Appointment

From: Bolen, Derrick [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1FFC58B0468C4DECA51A8BAD735B7D95-BOLEN, DERR]
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Subject: EPA Options Under FIFRA for Gene-Edited PIPs
Attachments: Option Comparisons gene editing prebrief (004) version 03 06 2018.pptx
Location: DCRoomEast3156/DC-EPA-EAST-OCSPP (Call in Number Ex. 6, Access code Ex. 6

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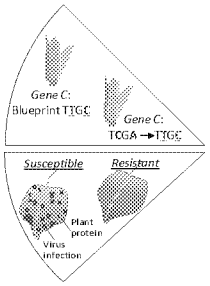
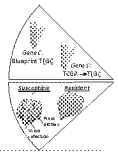


Option Comparisons

"LIGHTER TOUCH" APPROACHES TO PRECISION BREEDING GENE-EDITED PIPS

Why Consider Lighter Touch?



Risk/benefit equation suggests that precision breeding gene-edited PIPs could merit a lighter FIFRA regulatory touch

- While we cannot argue that no PIP occurring naturally in food plants could present risk, risks associated with substances that occur naturally in food plants are well known and procedures to mitigate such risks widely practiced (basis for current exemption at 174.25)

Development and use of such PIPs could result in reduced reliance on broader spectrum chemical pesticides

OPP can focus limited resources on regulating higher risk pesticides rather than low risk PIPs

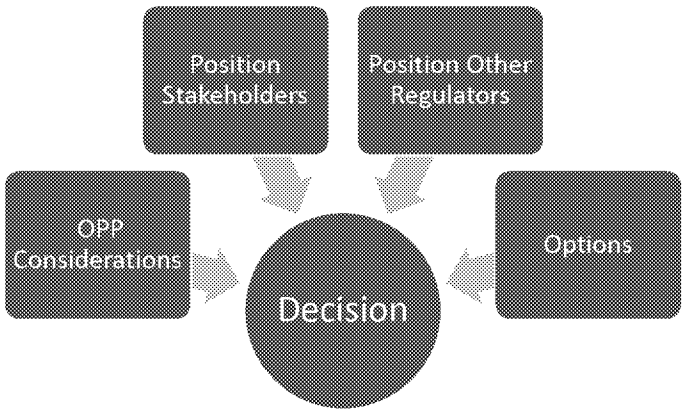
Lower regulatory costs could mean smaller entities, e.g., academics, could develop and bring low risk pesticides to the market, providing additional tools to farmers where control options are few

- E.g., for use on minor crops, for control of bacterial, fungal or viral disease

Greater clarity/predictability for stakeholders

- Confusion over product status
  - Relying solely on the text at 174.25, and ignoring both qualifying definitions and the rulemaking record, some in the regulated community argue that the exemption at 174.25 covers gene-edited PIPs identical to what could occur through conventional breeding

Organization of Briefing



"Light Touch" Options

Light Touch Registration

- Fewer human health and non target information than required for typical PIP registration
- Liberal use of waivers
- PRIA dictated review times and fees, and maintenance fees. Fee waivers as possible

Exemption with Notification

- Notification demonstrating that product meets conditions of exemption
- No PRIA dictated review times, no PRIA or maintenance fees
- No requirements other than adverse effects reporting requirement placed on all PIP exemptions

Full Exemption

- No PRIA dictated review times, no PRIA or maintenance fees
- No notification
- No requirements other than adverse effects reporting requirement placed on all PIP exemptions

What Could a Notification Process Entail?

Notification process could ensure that the PIP meets the exemption criteria

Person who intends to test under EUP or sell or distribute a precision breeding gene-edited PIP would notify EPA of their intent

Notification could contain following information elements

- A signed statement certifying the accuracy of the notification made by the submitter that the PIP meets the exemption criteria
- Explanation of how the PIP meets the exemption criteria

Within a specified timeframe EPA would notify the submitter in writing whether the PIP meets the exemption criteria, e.g.,

- Within 90 days

Options: Broad Description

	Light Touch Registration	Exemption + Notification	Full Exemption
Process	PRIA	Notification to OPP	None
Timing	12-15 months	3 months	None
PRIA Fees	Base fee of $155,000 –319,000; discretionary fee reduction of 75% of base fee for small businesses	None	None
Maintenance Fees	Fee varies yearly; for 2018 - $3,512/pesticide; discretionary 25% reduction for small businesses (first registration only)	None	None
Information to EPA	Limited information set	Limited information set	None
EUP Needed?	Possible - EUP for gathering field data to support registration	No	No
Developer Receives	Registration	Letter	Nothing
Applicable FIFRA section	3	25(b)(2)	25(b)(2)

Example Potential Information/Data Sets

Light Touch Registration	Notification
Sequence information Expression levels characterization of expressed substance BLAST analysis for allergenicity and/or toxicity Spectrum of pesticidal activity Biology of the plant (e.g., gene flow potential)	Sequence information Expression levels characterization of expressed substance BLAST analysis for allergenicity and/or toxicity Spectrum of pesticidal activity Biology of the plant (e.g., gene flow potential)

Data: Light Touch vs Standard PIP Registration

Light Touch Registration	Standard Registration
Sequence information Expression levels Characterization of expressed substance BLAST analysis for allergenicity and/or toxicity Spectrum of pesticidal activity Biology of the plant (e.g., gene flow potential)	Sequence information Expression levels Characterization of expressed substance BLAST analysis for allergenicity and/or toxicity Spectrum pesticidal activity Biology of plant (e.g., gene flow potential) Acute oral toxicity (rodent) Avian oral and dietary toxicity Freshwater fish and invertebrate toxicity Estuarine and marine animal toxicity Honey bee toxicity (larva and adult) Arthropod toxicity Degradation rates Field persistence Gene flow potential Weediness potential Effects on non-target plants IRM plan

Relative Effectiveness in Addressing Important Considerations

OPP Considerations

Consideration	Registration	Notification	Full Exemption
Effectively circumscribe exempt PIPs	NA	***	*
Adequately address off-target effects	****	**	?
Adequately address other effects	****	**	?
Maintain consumer confidence	****	**	*
Fit into international trade practices	****	***	- ?
Facilitate development of pest resistant varieties	*	***	****
Reduce BPPD work load	-?	**	****

Status: US Regulatory Agencies

Status US Regulators

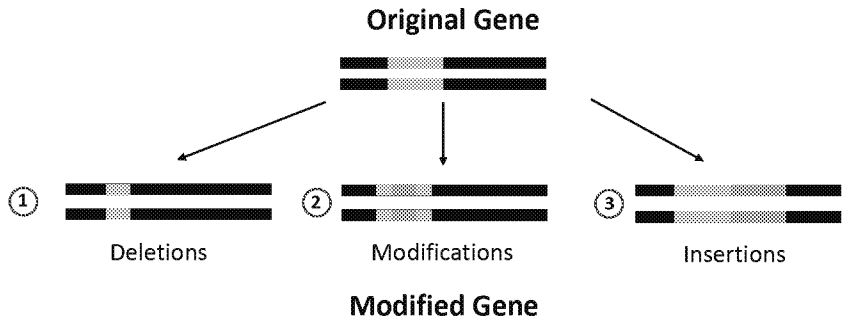
Agency	Position
EPA OPP	Subject to regulation at this time; studying issue
EPA OPPT	Probably no action needed on microbial regulations
FDA	Subject to voluntary 1992 policy statement; RFI issued 01/2017; Evaluating comments and considering options; best estimate few years away; FDA standard - needs to be as safe as what is on the market
USDA-APHIS	●In 1987 USDA issued regulations basing scope on use of plant pest parts; Recently, developers requested USDA opinion on whether 6 gene-edited products were subject to USDA's regulations – Reduced phytate corn, high oleic acid soybean, waxy corn, leaf blight resistant rice, non-browning mushroom, powdery mildew resistance wheat, were not subject because no plant pest parts were involved and the products were "null segregants" ●In 01/2017 proposed new regulations based on Plant Pest and Noxious Weed authorities exempting certain gene-edited plants identical to plants found in members of a sexually compatible population (e.g., exempt deletions and single base pair modifications); Proposal withdrawn 11/2017

Domestic Stakeholder Positions

Stakeholder Positions

Ex. 5 Deliberative Process (DP)

Types of Changes that Can be Produced by Gene-Editing Techniques



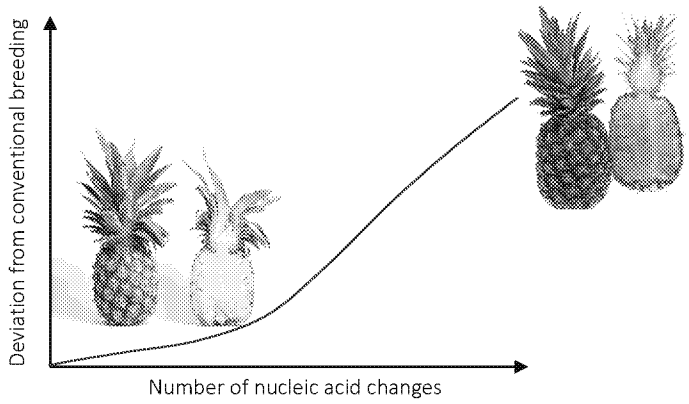
Status: Country Positions

Other Regulator Positions

Country	Status	Consultation	Deletion	Modification	Insertion
Argentina	final	yes	Not regulated	Not regulated	Regulated
Chile	final	yes	Not regulated	Not regulated	Regulated
Israel	final	yes	Not regulated	Not regulated	Regulated
Australia	proposed	yes	Not regulated	Assessment	Regulated
Norway	proposed		Not regulated	Assessment	Regulated
BPPD proposed	Under review	yes	Exempt	Assessment	Regulate
Can occur in conventional breeding			**yes**	**maybe**	**no**

Range of Gene Modifications Possible

From identical to what exists naturally in the plant and/or close relatives (precision breeding) to novel



Status: Other Countries

Other Regulator Positions

Action	Country
Regulating	Paraguay
Updating regulations	South Korea (new regulations likely)
Case-by-case decisions	Canada, Japan, Spain, Switzerland, Brazil
Awaiting decision from higher authority	EU member countries awaiting determination by the European Court of Justice
EU countries that have made case-by-case decisions	Germany, Finland, Sweden

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Shaping the Future: OPP Biotechnology Challenges

STRATEGY GOING FORWARD

DECEMBER 21, 2017: GE INSECTS AND OTHER ANIMALS FOR POPULATION CONTROL

JANUARY 23, 2018: GENE-EDITED PIPS

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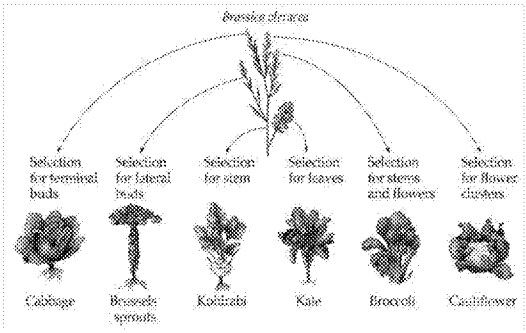
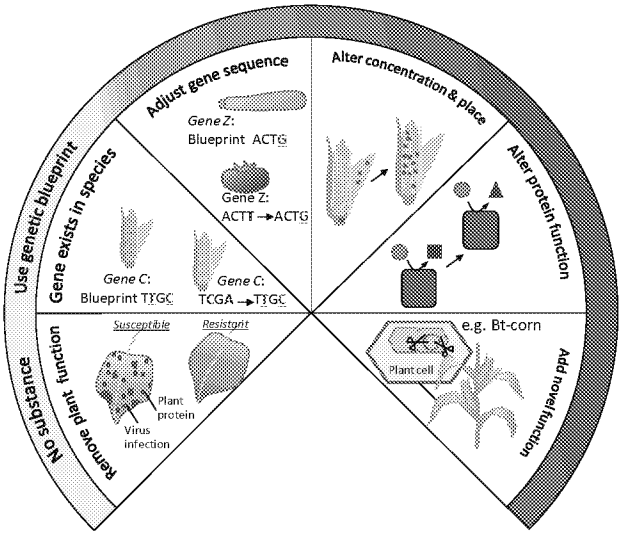
Goal of Briefing: Select Path Forward for "Precision Breeding" Gene-Edited PIPs

"Precision breeding gene-edited PIPs" = gene-edited PIPs that are like those that could occur in conventional breeding in sexually compatible plant populations

Conventional Breeding	Gene-Editing
Breeders assemble desired traits from different but closely related plants into a new cultivar using the techniques of cross fertilization followed by selection. Using these techniques the breeder moves genetic information amongst plants in a sexually compatible population to obtain a cultivar that expresses the desired genetic information Conventional breeding involves the creation of progeny through naturally-occurring processes such as pollination Plants that can produce progeny through such processes form a sexually compatible population	Cheaper, faster, more targeted methods of modifying genomes "Using CRISPR to add—or remove—a plant trait is **faster, more precise, easier**, and in most cases **cheaper** than either traditional breeding techniques or older genetic engineering methods. Although scientists can use CRISPR to add genes from other species to a plant, **many labs are working to exploit the vast diversity of genes that exists within a plant species.** In fact, enhancing many of the most valued traits in agriculture doesn't require adding DNA from other species." https://pen.ag.org/articles/03/124/CRISPR-new-toolbox-better-crops.html

Gene-Editing vs Conventional Breeding





What Science Underlies Genetic Engineering Techniques?

All organisms have the information needed to run their life processes

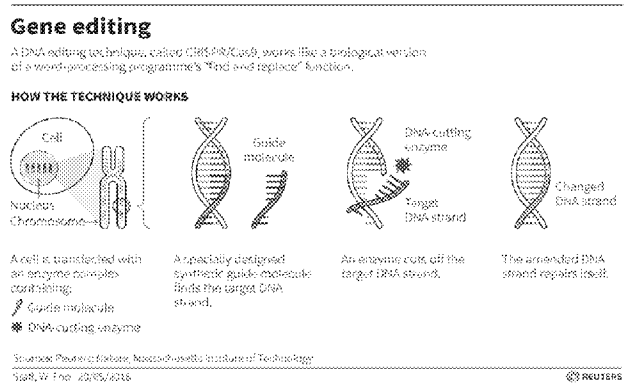
- E.g., Respiration, digestion, reproduction, development, repair, defense

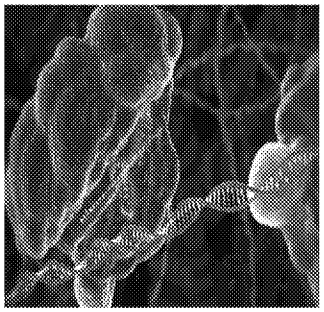
This information is encoded in 4 bases, called nucleotides, which can be thought of as an alphabet. The sequence in which the 4 bases are strung together encodes information much like sentences do, and the whole of the information possessed by the organism, can be thought of as a book

Because all organisms on Earth encode genetic information in the same way, information from one organism can be moved into the genome of another organism

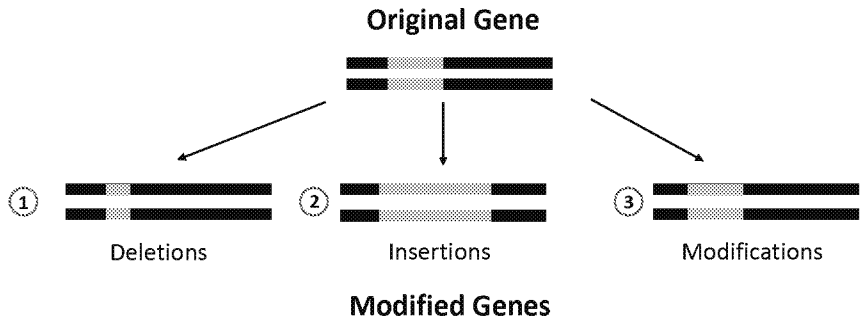
- E.g., the genetic material for producing the insecticidal protein "Bt" can be moved from the bacterium, *Bacillus thuringiensis*, into the genome of a plant such as corn or cotton, where the protein continues its insecticidal function
- Once the Bt encoding genetic material is stably integrated into the plant genome, the insecticidal protein can be produced for as long as the plant lives; the modified plant's subsequent progeny inherit the genetic material and the ability to produce the insecticidal protein

How Does Gene-Editing Work?

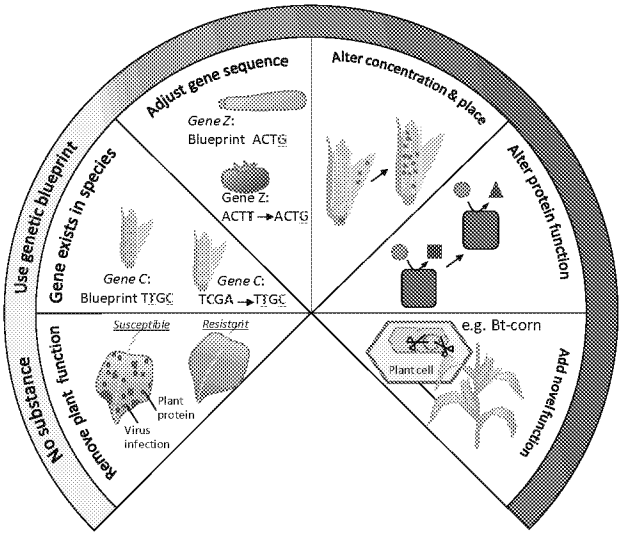




Types of Changes that Can be Produced by Gene-Editing Techniques



Gene-Editing: Range Possible Products



What is a PIP?

OPP regulates pesticides under FIFRA and pesticide chemical residues under FFDCA 408

For genetically engineered crops, EPA considers the pesticide to be any substance in the plant used for a pesticidal purpose and the genetic material necessary to produce the pesticidal substance

- EPA does not regulate the plant per se

This pesticide is referred to as a "plant-incorporated protectant" or a "PIP"

- Under 40 CFR 174, a PIP is a "pesticidal substance that is intended to be produced and used in a living plant, or in the produce thereof, and genetic material necessary for production of such a pesticidal substance..."

All plants produce some type of PIP

- A PIP can occur naturally in a population of sexually compatible plants,
- be moved among plants in such a population through conventional breeding,
- or be engineered into the plant

Which PIPs Does EPA Regulate?

