assistance to the new Bluefield Commercialization Station in Mercer County, West Virginia. This investment will provide high-tech industrial technical services and an incubator that will foster new business creation in the region. In addition, the funds will help to expand the production line of existing businesses, diversify the local economy, and create and retain jobs.

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$747,123 – West Virginia University: to fund the development of the West Virginia University LaunchLab Network to facilitate small business development and foster economic growth in Morgantown, West Virginia. The LaunchLab will provide students, local residents and small business owners with the opportunity to develop entrepreneurial skills and products that are not available in the traditional curriculum.

$400,000 – WV Coalition for Technology Based Economic Development: to support new programs to assist with the development of high-tech positions in the West Virginia region. The Tech Assist program will provide next-stage development guidance to a network of entrepreneurs and new businesses in the area. This investment will provide needed economic stability, development of high-tech positions and companies through a coordinated approach of services by the existing incubator/accelerator system, and the development of a larger regional private investment consortium that will ensure business and job sustainability into the future.

$300,000 – Business Development Corporation of the Northern Panhandle: to fund the creation of a Weirton Area Reuse Plan for repurposing, redeveloping, upgrading infrastructure, and attracting new investment to a former steel facility and underutilized industrial land in Hancock County, West Virginia. This reuse plan will provide strategic recommendations for pursuing manufacturing, infrastructure improvements and community revitalization initiatives to support the transformation of Weirton and the Northern Panhandle region.

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CITY OF WEIRTON
OFFICE OF THE CITY MANAGER

TRAVIS L. BLOSSER
CITY MANAGER

200 MUNICIPAL PLAZA
WEIRTON, WEST VIRGINIA 26062
TELEPHONE: 304-797-8503
FAX: 304-797-8598
CITYMANAGER@CITYOFWEIRTON.COM

Tracey Rowan
Economic Development Representative
U.S. Economic Development Administration
Philadelphia Regional Office
Robert N.C. Nix Federal Building
900 Market, Room 602
Philadelphia, PA 19107

July 24, 2017

RE: Letter of Support & Match Commitment for Assistance to Coal Communities

Dear Ms. Rowan,

On behalf of the City of Weirton, West Virginia, I write to urge you to support our application for grant funding from the United States Economic Development Agency through the Assistance to Coal Communities program. The City is seeking $1,000,000 in grant funding to support this regionally-significant business park. As part of our efforts to diversify and rebuild our economy in the wake of coal sector contractions and the continuing decline of steel, the City is committing $1,000,000 in matching funds for road construction as described in the master plan to open up new business, investment, and job opportunities in the Three Springs Business Park. The city has this $1,000,000 already available in an existing account from tax increment financing income.

This is an exciting opportunity for Weirton and the region. Transformative economic development projects of this magnitude come only come around once in a lifetime bringing with it sustained economic growth. It is our mission alongside our partners and Weirton's New Frontier Revitalization Task Force to make the necessary moves to diversify our local economy. Thank you for your consideration.

Sincerely,

Travis L. Blosser
City Manager

LETTERS OF COMMITMENT & SUPPORT

Weirton Area Revitalization Fund

- City Manager Travis Blosser, City of Weirton
- WV Senate Majority Leader and State Senator Ryan Ferns
- WV State Senator Ryan Weld
- WV State Delegate Mark Zatezalo
- Business Development Corporation of the Northern Panhandle
- Brooke Hancock Jefferson Metropolitan Planning Commission
- Northern WV Brownfields Assistance Center, West Virginia University
- WV Convention & Visitors Bureau
- Weirton Area Chamber of Commerce
- Frontier Group of Companies
- ArcelorMittal

CITY OF WEIRTON
OFFICE OF THE CITY MANAGER

TRAVIS L. BLOSSER
CITY MANAGER

200 MUNICIPAL PLAZA
WEIRTON, WEST VIRGINIA 26062
TELEPHONE: 304-797-8503
FAX: 304-797-8598
CITYMANAGER@CITYOFWEIRTON.COM

November 14, 2017

David Lloyd
Director, Brownfields & Land Revitalization
U.S. Environmental Protection Agency

The Honorable Cosmo Servidio
Regional Administrator
U.S. Environmental Protection Agency, Region 3

Re: The City of Weirton Supports the Weirton Area Revitalization Fund Application

Dear Regional Administrator Servidio and Director Lloyd,

I write on behalf of the City of Weirton to convey our strong support for the City's efforts to cleanup and revitalize polluted brownfields from decades of steel, coal, and manufacturing contamination with opportunities for new advanced manufacturing, jobs creation, and other community revitalization. I also urge you to provide the City of Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources and support for this necessary and transformative initiative.

The City of Weirton is working to repurpose, redevelop, upgrade infrastructure and attract new investment in brownfield sites across the City. I support the City of Weirton's brownfields cleanup because we hope to see our community's vacant and polluted sites redeveloped; as doing so will allow for success in pursing advanced manufacturing, infrastructure improvements and community revitalization initiatives that will transform the City of Weirton and the Northern Panhandle region.

That is why I'm supporting this project and I'm ready to be engaged with the City of Weirton's application for U.S. EPA Revolving Loan Fund resources to revitalize the city and the surrounding Weirton-Steubenville area. We intend to provide support from our Planning & Development Department and other resources that may be necessary for the management of this potential fund.

These resources are essential to enabling Weirton to move forward in addressing contamination and preparing deteriorating industrial sites for new economic opportunities in the Northern Panhandle of West Virginia. Thank you for your consideration.

Sincerely,

Travis L. Blosser
City Manager, City of Weirton

RYAN J. FERNS
SENATE MAJORITY LEADER

304-357-7918
RYAN.FERNS@WVSENATE.GOV

November 16, 2017

STATE CAPITOL, ROOM M-223
1900 KANAWHA BOULEVARD, EAST
CHARLESTON, WV 25305-0800

David Lloyd
Director, Brownfields & Land Revitalization
U.S. Environmental Protection Agency

The Honorable Cosmo Servidio
Regional Administrator
U.S. Environmental Protection Agency, Region 3

Re: Supports the Weirton Area Revitalization Fund Application

Regional Administrator Servidio and Director Lloyd,

I am writing to you on behalf of the City of Weirton to convey my strong support for its efforts to cleanup and revitalize its polluted brownfields. These areas suffer from decades of decay and contamination, as a result of the declination of the steel, coal, and manufacturing industries. This revitalization effort will allow for new opportunities in advanced manufacturing, jobs creation, and other community improvements, providing for a better quality of life for the residents throughout the area. I urge you to provide the City of Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources to support this necessary and transformative initiative.

As one of the district's two State Senators, I whole heartedly support the City of Weirton's brownfields cleanup efforts as I hope to see this community's polluted and vacated sites remediated and redeveloped. Some of these sites have been plaguing the community for many years. It is my belief that this initiative will spark vast economic revitalization and job creation. I applaud the City of Weirton for taking the initiative and critical steps necessary in making this a reality. Redevelopment of these areas will be a real game changer for the citizens of Weirton, the county and indeed the region.

These resources are essential to enabling Weirton to move forward in addressing contamination and preparing deteriorating industrial sites for new economic opportunities in the Northern Panhandle of West Virginia. Thank you for your consideration.

Sincerely,

Ryan J. Ferns

The Senate of West Virginia
Charleston

Ryan W. Weld
Marshall Wood
Clerk
Committee on Military

Senate Capitol, Room W-216
1900 Kanawha Blvd. East
Charleston, WV 25305-0904
304-357-7984

November 12, 2017

David Lloyd
Director, Brownfields & Land Revitalization
U.S. Environmental Protection Agency

The Honorable Cosmo Servidio
Regional Administrator
U.S. Environmental Protection Agency, Region 3

Re: Support for the Weirton Area Revitalization Fund Application

Regional Administrator Servidio and Director Lloyd,

I am writing to you on behalf of the City of Weirton to convey my strong support for its efforts to reclaim and revitalize its polluted brownfield sites which have suffered from decades of steel, coal, and manufacturing contamination. These efforts will allow for new opportunities for advanced manufacturing, job creation, and other much needed community revitalization. I also urge you to provide Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources to support this necessary and transformative initiative.

As both one of its State Senators and as someone who grew up in downtown Weirton, I have witnessed the severe decline of the City's downtown since the downfall and collapse of the steel industry over the past thirty years. Weirton has realized that in order to fully maximize on the opportunity to redevelop these brownfield sites and make them attractive to potential investors, it must take all the necessary steps to provide for their proper clean up and reclamation. As a result of its desire to be a steward of its environment, the City of Weirton is turning to you in order to provide them the support they will need to turn that desire into a reality.

Because of the challenges it faces, I am steadfastly supportive of Weirton's application for U.S. EPA Revolving Loan Fund resources that will help revitalize both the City of Weirton and the surrounding Weirton-Steubenville area. I have pledged to the City to continually be supportive of any efforts to obtain state-level funding, engage the West Virginia Department of Environmental Protection on behalf of the City, and facilitate discussions between Weirton and the West Virginia Department of Commerce to help identify potential developers and investors in a new, revitalized Weirton.

Should you have any questions or concerns regarding my strong support for Weirton's efforts, please do not hesitate to contact me at 304-670-6605 or at ryan.weld@wvsenate.gov.

Very Respectfully,

Ryan W. Weld

HOUSE OF DELEGATES
WEST VIRGINIA LEGISLATURE

BUILDING 1, ROOM 201E
1900 KANAWHA BLVD., EAST
CHARLESTON, WV 25305-0470
PHONE (304) 340-3120

MARK P. ZATEZALO
540 NORTH 12TH STREET
WEIRTON, WV 26062
Phone: 304-491-0957

Committees:
Vice-Chairman, Energy
Judiciary
Senior Citizens Issues
Small Business and Economic Development

November 13, 2017

David Lloyd, Director
Brownfields & Land Revitalization
U.S. Environmental Protection Agency

The Honorable Cosmo Servidio
Regional Administrator
U.S. Environmental Protection Agency, Region 3

Re: Support for the Weirton Area Revitalization Fund Application

Dear Regional Administrator Servidio and Director Lloyd,

I write as an elected official in the First District of the West Virginia and a resident of Weirton, to voice my strong support for the City of Weirton efforts to cleanup and revitalize polluted brownfields from decades of steel, coal, and manufacturing contamination with opportunities for new advanced manufacturing, jobs creation, and other community revitalization. I also urge you to provide the Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources to support for this necessary and transformative initiative.