EPA regulates all PIPs except those that are otherwise exempted by regulation at 40 CFR 174.25

40 CFR 174.25 currently exempts PIPs that evolved naturally in a plant population and are moved amongst the plants in a sexually compatible population through conventional breeding

- i.e., progeny produced through processes such as pollination

40 CFR 174.25 does not exempt PIPs engineered into a plant

No gene-edited PIPs are currently exempt from FIFRA regulation

Identified Approaches to Precision Breeding Gene-Edited PIPs

Registration

- **Registration**
- Full data set to support the registration
- PRIA dictated review times and fees, and maintenance fees. Fee waivers possible

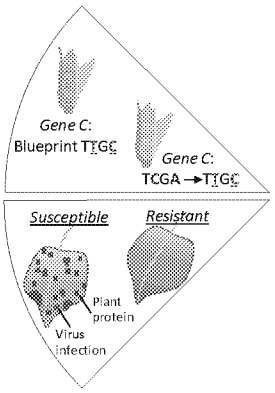
Light-Touch Registration

- **"Light Touch" Registration**
- Fewer human health and non target information than required for typical PIP registration
- Liberal use of waivers
- PRIA dictated review times and fees, and maintenance fees. Fee waivers as possible

Deregulation

- **Deregulatory Rulemaking**
- Institute exemption targeted to precision breeding gene-edited PIPs
- No PRIA dictated review times, no PRIA or maintenance fees

What Would be Involved in Exempting Precision Breeding Gene-Edited PIPs?



Re-propose 40 CFR 174.25 to broaden the exemption to gene-edited PIPs that are like those that could occur in conventional breeding in sexually compatible plant populations

Existing tolerance exemption, 40 CFR 174.508, for sexually compatible plant PIPs would also have to be broadened to exempt residues of precision breeding gene-edited PIPs from FFDCA section 408 requirements

The broadening of these exemptions would not affect status of other types of PIPs, e.g., introduction of novel genes into a plant genome, such as Bts, would be handled under the registration process

What Would It Take to Exempt Precision Breeding Gene-Edited PIPs

Consideration	Targeted Exemption Rulemaking
With DAA support, how quick to implement?	18 - 24 months Time and resource consuming but some processes might be expedited with DAA support
Effort required?	High end of moderate effort to write, clear rule through internal, external processes
Ensure commodity traders have what they need for international markets (e.g., letter indicating status of product)	E.g., a letter generated through streamlined notification process could be a feature of a deregulatory rule.

Considerations: Exemption of Precision Breeding Gene-Edited PIPs

Benefits	Other Considerations
●Reduce burden on developers ●Encourage small entities to enter arena ●Reduce reliance on harsher chemical pesticides through increased use of natural plant protection strategies ●Provide additional tools to farmers where pesticide options are few: e.g., minor crops (fruits and vegetables) e.g., fungal, bacterial, viral disease ●Fewer OPP resources expended on low risk PIPs ●Greater clarity/predictability for stakeholders Confusion over product status, costs Relying solely on text at 40 CFR 174.25, and ignoring both qualifying definitions and the rulemaking record, some in the regulated community argue that existing exemption at 40 CFR 174.25 covers gene-edited PIPs identical to what could occur through conventional breeding	●Wide range of potential modifications possible Must clearly define/describe exempt categories to circumscribe precision breeding PIPs from other types of PIPs, e.g., PIPs novel to plant; based on novel nucleotides ● Adequately address "off-target edits/cuts" •I.e., guide molecule recognizes not only target gene sequence but also similar/identical sequences in other parts of genome •Researchers attempting to develop methods to reduce off-target effects or to identify them when they occur, e.g., *"Caribou Biosciences and DuPont Pioneer Develop New Method to Comprehensively Map the Off-Target Activity of CRISPR-Cas9 Across Entire Genomes"* [illegible] ●To support markets, maintain consumer confidence in EPA ability to ensure safety ●Ensure companies can show EPA's finding of low risk to customers in international markets

Stakeholder Positions

Stakeholder	Position
President Trump	"We're streamlining regulations that have blocked cutting-edge biotechnology . . ."
Task Force on Agriculture and Rural Prosperity	Federal environmental permitting must be simpler and speedier
Breeders, e.g., ASTA	Want them seen as simply an extension of conventional breeding; not regulated
Industry - Developers	Precision breeding gene-edited PIPs should not be subject to stringent regulation; exempt some
Processors, traders	Public has to be assured of safety to maintain markets
Farmers	Conventional farmers see new tools; organic farmers currently do not use
NGOs: Consumer and Environmental	Range of opinions – some see environmental protection trade-offs, some want them regulated more stringently, some want all GMO banned and lump precision breeding gene-edited products into GMO
Trade agencies	See potential for confusion among trading partners – pushing US model (product, risk based)
OPP	Technology has advanced sufficiently to implement unfinished aspect of 1994 PIPs proposal Although proposed in 1994, 2001 final rule did not exempt PIPs moved within a sexually compatible population through genetic engineering in part because PIPs resulting from genetic engineering technology available in 2001, could not be precisely predicted and it was difficult to develop clear regulatory language describing which PIPs would be exempt

Approaches to Precision Breeding Gene-Edited PIPs Exemption

Exemption with Notification

- **Exemption with Streamlined Notification Process**
- No PRIA dictated review times and fees, or maintenance fees
- Adverse effects reporting requirement as with current PIP exemptions

Full Exemption

- **Exemption Without Streamlined Notification Process**
- No PRIA dictated review times and fees, or maintenance fees
- No notification to EPA
- Adverse effects reporting requirement as with current PIP exemptions

What Could a Notification Process Entail?

Notification process could ensure that the PIP meets the exemption criteria

Person who intends to test under EUP or sell or distribute a precision breeding gene-edited PIP would notify EPA of their intent

Notification could contain following information elements

- A signed statement certifying the accuracy of the notification made by the submitter that the PIP meets the exemption criteria
- Explanation of how the PIP meets the exemption criteria, e.g.,
  - Name of the plant containing the precision breeding gene-edited PIP
  - Identity/purpose of the intended modification and any other modifications that might have occurred

Within a specified timeframe EPA would notify the submitter in writing whether the PIP meets the exemption criteria, e.g.,

- Within 90 days

Considerations: Deregulatory Rule with a Notification Process

Advantages	Disadvantages
●Likely higher numbers of products fall within exemption FIFRA 25(b)(2) sets a higher standard for exemption than for registration Biological systems are naturally complex and highly variable making it difficult for categories as a whole to meet the exemption criteria ●Can ensure exemption is only applied to precision breeding gene-edited PIPs ●Much less data-generation and paperwork than registration ●Much faster process for developers than registration ●More reassurance to the public ●Facilitate product entry into international markets through issuance of "EPA status letter"	●Still some paperwork for developers ●Notification process may still delay going to testing/market for perhaps as long as 3 months **Ex. 5 Deliberative Process (DP)**

Biotechnology Challenges – Next Steps

Ex. 5 Deliberative Process (DP)

A Path Forward With FDA?

Ex. 5 Deliberative Process (DP)

Overview of USDA Authorities for GE Insects: APHA and PPA

Animal Health Protection Act (APHA)

- Regulations limited to animal health of livestock (horses, cattle, bison, sheep, goats, swine, cervids, poultry and other farm-raised animals, including farm-raised fish)
- GE insects regulated similar to non-GE insects, e.g., any contagious, infectious, or communicable disease of livestock
- Neither FIFRA or APHA preclude both EPA and USDA providing oversight to fulfill directives of statutes

Plant Protection Act (PPA)

- Regulatory oversight of biotech products deemed to be plant pests and/or noxious weeds with the goal of protecting plants and plant products
- PPA oversight encompasses invertebrate GE animals such as insects, arachnids and nematodes
- USDA can issue authorizations, specifically permits, for use in the environment of GE variants to control insect pests of crops. Under permit, USDA would maintain post-market oversight in the form of specific requirements on the introduction of the GE insect, and through its compliance and inspection programs.
  - Permits have been issued for diamondback moth and pink bollworm
- Neither FIFRA or PPA preclude both EPA and USDA providing oversight to fulfill directives of statutes

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Location: PYS12621

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Shaping the Future: OPP Biotechnology Challenges

1

Strategy Going Forward

December 21, 2017: GE Insects and Other Animals for Population Control

January 23, 2018: Gene-Edited FIPs

December 19, 2017: Do Not Distribute

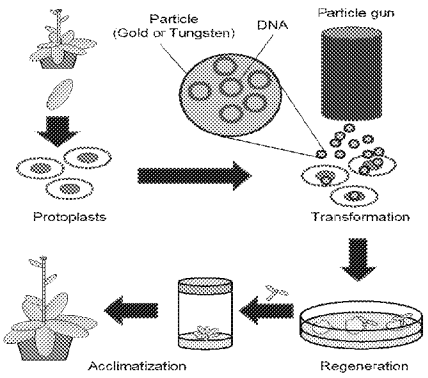
2

What is the Science Underlying Modern Biotechnology?

- All organisms have the information needed to run their life processes
  - E.g., Respiration, digestion, reproduction, development, repair, defense
- This information is encoded in 4 bases, called nucleotides, which can be thought of as an alphabet. The sequence in which the 4 bases are strung together encodes information much like sentences do, and the whole of the information possessed by the organism, can be thought of as a book
- Because all organisms on Earth encode genetic information in the same way, information from one organism can be moved into the genome of another organism
  - E.g., the information for producing the insecticidal protein "Bt" can be moved from the bacterium, *Bacillus thuringiensis*, into the genome of a plant such as corn or cotton, where the protein continues its insecticidal function

December 19, 2017, Do Not Distribute

Creating a Biotech Product: Gene Gun Method



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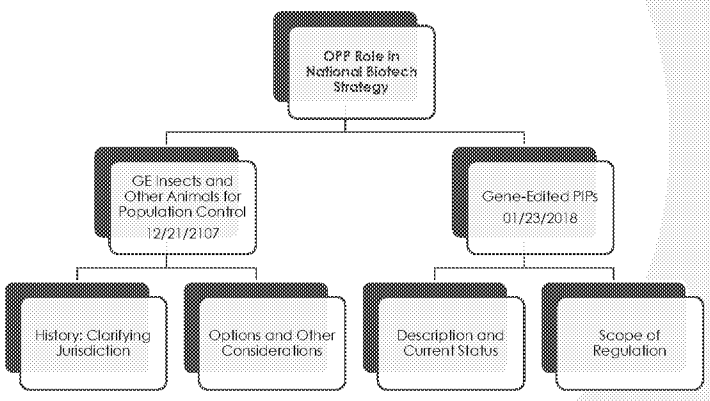
Organization of Briefings



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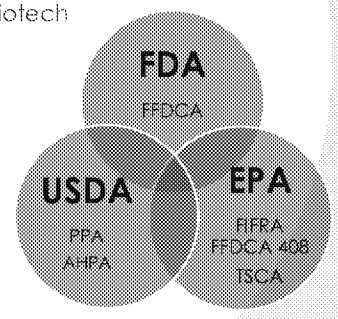
US Regulation of Biotechnology Products

OPP Role

- 3 Federal agencies regulate biotechnology products under the Coordinated Framework for Regulation of Biotechnology (CF)
- Based on laws written prior to GE biotech
  - Product specific
- Form jurisdictional network
- Evolution in regulation anticipated
  - Agencies adapt to novel products



Emerging Products Require CF and Regulatory Agencies to Adapt

1986: Reagan Administration announces CF

1992: Bush Administration announces first update to CF

2017: Obama Administration announces recent update to CF

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Aspects of 2017 CF Update: Addressing the Present, Preparing for the Future

CF Update	• Comprehensive summary of the current roles and responsibilities of 3 principal regulatory agencies • ***Status – no additional work required***
National Strategy	• Long-term strategy to ensure regulatory system is prepared for future products • ***Status - agencies strategize to address commitments***
National Academies Horizon Scanning Report	• Expert analysis of the future landscape of biotechnology products • ***Status – agencies' work to respond to National Academies of Sciences, Engineering and Medicine (NASEM) Report conclusions and recommendations***

Conclusions National Academies Horizon Scanning Report

- Agencies should increase scientific capabilities, tools, expertise, and horizon scanning in expected key growth areas, including natural, regulatory, and social sciences
  - Scale, scope, complexity, tempo of biotechnology products likely to increase in the next 5-10 years
  - Many products will be similar to existing products, but some may be created through new processes, however some may be wholly unlike products existing today
    - E.g., gene drives, a methodology that potentially could be used to drive a species to extinction
  - Risk assessment endpoints for future products not new, but pathways to those endpoints potentially very different in terms of complexity

National Strategy: Goals

- Increase predictability and efficiency
  - E.g., developers can readily identify appropriate regulatory path for their product
  - E.g., improve agencies' ability to expeditiously assess products
  - E.g., ensure approach risk-based and proportionate to risk
- Increase transparency
  - E.g., develop means to better communicate with developers and the public
  - E.g., establish timetable/mechanism to work with stakeholders to identify impediments to innovation
- Ensure good science underpins regulatory system

OPP Role in Coordinated Framework: Biotech Products Regulated Under FIFRA

GE Microbials

- Long history of using microorganisms as pesticides
- GE microbial pesticides are treated as are other microbial pesticides, except that they are subject to a notification process at the EUP stage
- 5 currently registered active ingredients; 7 product registrations

PIPs

- For a plant-incorporated protectant or "PIP", EPA regulates the pesticidal substance and the genetic material necessary to produce the pesticidal substance
- EPA regulates the PIP, not the plant
- First registration->1996
- 32 currently registered active ingredients; over 120 product registrations to date

Others?

- GE mosquito

Ex. 5 Deliberative Process (DP)

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Shaping the Future: OPP's National Strategy Commitments

Scope

- Clarify GE insects jurisdiction
- CF update determined EPA more appropriate for assessing/addressing GE insects for population control than FDA
  - E.g., mosquito engineered for population control purposes
- Clarify approach to gene-edited PIPs

Procedures

- Annual reports on progress on commitments
- Publish transformation event paper
- Publish BLI paper
- Enhance interagency collaboration
  - e.g., with FDA/USDA
  - e.g., with science agencies
- Reorganize BPPD
- Consider National Academies Report findings

Outreach

- Public communication strategies
- Public meetings
  - E.g., 2016 PIP Data Requirements Symposium
  - SAP meetings
- Continue to provide leadership in international fora

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GE Insect Jurisdiction: History

History Clarifying Jurisdiction

Date	Event
1985	• Congress modifies FIFRA pesticide definition to exclude "new animal drugs" • Modification -> either a product is a drug or a pesticide but not both
2009	• FDA issues guidance #187 - genetic material introduced into a GE animal is "new animal drug" - Ex. 5 Deliberative Process (DP) • FDA takes ownership of Oxitec GE mosquito • Ex. 5 Deliberative Process (DP)
2016	• As part of CF update agencies agree GE insects for population control more appropriately regulated by EPA as pesticides than as a new animal drug
2017	• FDA issues positive statement that GE mosquito products are pesticides rather than new animal drugs – guidance #236 • FDA's proposed modification to its #187 makes it consistent with #236
2017	• Oxitec begins discussions with EPA on regulation of GE mosquito • Oxitec submits EUP application on 12/01/2017 • Oxitec requesting EPA issue EUP by 03/31/2018

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National Strategy Commitment: Clarify GE Insect Jurisdiction

- National Strategy commitment is for **insects** for population control, not just mosquito
  - FIFRA provides clearer regulatory path, easier for industry to navigate
- FDA only clarified status of mosquito-related products with issuance #236

Ex. 5 Deliberative Process (DP)

What's Holding Up Clarifying Jurisdiction

Ex. 5 Deliberative Process (DP)

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Path Forward Considerations

Options and Other Considerations

Ex. 5 Deliberative Process (DP)

What Has to Be Done to Implement Commitment?

Ex. 5 Deliberative Process (DP)

Realignment with FDA: Potential Options Put Forward in EPA/ FDA Discussions

Ex. 5 Deliberative Process (DP)

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Ex. 5 Deliberative Process (DP)

A Path Forward With FDA?

Ex. 5 Deliberative Process (DP)

Overview of USDA Authorities for GE Insects: APHA and PPA

- Animal Health Protection Act (APHA)
  - Regulations limited to animal health of livestock (horses, cattle, bison, sheep, goats, swine, cervids, poultry and other farm-raised animals, including farm-raised fish)
  - GE insects regulated similar to non-GE insects, e.g., any contagious, infectious, or communicable disease of livestock
  - Neither FIFRA or APHA preclude both EPA and USDA providing oversight to fulfill directives of statutes
- Plant Protection Act (PPA)
  - Regulatory oversight of biotech products deemed to be plant pests and/or noxious weeds with the goal of protecting plants and plant products
  - PPA oversight encompasses invertebrate GE animals such as insects, arachnids and nematodes
  - USDA can issue authorizations, specifically permits, for use in the environment of GE variants to control insect pests of crops. Under permit, USDA would maintain post-market oversight in the form of specific requirements on the introduction of the GE insect, and through its compliance and inspection programs.
    - Permits have been issued for diamondback moth and pink bollworm
  - Neither FIFRA or PPA preclude both EPA and USDA providing oversight to fulfill directives of statutes

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Current Jurisdictional Status Illustrated by Examples

Pest	Pest Issue	FDA - FFDCA	EPA - FIFRA	USDA- APHA	USDA - FPA
A. aegypti mosquito	Vector Zika, yellow fever etc	No	Yes	No	No
C. melanura mosquito	Vector eastern equine encephalitis	No	Yes	Yes	No
Diamondback moth	Damage brassica crops	Yes	No	No	Yes
Rat	Contaminate food disease vector	Yes	No	No	No
Cockroach	Contaminate food asthma, allergy	Yes	No	No	No
Tick	Vector disease	Yes	No	Depends on whether livestock can host tick	No

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Appointment

From: Keller, Kaitlin [keller.kaitlin@epa.gov]
Sent: 1/23/2018 6:12:22 PM
To: Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Keller, Kaitlin [keller.kaitlin@epa.gov]; Keigwin, Richard [Keigwin.Richard@epa.gov]; Hughes, Hayley [hughes.hayley@epa.gov]; Dinkins, Darlene [Dinkins.Darlene@epa.gov]; McNally, Robert [Mcnally.Robert@epa.gov]; Leahy, John [Leahy.John@epa.gov]; Mendelsohn, Mike [Mendelsohn.Mike@epa.gov]; Wozniak, Chris [wozniak.chris@epa.gov]; Milewski, Elizabeth [Milewski.Elizabeth@epa.gov]; Kaczmarek, Chris [Kaczmarek.Chris@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]; Wakefield, Benjamin J. [wakefield.benjamin@epa.gov]; Huskey, Angela [Huskey.Angela@epa.gov]
CC: Striegel, Wiebke [Striegel.Wiebke@epa.gov]; Pierce, Amanda [pierce.amanda@epa.gov]; Bohnenblust, Eric [Bohnenblust.Eric@epa.gov]; Reynolds, Alan [Reynolds.Alan@epa.gov]; Overstreet, Anne [overstreet.anne@epa.gov]; Subramanian, Hema [Subramanian.Hema@epa.gov]

Subject: Biotechnology Briefing 2
Attachments: OPP and Biotechnology gene editing (020) nboverview 01 19 2018.pptm
Location: PYS 4621; (Call in number Ex. 6 access code Ex. 6

Start: 1/23/2018 6:00:00 PM
End: 1/23/2018 6:45:00 PM
Show Time As: Tentative

Message

From: Subramanian, Hema [Subramanian.Hema@epa.gov]
Sent: 2/16/2018 1:00:35 AM
To: Sands, Jeffrey [sands.jeffrey@epa.gov]
CC: Dennis, Allison [Dennis.Allison@epa.gov]
Subject: Fwd: For your review: Benita TPs for CTIC and other meeting
Attachments: 2-20 CTIC Speaker Request Form.docx; ATT00001.htm; Fwd: Conservation Technology Innovation Center's Invitation to Dave Ross to participate in February 20 Board Meeting here in DC; ATT00002.htm; CTIC bckground doc 2018 2.15.docx; ATT00003.htm; Benita TPs for CTIC Board Meetingv2.docx; ATT00004.htm

Thanks Allison, fwding to Jeff here, he will b there as well.