The City of Weirton has seen its work force dwindle due to the demise of the steel industry in our area and the town's population has likewise dwindled as a result. The demise of the steel industry has resulted in the idling of some 1800 acres of mostly flat industrial property. We hope to rehabilitate the property and prepare to take advantage of opportunities in the emerging new manufacturing base that will be built around the resources available in the Marcellus Shale region. Weirton is centrally located in this region.

That is why I intend to fully support legislation to take advantage of our opportunity, bring idle industrial property back into productive use, and further the economic revitalization of the region, I hereby voice my total support of the City of Weirton's application for U.S. EPA Revolving Loan Fund resources to revitalize the city and the surrounding Weirton-Steubenville area.

These resources are essential to enabling Weirton to move forward in addressing contamination and preparing deteriorating industrial sites for new economic opportunities in the Northern Panhandle of West Virginia. Thank you for your consideration.

Sincerely,

Mark P. Zatezalo

Mark P. Zatezalo
Delegate, 1st District

prefers interim mail at home address

Business Development Corporation
of the Northern Panhandle

Phone: (304) 748 5041
Fax: (304) 914-4687
324A Penco Road
Weirton, WV 26062

November 15, 2017

Mr. David Lloyd, Director
Brownfields & Land Revitalization
U.S. Environmental Protection Agency

The Honorable Cosmo Servidio, Regional Administrator
U.S. Environmental Protection Agency, Region 3

Re: The Business Development Corporation of the Northern Panhandle Supports the Weirton Area Revitalization Fund Application

The Business Development Corporation of the Northern Panhandle (BDC) supports the City of Weirton's application for a USEPA Brownfields Cleanup Revolving Loan Fund. This fund will provide critical resources and support for this transformative initiative to repurpose brownfields for economic developm ent purposes in the Weirton Area. These brownfields have proven to be a formidable barrier to our economic recovery.

The loss of steel manufacturing and coal mining have negatively impacted the Weirton area. Many businesses have closed that were either directly related to the steel industry or were supported by the industry workforce. In the wake of these closures, have been abandoned buildings and sites with varying degrees of environmental contamination.

The BDC is working with the City of Weirton to repurpose vacant buildings and sites, upgrade infrastructure, and recruit new investment to the brownfield sites left in the wake of industry closures or downsizing To this end, the BOC has been the beneficiary, and applicant, of a USEPA Coalition Grant, a number of USEPA TBA and Cleanup Grants, and a USEDA Planning Grant to identify, assess, cleanup, plan, and repurpose brownfields. This revolving loan fund will provide strategic gap financing to secure industry prospects in the energy, chemical, value-added metals, transportation logistics, and healthcare industry clusters that have been emerging in the Weirton area.

Our board of directors is committed to creating a fertile environment for economic growth and prosperity and will continue to collaborate with our partners to develop sites for economic uses. We look forward to receiving a positive response to our request of USEPA, to maintain our momentum and trajectory, since our region's efforts began to repurpose brownfields almost 10 years ago.

Very truly yours,

BUSINESS DEVELOPMENT CORPORATION

Patrick B. Ford, Executive Director

BHJ-MPC
Brooke Hancock Jefferson
Metropolitan Planning Commission

www.bhjmpc.org
740-282-3685
Fax 740-282-1821

November 13, 2107

City of Weirton
Travis Blosser, City Manager
200 Municipal Plaza
Weirton, WV 26062

Dear Mr. Blosser,

The BHJ Metropolitan Planning Commission supports the City of Weirton's efforts to clean up and revitalize brownfields polluted by decades of integrated steel manufacturing. These efforts will create opportunities for new and resilient advanced manufacturing opportunities, creating new jobs and an overall community revitalization. To this end, the BHJ, through the Brooke-Hancock Regional Council, strongly recommends the city as a candidate for the USEPA Brownfields Cleanup Revolving Loan Fund.

BHJ MPC has been an active partner in administering the USEPA Coalition Assessment Grant, which has provided funding to the Business Development Corporation of the (WV) Northern Panhandle and the Jefferson County Port Authority to complete Phase I and II assessments. In addition, our work on the BHJ Brownfields Task Force puts the BHJ in a unique position to understand how the deterioration of these once-vital properties has plagued Weirton's economic and sociological health.

It is because of this intimate perspective that the BHJ strongly supports the City of Weirton's application for the USEPA Revolving Loan Fund, which we consider to be the next logical and essential step in repurposing contaminated industrial sites. The implementation of this fund will vastly improve both the environmental and economic health of the city and the Weirton-Steubenville metropolitan region. As evidence of our support, BHJ will assign staff time to the project through the continuation of our work on the Brooke-Hancock Regional Council, the BHJ Brownfields Task Force and additional meetings and research as necessary to support this endeavor.

We believe that the City of Weirton is ready and able to implement the added capacity a revolving loan fund would provide to address contamination and repurpose deteriorated industrial sites for new economic opportunities. It is our hope that the city's request will be funded and that BHJ will be able to assist in this important and timely endeavor.