Hema Subramanian
Acting Special Assistant to the Senior Advisor for Agriculture
Office of the Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Phone (202) 564-5041
subramanian.hema@epa.gov

Begin forwarded message:

> **From:** "Dennis, Allison" <Dennis.Allison@epa.gov>
> **Date:** February 15, 2018 at 7:58:36 PM EST
> **To:** "Subramanian, Hema" <Subramanian.Hema@epa.gov>
> **Subject: FW: For your review: Benita TPs for CTIC and other meeting**
>
> Hi Hema,
>
> I wanted to give you and Jeff Sands a (belated) heads up that Dave and Benita will be meeting with CTIC (an important ag stakeholder) on Tuesday morning. Let me know if you have any questions or concerns.
>
> ---
>
> **From:** Dennis, Allison
> **Sent:** Thursday, February 15, 2018 7:55 PM
> **To:** Best-Wong, Benita <Best-Wong.Benita@epa.gov>
> **Cc:** Ross, David P <ross.davidp@epa.gov>; Penman, Crystal <Penman.Crystal@epa.gov>; Campbell, Ann <Campbell.Ann@epa.gov>; Drinkard, Andrea <Drinkard.Andrea@epa.gov>
> **Subject:** For your review: Benita TPs for CTIC and other meeting
>
> Hi Dave and Benita,
>
> On Tuesday (9:30 – 10 AM) you two will be meeting with the Conservation Technology Information Center Board of Directors to provide an update on how the Office of Water working with the agricultural community to encourage sustainability and also use the time to explore additional avenues of collaboration between CTIC and OW. OWOW has prepared ~ 7 minutes of remarks for Benita to deliver to jump start the dialogue (attached). Please let me know if you have any edits you would like me to make tomorrow.
>
> OWOW also prepared a backgrounder that outlines OW's current collaboration with CTIC (attached)

For reference, I have also attached the original invitation and speaking request form.

Tom and Katie Flahive will join you in the minivan to the meeting (they plan to stay at the meeting after you leave).

-Allison

Allison Dennis
Deputy Communications Director
Office of Water
U.S. Environmental Protection Agency
Office: 202-564-1985
Cell: Ex. 6
Dennis.Allison@epa.gov

EPA Partnership with CTIC

CTIC is a nonprofit, non-lobbying conservation membership organization; it's members are some of the largest agribusinesses and associations with interests in tillage and nutrient application farm equipment; pesticide, seed and nutrient management technologies; conservation implementation; and watershed planning and research. Among other activities, CTIC works with partners to support high-rate adoption of conservation systems in several pilot watersheds.

For over 20 years, EPA's Office of Water has worked in partnership with CTIC through a variety of cooperative agreements and 319 projects in the states and through ongoing dialogue with the CTIC board and members.

CTIC regularly invites EPA Office of Water (and USDA) to join their board meetings as observers, which provides an excellent opportunity to interact with leaders of industry and conservation organizations focused on mitigating water quality impacts of row crops in the agricultural landscape.

Ongoing and Recent OW/EPA collaboration with CTIC includes:

- CTIC is hosting five technical training workshops with more than 500 anticipated attendees to increase the capacity of agricultural professional advisors to work with farmers and producers on the benefits, efficacy and implementation of targeted conservation systems that improve water quality in drained landscapes. The target audience includes certified crop advisers (CCAs), technical service providers, independent crop consultants, members of the Land Improvement Contractors of America, soil and water conservation districts, ag retailers and others.

- Funded by EPA's Great Lakes Restoration Initiative, CTIC helped support adoption of cover crops and conservation tillage on more than 37,500 acres of cover crops in the targeted Great Lakes watersheds.

- EPA provided a small amount of supplemental support to CTIC as they managed a large industry project in Iowa with significant support from the state. This project examined the extent to which CTIC and ag retailer work with growers to input their field level data into Field to Market's Fieldprint Calculator changed rates of cover crop implementation.

- CTIC is working with the EPA's National Aquatic Resource Survey program by providing Technical Training Workshops to states and others that collect and analyze NARS data. Through this cooperative agreement, CTIC is developing articles that link national and regional water quality results from the NARS program with personal stories from landowners/farmers about their work to reduce nutrient and related pollution.

CTIC is also supporting the joint EPA/NRCS National Water Quality Initiative (NWQI) where NRCS and partners are conducting watershed-level assessments and developing outreach strategies that target critical acres. CTIC is developing educational materials in support of producer and stakeholder engagement and watershed planning. NRCS intends to use the outcomes of this work to inform other NRCS water quality programs, other water quality initiatives and NRCS water quality and watershed efforts in general.

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CTIC Board of Directors:

The Fertilizer Institute, Lara Moody – Chair
J. R. Simplot Company, Terry Tindall - Vice Chair
John Deere, Mark Schmidt - Treasurer
Bayer CropScience, Ralph Bagwell
Agricultural Retailers Association, Hunter Carpenter
The Nature Conservancy, Larry Clemens
Monsanto, Kevin Coffman
National Corn Growers Association, Nick Goeser
The Mosaic Company, Adam Herges
International Plant Nutrition Institute, Tom Jensen
CropLife Foundation, Bill Kuckuck
Case IH, Dave Long
National Association of Conservation Districts, Tim Palmer
Nutrien, Paul Poister
International Certified Crop Advisers Program, Luther Smith
Dow AgroSciences, Justin Stewart
Syngenta America, Inc., Mark White

Ex-Officio Members

National Association of Conservation Districts, Jeremy Peters
Conservation Technology Information Center, Chad Watts

ED_004126_00000123-00002

Message

From: Milewski, Elizabeth [Milewski.Elizabeth@epa.gov]
Sent: 1/22/2018 2:39:02 PM
To: McNally, Robert [Mcnally.Robert@epa.gov]; Overstreet, Anne [overstreet.anne@epa.gov]; Leahy, John [Leahy.John@epa.gov]; Mendelsohn, Mike [Mendelsohn.Mike@epa.gov]; Keigwin, Richard [Keigwin.Richard@epa.gov]; Kaczmarek, Chris [Kaczmarek.Chris@epa.gov]; Huskey, Angela [Huskey.Angela@epa.gov]; Wakefield, Benjamin J. [wakefield.benjamin@epa.gov]; Striegel, Wiebke [Striegel.Wiebke@epa.gov]; Wozniak, Chris [wozniak.chris@epa.gov]; Pierce, Amanda [pierce.amanda@epa.gov]; Reynolds, Alan [Reynolds.Alan@epa.gov]; Bohnenblust, Eric [Bohnenblust.Eric@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Keller, Kaitlin [keller.kaitlin@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Hughes, Hayley [hughes.hayley@epa.gov]; Dinkins, Darlene [Dinkins.Darlene@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]
Subject: ppt for the beck/bertrand briefing on tuesday
Attachments: OPP and Biotechnology gene editing (020) nboverview 01 19 2018.pptm

Hi, All. Please find attached the ppt for the Beck/Bertrand briefing on gene-editing scheduled for Tuesday this week.

Message

From: Keigwin, Richard [Keigwin.Richard@epa.gov]
Sent: 12/12/2017 1:07:02 AM
To: Keller, Kaitlin [keller.kaitlin@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Kaiser, Sven-Erik [Kaiser.Sven-Erik@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Frye, Tony (Robert) [frye.robert@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]
CC: Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Dourson, Michael [dourson.michael@epa.gov]; Dinkins, Darlene [Dinkins.Darlene@epa.gov]; Mosby, Jackie [Mosby.Jackie@epa.gov]; Keaney, Kevin [Keaney.Kevin@epa.gov]; Mclean, Kevin [Mclean.Kevin@epa.gov]; Perlis, Robert [Perlis.Robert@epa.gov]; Garrison, Scott [Garrison.Scott@epa.gov]; Schaible, Stephen [Schaible.Stephen@epa.gov]
Subject: Version 10 of the Draft of the Response to the Udall Letter
Attachments: Response to Senator Udall Version10.docx

The attached incorporates the most recent feedback from Charlotte, Louise, and OPP's worker safety staff. If additional changes are needed on Tuesday while I am in transit back to DC, Steve Schaible can hold the pen for OPP.

From: Keller, Kaitlin
Sent: Monday, December 11, 2017 10:19 AM
To: Keigwin, Richard <Keigwin.Richard@epa.gov>; Beck, Nancy <Beck.Nancy@epa.gov>; Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>; Palich, Christian <palich.christian@epa.gov>; Frye, Tony (Robert) <frye.robert@epa.gov>; Sands, Jeffrey <sands.jeffrey@epa.gov>
Cc: Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>; Dinkins, Darlene <Dinkins.Darlene@epa.gov>; Mosby, Jackie <Mosby.Jackie@epa.gov>; Keaney, Kevin <Keaney.Kevin@epa.gov>; Mclean, Kevin <Mclean.Kevin@epa.gov>; Perlis, Robert <Perlis.Robert@epa.gov>; Garrison, Scott <Garrison.Scott@epa.gov>; Schaible, Stephen <Schaible.Stephen@epa.gov>
Subject: RE: Updated Draft of the Response to the Udall Letter

Updated with a few additional comments from Louise.

Thanks,
Kaitlin

Kaitlin Keller, Special Assistant
Office of Chemical Safety and Pollution Prevention
U.S. Environmental Protection Agency
(202) 564-7098

From: Keigwin, Richard
Sent: Monday, December 11, 2017 9:14 AM
To: Beck, Nancy <Beck.Nancy@epa.gov>; Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>; Palich, Christian <palich.christian@epa.gov>; Frye, Tony (Robert) <frye.robert@epa.gov>; Sands, Jeffrey <sands.jeffrey@epa.gov>
Cc: Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Dinkins, Darlene <Dinkins.Darlene@epa.gov>; Mosby, Jackie <Mosby.Jackie@epa.gov>; Keaney, Kevin <Keaney.Kevin@epa.gov>; Mclean, Kevin <Mclean.Kevin@epa.gov>; Perlis, Robert <Perlis.Robert@epa.gov>; Garrison, Scott <Garrison.Scott@epa.gov>; Schaible, Stephen <Schaible.Stephen@epa.gov>
Subject: Updated Draft of the Response to the Udall Letter

Here is the most up-to-date version, incorporating comments that Charlotte circulated earlier today.

Message

From: Ford, Hayley [ford.hayley@epa.gov]
Sent: 10/30/2017 4:12:44 PM
To: Abboud, Michael [abboud.michael@epa.gov]; Baptist, Erik [baptist.erik@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Bennett, Tate [Bennett.Tate@epa.gov]; Bodine, Susan [bodine.susan@epa.gov]; Bolen, Brittany [bolen.brittany@epa.gov]; Bolen, Derrick [bolen.derrick@epa.gov]; Bowman, Liz [Bowman.Liz@epa.gov]; Brown, Byron [brown.byron@epa.gov]; Chmielewski, Kevin [chmielewski.kevin@epa.gov]; Cory, Preston (Katherine) [Cory.Preston@epa.gov]; Darwin, Henry [darwin.henry@epa.gov]; Darwin, Veronica [darwin.veronica@epa.gov]; Dominguez, Alexander [dominguez.alexander@epa.gov]; Dourson, Michael [dourson.michael@epa.gov]; Dravis, Samantha [dravis.samantha@epa.gov]; Falvo, Nicholas [falvo.nicholas@epa.gov]; Feeley, Drew (Robert) [Feeley.Drew@epa.gov]; Ferguson, Lincoln [ferguson.lincoln@epa.gov]; Ford, Hayley [ford.hayley@epa.gov]; Forsgren, Lee [Forsgren.Lee@epa.gov]; Fotouhi, David [Fotouhi.David@epa.gov]; Frye, Tony (Robert) [frye.robert@epa.gov]; Gordon, Stephen [gordon.stephen@epa.gov]; Greaves, Holly [greaves.holly@epa.gov]; Greenwalt, Sarah [greenwalt.sarah@epa.gov]; Gunasekara, Mandy [Gunasekara.Mandy@epa.gov]; Harlow, David [harlow.david@epa.gov]; Hewitt, James [hewitt.james@epa.gov]; Hupp, Millan [hupp.millan@epa.gov]; Jackson, Ryan [jackson.ryan@epa.gov]; Kelly, Albert [kelly.albert@epa.gov]; Konkus, John [konkus.john@epa.gov]; Letendre, Daisy [letendre.daisy@epa.gov]; Lovell, Will (William) [lovell.william@epa.gov]; Lyons, Troy [lyons.troy@epa.gov]; McMurray, Forrest [mcmurray.forrest@epa.gov]; Munoz, Charles [munoz.charles@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Ringel, Aaron [ringel.aaron@epa.gov]; Rodrick, Christian [rodrick.christian@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]; Schwab, Justin [Schwab.Justin@epa.gov]; Shimmin, Kaitlyn [shimmin.kaitlyn@epa.gov]; Traylor, Patrick [traylor.patrick@epa.gov]; Wagner, Kenneth [wagner.kenneth@epa.gov]; White, Elizabeth [white.elizabeth@epa.gov]; Wilcox, Jahan [wilcox.jahan@epa.gov]; Yamada, Richard (Yujiro) [yamada.richard@epa.gov]; Benevento, Douglas [benevento.douglas@epa.gov]; Davis, Patrick [davis.patrick@epa.gov]; Glenn, Trey [Glenn.Trey@epa.gov]; Gulliford, Jim [gulliford.jim@epa.gov]; Lopez, Peter [lopez.peter@epa.gov]; Servidio, Cosmo [Servidio.Cosmo@epa.gov]; Stepp, Cathy [stepp.cathy@epa.gov]
Subject: Agency Weekly Report 10.30.17
Attachments: Weekly Report 10.27.2017.docx

See attached for the weekly report.

Thanks!

Hayley Ford
Deputy White House Liaison and Personal Aide to the Administrator
Environmental Protection Agency
ford.hayley@epa.gov
Phone: 202-564-2022
Cell: Ex. 6

Region 1

Hot Issues

Order on Consent Entered into to Resolve NPDES Permit Appeal/Violations (town of Marion, MA)

- The Town of Marion, Massachusetts has entered into an Order with EPA to resolve an appeal of an NPDES permit and to allow the Town to explore the possibility of treatment plant regionalization while also addressing compliance with copper, phosphorus and nitrogen limits.
- The Region recently re-issued the Town's NPDES permit containing copper, phosphorus and nitrogen limits, as well as restrictions on the operation of lagoons that the treatment plant was not able to meet based on its current configuration and operation procedures. Both the Town and the Buzzard's Bay Coalition (BBC) appealed the NPDES permit.
- The Region, the Town and BBC engaged in Alternative Dispute Resolution overseen by a neutral Environmental Appeals Board judge, resulting in an order on consent between EPA and the Town, and dismissal of the two appeals.
- The Order, entered into on October 20, 2017, establishes a schedule to allow the Town to evaluate and implement remediation options for achieving compliance with the permit limits related to copper, phosphorus, and nitrogen, as well as lagoon controls, in the context of ongoing consideration of Regionalization.
- Although the NPDES program is implemented by EPA in Massachusetts, the Commonwealth co-signs NPDES permits. MassDEP supports this settlement.

Order on Consent Entered into to Resolve Unauthorized Sewage Discharges (borough of Naugatuck, CT)

- The borough of Naugatuck has entered into an Order with EPA to address discharges of untreated sewage from various components of its Collection System to the Naugatuck River.
- On at least nine occasions between February 1, 2012, and October 1, 2016, the borough discharged untreated sewage from its collection system to surface waters in Connecticut. These discharges were not authorized by an NPDES permit and are commonly referred to as Sanitary Sewer Overflows.
- The Order, entered into on October 20, 2017, requires the Town to minimize the occurrence of SSOs, and to develop and implement an updated Capacity, Management, Operations, and Maintenance (CMOM) program.
- The Connecticut Department of Energy and Environment joined EPA on the SSO audit of the borough, and participated in discussions leading to this settlement.

Maine 2016 303(d) list and Integrated Water Quality Report

- Ex. 5 Deliberative Process (DP)

  Ex. 5 Deliberative Process (DP) The Region worked closely with Maine DEP during the preparation of both the Draft and Final versions of the 2016 list. A section on the EPA 303 (d) Vision is included in the report.
- Assessments for all waters that are part of Maine's implementation of the vision were reviewed and updated as necessary. Several comments were received on the Draft list and were adequately addressed in the response to comments portion of the Final list.