Sincerely,

Michael Paprocki
Executive Director

124 North Fourth Street • Second Floor • Steubenville, Ohio 43952-4498

WestVirginiaUniversity
NORTHERN WEST VIRGINIA BROWNFIELDS ASSISTANCE CENTER

November 16, 2017

Travis Blosser, City Manager
200 Municipal Plaza
Weirton, WV 26062

Re: Northern WV Brownfields Assistance Center Supports the Weirton Area Revitalization Fund Application

Dear Mr. Blosser,

I write on behalf of the Northern WV Brownfields Assistance Center (NBAC) to convey our strong support for the City of Weirton efforts to cleanup and revitalize polluted brownfields from decades of steel, coal, and manufacturing contamination with opportunities for new advanced manufacturing, jobs creation, and other community revitalization. I also urge you to provide the Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources to support for this necessary and transformative initiative.

NBAC provides brownfield technical assistance throughout Northern West Virginia, helping community organizations and municipalities, such as the City of Weirton, to pursue and manage the redevelopment of brownfield sites. Because of the significant presence of industrial properties with materials remaining from the area's former steel manufacturing industry and groups in the community gaining capacity to manage brownfield cleanup projects, the proposed Weirton Area Revitalization Fund will be incredibly beneficial for the area and will help advance brownfield cleanup projects.

NBAC is engaged in redevelopment planning in the Weirton area and is ready to be engaged and supportive of the City of Weirton's application for U.S. EPA Revolving Loan Fund resources to revitalize the city and the surrounding Weirton-Steubenville area. We intend to provide support to the City of Weirton and local partners through project management assistance,

These resources are essential to enabling Weirton to move forward in addressing contamination and preparing hundreds of acres of deteriorating industrial sites for new economic opportunities in the Northern Panhandle of West Virginia.

Sincerely,

Patrick Kirby, Director

A PROGRAM OF THE WEST VIRGINIA WATER RESEARCH INSTITUTE
PO Box 6064
Morgantown, WV 26506-6064
304.293.6984 304.293.7822

Equal Opportunity/Affirmative Action Institution

Weirton
Area Chamber of Commerce

3174 Pennsylvania Avenue, Suite 1
Weirton, West Virginia 26062

Phone: 304-748-7212
Fax:304-748-0241
www.weirtonchamber.com
email: info@weirtonchamber.com

November 13, 2017

David Lloyd
Director, Brownfields & Land Revitalization
U.S. Environmental Protection Agency

The Honorable Cosmo Servidio
Regional Administrator
U.S. Environmental Protection Agency, Region 3

Re: Weirton Area Chamber of Commerce Supports the Weirton Area Revitalization Fund Application

Dear Regional Administrator Servidio and Director Lloyd,

I write on behalf of the Weirton Area Chamber of Commerce to convey our strong support for the City of Weirton's efforts to clean up and revitalize polluted brownfields from decades of steel, coal, and manufacturing contamination with opportunities for new advanced manufacturing, jobs creation, and other community revitalization. I also urge you to provide the City of Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources and support for this necessary and transformative initiative.

The Weirton Area Chamber of Commerce promotes, supports and encourages business in our city. "Business and professional people working together to make our community a better place for everyone to live and work" is our mission. It is imperative that we keep our community a viable place for businesses to grow and prosper. The Weirton Area Chamber of Commerce supports the City of Weirton's brownfields cleanup because they too want growth and prosperity for our city. For that to happen, our community's vacant and polluted sites must be redeveloped. By doing so, we believe that could spark new economic revitalization and job creation. These contaminated sites have been plaguing our community for years and we believe this redevelopment will enable our community to move forward in a positive manner thus supporting advanced manufacturing and the expansion that we desperately need.

That is why the Weirton Area Chamber of Commerce is ready to be engaged and supportive of the City of Weirton's application for U.S. EPA Revolving Loan Fund resources to revitalize the city and the surrounding Weirton-Steubenville area. We intend to provide support for this endeavor including participation in community input efforts; staff or in-kind resources; and whatever else may be needed from the Chamber of Commerce to make this endeavor a success.

These resources are essential to enabling Weirton to move forward in addressing contamination and preparing deteriorating industrial sites for new economic opportunities in the Northern Panhandle of West Virginia. Thank you for your consideration.

Sincerely,

Brenda L. Mull

Brenda L. Mull
President, Weirton Area Chamber of Commerce

Top of WV Convention and Visitors Bureau
PO Box 98, 3393 Main Street
Weirton, WV 26062

Office: 304-797-7001
Toll Free: 877-723-7114
Fax: 304-797-7009
Email: danny@topofwv.com
www.topofwv.com

Dan Greathouse, Executive Director

David Lloyd

Director, Brownfields & Land Revitalization

U.S. Environmental Protection Agency

The Honorable Cosmo Servidio

Regional Administrator

U.S. Environmental Protection Agency, Region 3

Re: Top of WV CVB Supports the Weirton Area Revitalization Fund Application

Dear Regional Administrator Servidio ,and Director Lloyd,

I write on behalf of the Top of WV Conventions and Visitors Bureau to convey our strong support for the City of Weirton efforts to clean up and revitalize polluted brownfields from decades of steel, coal, and manufacturing contamination. I urge you to provide Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources to support this initiative.