Upcoming Public Events

Ammonia Table Top Exercise, South Portland, ME – November 1, 2017

- Region 1 and the Maine State Emergency Response Commission, Maine Emergency Management Agency will be conducting a table top exercise in South Portland ME to support participants' emergency response preparedness and ability to manage incidents involving the accidental release of ammonia.
- We anticipate 50 participants, including personnel from ammonia refrigeration businesses and federal, state and local agencies.

Green Infrastructure Workforce Webinar – November 15, 2017

- Region 1 will host a webinar entitled *Exploring the Green Infrastructure Workforce: Jobs, Training and Certification for Installation, Maintenance and Monitoring.*
- The program will share information on key occupations involved in installation, maintenance and monitoring of urban green infrastructure, highlight findings from *Exploring the Green Infrastructure Workforce* (a national study by Jobs for the Future), and offer examples of existing and emerging job training and certification programs related to green infrastructure projects.

Upcoming Major Decisions

None

Highlights from last week

Chemical Safety Workshop

- On October 18 the Massachusetts Office of Technology Assistance, the Merrimack Valley Planning Commission and Region 1 conducted a workshop for emergency responders, municipal facility managers and users of hazardous chemicals called "Chemical Safety and Community Resilience. The workshop emphasized pollution prevention and toxics' use reduction as a common sense approach to emergency planning. The workshop took place at Northern Essex Community College in Haverhill, MA.

Region 2

Hot Issues:

Hurricanes Irma & Maria: EPA now has about 180 personnel on the ground in Puerto Rico and the US Virgin Islands; that number is expected to increase to 400 by early December. We have nearly completed our assessment of smaller (non-utility) drinking water systems in PR; and we are continuing that assessment work in the USVI. We have completed assessment of all Superfund, RCRA and oil sites. We have begun field work on our debris mission assignment in PR, where we have secured access to the first several sites for collection and management sites; we continue to work on finalizing other sites for this mission. We are prepared to begin similar field operations in the USVI once we receive final decisions from the USVI government on the selection of sites on all three islands. We await decisions from both the PR and USVI governments on whether to permit mass "air curtain" burning of vegetative debris. Based on discussions between RA Pete Lopez and senior PR and USVI officials during his visit last week, we have identified improvements we can make in our communications and interactions with PR and USVI representatives. This engagement is being supplemented with "hands on" problem solving on/troubleshooting of specific needs identified by said representatives. The RA has also had several media interviews about our hurricane response activities, with more anticipated.

Hudson River PCBs Superfund Site: The public comment period on the proposed Second Five Year Review for this site closed on September 1; we received over 2000 comments. We have reviewed the comments, and are preparing a Responsiveness Summary and a final Five Year Review report. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP). Earlier this week, NY Senator Gillibrand and several House members wrote to Administrator Pruitt criticizing EPA's proposed Five Year Review and urging that additional dredging of the Hudson be required. State and local officials, NGOs and other stakeholders have previously expressed similar views.

Past Week:

EPA Solar Farm is Activated: On 10/25 RA Pete Lopez participated in a "Flip the Switch" event to showcase the new photovoltaic field at EPA's Edison, NJ campus. The 4,788 photovoltaic panels will generate sufficient electricity to provide 45% of the annual power needs for the campus. The new system is rated at a peak capacity of 1.5 megawatts and is expected to produce a total of two million kilowatt hours of electricity in its first year of operation.

Motion for Summary Judgment Filed in Wetlands Case: On 10/16 the Justice Department filed on EPA's behalf a Motion for Summary Judgment on Liability in the civil case against Acquest Transit LLC, Acquest Development LLC, and William L. Huntress. Ex. 7(A)

Ex. 7(A)

Ex. 7(A) Ex. 5 AC/DP

Ex. 5 AC/DP The Motion for Summary Judgment seeks to establish that the wetlands are under federal jurisdiction and a violation occurred.

Long Island Sound Conference: The Congressional Long Island Sound Caucus sponsored this conference on 10/20/17, titled *Orchestrating Both Coasts for a Better Sound – II*. NYSDEC Commissioner Seggos attended, and Senior Region 2 water program officials represented Region 2 at the conference. Discussions included summaries of dramatic successes over the past 20 years, and identification of significant challenges still ahead. The conference was covered by the local CBS television news station: [HYPERLINK "https://www.youtube.com/watch?v=BZHWWuTsCH4"]

Upcoming:

Danskammer Generation Station Rulemaking Action: Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Region 3

Hot Issues

Region 3 Facilitates the Expedition of a PADEP Order to PWSA

Regional Administrator Cosmo Servidio, DRA Cecil Rodrigues and his staff worked with Secretary McDonnell and his staff to ensure an Administrative Order was issued to the Pittsburgh Water and Sewer Authority (PWSA) on Thursday, October 26, 2017. The Order includes several immediate measures designed to correct some issues of concern that are needed to ensure clean and safe drinking water for PWSA customers. EPA will continue its work with Pennsylvania going forward, including conducting a comprehensive performance evaluation (CPE). This CPE will include a thorough review and analysis of PWSA's distribution system intended to achieve optimized performance and an increased level of public health protection.

Pennsylvania Department of Agriculture Hosts 2017 EPA Region 3 State Pesticide Inspectors Workshop

On October 16-20, 2017, the Pennsylvania Department of Agriculture hosted the 2017 EPA Region III State Pesticide Inspectors Workshop in Carroll Valley, PA. The 26th annual workshop was attended by approximately 75 pesticide program managers and inspectors from all Region III states, as well as members of LCD's Pesticide and Asbestos Programs Branch. Workshop topics included a "back-to-basics" approach to conducting pesticide producer establishment inspections, case development, evidence collection, internet pesticide sales, and an update on the pest control industry. Also provided was an overview of recent pesticide spray drift incidents involving genetically modified crops. One day was also dedicated to Health & Safety training that included vehicle safety, hazard communication, personal protective equipment, confined space awareness, field sampling, and basic toxicology. States also provided 2017 State Reports on their individual program and enforcement activities. Included in the workshop was a field trip to the nearby Gettysburg National Military Park and a presentation by the National Park Service on their integrated pest management approaches to pest control around the park. During the 2017 Region III Inspector Awards Banquet, Pennsylvania Department of Agriculture Secretary Russell Redding provided opening remarks and Region 3 Deputy Regional Administrator Cecil Rodrigues presented awards to Anton Goodwyn of the Virginia Department of Agriculture and Consumer Services as the 2017 Inspector of the Year, and to Nicole Wood of the Pennsylvania Department of Agriculture for the 2017 Investigation of the Year. Region III is the only EPA Region to present such awards. These workshops are hosted by a Region III state on a rotating basis.

Warehouse Fire, Parkersburg, WV

The National Response Center contacted EPA Region 3's duty officer on Saturday evening, October 21, regarding a warehouse fire at the old Ames Tool Plant in Parkersburg, WV. The local Fire Departments and WVDEP were on-scene trying to put out the fire. WVDEP requested that EPA provide air monitoring support and EPA's contractor deployed four air monitors, data rams, in the middle of the night, Sunday morning. EPA at WVDEP's request has provided additional air monitoring equipment, including equipment from ERT, through the week. In addition, Wood County, the lead for the incident, has also hired an environmental contractor to conduct air monitoring. EPA and WVDEP have discussed with the County's contractor a system that has combined the available

resources into one air monitoring plan. EPA Region 3 has two on scene coordinators and a congressional liaison on site with additional support in the Regional office. Region 3 will have staff onsite through the weekend into next week until the incident ends. The fire is expected to be extinguished in approximately four days.

Taiwanese Delegation Visits Philadelphia Regional Office
In September, Administrator Pruitt, Taiwan Environmental Protection Administration Minister Lee Ying-yuan, American Institute in Taiwan Managing Director John Norris, and Taipei Economic and Cultural Representative Office Deputy Representative James Lee renewed the US-Taiwan bilateral environmental agreement. The purpose of the agreement was to build relationships between the U.S. and Taiwan for protecting human health and the environment. On October 23, 2017, the Region 3 Hazardous Site Cleanup Division, Office of Preparedness and Response (OPR) hosted a networking and learning opportunity for 30 individuals from the country of Taiwan. This was also an opportunity for OPR to gain an international perspective on emergency response. OPR and a representative from the EPA Fort Lab Meade Lab gave presentations on EPA's emergency response mission and capabilities when responding to emergency incidents involving oil, hazardous substances, pollutants, and/or contaminants which actually or potentially threaten public health and the environment.

Upcoming Public Events

No public events to report at this time.

Past Events

National Fish and Wildlife Foundation (NFWF) Agriculture Event
DRA Cecil Rodrigues is participating in an event on October 20, 2017 to acknowledge and recognize the Pennsylvania grantees, totaling 5.8 million dollars directed towards 16 projects in PA. The EPA portion of the NFWF grants for this year directed 10 million of the 12 million dollars throughout the Chesapeake Bay watershed. Those projects include stormwater management and agriculture management practices. It is being held a farm with Secretary McDonnell and Secretary Redding. The media has been invited.

Ports Workshop Brings Together Mid-Atlantic Port Stakeholders
Regional Administrator Servidio welcomed everyone to an EPA sponsored one-day Ports Workshop, "Vibrant Ports – Healthy Ports", held on October 24, 2017 in partnership with the Delaware Valley Regional Planning Commission. This event brought together ports stakeholders from across the Mid-Atlantic Region to discuss issues of important related to the economic success and environmental sustainability of port facilities. Topics included funding opportunities, emissions inventories and other environmental planning tools, success stories, and the EPA's Ports Initiative. Management and staff from Region 3 and EPA's Office of Transportation and Air Quality were also in attendance.

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Region 4

Hot Issues

Administrator's Emphasis List

Key Message: The Region is working diligently to identify remedy options and seek public participation for the two Region 4 sites on the Administrator's Emphasis List, B.F. Goodrich (Calvert City, KY) and Mississippi Phosphates (Pascagoula, MS). We have spoken with our state partners for each of the sites and anticipate a productive and proactive approach to cleaning up these sites. Regarding the B.F. Goodrich site, the Region is preparing to brief the Administrator, possibly within the next week.

Oak Ridge Reservation CERCLA Site (Oak Ridge, TN)

Key Message: Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

ERP Compliant Coke Facility (formerly Walter Coke, Birmingham, AL)

Key Message: On November 2nd, Region 4 will hold a public meeting to discuss the proposed remedies at the Former Chemical Plant and Former Pig Iron Foundry at the ERP Compliant Coke facility. The public comment period closes on November 14th. The Region anticipates significant interest from elected officials, media and other stakeholders due to the facility's relationship to the 35th Avenue Superfund Site.

Prom Chem Stop, Sale, Use or Removal Order (SSURO)

Key Message: On October 20th, Region 4 issued an amended SSURO to Prom Chem for imports into the ports of Charleston, SC and Wilmington, NC, allowing the company to come into compliance.

Sanitation District – 1 (SD-1, Kentucky)

Key Message: Regional Administrator Glenn met with the Director of the Kentucky Department of Environmental Protection to discuss next steps on SD-1. EPA and the State will draft a formal letter outlining information needed from SD-1 to identify the technical explanations, priority projects, watersheds, and timelines.

Upcoming Travel for the RA

- None

Region 5

HOT ISSUES:

Federal District Court Judge Orders Flint to Choose Long-Term Drinking Water Source
Key Message: The district judge ordered the city to make a water source selection that complies with EPA's emergency order.

On October 17, a federal district judge ordered the city of Flint to choose a long-term drinking water source by no later than October 23, 2017. On October 22, the City Council filed an emergency motion asking the court for more time to respond to the court's order – at least 75 days. In response, the judge ordered the state of Michigan to respond to the City Council's request to stay the deadline by October 24.

The option supported by the mayor of Flint, Governor Snyder, EPA, and MDEQ is for the city to enter into a 30-year contract with the city's current water source, the Great Lakes Water Authority (GLWA). The Flint City Council opposes this option and wants to look at other alternatives. The City Council is seeking approval to hire a consultant to analyze three water options. Meanwhile, the council voted on October 23 to extend its current contract with the GLWA for an additional two years.

Worker in Chicago Ridge, Illinois Dies from Pesticide Exposure
Key Message: During a release at a pest management company in Chicago Ridge, Illinois, a worker was exposed to the pesticide methyl bromide and later died.

According to the Chicago Ridge fire department, the release was caused by equipment failure and has since been secured. The fire chief determined that the release was contained to a small warehouse and the public was not exposed.

The release was reported to EPA on October 24, 2017. At EPA's request, the Illinois Department of Public Health (IDPH) sent an inspector to the site to determine whether there were any violations of the Federal Insecticide, Fungicide and Rodenticide Act. EPA will continue to work closely with IDPH until the matter is resolved.

EPA Releases Final Michigan Drinking Water Program Review Report
Key Message: On October 25, 2017, EPA released the report identifying key steps that the Michigan Department of Environmental Quality should take to ensure that the state provides safe and clean drinking water to all of its residents.

EPA recognizes the improvements that the state has recently made to its drinking water program, such as upgrading the non-community data management system, hiring staff to enhance technical capability, revising lead and copper sampling protocol, and establishing a peer review process that reviews any water system's significant changes in source water or treatment.

EPA reviews state drinking water programs in states that have primary enforcement responsibility. In October 2015, EPA committed to undertake a review of Michigan's program. This review looked at files from October 2013 to September 2015 and focused on MDEQ's implementation of the national primary drinking water

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regulations throughout the state, including in Flint. Press coverage can be viewed [HYPERLINK "http://www.mlive.com/news/flint/index.ssf/2017/10/epa_report_finds_fault_with_mi.html"].

EPA has engaged with the state throughout the report writing process and finalized the report in the summer of 2017. A courtesy copy of the final report was shared with MDEQ on October 17, 2017 and EPA notified MDEQ of the final report's intended release date of October 25, 2017.

Response to Oil Sheen on Chicago River

Key Message: EPA is responding to an oil spill located on a portion of the Chicago River known for its historic contamination.

On October 26, EPA began an oil spill cleanup along a one-mile section of the South Fork Chicago River, locally known as Bubbly Creek. The dark oily, tar-like material has been sampled and taken to the lab for analysis. Containment boom has secured the oil in place. The source of the oil is currently unknown.

EPA anticipates continued cleanup activities through at least the end of next week. The U.S. Coast Guard has closed off access to that portion of the river. The Chicago Metropolitan Water Reclamation District and the U.S. Coast Guard are also on-scene. The U.S. Fish and Wildlife Service is addressing the issue of oil-covered Canada Geese. Press coverage can be viewed [HYPERLINK "http://www.chicagotribune.com/news/local/breaking/ct-portion-of-chicago-river-bubbly-creek-closed-after-oil-spill-20171027-story.html"] and [HYPERLINK "https://www.nbcchicago.com/news/local/Investigators-Search-for-Source-of-Mysterious-Oil-Spill-in-Chicago-River-453587893.html"].

UPCOMING EVENTS:

Fox River, Green Bay, Wisconsin Site Tour to Take Place on November 2, 2017

Key Message: The site tour will showcase EPA's largest environmental dredging project to date.

The site tour will be attended by Acting Regional Administrator Robert Kaplan and Senior Advisor to the Administrator Albert "Kell" Kelly, other EPA staff and Wisconsin Department of Environmental Quality. During the tour, Wisconsin DNR will give a presentation and provide a tour of the state of the art sediment processing plant. Weather permitting, attendees may be able to board one of the dredgers while in operation.

The Fox River sediment site, with PCB contaminated sediment over 39 river miles from Little Lake Butte des Morts to Green Bay, is nearing completion. This project is EPA's largest environmental sediment cleanup project to date. By the end of the project in late 2018, or early 2019, nearly 6 million cubic yards of sediment will have been dredged. The total volume of sediment dredged at the Fox River would fill Lambeau Field over seven times. In its ninth year of dredging, three hydraulic dredges will be used to remove about 565,000 cubic yards of PCB-contaminated sediment. In addition, about one acre of sediment will be capped and 179 acres will be covered with sand.

While EPA is the enforcement lead, the Wisconsin DNR is the technical lead. The Fox River project has been an exemplary example of collaboration between the federal government, state government and responsible parties.

UPCOMING MAJOR DECISIONS:

NONE

PAST WEEK ACCOMPLISHMENTS/HIGHLIGHTS:

Veolia Settlement Agreement reached on October 23, 2017
Key Message: EPA and Veolia have reached a proposed settlement agreement to resolve the company's appeal of the January 2017 Clean Air Act Title V operating permit for the company's hazardous waste incinerator in Sauget, Illinois.

On October 23, 2017, EPA and Veolia reached a proposed settlement agreement to resolve the company's appeal. The draft permit attached to the proposed agreement removes from the January 2017 permit the requirement to install continuous multi-metals emissions monitors and inserts a requirement to install mercury emissions controls on two incinerators. The draft permit also includes improvements to Veolia's procedures for analyzing hazardous wastes burned in the incinerators. EPA has posted a copy of the proposed settlement agreement on the Agency's website. EPA will publish a notice in the Federal Register, inviting public comment on the settlement agreement. If the agreement is finalized after public comment, EPA will propose a revised permit for Veolia's facility to replace the company's current permit, and again provide an opportunity for public comment.

On January 18, 2017, EPA renewed, a Clean Air Act Title V permit for Veolia, a hazardous waste incinerator located in Sauget, Illinois. Veolia filed a Petition for Review with the Environmental Appeals Board (EAB) on February 15, 2017. The primary bases for the Petition are the temporary installation/operation of continuous metals emissions monitors and the feedstream analysis plan requirements in the permit. At the request of EPA and Veolia, the EAB stayed all Petition proceedings until November 22, 2017, while EPA and Veolia negotiate the terms of a settlement agreement.

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Region 6

UPCOMING HOT ISSUES AND IMPORTANT DEADLINES

San Jacinto Waste Pits Superfund Site, Houston, Texas
On October 24, 2017, EPA issued an invitation to the potentially responsible parties for the San Jacinto Waste Pits Superfund Site to start negotiations for the remedy for the site. The remedy selected by Administrator Pruitt on October 11, 2017 entails the excavation and off-site disposal of 212,000 dioxin contaminated sludges at an estimated cost of $115 million.

World Series 2017, Houston, Texas
While EPA Region 6 response assets have not been activated to support the 2017 World Series, EPA Region 6 Emergency Response Branch has coordinated with federal, state, and local partners to verify the availability of response assets in preparation for games 3, 4 and 5 of the event from Friday, October 27 through Sunday, October 29, 2017, in Houston, Texas. In addition, an on-scene coordinator will be on stand-by in Houston.

Louisiana Gasoline Reid Vapor Pressure (RVP) revision
On October 23, 2017, the Region received a draft Technical Support Document in support of a planned revision to the Baton Rouge ozone maintenance plan SIP to allow the repeal of the low RVP requirement. On October 25, EPA provided feedback on the Technical Support Document. The States goal is to have this requirement removed before next summer's fuel blending season, which starts in April 2018.

Arkema Inc., Crosby, Texas
EPA received the additional information requested from Arkema by the October 17th deadline and we are reviewing the information to determine the completeness of the response.

Takata, Eagle Pass, Texas

TCEQ inspectors from the Laredo Regional Office conducted a site visit of the Eagle Pass Takata Storage facility on October 20, 2017. TCEQ also confirmed that the Fire Marshal for the City of Eagle Pass inspected the storage facility. No issues were reported. No further updates are available on the status of potential inflator disposal at Clean Harbors Deer Park.

Tar Creek Superfund Site, Miami, Oklahoma (Collaborative Federalism)
Sampling will continue in Operable Unit 5 during the week of October 30 through November 3, 2017, in order to collect data related to characterization of and potential risk related to sediment and surface water within the Tristate Watershed investigation area. This field event is being accomplished through joint coordination and cooperation with Region 7, three states (Oklahoma, Missouri, Kansas), eight Tribes (Quapaw, Peoria, Ottawa, Miami, Eastern Shawnee, Wyandotte, Seneca-Cayuga, and Cherokee), and other federal and state agencies (U.S. Fish and Wildlife, U.S. Geological Survey, Oklahoma Department of Wildlife). The project area consists of seven watersheds and covers approximately 437 square miles and 119 river miles.

Evangeline Training Center, Carencro, Lafayette Parish, Louisiana
The Department of Justice filed a complaint on October 19, 2017, in the Western District of Louisiana, alleging violations of the Clean Water Act (CWA) resulting from unauthorized discharges of pollutants

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into water of the United States. Evangeline Training Center is a large concentrated animal feeding operation (CAFO) located in Carencro, Louisiana that stables or confines about 500 horses for at least 45 days in any 12-month period. This facility has been discharging process waste water, including horse wash water and contaminated storm water runoff, to waters of the U.S. without a permit in violation of Section 301 of the CWA. The discharge flows through ditches and drainage ways that exit the facility at three different outfalls into the Francois Coulee or one of two unnamed tributaries, and then into the Vermillion River, a traditionally navigable water. Pollutants associated with CAFO discharges include nutrients, bacteria, and organic enrichment, which can contribute to water quality impairment in U.S. waters. In January 2016, EPA referred this civil action against Evangeline to DOJ, seeking injunctive relief and a penalty. LDEQ is a co-plaintiff. The facility has a history of recalcitrance.

Texas Water Quality Standards, Triennial Review

Ex. 5 Deliberative Process (DP)

Arkansas Regional Haze State Implementation
The Arkansas Department of Environmental Quality (ADEQ) shared their DRAFT State Implementation Plan (SIP) regarding Arkansas Regional Haze with EPA on October 10, 2017. EPA and ADEQ staff met on October 16 – 17 to discuss the draft and recommend revisions. We anticipate ADEQ starting the Public Comment Period on 30 October.

Bird Creek, Osage County, Oklahoma
All three respondents provided testimony and believe the contamination is a one-time occurrence, disputing EPA's contention that the Mississippi Chat is over-pressurized. Warren American Oil Company also testified that they would like to pump out the contamination from Bird Creek and are communicating with the landowner for permission. EPA is not approving this approach but will be observing this pump out event during the week of 13 Nov. The Osage Nation Environmental Department was contacted and invited to observe as well.

Wilcox Oil Company Superfund Site, Bristow, Oklahoma

EPA and the Oklahoma Department of Environmental Quality (ODEQ) recently conducted remedial investigation activities at the site. During this field event, the team collected site surface water, sediment and subsurface data to delineate contamination. Work under this field event is expected to complete in early November 2017. In addition, ODEQ and EPA, along with contractor, will meet with property owners and local officials to discuss future use planning, future use expectations, and potential reuse opportunities.

Valero Refining – Texas, L.P. (TPDES Permit No. TX0063355, WQ0001909000)
EPA will issue a Withdrawal of Interim Objection letter to the TCEQ regarding the revised permit and fact sheet submitted in response to the EPA's previous comments in a letter dated July 16, 2010. The applicant operates the Valero Refining (a petroleum refinery plant) located in Corpus Christi, Texas.

The TCEQ addressed the pending issues, and thus the TCEQ, as the permitting authority may proceed with permit issuance.

Renewal of EPA's Storm Water Collaborative Pilot with TCEQ and the Texas Association of Builders [TAB]
Following an October 24th meeting between the National Association of Homebuilders, senior EPA officials and the Administrator, over a myriad of issues and the request for changes to [Federal] storm water enforcement practices, a call was made to TAB to determine their support to "renew/refresh" the 2008 agreement. TAB said they would be very interested, particularly with the resurgence of building and expected construction following Hurricane Harvey. It is hoped that any such agreement will help to develop best practices in other parts of the county.

Altec Petroleum Group Public - Notice of Proposed Administrative Order
During the week of October 30, a *public notice* will be posted soliciting comments on a proposed Administrative Order against Respondent, Altec Petroleum Group, Inc. US EPA Docket No. SDWA-06-2018-1101, which requires the Respondent to submit annual operations reports for an injection well known as SWD 1 located on the Osage Mineral Reserve in Osage County, Oklahoma, for the reporting periods April 2015 through March 2016 and April 2016 through March 2017. Comments will be solicited for 30 days from the date of the notice.

NEPA

Houma Navigation Canal Deepening Project, Terrebonne Parish, Louisiana
The Louisiana Department of Transportation and Development (LADOTD) prepared a Final Integrated Feasibility Report and Environmental Impact Statement (IFR/EIS) for the Houma Navigation Canal Deepening Project, located in Terrebonne Parish, Louisiana. LADOTD is proposing to deepen waterways to reduce future waterborne transportation costs and allow the efficient passage of large oil and gas sector barges, new vessels built at the Houma shipyards, and vessels working in the Gulf. EPA will support LADOTD by meeting our basic statutory requirements for participating in the environmental review process.

UPCOMING PUBLIC EVENTS

October 27 – Arkansas Environment Federation 50th Annual Convention, Hot Springs, AR. Acting Deputy Regional Administrator will keynote.

November 7 or 14 – The House Energy and Commerce Committee Hearing will hold a follow-up hearing on Hurricane Response activities.

November 29 – 30 - Regional Tribal Operations Committee (RTOC) meeting, Tulsa, Oklahoma

UPCOMING DECISIONS

Oklahoma Corporation Commission UST Program Approval

Ex. 5 Deliberative Process (DP)

PAST WEEK ACCOMPLISHMENTS

Citizen Potawatomi Nation of Oklahoma
EPA sent the final concurrence package to Headquarters, on October 18, 2017, for the approval of treatment in a similar manner as a state (TAS) for Citizen Potawatomi of Oklahoma to administer water quality standards and certification program under the federal Clean Water Act.

Oklahoma Coal Combustion Residual Permit Program
EPA is engaging the tribes in consultation and coordination regarding the Coal Combustion Residuals (CCR) Permit Program Application from the State of Oklahoma. On August 3, 2017, EPA Region 6 received the Application. The Oklahoma Department of Environmental Quality has requested review and approval of the program consistent with the 40 CFR 257, Subpart D pertaining to coal combustion residual units. EPA began the government-to-government consultation by holding a conference call on October 19, 2017. The consultation is not anticipated to impact the timeline for approval by the Administrator.

PENDING ACTIONS (Pending Federal Register Publication)

Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Final Rule FRL 9969-73-Region 6

Oklahoma: Final Approval of State Underground Storage Tank Program Revision FRL 9968-28-Region 6 and 9968-29-Region 6

Approval and Promulgation of Air Quality Implementation Plans; Arkansas; Infrastructure State Implementation Plan Requirements for the National Ambient Air Quality Standards, FRL 9970-19-Region 6

Region 7

Hot Issues

R7 Puerto Rico Recovery Support

Key Message: R7 continues to partner with R6 to staff multiple positions in the South Branch in Ponce, Puerto Rico (PR) to support R2 with the response to Hurricanes Irma and Maria. To date, R7 has deployed three CICs and six OSCs to PR and one RESL to the Edison EOC. This week, R7 is also planning to deploy an Assistant Situation Unit Leader to the Edison EOC, an Assistant Safety Officer to the JFO in San Juan, and backfills for three OSCs. On Nov 1, the original six R7 OSCs and one CIC will demobilize. The R7 Water Division has also been engaged by R2 to determine availability for a WERG team to deploy to PR and will develop a list of available personnel by the end of the week.

Last Week's Highlights

West Lake Listening Sessions and Stakeholder Meetings (Bridgeton, MO)

Key Message: On October 19, 2017, EPA held a series listening sessions and stakeholder meetings to discuss the West Lake Landfill Superfund Site in Bridgeton, Missouri.

- Attendees included EPA HQ senior leadership, EPA Region 7 Superfund and Public Affairs management and staff, Congressional office representatives, the Mayor of Bridgeton, school district superintendent, local hospital representatives, and other stakeholders.
- The community listening session had over 300 members of the public in attendance.
- Following the meetings and listening sessions, EPA is evaluating options for additional testing at the West Lake landfill.
- While EPA remains confident that the data collected to date allows the agency to make a proposed remedy decision, the agency is proactively responding to community concerns.

Sporlan Valve Site Governor Letter (Washington, MO)

Key Message: EPA R7 is in the process of finalizing a letter from the Regional Administrator to the Governor of Missouri requesting formal support for listing the Sporlan Valve site in Washington, MO on the National Priorities List (NPL).

- The site has elevated concentrations of PCE, TCE, DCE, and VC in groundwater, residential sub-slab, and residential indoor air and a VOC groundwater plume that has migrated beyond the property boundaries, threatening public groundwater wells and private drinking water wells.
- The state, through MDNR, has verbally expressed support to list the site on the NPL and has requested EPA coordinate transmitting the letter to the Governor with MDNR to ensure the Department has sufficient time to brief local and state representatives on the proposed action prior to the State's receipt of the letter.

This Week's Highlights

Nebraska Request for Assistance at Hamilton County Drum Site (Aurora, NE)

Ex. 7(A)

Ex. 7(A)

Ex. 7(A)

Madison County Public Meetings (Fredericktown, MO)

Key Message: On October 24, 2017, EPA R7 held a meeting with the Little Saint Francis River Watershed Technical Advisory Committee (TAC) in Fredericktown, MO to discuss comments on the Watershed Master Plan and related data needs.

- Attendees included a City Alderman, the city water plant superintendent, Madison County Health Department representatives, US Fish and Wildlife NRD staff, and representatives from the MDNR and EPA.
- EPA intends to undertake a comprehensive inventory of geophysical and geochemical character in the watershed above the Fredericktown City Lake, but will likely wait for the new contracting venue in 2018 to compile existing and pending watershed data and develop a data gaps sampling strategy.
- The Watershed Master Plan schedule will be modified until the additional data needed to guide the plan and future RI/FS sampling in the watershed is available.
- A Madison County Environmental Round Table meeting was also held to discuss updates on site cleanup and PRP searches, child blood lead screening activities and results, lead outreach and education activities, soil sampling and disposal activities, and residential property sampling and access activities.
- Attendees included the same group as the TAC meeting as well as representatives from Missouri Department of Health and Senior Services, ATSDR and EPA ECO.
- On average, about 22% of properties sampled by the Madison County Health Department (MCHD) have exceeded EPA's remediation goal.
- Almost 600 properties have been sampled to date by the County under the current grant and MCHD is going to start a door-to-door campaign to contact the ~500 properties that have never responded to the EPA or Madison County.
- EPA also discussed the upcoming Superfund Job Training initiative to kick off in January/February 2018 to train up to 15 local residents to work on the three-year residential cleanup contract.
- The MCHD trustee gave a statement of support for EPA's efforts and the benefits to community health as well as the economy of Madison County.

EPA Region 7 Joins Topeka, KS and KDHE in Brownfield News Conference

Region 7 Principal Deputy Regional Administrator Cathy Stepp joined Topeka, Kansas Mayor, Interim City Manager, and the Brownfields Coordinator for Kansas Department of Health and Environment for a news conference recognizing the city's award of an EPA Brownfield Assessment Grant. The city received a $300,000 EPA Brownfields Assessment Grant to support initial steps for a Riverfront Redevelopment Project near the Kansas River.

Region 8

REGION 8 WEEKLY REPORT – October 26, 2017

Hot Issues –

Visits with Montana Officials and Butte Trip October 30-Nov. 1

Key Message: Region 8 Regional Administrator Doug Benevento plans to meet with MT Governor Steve Bullock, MT Attorney General Tim Fox, Montana Department of Environmental Quality, Butte Silver Bow County Commissioners, and community stakeholders in Butte.

- A site visit with Montana Department of Environmental Quality to the Butte Superfund Site is planned for 11/1.
- Governor's meeting on 10/30 will include discussion of path forward on Butte Superfund Site.
- MTDEQ meetings will include discussions on coordination of oil & gas compliance and enforcement activities.

Upcoming Public Events – None

Upcoming Major Decisions –

Montana Nutrient Variances

Key Message: EPA is taking action on Montana's 2017 Water Quality Standards Nutrient Variances on October 31.

- On February 26, 2015, EPA approved Montana's (MT) numeric nutrient criteria (NNC) for total nitrogen (TN) and total phosphorus (TP) and a 20-year general variance for public and private dischargers with a July 1, 2017 expiration date.
- On May 31, 2016, the Upper Missouri Waterkeeper (UMW) challenged EPA's 2015 approval of MT's general variance. EPA argued that the case is currently moot because the old variance expired in July 2017. The Court has not issued a decision to date.
- On June 27, 2017, MT submitted a new variance for nutrients that supersedes the previous one.
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Ex. 5 Deliberative Process (DP)

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Last Week Highlights –

Lead Education at Three Denver Health Clinics During Lead Poisoning Prevention Week (LPPW)

Key Message: During LPPW, October 23-27, 2017, the Region 8 Lead Program promoted lead poisoning prevention education in conjunction with the Colorado Department of Public Health and Environment Lead Program and the Denver Environmental Quality Lead Program at three Denver Health Clinics in the metro area.

- The outreach education activities at the Denver Health Westside Women, Infants and Children (WIC) clinic, Eastside WIC clinic and the Lowry WIC clinic reached several environmental justice communities and Denver Lead Place-based Communities.
- The outreach efforts encourage families with young children to have their children tested for elevated blood-lead levels; educated families about lead hazards and methods to prevent lead exposure where children live, learn and play; and increased awareness of compliance requirements for Lead-Safe Work Practices under EPA's Lead Renovation, Repair and Painting Rule.

Fountain, Colorado City Council Meeting with Peterson Air Force Base and Region 8 Representatives to Discuss Local Groundwater Contamination

Key Message: The council expressed that there has been a lack of communication with the Fountain City Council about PFCs contamination impacting their water supply, and requested more regular updates from the Air Force.

- EPA received feedback that we need to do a better job rolling out new drinking water health advisories. In response, Region 8 explained that the EPA Office of Water has been working with the Local Government Advisory Committee and the Association of State Drinking Water Administrators to get specific feedback from local and state governments on how we can make improvements with this process. We are also evaluating our overall risk communication strategies to ensure they are understandable and effective.
- Peterson AFB committed to work with the community, Federal, State, and local agencies as a team to further resolve these issues, and to be transparent.
- The Air Force is also drafting written agreements with each water district that will cover future expenses, and is coordinating within DOD to determine what they can and cannot pay for.

Lake Koocanusa Bi-National Water Quality Meetings in Montana October 16-18

Key Message: Region 8 participated in meetings among state, provincial, federal and tribal representatives to address transboundary water quality concerns in the Lake Koocanusa, a bi-national reservoir on the Montana-Canadian border.

- Region 8 has participated for several years in the Lake Koocanusa Monitoring and Research Working Group, formed by Montana and British Columbia (BC) to develop site-specific criteria for selenium and other pollutants in the Lake.
- Levels of selenium, a toxic bioaccumulative metal, have been increasing sharply in water and fish tissue in the US portion of Lake Koocanusa over the past decade. The selenium comes from runoff from coal mines in BC.
- Once the working group reaches agreement on scientifically defensible selenium criteria for the Lake, the expectation is that BC and Montana will adopt those values through their respective rulemaking processes. Montana's selenium criteria would then be submitted to EPA for review

and approval/disapproval under the Clean Water Act. BC's selenium objectives would be incorporated into the discharge permit for the mines.

- The Confederated Salish and Kootenai Tribes in Montana and the Kootenai Tribe of Idaho have, in concert with Kootenai Tribes in Canada, repeatedly raised concerns with the US Secretary of State, the Canadian Foreign Minister, the Premier of BC and the Governor of Montana about the long term impacts of pollution coming from the mines. The Tribes have hunting and fishing treaty rights in and around the lake.
- Region 8 coordinated with the Office of Public Affairs and the Office of International and Tribal Affairs on our participation and messages.

San Juan and Animas Rivers Watershed Long-Term Monitoring Program Planning Meeting in Albuquerque, NM on October 18-19, 2017

Key Message: At this meeting, Region 8, 6, 9, HQ and jurisdictions potentially impacted by the Gold King Mine release developed a draft approach for a watershed-wide, long-term water quality monitoring program identifying monitoring activities for funding under the Water Infrastructure Improvements for the Nation Act (WIIN Act). During this meeting, the participants achieved the following outcomes:

- Identified the questions that the water quality monitoring plan and activities will be designed to address.
- Formed a workgroup to develop a watershed-wide monitoring plan and determine how jurisdiction-specific monitoring plans will align with the proposed plan.
- Came to consensus on the proposed recommendations for jurisdiction-specific projects to be funded under the WIIN Act.
- Specified next steps and associated milestones/deadlines for EPA, jurisdictions, and the contractor necessary for finalizing funding decisions and developing a draft monitoring plan.
- Participants included: Colorado, New Mexico, Utah, Southern Ute, Navajo Nation, and representatives from EPA Regions 6, 8, 9, OW, and ORD.