The Top of WV CVB, a tourism based organization, believes this is necessary to help us "reinvent ourselves" into a forward looking community that can attract new ideas to our economy. We need to make this a community clean of contamination that can attract millennials for homes, careers, and, or investment. We will be able to attract business people to invest in economic opportunities.

This is why the Top of WVCVB is ready to engage and support the City of Weirton's application for U.S. Revolving Loan Fund. We intend to provide support including participation in community input efforts. staff, or in-kind resources, and leveraged resources. The Top of WV CVB see' this as an opportunity for our area to "reinvent itself", and make us another success story for the EPA.

The resources are essential to enabling Weirton to move forward in preparing new sites for economic growth. Feel free to call me with any questions at anytime 304 374 1051

Dan Greathouse Director Top of WV CVB

MINGO JUNCTION STEEL WORKS

November 16, 2017

David Lloyd
Director, Brownfields & Land Revitalization
U.S. Environmental Protection Agency

The Honorable Cosmo Servidio
Regional Administrator
U.S. Environmental Protection Agency, Region 3

Re: Frontier Group of Companies Supports the Weirton Area Revitalization Fund Application

Dear Regional Administrator Servidio and Director Lloyd,

I write on behalf of Frontier Group of Companies to convey our strong support for the City of Weirton efforts to cleanup and revitalize polluted brownfields from decades of steel, coal, and manufacturing contamination with opportunities for new advanced manufacturing, jobs creation, and other community revitalization. I also urge you to provide the Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources to support for this necessary and transformative initiative.

Frontier Group of Companies is working to repurpose, redevelop and attract new investment in the Weirton Area. We support this brownfield cleanup grant as it will position the region to effectively compete for foreign and domestic investment. As doing so, we believe it could spark new economic revitalization and job creation.

That is why Frontier Group of Companies is ready to be engaged and supportive of the City of Weirton's application for U.S. EPA Revolving Loan Fund resources to revitalize the city and the surrounding Weirton-Steubenville area. We intend to provide support including participation in community input efforts; staff or in-kind resources; and whatever else may be needed from the Frontier Group of Companies.

These resources are essential to enabling Weirton to move forward in addressing contamination and preparing deteriorating industrial sites for new economic opportunities in the Northern Panhandle of West Virginia. Thank you for your consideration.

Sincerely,

s/ David P. Franjoine
David Franjoine
Managing Member, Frontier Group of Companies

ArcelorMittal

David Lloyd
Director, Brownfields & Land Revitalization
U.S. Environmental Protection Agency

The Honorable Cosmo Servidio
Regional Administrator
U.S. Environmental Protection Agency, Region 3

Date: November 15, 2017
Re: ArcelorMittal Supports the Weirton Area Revitalization Fund Application

Dear Regional Administrator Servidio and Director Lloyd,

I write on behalf of ArcelorMittal Weirton to convey our strong support for the City of Weirton's efforts to cleanup brownfields and provide opportunities for new advanced manufacturing, job creation, and other community revitalization. I also urge you to provide the City of Weirton with the U.S. EPA Brownfields Cleanup Revolving Loan Fund grant to provide critical resources to support this necessary and transformative initiative.

ArcelorMittal operates a tin plate operation located on the northern panhandle of West Virginia along the Ohio River in the city of Weirton, and the facility remains a large employer in Weirton, with nearly 900 employees. Earlier this year, ArcelorMittal closed on the sale of approximately 1,000 acres of property in Weirton to a development company. With this sale, we achieved our goal of finding a purchaser with extensive experience in redeveloping industrial sites into productive re-uses that benefit the city and region.

We believe that the Weirton Area Revitalization plan, with U.S. EPA Revolving Loan Fund resources, will be able to leverage the momentum of this transaction and spark new economic revitalization in the city.

ArcelorMittal is committed to being an active and welcomed member of the Weirton business community and we will continue to engage with the City of Weirton, along with other businesses and stakeholders, in support of these efforts.

Thank you for your consideration.

Sincerely,

Brian James
General Manager, ArcelorMittal Weirton

RLF THRESHOLD CRITERIA

Weirton Area Revitalization Fund

1. Applicant Eligibility: The City of Weirton is a unit of municipal government, a political subdivision under the laws of the State of West Virginia.

2. Description of Jurisdiction: The city limits of the City of Weirton, West Virginia.

3. Oversight Structure and Legal Authority to Manage a Revolving Loan Fund:

a. **Description of Cleanup Oversight:** The City of Weirton and its partners will build on their significant shared experience in managing EPA-funded brownfield efforts since 2009, including specific oversight standards, protocols, and collaboration with site owners, to ensure effective and efficient oversight of brownfield cleanups by loan and subgrant recipients. Oversight will include:

   i. **State Voluntary Cleanup Program:** Weirton will require in most, if not all cases, that loan or subgrant recipients to enroll their sites into the West Virginia Department of Environmental Protection's (DEP) Voluntary Remediation Program (VRP) to ensure an adequate Remedial Action Workplan and adequate cleanup that will be protective of human health and the environment. Some of the brownfield sites for which the City expects to utilize RLF funding are already in the WVDEP VRP.

   ii. **Environmental Professionals & Contractual Technical Review:** Weirton intends to procure environmental professionals (known under the WVDEP VRP program as "Licensed Remediation Specialists") as appropriate to advise program managers when evaluating and supervising sites where RLF funds are directed, so to ensure effective cleanups. These professionals will serve in an independent, third-party review capacity to evaluate the technical proposals for loans and subgrants and advise the Weirton Area Revitalization Fund Review Board. As Weirton seeks to obtain technical expertise for its RLF brownfields support and technical review, such individuals and firms will be procured competitively in accordance with local, state, and federal regulations.

   iii. **WVDEP & U.S. EPA Region 3 Collaboration:** The WVDEP is fully committed to supporting Weirton's brownfields revitalization efforts and will provide the necessary

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support and assistance to assess, remediate, and redevelop identified properties into productive new uses. Weirton and its partners have experience collaborating with and coordinating with U.S. EPA Region 3 as a partner with the BDC and will continue to do so as appropriate to ensure compliance and best practices.

iv. **Partnership with the West Virginia Brownfields Assistance Center:** The Northern WV Brownfields Assistance Center at West Virginia University in Morgantown, established and supported by the WV State Legislature and WVDEP, is renowned for its quality technical assistance to communities on brownfields initiatives. Weirton and the Business Development Corporation of the Northern Panhandle (BDC) have a strong relationship with the Northern Brownfields Assistance Center, and BDC's Pat Ford currently serves as co-chair as well, bringing expertise and regional knowledge.

b. **Legal Opinion by Municipal Counsel:** Please see the attached legal opinion from the City of Weirton's City Attorney, Vincent S. Gurrera, Esq., describing how Weirton has legal authority to access and secure sites in the event of an emergency or default of a loan agreement or non-performance under a subgrant; and how it has legal authority to perform the actions necessary to manage a revolving loan fund, including the ability to hold funds, make loans, enter into loan agreements, and collect repayments.

4. Cost Share: The City of Weirton is fully prepared to provide the required $200,000 cost share (20%) for the requested $1,000,000 EPA Brownfields RLF grant. Please see the attached letter.

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CITY OF WEIRTON OFFICE OF CITY ATTORNEY
200 MUNICIPAL PLAZA WEIRTON, WV 26062
TELEPHONE: 304-723-3861 FAX: 304-723-3871
EMAIL: gurreralaw@comcast.net

November 15, 2017

Honorable Travis L. Blosser, City Manager
City of Weirton, WV
200 Municipal Plaza
Weirton, WV 26062

Re: Legal Opinion with respect to City of Weirton, WV's EPA Brownfields Cleanup Revolving Loan Fund Grant Application

Dear City Manager Blosser:

I serve as municipal counsel to the City of Weirton, WV ("City"), and this legal opinion is offered in such capacity.

The City is submitting an application to the U.S. Environmental Protection Agency ("EPA") for a Brownfields Cleanup Revolving Loan Fund Grant ("RLF Grant"). The City has request that, in support of its application, I provide my legal opinion as to the following matters:

1. That the City has legal authority to access and secure sites in the event of an emergency or default of a loan agreement or non-performance under a subgrant; and

2. That the City has legal authority to perform the actions necessary to manage a revolving loan fund, including the legal authority to hold funds, make loans, enter into loan agreements, and collect payments.

In connection with the legal opinions set forth below, we have examined such matters of law and such published copies of provisions of state and local government constitutions, statutes, charters, and ordinances ("Applicable Laws") as we have considered appropriate for the purpose of rendering such opinions.

The legal opinions set forth below are subject to the assumptions that (i) all copies of Applicable Laws examined by us conform with the originals thereof; and (ii) the City will, in each instance, follow through on its intention reference below and in fact require each and every loan or subgrant recipient to contractually authorize the City and its representatives to: (a) access, inspect, and secure and site; and (b) take appropriate actions to abate or rectify any emergency

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condition, refer the site to appropriate state or federal authorities, or contract for completion of performance contemplated under a loan or grant at the borrower's or subgrantee's expense.

The power and authority of the City, as a political subdivision of the State of West Virginia, derive from three sources – the State's Constitution, the statutory provisions of the West Virginia Code, and the City's Charter.

The Constitution and statutes of West Virginia provide broad power and authority to municipalities, particularly under the following provisions regarding home rule. Section 39(a) of Article VI of the West Virginia Constitution, entitled *Home Rule for Municipalities*, provides as follows, in pertinent part (emphasis added):

> **§39(a)** Under such general laws, the electors of each municipal corporation, wherein the population exceeds two thousand, shall have power and authority to frame, adopt, and amend the charter of such corporation, or to amend an existing charter thereof, and through its legally constituted authority, may pass all laws and ordinances relating to its municipal affairs.

The City's Charter was amended subsequent (as recently as 2015) to its ratification in [1970] of Section 39(a) of Article VI of the WV Constitution, thereby establishing the City's power and authority to pass all laws and ordinances relating to municipal affairs that are not inconsistent with or in conflict with the Constitution or the State's general laws.

Section 8-12-2 of the West Virginia Code expounds upon the home rule powers provided under the State Constitution as follows, in pertinent part (emphasis added):

§8-12-2. Home rule powers for all cities.