Region 9

Important/urgent matters:

No. California fire response: on Saturday, FEMA gave us a very extensive mission assignment to remove all household and commercial hazardous waste associated with the 7,000 burned structures in Sonoma and Napa counties before Christmas. On Monday, the FEMA RA asked me to triple our capacity, from clearing l00 parcels per day to 300 per day, to enable the Corps of Engineers to follow us in removing all solid waste/nonhazardous debris. See attached photo. With strong support from Regions 8, l0, and OLEM, we scaled up rapidly, and began on-the-ground screening of properties (for asbestos, paints, etc) which informs the EPA removals to follow. We are pushing FEMA and GSA to help us establish a local command post, so we can better deliver this enormous responsibility and meet FEMA's expectations. On Saturday, we'll join elected officials at community meetings in Sonoma and Napa. The regional and national media coverage has been very favorable in noting EPA already at work. We are working closely with the State on small drinking water systems damaged/destroyed, some of which are on boil-water or do-not-drink orders.

External Engagement:

Annual Tribal Conference: next Monday afternoon through Thursday, we'll cohost our 25th annual tribal conference inland of San Diego, at the Viejas tribe's facilities. Given Region 9's relationship with 148 tribes, this meeting typically draws several hundred participants, and features an agenda of 60 different sessions and four field trips. I will also meet with elected Tribal leaders to address any new issues of concern.

So. California manufacturers: next Monday in San Diego, I'll address the Industrial Environmental Assn.'s 33rd annual meeting, and discuss our priorities, challenges, and opportunities for collaboration.

Biosolids: Nov. 1-2, we'll cohost the 12th annual California Biosolids Alliance Symposium in Sacramento with state, local and academic partners to focus on biosolids reuse, permitting, soil health and infrastructure needs.

Past week's highlights:

Children's Environmental Health: this week we cohosted a well-attended research-oriented national meeting of EPA/NIEHS children's health partners, with robust participation from the Pediatric Environmental Specialty Units (PEHSU), academic researchers, and state partners. From 1999 to 2014, PEHSU reached over 700,000 individuals with 8,000 consultations and educational outreach.

CA SIP Action: Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP) The rule is part of the local area's strategy to reduce wood smoke from the residences and businesses that rely on wood for heat. Over the last two years, we provided a $2.5 million targeted air shed grant and assisted the local district in developing a voluntary program to replace old wood stoves with cleaner, EPA-certified ones. The rule is part of a broader

strategy that incentivizes more stove replacements through real estate transactions and use restrictions based on ambient air quality.

Water Reuse: we hosted a national workshop on institutional barriers to potable reuse of wastewater in Racine, WI. The meeting was cosponsored by the ReNUWIt research consortium, the Johnson Foundation, and OW.

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Region 10

Hot Issues

None this week.

Upcoming Public Events

Region 10 Participates in Stakeholder Meeting on Oregon's Changing Aquatic Resource Mitigation Framework: On November 9, Region 10 wetlands program staff will make a presentation at a stakeholder meeting hosted by the Oregon Department of State Lands for invited representatives of industry associations, conservation organizations, local government associations, and environmental consulting businesses. The purpose of the meeting is to frame the new aquatic resource mitigation program that Oregon is planning to adopt.

Region 10 Hosts Columbia River Cold Water Refuge Project Public Workshop (Oregon): Region 10's Office of Water and Watersheds will host a public workshop in Portland, Oregon on November 8th. The purpose of the workshop is to provide an update on the Columbia Cold Water Refuges Project, share preliminary analyses and results, and gather stakeholder feedback. Cold Water Refuges are areas that are colder than the main river temperature. When the Columbia River is too warm to support salmon and steelhead (during the summer), the fish make use of the cold water to migrate up the Columbia River to spawning grounds. Protecting and restoring these CWR is important for the survival of migrating salmon and the recovery of future salmon populations. The Project is a Reasonable Prudent Alternative resulting from a Jeopardy Decision by the National Marine Fisheries Service on parts of Oregon's water quality standard for temperature.

Pending Decisions

Region 10 Agrees to Deadline Extension for Fairbanks PM 2.5 Attainment: In coordination with the HQ Office of Air Quality Planning and Standards and General Council, Region 10 finalized the response to the Alaska Department of Environmental Conservation's September 15, 2017 notice of their intent to seek an extension of the attainment date for the Fairbanks PM2.5 Serious nonattainment area because it is impracticable for them to attain the standard by the December 31, 2019 deadline. The Clean Air Act allows states to apply for an extension of no more than five years. If the deadline extension is granted, the Serious attainment date for Fairbanks would be December 31, 2024. A new attainment date would also change the deadline for submission of the Serious area attainment plan. Based on ADEC's commitment to taking necessary actions for an extension request, and consistent with CAA section 189(b)(2), our response to ADEC agrees that it is reasonable for the Serious area SIP submission date to be December 9, 2018. The response letter is routing for review/signature and we hope to have it signed by the Acting RA and sent to ADEC by October 31, 2017.

Upcoming Approval of Oregon's Recreational Water Quality Criteria: Oregon's Department of Environmental Quality submitted revisions to its water quality standards for bacteria in September 2016, with additional clarifications submitted in early 2017. The revisions included updates to its recreational water quality criteria in marine waters, designated use maps that clarify where marine and freshwater recreation occur, and a new designated recreational shellfish harvesting map. Region 10 hopes to approve the state's water quality standards revisions in the next week or two.

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Oregon DEQ Seeks Region 10 Assistance with its Cleaner Air Oregon Rule: Oregon Department of Environmental Quality contacted EPA on October 20th with a request for feedback on their recently released draft Cleaner Air Oregon Rule. Public comments are due on the draft rule in 60 days and Oregon needs to finalize the rule by March or April 2018. Oregon is hoping that in early January, EPA could help consider the rule and the public comments and provide informal assistance on their rule. Though there will be some SIP changes as part of the rule (permit applications will now need additional info), the bulk of the rule is not subject to the SIP, so any rule writing assistance would be for the purpose of general state support, and not required oversight. The state would like to tap into our EPA regional expertise to ensure their rule is as well written as it can be. The Region's participation would be beneficial for the state relationship and help improve the quality of a new a complicated rule.

Jordan Cove Energy LNG/Pacific Connector Gas Pipeline (Oregon): The EPA has been invited by FERC (the lead federal agency for the NEPA process) to serve as a cooperating agency on the Jordan Cove project. The proposed project would construct and operate a liquefied natural gas export terminal on the North Spit of Coos Bay off the Oregon coast. The terminal would be designed to liquefy approximately 1.04 billion cubic feet of LNG per day for export to foreign markets and be visited by approximately 120 LNG carriers per year. The associated Pacific Connector pipeline would be approx. 235 miles long, extending from connections with other interstate pipelines near Malin, Oregon to the Jordan Cove LNG terminal at Coos Bay. Two previous projects at this site were canceled due to market changes and/or FERC denial. The EPA served as a cooperating agency on the previous iterations of this project as well. While the EPA does not have a direct permitting role for this project, we bring NEPA program and other related expertise to the project. It is anticipated that EPA will accept the offer to cooperate on the JCPC project.

Hilcorp Exploration Permits in Cook Inlet: In June 2017, the Bureau of Ocean Energy Management held a lease sale in federal waters of lower Cook Inlet, the first federal lease sale since 2008. BOEM received more than $3 million in high bids from Hilcorp Alaska for 14 tracts, covering approximately 76,600 acres. Hilcorp's consultant has contacted Region 10 to discuss air permitting requirements for potential exploration in Cook Inlet. The meeting may happen as early as the week of November 6. Region 10 is the air and water permitting authority for the Cook Inlet Outer Continental Shelf. In 2015, Region 10 issued a NPDES general permit for discharges from exploration activities to federal waters of Cook Inlet; the permit is effective from September 2016 to August 2021. Hilcorp has indicated that they will submit an exploration plan for multiple lease blocks to BOEM in early 2018.

Last Week Highlights

Region 10 Supports Oregon's Brownfields Programs: On October 26, Region 10 Brownfields staff met with the City of Portland Brownfields Program and Multnomah County Environmental Health regarding potential assessment and cleanup sites in Portland. They also attended a design charrette for the Beaverton Public Safety Center which will be constructed on a Brownfield site for which the City plans to apply for an FY18 EPA Brownfields Cleanup Grant. On October 27, staff will meet with Oregon DEQ, the Cities of Eugene, Springfield, and Lane County to kick-off the new Eugene-Springfield-Lane County Brownfields Coalition assessment grant which was awarded in FY17.

Brownfields Presentation at Infrastructure Conference in Washington: October 24-26, Region 10 Brownfields staff attended the Infrastructure Assistance Coordinating Council (IACC) in Wenatchee to deliver a joint Brownfields session with representatives from the Washington Departments of Commerce and Ecology.

EPA will discuss Brownfields resources available to address contaminated sites in communities throughout Washington, highlighting several successful projects. Staff will also participate in a Tech Team Workshop for attendees who have specific projects for which Brownfield funding or technical assistance may be available.

Region 10 Participates in Arctic Oil Spill Workshop: The Arctic Domain Awareness Center (ADAC) at the University of Alaska, a Department of Homeland Security Center of Excellence, hosted a two-day workshop October 23-25 in Anchorage, under the theme of "Coping with the unthinkable…an Arctic maritime oil spill." EPA Region 10's Alaska Operations Office attended this Incidents of National Significance (Arctic IoNS) oil-spill focused workshop, intended to bring U.S. and Canada Coast Guard members, select researchers, operators and government officials together to gain a better understanding of current areas of concern in coping with an Arctic oil spill, in order to identify under-researched gaps and shortfalls in science and technology for addressing such a spill.

Region 10 Provides Basic Inspection Training for State of Idaho Staff: EPA Region 10 hosted formal Basic Inspection Training (BIT) for the Idaho Departments of Agriculture and Environmental Quality in Boise on October 17-19. This class is one of the courses required as part of the credentialing process for inspectors. More than 60 attendees representing EPA, ISDA, IDEQ and various Idaho Department of Health and Welfare district health departments enrolled in the class. Feedback received was very positive. Additional NPDES training will be offered later this year.

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Office of Administration and Resources Management

Hot Issues

Emergency Response Volunteers
Both FEMA and SBA numbers/status remain unchanged. The deployment of FEMA volunteers has slowed.

Emergency Leave Transfer Program Policy
The U.S. Office of Personnel Management established Emergency Leave Transfer Programs for federal employees adversely affected by Hurricanes Harvey, Irma, and Maria. On October 17, 2017, OARM issued a policy bulletin (HR Bulletin 18-001B) which establishes EPA's ELTP. The bulletin [HYPERLINK Ex. 6 Personal Privacy (PP)] provides for the transfer of annual leave to employees adversely affected by disasters or emergencies as declared by the President. Employees are encouraged to visit the [HYPERLINK Ex. 6 Personal Privacy (PP)] to access the policy, procedures and answers to frequently asked questions. An emergency leave recipient may receive a maximum of 240 hours of donated annual leave at any one time from the ELTP for each disaster or emergency.

2017 "Use or Lose" Deadline
The deadline to schedule "use or lose" leave for restoration eligibility and obtain supervisor approval is November 25, 2017. The 2017 leave year ends on January 6, 2018.

Upcoming Public Events

None

Upcoming Major Decisions

None

Last Week's Highlights

Suspension and Debarment
On Friday, October 20, 2017, a notice of proposed debarment was issued by the EPA Suspension and Debarment Official to a Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) who was convicted in the U.S. District Court for the Eastern District of Michigan of conspiracy to defraud the United States, to commit wire fraud, and to violate the Clean Air Act.

Earthquake Drill
On Thursday, October 19, 2017, OARM coordinated EPA headquarters' "Great American Shakeout Earthquake Drill". Upon hearing the public address announcement, participants were encouraged to 1) drop to the ground, 2) take cover, and 3) hold on to something sturdy. More information can be found in the building's [HYPERLINK " Ex. 6 Personal Privacy (PP) "].

Office of Air and Radiation

Upcoming Hot Issues and Important Deadlines

- Ex. 5 Deliberative Process (DP)
- **Wildfires and Air Monitoring** – [HYPERLINK "http://AirNow.gov"] is continuing to provide a valuable resource to the wildfire-impacted western U.S. and areas downwind with air quality forecasts, real-time air quality conditions, and health recommendations as smoke from the fires causes unhealthy to hazardous levels of particulate matter. This Fall, [HYPERLINK "http://AirNow.gov"] has experienced its highest usage in its 20-year history, as heavy smoke from wildfires raised people's interest in air quality and health – first in the Pacific Northwest, then later in California. In the last week, traffic to the site has reached over 2 million visits, and [HYPERLINK "http://AirNow.gov"] continues to issue social media to keep the public informed of steps they can take to protect themselves.

State Implementation Plan (SIP)-Related Actions

- The Regions report that the following SIP-related action was signed this week:
  - **Region 1: Withdrawal Notice -** New Hampshire incinerators, open burning, and fugitive dust regulations

Upcoming Meetings, Public Events, or Other Public Releases

- **Participation on the U.S. Delegation for the Framework Convention on Climate Change - 23rd Conference of the Parties (COP):** EPA staff plan to participate on the U.S. delegation to the upcoming COP in Bonn, Germany. (The COP runs from November 6-17).

- **Annual Meeting of the U.S.- Canada Air Quality Committee:** On November 2, 2017, the U.S.-Canada Air Quality Committee will meet here in Washington, D.C. to review implementation of the U.S.-Canada Air Quality Agreement. The U.S. and Canada entered into this agreement in 1991 to address transboundary air pollution.

Upcoming Decisions

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-
- Ex. 5 Deliberative Process (DP)

Office of Chemical Safety and Pollution Prevention

IMPORTANT DEADLINES

TSCA New Chemicals Determinations			
Determination Type	**Pending on 10/24/2017**	**Determinations Completed[1] as of 10/24/2017**	**Determinations Posted on the Website as of 10/24/2017**
# of "not likely" determinations	**1**	**103[4]**	**103[4]**
# of §5(e) Orders signed by both EPA and the submitter	-	**284**	**280**
# of §5(e) Orders signed by EPA and awaiting submitter signature	**75**	-	-
# of non-Order SNURs/"not likely" determinations	**0**	**0**	**0**
# of cases in post-FOCUS final determination development[5]	**227[3]**	-	-
# of cases flagged for in-depth review	**53**	-	-
# of PMNs, SNUNs and MCANs awaiting FOCUS (within 90-day review)	**80**	-	-
# of LVE/LOREX exemption grants	-	**466**	**460[5]**
# of LVE/LOREX exemption denials	-	**101**	**93[5]**
Total number of cases	**436**	**954**	-
Normal active workload for the New Chemicals Program	**300**	-	-

Number of cases undergoing testing or data development by submitter	**79**	-	-
Backlog[2]	**57**	-	-

[1]"Determinations Completed" means that EPA has completed its reviews on these cases and that final determinations have been made by EPA under TSCA section 5(a)(3).
[2] (Total number of cases) – (Normal active workload for the New Chemicals Program) - (Number of cases undergoing testing or data development) = Backlog
[3] Of these cases, approximately 73 are "active" lung toxicity cases that are suspended while submitters conduct testing to develop data on pchem properties and toxicity.
[4] "Not Likely" determinations are not posted until the final signed determination document is prepared and has been shared with submitter.
[5] These cases are those for which Post-FOCUS work is underway to develop: not likely determinations; non-Order SNURS coupled with not likely determinations; or section 5(e) or 5(f) Orders. When the OPPT Office Director decides which of these regulatory paths to follow, the case is moved to: Row 3 when the section 5(e) or 5(f) Order is sent to the submitter for signature; Row 4 when the SNUR is published; and Row 1 when the determination document is sent to the OPPT OD for signature.

HOT ISSUES

Alternative Test Methods and Strategies to Reduce Vertebrate Animal Testing: November 2nd Public Meeting. The Frank R. Lautenberg Chemical Safety for the 21st Century Act amended Section 4(h) of the Toxic Substances Control Act (TSCA) to require EPA to develop a Strategic Plan by June 22, 2018 to promote the development and implementation of alternative test methods and strategies to reduce, refine or replace vertebrate animal testing. OCSPP announced a public meeting which will occur on November 2nd, 2017 from 9:00 am to 4:45 pm to obtain input from interested parties and the public on the Agency's development of the Strategic Plan. OCSPP believes this early feedback will be important in developing a strong Strategic Plan.

UPCOMING DECISIONS

Wolbachia Mosquito Registration - OPP plans to issue a registration decision on the "*Wolbachia* Mosquito" in early November. Male mosquitoes carrying the *Wolbachia* bacterium, trade name ZAP Males®, were proposed for registration by EPA on September 12. The public participation period for this action closed on September 27. ZAP Males® were submitted to EPA as a new microbial pesticide by MosquitoMate, Inc. If registered, this would be the first pesticide of its kind to utilize live mosquitoes to control mosquito populations of a specific species (*Aedes albopictus*). This particular species is of critical importance to human health as it can carry diseases, such as the Zika virus, Chikungunya virus, and West Nile virus. ZAP Males® mate with females in the environment, but their offspring do not survive into adulthood. Thus, with continual release throughout the mosquito season, the natural population declines over time. Neither the bacterium, nor the mosquito were genetically engineered to create the ZAP Males®.

UPCOMING MEETINGS AND PUBLIC EVENTS

Pesticide Program Dialogue Committee Meeting November 1-2. EPA's Office of Pesticide Programs will hold a public meeting of the Pesticide Program Dialogue Committee (PPDC) in the first floor conference center at One Potomac Yard South. The PPDC is a federal advisory committee, chartered under the Federal Advisory Committee Act (FACA), Public Law 92-463, representing sectors from pesticide industry and trade associations, pesticide users, growers, commodity groups, environmental/public interest and animal rights groups, federal and state/local/tribal governments, academia, public health organizations and the general public. EPA established the PPDC in September 1995 to provide advice and recommendations to the EPA Administrator on issues associated with pesticide regulatory development and reform initiatives, evolving public policy and program implementation issues, and science issues associated with evaluating and reducing risk from use of pesticides. Topics that will be discussed at the meeting include: metrics for state pollinator protection plans, dicamba formulations, pesticide synergy, the Pesticide Registration Improvement Act (PRIA), Worker Protection Standard (WPS), and certification of pesticide applicators.

Non-Governmental Organizations Stakeholder Meeting, November 2. Following the PPDC, EPA will hold its annual meeting with NGOs. Topics for discussion include EPA Regulatory Reform and the OPP budget, Worker Protection Standard, and Endangered Species Act Consultations. Participating NGOs will include the American Bird Conservancy, Beyond Pesticides, Center for Food Safety, Farmworker Justice, Natural Resources Defense Council, and Northwest Center for Alternatives to Pesticides.

Technical Working Group on Pesticides, November 7-9. The meeting of the Technical Working Group on Pesticides (TWG) is being hosted by Mexico this year and is scheduled to take place November 7-9, 2017, in Guanajuato, Mexico. Rick Keigwin, Director, Office of Pesticide Programs, is the U.S. representative to the Executive Board of the TWG and is the head of the U.S. delegation to the meeting. The TWG serves as a focal point for addressing pesticide issues arising in the context of liberalized trade among Canada, Mexico and the United States, while recognizing environmental, ecological and human health objectives. Its goal is to align the North American registration and maximum residue limit (MRLs) systems for pesticides and products treated with pesticides and make work-sharing a way of doing business. The TWG 5-year initiative commits the EPA to certain types of work including: joint reviews, risk assessments, and joint and coordinated development of harmonized risk assessment methods.

Inventory Reporting Webinar, November 29. EPA scheduled three webinars to assist the regulated community with reporting under the TSCA Inventory Notification (Active-Inactive) Rule, published in the Federal Register on August 11, 2017. This rule requires industry to report chemicals manufactured or imported in the U.S. over the past 10 years. Each identical webinar will include an overview of reporting requirements, a demo of the electronic reporting application (Central Data Exchange (CDX)), and will provide time for questions and answers. The first webinars occurred on September 27 and October 25, 2017. The remaining webinars is scheduled for 1-3 PM EDT on November 29, 2017.

LAST WEEK HIGHLIGHTS

Federal Chemical Reform California Panel Discussion. On October 20, 2017, Jeff Morris, Director, Office of Pollution Prevention and Toxics, participated in a panel discussion on "Federal Chemical

Reform as Seen Through the California Lens" during the 2017 Environmental Law Conference at Yosemite. The Conference was sponsored by the State Bar of California Environmental Law Section.

Formaldehyde Voluntary Consensus Standards. On October 25, OCSPP published a direct final rule to update several voluntary consensus standards listed at 40 CFR § 770.99 and incorporated by reference in the Formaldehyde Emission Standards for Composite Wood Products rule. These updates apply to emission testing methods and regulated composite wood product construction characteristics. Several of those voluntary consensus standards (technical specifications for products or processes developed by standards-setting bodies) were updated, withdrawn, and/or superseded through the normal course of business by these various bodies to take into account new information, technology, and methodology.

Mercury Reporting Rule. On October 26, OCSPP published a proposed rule to require reporting from persons who manufacture (including import) mercury or mercury-added products, or otherwise intentionally use mercury in a manufacturing process. EPA is required by amended TSCA to carry out and publish in the Federal Register no later than April 1, 2017, and every three years thereafter, an inventory of mercury supply, use, and trade in the United States. OCSPP published its initial inventory report in March 2017. The proposed rule, when finalized, would support future, triennial publications of the inventory. Based on the information collected, the agency is directed to identify any manufacturing processes or products that intentionally add mercury and recommend actions to achieve further reductions in mercury use.

Chemical Review Committee of the Rotterdam Convention, October 22-27. OPP scientist, Monique Perron, attended the Chemical Review Committee (CRC) meeting, a subsidiary body of the Rotterdam Convention. The CRC meetings are held every year to consider notifications from countries who have banned or severely restricted chemicals and determine if the chemicals should be included on a Prior Informed Consent (PIC) list, which is intended to promote shared responsibility and cooperative efforts in the international trade of chemicals. During the meeting, the committee considered notifications for 13 chemicals and two pesticide formulations. Monique also serves as the OPP point of contact for the Persistent Organic Pollutants Review Committee (POPRC) of the Stockholm Convention, which met October 17-20. The POPRC evaluates proposed chemicals for listing, which would require parties to take measures to eliminate or reduce the release of persistent organic pollutants.

National Lead Poisoning Prevention Week, October 22 -28. Each year National Lead Poisoning Prevention Week brings together individuals, organizations, industry, and state and local governments to help increase lead awareness by using their efforts and collaborations to reduce childhood exposure to lead. The theme for National Lead Poisoning Prevention Week is "Lead-Free Kids for a Healthy Future," and this year featured a focus on testing children for elevated blood lead levels. OCSPP, in support of activities led by the U.S. Department of Housing and Urban Development and the Centers for Disease Control and Prevention, provided information to the public to protect against lead poisoning.

Office of the Chief Financial Officer

Hot Issues

- The Senate Appropriations Subcommittee on Interior, Environment and related Agencies has delayed mark-up of its version of the FY 2018 appropriations bill.
- After Policy Team review, OCFO submitted estimates for potential hurricane supplemental funding to OMB, which OMB is reviewing October 26 and 27. The estimates include Hurricane Harvey and Irma needs and Puerto Rico and Virgin Island needs but not California fire needs. To date, EPA has received 41 mission assignments or agreements from other federal agencies for a total of $126.5 million to support disaster responses, including $51 million to support the California wildfires, all of which is in addition to EPA's base appropriated funding.

Upcoming Public Events

- Public comment underway through October 31 on draft *Strategic Plan* through the Federal Register Notice and Regulations.gov website. The pace of comment submissions is increasing, currently about 20 per day. Received 299 unique comments to date with about 80 percent on climate change/clean power plan/sound science.

Upcoming Major Decisions

- On October 26, Acting CFO requested Senior Leaders rank by November 3 the top three enterprise risks resulting from the risk assessments completed for the strategic objectives in the draft *FY 2018-2022 EPA Strategic Plan*.
- Preparing e-mail for Chief Operations Officer to send to Senior Leaders on approach to set ambitious targets for Strategic Measures and Agency Priority Goals that include meetings in November to discuss the targets and come to agreement by December 8. The targets will be included in the draft final *FY 2018-2022 Strategic Plan* due to OMB on December 22.
- Discussions continue regarding initial FTE ceilings for the FY 2018 budget. A meeting is scheduled with the Acting Deputy Administrator on October 31 and Chief of Staff on November 2.

Last Week Highlights

- Held final national conference call for tribes to discuss the draft *Strategic Plan*. Tribes raised several detailed operational/programmatic issues.
- OCFO continues to operate Command Centers to provide additional assistance to the agency to support the upgrade of the agency's time and attendance system, PeoplePlus, and new Payroll Cost Allocation functionality in Compass, the agency's core financial system.
- OCFO began drafting process guidance for the agency regarding when and how the FY 2019 budget and performance plans will be created, reviewed, and submitted to Congress by the early February deadline.

Other

- The FY 2017 Agency Financial Report, which will include the financial statement and a statement of assurance signed by the Administrator and other documents, is due to the President, Congress, and GAO on November 15. As required, the AFR also will be made available to the public at the same time on the agency's internet. OCFO will be routing the assurance statement and required Management Representation letters for the Administrator's signature soon.
- As requested, OCFO is scheduled to provide a demonstration of the agency Executive Resources Center and Unliquidated Obligations tool for the Chief Operations Officer on November 2. A Performance System demonstration is scheduled for the Performance Improvement Officer on November 1.

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Office of Congressional and Intergovernmental Relations

- ***Upcoming Hot Issues and Important Deadlines***

  - **October 27**, Per court order, EPA will respond to a Clean Air Act 176a petition. EPA has determined that it will deny the petition to expand the list of states covered by the Ozone Transport Region (OTR).
  - **October 31** – Hill notifications re: PISCES Clean Water SRF innovative project award winners w/ OW

- ***Upcoming Events***

  - **October 30 -** City Manager Anthony Lyons will meet with EPA to discuss the Cabot-Koppers Superfund Site that is located in Gainesville. Staff from the Office of Superfund Remediation and Technology Innovation will join OIR and Region IV staff for the meeting.
  - **November 2** -the House Committee on Transportation and Infrastructure will have a committee meeting entitled, "Emergency Response and Recovery: Central Takeaways from the Unprecedented 2017 Hurricane Season.
  - **November 8** – Quarterly Outreach Meeting with Intergovernmental Associations and EPA's Office of Congressional and Intergovernmental Relations the featured presenter will be Lee Forsgren, Deputy Assistant Administrator for Water
  - **November 11** – House Energy and Commerce Committee, **Legislative Hearing on H.R. 848** - Rep. Newhouse (WA); "Farm Regulatory Certainty Act". The bill would amend the Solid Waste Disposal Act to incentivize efficient nutrient management practices and to clarify citizen suit provisions. EPA expects to provide written statement only for this hearing.

- ***Past week accomplishments***

  - **October 23** - representatives of the Monterey Peninsula Water Management District (MPWMD), and the Monterey Regional Water Pollution Control Agency (MRWPCA), will meet with EPA headquarters and Region IX staff to discuss partnerships with EPA
  - **October 23** – Ken Wagner went to the welcoming ceremony of newly appointed Region 7 Administrator Jim Guilford.
  - **Week of Oct 23/TBD** – Call/meeting with OMB and USCG on DHS S168 views letter w/ OW
  - **October 25** – The Air Team participated in a meeting with two companies involved in producing bear spray who are seeking a Clean Air Act exemption. Staff from Senators Daines and Tester, as well as Rep. Gianforte, were on the call.
  - **October 24** – Technical Assistance for Senate EPW minority on new VIDA bill for the Office of Water

- **October 25** –the Senate Committee on Environment and Public Works held a business meeting and confirmed the nominations of Michael Dourson to be Assistant Administrator for the Office of Chemical Safety and Pollution Prevention, William Wehrum to be Assistant Administrator for the Office of Air and Radiation, Matthew Leopold to be Assistant Administrator for the Office of General Counsel, and David Ross to be Assistant Administrator for the Office of Water of the EPA
- **October 25-** Transmittal of 2017 Gulf Hypoxia Task Force Report to Congress w/OW
- **October 26**– Guidance for Farmers for Reporting Animal Waste. EPA released guidance to assist farmers in reporting air releases of hazardous substances from animal waste at farms.
- **October 26** - the Senate Subcommittee on Regulatory Affairs and Federal Management held a hearing entitled, "Improving Oversight of the Regulatory Process: Lessons Learned from State Legislatures
- **October 26** - the Office of Groundwater and Drinking Water, and the Office of Sustainable Communities will join OIR and Region IX in a meeting with Rick Herrick, Board Chairman and Mayor Pro Tem, City of Big Bear Lake, CA, to discuss the Big Bear Groundwater Sustainability Project.
- **October 26** – Ken Wagner visited Region 4 All States meeting in Charleston, SC.

- ***Ongoing activities***

- Participating in responses to hurricanes Harvey, Irma and Maria. Coordinating with state and local elected officials to ensure seamless communications.

    - HURRICANE AID PACKAGE RELEASED - The President signed a $36.5 billion disaster relief package yesterday (Oct 26) that includes nearly $5 billion to help shore up Puerto Rico's cash-strapped government. The package also includes an additional $14 billion for FEMA's disaster fund, $16 billion for the National Flood Insurance Program and $576 million to fight wildfires, Sarah Ferris reports.

- The LGAC and SCAS nomination process for membership has entered the next stage. Regions are currently reviewing the initial rankings from the nomination review process. Within the next week or two OCIR management will be briefed on options to fill vacancies for the LGAC and SCAS. Senior management was briefed on the ranking process, Regional input, as well as the comprehensive balance review for optimal representation of local, state, and tribal government interests as well as diversity.

- The draft [HYPERLINK "file:///C:\\Users\\Dmurph03\\Downloads\\EPA-HQ-OA-2017-0533-0002.pdf%20" \t "_blank"] was released for public comment on October 4. OCIR has two longer-term Strategic Measures which are reflected in the new Strategic Plan and will be working on reporting annual results on these Measures to the Agency's Senior Leadership. EPA will collect comments through October 31 on the draft Plan and the agency anticipates the final Strategic Plan will be submitted to Congress in February 2018.

Office of Enforcement and Compliance Assurance

Office of Enforcement and Compliance Assurance Weekly Report – Larry Starfield, Acting AA

Hot Issues

Hurricane Response: On October 20th, OECA issued an amended no action assurance to exercise its enforcement discretion for the Merck facility to provide for operation of an additional generator to help with access to power and clean water in Las Piedras, Puerto Rico.

Upcoming Events/Public Meetings

On October 28th, OECA Acting AA Larry Starfield will speak on a panel at the American College of Environmental Lawyers Annual Meeting in Charleston, South Carolina. Other panelists include Mary D. Nichols, Chair of the California Air Resources Board; Martha Rudolph, Director of Environmental Programs, Colorado Department of Public Health and Environment; David Flannery, Steptoe & Johnson PLLC; and James T. B. Tripp, Senior Counsel, Environmental Defense Fund. The panel will be moderated by James Morriss, Thompson & Knight LLP. Closed press.

On November 2nd, OECA Deputy AA Patrick Traylor will speak at the Baker Botts *Class of '85* Regulatory Response Group meeting. The Class of '85 group is comprised of electric generating companies from around the country.

In the coming weeks, OECA will be meeting with the Association of State and Territorial Solid Waste Management Officials (ASTSWMO) and the Association of Clean Water Agencies (ACWA) to listen to feedback and recommendations regarding the next phase of the State Review Framework. This is a continuation of OECA's ongoing work with states to update the SRF metrics prior to initiating reviews in calendar year 2018.

Upcoming Major Decisions

None.

Last Week's Highlights

Administrative Hearing in the Matter of Taotao, et al.: Over the course of three days last week, OECA's Air Enforcement Division represented the EPA in a hearing on Taotao before EPA's Chief Administrative Law Judge, Susan L. Biro. The hearing was a major step in an administrative enforcement case against a foreign manufacturer and domestic affiliate who, together, imported and sold over 100,000 scooters and ATVs with illegal catalytic converters. The EPA succeeded in getting an accelerated decision in our favor on all matters of liability. Accordingly, the hearing only concerned the penalty.

Online Resource Center to Help States with Small Drinking Water Systems: OECA developed a resource center for states to share innovative practices to help drinking water systems in long-term noncompliance get on a path to compliance. The Potentially Intractable Resource Center (PIRC) is an interactive portal for sharing resources and lessons learned with fellow regulators. The PIRC was presented at the annual conference of the Association of State Drinking Water Administrators this month. State drinking water managers were interested in the question/answer feature that allows users to connect to other experienced state and EPA regulators. An upcoming voluntary one-year pilot will allow states to use the PIRC site to identify strategies to put specific systems on a path to compliance.

Meeting with Department of Defense (DoD) on Compliance Assistance: On October 20th, OECA's Office of Federal Facilities Enforcement met with representatives from the Office of the Deputy Assistant Secretary of Defense (Environment, Safety and Occupational Health) to discuss opportunities for compliance assistance.

OECA provided an FY11-17 enforcement and compliance trends analysis for DoD facilities that had a large number of RCRA and Clean Air Act violations, and suggested that those may be good areas for further compliance assistance. The DoD representatives are interested in learning how to use EPA's data systems, particularly ECHO, to help them analyze trends.

Man Pleads Guilty in Bio-Diesel Fraud Investigation in Ohio: On October 23rd, Greg Schnabel, the owner of a company that buys and sells renewable fuel and fuel credits, pled guilty in the Southern District of Ohio to conspiracy for his role in a scheme that generated over $47 million in fraudulent EPA renewable fuels credits, and over $12 million in fraudulent tax credits connected to the purported production of renewable fuel. Seven other defendants have already pled guilty for their role in the scheme.

National Historic Preservation Act Training: On October 24th, 2017, OECA's OFA, in partnership with Region 4, provided training on compliance with the National Historic Preservation Act, as well as other laws, regulations, policies, and executive orders. Participants learned about the nature of historic properties (buildings, archaeological sites, tribal cultural properties, and other assets) and how to determine a project's potential effect on such resources within the context of various EPA programs and regulations.

Assistance to CAFTA-DR on Environmental Impact Assessments: On October 25th, the United States hosted the annual Dominican Republic-Central America-United States Free Trade Agreement (CAFTA-DR) Environmental Program meeting. OECA's OFA, OITA, and USAID facilitated an all-day session on Environmental Impact Assessments, which included a panel discussion on how NEPA is implemented in the United States, the benefits and challenges of public participation, best practices, and lessons learned. On October 26th, OFA presented the project work plan to representatives from the CAFTA-DR countries' Ministry of Environment and Ministry of Economics at the Organization of American States.

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Office of Environmental Information

Hot Issues

Information Quality Guideline Program Hosts Request for Correction "Technical Meeting"

- **Brief Description:** On October 30, OEI will host a meeting of representatives from Denka Performance Elastomers (DPE) who will present a Request for Correction ([HYPERLINK "https://www.epa.gov/sites/production/files/2017-06/documents/2017-06-26-request_for_correction.pdf"]) under the EPA's Information Quality Guidelines (IQG). Although not typically part of the IQG process, this "listening session" will allow the requester's subject matter experts to present the RFC and share any new or applicable information in their challenge to the IRIS Toxicological Assessment of Chloroprene with EPA subject matter experts. EPA representatives from ORD (including Richard Yamada, Deputy AA for Science, and others), OGC and OEI will attend the meeting.
- **Who Benefits or Cares:** EPA; regulated entities; the general public.
- **Why this is important:** Supporting the Agency's quality assurance administrative mechanisms is critical to maintaining public confidence in the Agency's disseminated information.
- **Additional information:**
  - A coalition of the affected citizen community submitted an "[HYPERLINK "https://www.epa.gov/sites/production/files/2017-10/documents/response_to_denka_rfc_17002_re_chloroprene.pdf"]" via The Lambert Firm on September 8, 2017.
  - An [HYPERLINK "https://insideepa.com/daily-news/novel-enforcement-case-driving-gop-effort-overhaul-epas-iris-program"] published on September 7, 2017, provides an overview of related deliberations by the House Committee on Science, Space and Technology and describes DPE's RFC.
  - The House Committee on Science, Space and Technology sent a letter to Administrator Pruitt on October 12, 2017, requesting a briefing on ". . . how EPA intends to uphold scientific integrity and how it undertakes decisions to grant scientific and information quality requests with regard to IRIS assessments."