(a) In accordance with the provisions of the "Municipal Home Rule Amendment" to the constitution of this state, and in addition to the powers and authority granted by (i) such constitution, (ii) other provisions of this chapter, (iii) other general law, and (iv) any existing charter, any city shall have plenary power and authority by charter provisions not inconsistent with or in conflict with such constitution, other provisions of this chapter or other general law, or by ordinance not inconsistent or in conflict with such constitution, other provisions of this chapter, or other general law or any existing charter, to provide for the government, regulation and control of the city's municipal affairs, including, but not limited to, the following:

. . .

(2) The transaction of the city's business

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. . .

(9) The government, protection, order, conduct, safety and health of persons or property therein;

(10) The adoption and enforcement of local police, sanitary, and other similar regulations.

Sections 8-12-1 and 8-12-5 of the West Virginia Code further specify particular power and authority granted municipalities, and Section 8-1-7 of the Code clarifies that a municipality's power and authority are not limited to those expressly enumerated, as follows, in pertinent part (emphasis added):

§8-12-1. General corporate powers of all municipalities.

Except as otherwise provided in this chapter, every municipality shall have plenary power and authority:

. . .

(2) To contract and be contracted with;

. . .

(5) To take by gift, donation, grant, bequest or devise and to hold and administer, real or personal property within or without the corporate limits of the municipality, absolutely, in trust or otherwise, for any public, charitable, or municipal purpose, and to do all things necessary, useful, convenient or incidental to carry out the purpose of such gift, donation, grant, bequest, devise or trust, and to manage, sell, lease, or otherwise dispose of the same in accordance with such terms and conditions as may be prescribed by the donor, grantor or testator and accepted by the municipality.

§8-12-5. General powers of every municipality and the governing body thereof.

. . . every municipality and the governing body thereof shall have plenary power and authority therein by ordinance or resolution, as the case may require, and by appropriate action based thereon:

. . .

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(13) To prevent injury or annoyance to the public or individuals from anything dangerous, offensive or unwholesome;

. . .

(23) To provide for the elimination of hazards to public health and safety and to abate or cause to be abated anything which in the opinion of a majority of the governing body is a public nuisance;

. . .

(44) To protect and promote the public morals, safety, health, welfare and good order.

§8-1-7. Construction of powers and authority granted.

(a) The enumeration of powers and authority granted in this chapter shall not operate to exclude the exercise of other powers and authority fairly incidental thereto or reasonably implied and within the purposes of this chapter or in accordance with the provisions of the Municipal Home Rule Amendment to the constitution of this state, the powers and authority granted by such constitution, other provisions of this code and any existing charter. The provisions of this chapter shall be given full effect without regard to the common-law rule of strict construction and particularly when the powers and authority are exercised by charter provisions framed and adopted or adopted by revision of a charter as a whole or adopted by charter amendment under the provisions of this chapter.

The City's Charter further specifies its power and authority:

SECTION 3. - POWERS GENERALLY.

The City shall have all the powers now or hereafter granted to municipal corporations and to cities by the constitution and general law of the State of West Virginia, together with all such implied powers as may be necessary to perform its Municipal purpose and its granted powers, including, but without limiting the generality of this section, the power to acquire, hold, manage, control, mortgage, lease and dispose of real and personal property or any interest therein, to accept gifts, bequests and devises, to sue and be sued in its corporate name, to make and perform contracts, to levy taxes, fees and special assessments, to issue bonds, notes and other obligations, to exercise the powers of eminent domain and condemnation and, in general, to exercise all Municipal powers, functions, rights, privileges and immunities of whatsoever name and nature. The enumeration of particular powers, functions, rights, privileges and immunities in this Charter shall not be deemed to be exclusive, but on the contrary it is intended that the City shall have and may, for proper Municipal purposes, exercise all such powers, functions,

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rights, privileges and immunities which, under the Constitution and general laws of the State, it would be proper to set forth in this Charter, including all powers, rights, privileges and immunities which the City now has under its existing legislative Charter.

The City Code also provides authority to the City to abate conditions detrimental to the public health (emphasis added):

ARTICLE 1783 – BUILDING ENFORCEMENT AGENCY

1783.02 – AUTHORITY.

The Building Enforcement Agency, acting by majority vote, shall have the power and authority to require the repair, alteration or improvement, or the vacating and closing or removal or demolition, of any combination thereof, or any dwelling or other building situated in the city which is unfit for human habitation in accordance to standards set in the state building code or city ordinances due to dilapidation, defects increasing the hazard of fire, accidents or other calamities, lack of ventilation, light or sanitary facilities, or any other conditions prevailing in any dwelling or other building, whether used for human habitation or not, which would cause such building to be unsafe, unsanitary, dangerous or detrimental to the public safety or welfare.

1783.03 – RIGHT OF INSPECTION.

The Building Enforcement Agency shall have the right and authority through either its members or duly authorized agents, to enter any dwelling or building for the purpose of making an inspection or examination which may be necessary in order for such Agency to determine whether such dwelling or building is unfit for human habitation, unsafe, unsanitary, dangerous or detrimental to the public welfare; provided, 1) that any entrance upon the premises for the purpose of making an examination or inspection as provided herein shall be made in such a manner as to cause the least possible inconvenience to the person in possession, 2) that is such building is occupied, the Agency or designee shall first present proper credentials and request entry and 3) that if such building is unoccupied, the Building Enforcement Agency or designee shall first make a reasonable effort to locate the owner or other persons having charge or control of the building and request entry.

1783.04 – NOTICE OF UNFITNESS.

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If, after proper investigation and such hearings as the Building Enforcement Agency may deem necessary, the Agency determines that a dwelling or other building, or portion thereof, in accordance to standards set in the state building code is unfit for human habitation, unsafe, unsanitary, dangerous or detrimental to the public welfare, the Agency shall cause notice to be issued, and served on the owner or person in charge of such dwelling or other building, advising him of the Agency's findings, and instructing him to take such action, either by repairing, closing or demolishing such dwelling or building, as the Agency deems necessary in the interest of the public welfare.

1783.09 – FAILURE TO COMPLY WITH ORDER.

In the event of the failure of an owner or person in charge of any dwelling or other building to comply with the terms and requirements of any notice or order of the Building Enforcement Agency within 20 days after the service or entry thereof, except where a proper request has been made for a hearing and the matters arising thereon remain undetermined, the Building Enforcement Agency may cause all necessary repairs, alterations or improvements to be made, or, if the public welfare requires, may cause the dwelling or building to be closed, removed or demolished. Provided, however, that the Building Enforcement Agency may extend the period for compliance with the terms and requirements of any notice which it may issue or order which it may enter, upon receipt of written request from the owner or person in charge of any building or other dwelling and proper showing by such owner or other person that he is unable, because of circumstances over which he has no control, to comply with the terms and requirements of such notice or order within such 20-day period.

Further (emphasis added):

1101.03 – INSPECTORS; ENFORCEMENT OF CODE; RIGHT OF ENTRY

Each inspector, examiner or other person appointed by the Health Officer shall act as a representative of the Health Officer and, under his direction, shall secure the enforcement of the provisions of the public health laws and regulations, and shall have the right of entry into any workshop, public school, factory, dairy, creamery, slaughterhouse, hotel or other place of business or employment or any common carrier or public utility, when in the discharge of his official duties.

Statutory reference:

Authority to protect and promote public health, see W.Va. Code §8-12-5 (23,44)

Authority to contract for health services, see W.Va. Code §16-2-5

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Notwithstanding such provisions and the ability thereunder of the City to inspect property, enter property, and abate conditions that nuisances that are unsafe, dangerous, or detrimental to the public health or welfare, we advise the City, and the City has expressed its intention, to require each loan or subgrant recipient to contractually authority the City, its officials, employees, agents, and contractors to: (i) access, inspect, and secure any site; and (ii) take appropriate actions to abate or rectify any emergency condition, refer to site to appropriate state or federal authorities, or contract for completion of performance contemplated under a grant or loan at the borrower's or subgrantee's expense. We believe that contractual rights to take such actions will facilitate prompt and efficient action and responses.

Based upon the foregoing, subject to the assumptions set forth herein, and with respect to any City Brownfields Cleanup Revolving Loan Fund Grant that may be granted to the City pursuant to its application to EPA, we render the following legal opinions:

1.) **The City has, or will have at the time any loan or subgrant is made, legal authority to access and secure sites in the event of an emergency or default of a loan agreement or non-performance under a subgrant; and**

2.) **The City has, or will have at the time any loan or subgrant is made, legal authority to perform the actions necessary to manage a revolving loan fund, including the legal authority to hold funds, make loans, enter into loan agreements, and collect payments.**

The legal opinions expressed herein concern only the laws of the State of West Virginia and the City of Weirton, WV, as currently in effect. This legal opinion is being delivered to U.S. EPA for its sole benefit, in order that EPA may rely upon our opinion in considering the Brownfields Cleanup Revolving Loan Fund Grant application being submitted by the City, and to which is legal opinion is attached, and no other person or entity is entitled to rely hereon. The legal opinions expressed in this letter are limited to the matters set forth in this letter, and no other opinions should be inferred beyond the matters expressly stated.

Cordially yours,

Vincent S. Gurrera, Esq.
City Attorney
City of Weirton, WV

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CITY OF WEIRTON
OFFICE OF THE CITY MANAGER

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November 16, 2017

Re: Statutory Cost Share for Weirton Area Revitalization Fund

The project budget, as listed in Section 2.b.ii of the application narrative describes a total project cost of $1.2 million, which is inclusive of the matching $200,000 from the City of Weirton. The City of Weirton will provide the required statutory cost share from its municipal budget, as described in Section 2.b.i of the application narrative. This funding is secured and available upon award of the revolving loan fund grant. The breakdown of the cost share by task is described in the task descriptions and listed below for reference:

- Task 1: Project Management: $18,000
- Task 2: Marketing & Promotion: $12,000
- Task 3: Manage Fund: $31,500
- Task 4: Oversight & Evaluation: $33,500
- Task 5: Allocation of Loans & Subgrants: $105,000

For additional details, please refer to Section 2.b.i of the application narrative.

This is an exciting opportunity for Weirton and the region. Transformative economic redevelopment projects of this scale come around once in a lifetime and require thoughtful and detailed planning. We hope that with this funding and our partnerships in the region, this can be a successful and sustainable revitalization.

Thank you for your consideration,

Travis L. Blosser
City Manager
City of Weirton