Office of General Counsel

New Judicial Decisions

- The D.C. Circuit issued its decision in Sierra Club's challenge to EPA's 2015 update of its transportation conformity PM hot spot guidance. The court dismissed the petition for lack of jurisdiction. The court found that petitioners lacked standing to challenge the revision to the revised PM2.5 methodology in the guidance. Of the three projects to which petitioners pointed as their basis for standing, only one was in a PM2.5 nonattainment area (the I-710 project in Southern California). The court found that petitioners had demonstrated neither that the project analysis would use the revised guidance nor that, if it did so, petitioners would be harmed. The court further held that the PM10 guidance revision was not final agency action subject to judicial review. The court distinguished our guidance from other cases in which the court concluded that EPA would not be open to considering approaches other than those described in the guidance, and that EPA had in fact demonstrated flexibility in applying the previous version of the hot spot guidance. Additionally, the court held that EPA's issuance of the previous version of the guidance through notice and comment procedures did not convert the guidance into a legislative rule. (*Sierra Club v. EPA*, No. 16-1097)

New Complaints Filed

- None to report.

Hot Topics

- Notice of Intent to Sue (NOI):
    - The Center for Biological Diversity notified EPA and the Departments of the Interior and Commerce that it intends to sue the EPA for allegedly violating the Endangered Species Act in connection with its September 2017 Steam Electric Effluent Guideline (ELG) "Delay Rule," which postpones certain compliance dates in the 2015 Steam Electric ELG Rule by two years. Although EPA has taken the position in responses to comments on the Delay Rule that it lacks discretion under the technology-based provisions of the Clean Water Act to consider potential impacts to threatened or endangered (T&E) species in promulgating rules like the Delay Rule, the Center alleges that EPA was not required to delay implementation of the 2015 ELG Rule in the first place, so the Agency has the discretion to consider potential impacts to T&E species as a result of delaying environmental protections that would otherwise occur under the 2015 Rule.
- Two NPDES permit appeals have been filed with the Environmental Appeals Board (EAB) challenging the insufficient nutrient limits for POTWs: *City of Ruidoso Downs* (No. 17-03) and *City of Sandpoint Wastewater Treatment Plant* (No. 17-06).
- OGC is pleased to be co-leading the FOIA Backlog Elimination Project with OEI (and defer to their summary of that effort in their weekly report).

New Petitions that OGC is Aware Of

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- None that OGC is aware of.

Upcoming Public Events & Important Meetings in the Next Two Weeks

- On November 8, OGC will be hosting its annual award ceremony.

Upcoming Major Deadlines in the Next Two Weeks

10/27 Motion to Govern Further Proceedings due in *Sierra Club, et al. v. EPA*, a challenge to the 2013 Round 1 designations under the 2010 SO2 NAAQS.

10/27 Pursuant to a Consent Decree, EPA must take final action approving or disapproving a 176A petition in *State of New York, et al. v. EPA*.

10/27 Pursuant to a Consent Decree, EPA must take final action approving or disapproving a 176A petition in *North Carolina, et al. v. EPA*.

10/27 The Answer to the Complaint is due in *Figley v. EPA*, a FOIA matter regarding a multi-part request that sought records relating to payments from the BP settlement.

10/27 Objections due on Draft Protection Order in *National Family Farm Coalition, et al. v. EPA*, a Petition for Review of EPA Order granting registration under FIFRA section 3 of Monsanto's "Xtendimax with VaporGrip Technology," containing the herbicide Dicamba DGA salt, for use on genetically engineered (GE) cotton and soybean in 34 states. Petition for Review generally alleges violations of FIFRA and the ESA.

10/27 The United States' Reply Brief is due in *Center for Biological Diversity v. U.S. Forest Service*. This is a RCRA § 7002 citizen suit alleging imminent and substantial endangerment to California condors in Kaibab National Forest from the use of lead shot for game hunting. On this second trip to the Ninth Circuit, CBD argues the district court erred in finding *sua sponte* that plaintiff seeks an advisory opinion from the court. CBD also argues the merits of its allegation that USFS is "contributing to" disposal of solid waste by its failure to control use of lead shot or the abandonment of carcasses and gut piles containing lead shot. EPA is not a party to the case, but EPA has equities because EPA's imminent and substantial endangerment authority under RCRA is identical to the citizen suit provision.

10/27 EPA's Reply Brief is due in *OVEC v. Pruitt*, an EPA appeal of a district court order that EPA act on "constructive submission" of no TMDLs for biologically impaired waters in West Virginia.

10/27 Reply to plaintiffs' response to EPA's/NOAA's Motion for Reconsideration is due in *NWEA v. Commerce, et al.*, litigation challenging EPA and NOAA actions and inactions regarding Washington CZARA and CWA 319 nonpoint source programs; EPA intends to file motion for reconsideration of the district court's recent order denying EPA's motion to dismiss of two claims related to CWA section 319 on mootness and standing grounds.

10/30 Motion to Govern Further Proceedings due in *API v. EPA*, a challenge to the Federal Implication Plan that allows existing minor oil and natural gas sources in Indian country to satisfy construction permitting requirements by complying with applicable emissions standards.

10/30 EPA's Brief is due in *Ergon-West Virginia, Inc. v. EPA*, a petition for review of EPA's final action: Denial of Request for Extension of Small Refinery Temporary Exemption Under the Renewable Fuel Standards Program for Ergon-West Virginia; Inc.'s Newell, WV Refinery.

10/30 EPA's Brief is due in *Hall & Associates v. EPA*, a FOIA matter appealed from the U.S. District Court regarding the denial of appellant's motion for attorney's fees and reconsideration of the Court's reasonable search and improper request decision.

10/30 Production of documents is due in *NRDC v. EPA*, a FOIA litigation arising from Plaintiff's request for communications between EPA staff and the Trump Presidential Transition Team(s).

10/30 EPA's Answer is due in *Waterkeeper All. v. EPA*, a FOIA litigation regarding a FOIA request that sought records related to a possible change in course regarding EPA's Steam Electric Effluent Limitations Guidelines Rule.

10/30 Deadline for seeking an extension of stay of the mandate in *Waterkeeper Alliance, et al. v. EPA*. The D.C. Circuit vacated the "CERCLA/EPCRA Administrative Reporting Exemption for Air Releases of Hazardous Substances from Animal Waste at Farms" rule. On August 16, 2017, the court granted EPA's motion to stay the mandate until November 14, 2017. The court order noted that, if necessary, EPA may request an extension of the stay no later than 75 days from the date of the order, and any request should include a status update on EPA's efforts to develop guidance.

10/31 Consent Decree deadline to take action to respond to petition on title V permit in *Nucor Steel-Arkansas v. EPA*, a failure to grant or deny Nucor petition for objection to Title V Operating Permit issued to Big River Steel by Arkansas DEQ for a steel manufacturing facility in Osceola, Arkansas.

10/31 Production of documents is due in *NRDC v. EPA*, a FOIA matter related to the "ascension" of the EPA Administrator.

10/31 Reply to Motion to Opposition to Motion to Dismiss due in *LULAC v. Pruitt*, a challenge to the chlorpyrifos denial.

10/31 Response to Plaintiffs' Motion for Summary Judgment due in *Pineros v. Pruitt*, an action challenging 4 rules deferring the effective date of the pesticide certification and training rule.

11/01 EPA's Response to Petition for Certiorari due in *DTE, et al. v. United States*, a petition for a writ of certiorari to the Sixth Circuit in PSD enforcement case.

11/01 Response due in *Murray Energy Corporation, et al. v. EPA*, a petition for writ of certiorari of a Fourth Circuit decision.

11/01 Consent Decree deadline to take action on the San Francisco Bay Area SIP regarding NSR permits in *CBD, et al. v. EPA*, litigation alleging the EPA failed to take final action and failure to make findings of failure to submit for 2006 PM2.5 NAAQS nonattainment areas state implementation plans.

11/02 Joint Motion To Govern Further Proceedings due in several cases against EPA by CBD, each involving a different pesticide/substance: Flupyradifurone, Bicylcopyrone, Benzovindiflupyr, Cuprous Iodide, and Halauxifen-methyl.

11/02 Optional Response to Objection due in *National Family Farm Coalition, et al. v. EPA*, consolidated with *NRDC v. EPA*, Petitions for Review of EPA Order granting registration under FIFRA section 3 of Dow AgroScience's "Enlist Duo" herbicide, containing the active ingredients 2,4-D and glyphosate, for use on genetically engineered (GE) corn, cotton and soybean in 34 states. Petition for Review generally alleges violations of FIFRA and the ESA.

11/03 Optional Response to Objections due in *National Family Farm Coalition, et al. v. EPA*, a Petition for Review of EPA Order granting registration under FIFRA section 3 of Monsanto's "Xtendimax with

VaporGrip Technology," containing the herbicide dicamba DGA salt, for use on genetically engineered (GE) cotton and soybean in 34 states. Petition for Review generally alleges violations of FIFRA and the ESA.

11/03 EPA's response to Plaintiffs' Motion for Summary Judgment and EPA's Cross Motion for Summary Judgment is due in *Columbia Riverkeeper v. Pruitt*, a claim of mandatory duty to disapprove constructive submission of temperature TMDL for Columbia and Lower Snake Rivers.

11/03 EPA's Summary Judgment Brief is due in *Anacostia Riverkeeper v. Pruitt*, a NGO challenge to EPA's revised approval of DC/MD TMDL for bacteria for the Potomac River.

11/06 Answer/Motion to Dismiss is due in *Small Retailers Coalition v. EPA*, where plaintiff alleges EPA did not comply with sections 603 and 604 of the RFA in issuing the 2017 RFS standards, and for failure to annually review the point of obligation of the RFS.

11/06 Response to Complaint due in *Humane Society of the United States, et al. v. EPA*, a claim of unreasonable delay in responding to a 2009 petition seeking the regulation of CAFOs under Section 111 of the Clean Air Act.

11/06 The Scheduling Conference is set in *Bd. of Comm'rs of Clermont Cty., Ohio v. EPA*, a FOIA litigation that pertains to a FOIA request that sought records regarding the CECOS facility in Williamsburg, Ohio.

11/06 Oral Argument in *U.S. v. CITGO Petroleum Corp.* The District Court awarded the U.S. an $81M civil penalty under CWA 311(b) for an oil discharge from CITGO's Lake Charles, LA refinery. CITGO has appealed the legal standard used to determine economic benefit, and the U.S. has appealed the assessment of a penalty lower than CITGO's economic benefit and failure to explain the basis for the penalty amount.

11/07 Oral Argument in *Environmental Integrity Project v. Pruitt*, where the State of North Dakota appealed the district court's decision to deny the State's intervention request and challenge to consent decree entered in December 2016 in a case involving the solid waste regulations applicable to oil and gas.

11/08 Motions to Govern are due in *American Lung Association v. EPA*, a petition for review of EPA's final action extending the deadline for promulgating initial area designations for the 2015 ozone national ambient air quality standards.

11/08 Reply in Support of Motion to Dismiss due in *Food & Water Watch v. EPA*, a challenge to denial of fluoride petition under section 21 of TSCA.

11/09 Oral Argument in *Sierra Club, et al. v. EPA*, a petition for review of EPA Final Rule entitled "NESHAP for Brick and Structural Clay Products Manufacturing, and NESHAP for Clay Ceramics Manufacturing."

11/09 Statement of Issues and Procedural Motions due in *EDF v. EPA*, a challenge to the TSCA inventory reporting rule.

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Office of International and Tribal Affairs

Hot Issues

None

Upcoming Engagements

October 27 – White House Council for Native American Affairs meeting to discuss White House Tribal Nations Summit

Past Week Highlights

U.S.-Canada Bilateral Meeting – EPA (OITA) attended the semi-annual bilateral environmental meeting on October 26 in Ottawa, which was co-chaired by the State Department and Global Affairs Canada. The EPA issues that were discussed included Lake Champlain, Great Lakes, Lake of the Woods, transboundary mining, Niagara sewage, ballast water, Columbia River Treaty, and St. John's River. The meeting resulted in several follow action up items for EPA. Based on requests for Canadian federal involvement in addressing transboundary pollution from mines in British Columbia, EPA (Region 8 and 10) was asked to identify specific areas where federal intervention is needed. Given the upstream concerns from Niagara Falls Water Board sewerage spill in July, Canada requested information on the protocol/procedures regarding notification of sewerage spills in New York (Region 2). Given the large volume of vessel traffic in the Great Lakes, Canada requested to be included in the notification/consultation on the next Vessel General Permit (OW) on ballast water. OITA will follow up with the relevant regional/NPM staff on these action items.

Tribal Call on FY 2018-2022 Draft Strategic Plan: The second tribal conference call for the draft FY 2018-2022 Strategic Plan was held on October 24th and about twenty tribal representatives from Regions 1,6, 7, 8, 9, and 10 participated in the call. Their comments covered a range of topics including:

- Promoting the inclusion of tribes, just like states (where appropriate)
- Lack of mention regarding tribal treaty rights and UN Declaration of Rights for Indigenous Peoples
- Request for protection of water sources against oil and gas extraction
- Request for inclusion of tribes with water infrastructure issues (e.g. Flint area)
- Concern that no NEPA analysis is being done for the change in federal action
- Concern tribes should be considered a vulnerable population based upon their lifeways (e.g. fish consumption)
- Concern Alaska Native Villagers were not mentioned, particularly how they must operate with the State of Alaska for funding.

WHO Focus on Environment - On October 20th, the World Health Organization's (WHO) Global Conference on Non-Communicable Diseases (NCDs) agreed to a 2018-2030 Roadmap on NCD's that includes environmental risk factors, as the result of extensive EPA consultation with the US delegation to the conference.

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- Non-Communicable Diseases such as cardio-pulmonary disease, cancer, heart disease, and diabetes account for about 40 million, or 70%, of premature deaths globally, dwarfing the numbers associated with communicable diseases like AIDS, malaria and tuberculosis.
- Environmental risk factors such as air pollution are some of the largest components of the NCD's global burden of disease, underscoring the need for more awareness within the public health community on the need for cooperation with environmental authorities.
- EPA will continue its collaboration with the Department of Health and Human Services and others to capture the linkages between environment and health in upcoming meetings including the 3rd UN Environment Assembly in Nairobi next month.

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Office of Land and Emergency Management

Hot Issues

1. **Emergency Response to hurricanes and wildfires.** We are in support of the Region 2 and 4 responses to Hurricane Irma, the Region 2 response to Hurricane Maria and the region 9 response to the California wildfires. The Region 6 response to Hurricane Harvey has largely moved in to the recovery phase.

2. **CCR State Permit Program Guidance.**

3. **CERCLA 108(b) Financial Assurance for Hard Rock Mining and Mineral Processing.**
   Ex. 5 Deliberative Process (DP)

4. **Clean Air Act 112(r) Risk Management Program.**

5. **Ongoing major Superfund NPL sites (for example, East Chicago, West Lake, Gold King Mine/Bonita Peak, Hudson River, Portland Harbor, Mississippi Phosphates).**

6. **CERCLA-EPCRA AFO-CAFO Rule**.

Upcoming Public Events

1. **RCRA Division Director Meeting (not a public meeting.)** On November 15-16, RCRA Division Directors will meet in Boston. Agenda topics include: e-Manifest, wasted food, corrective action, and CCR. Tribal and state representatives have been invited to attend the first day.

2. **America Recycles Day.** On November 15, OLEM will participate in a Recycling Forum hosted by Keep America Beautiful in partnership with the Institute of Scrap Recyclers.

Upcoming Major Decisions

1. **E-Manifest User Fee Final Rule.** Ex. 5 Deliberative Process (DP)

2. **RMP Rule Reconsideration.** Ex. 5 Deliberative Process (DP)
   Ex. 5 Deliberative Process (DP)

3. **Casmalia Resources Superfund Site.** Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Last Week Highlights

1. **Association of State and Territorial Solid Waste Management Officials (ASTSWMO)**. OLEM participated in the ASTSWMO annual meeting in Arlington, Virginia.

2. **CERCLA-EPCRA AFO-CAFO Rule.** We posted the announcements on the website, with thanks to OGC, OP, OPA, OCIR, and others.

Office of Policy

FRL	Title	Date Submitted to OFR
9968-42-Region 3	Air Quality Plans; Pennsylvania; Lebanon County 2012 Fine Particulate Matter Standard Determination of Attainment	10/25/2017
9970-13-OW	Information Session; Implementation of the Water Infrastructure Finance and Innovation Act of 2014	10/25/2017
9970-21-OW	Notice of a Public Meeting of the National Drinking Water Advisory Council	10/25/2017
9968-40-OCSPP	Bacillus amyloliquefaciens strain F727; Exemption from the Requirement of a Tolerance	10/24/2017
9969-65-Region 5	Air Plan Approval; Michigan Minor New Source Review	10/24/2017
9968-12-OCSPP	Hexythiazox; Pesticide Tolerances	10/24/2017
9968-47-OCSPP	Pesticide Product Registration; Receipt of Applications for New Uses	10/24/2017
9970-16-Region 5	Air Plan Approval; Illinois; Volatile Organic Compounds Definition	10/24/2017
9970-17-Region 5	Air Plan Approval; Illinois; Volatile Organic Compounds Definition	10/24/2017
9970-14-Region 5	Air Plan Approval; Minnesota; State Board Requirements	10/24/2017
9970-07-OCSPP	Mercury; Reporting Requirements for the TSCA Mercury Inventory	10/20/2017
9969-73-Region 6	Hazardous Waste Management System; Identification and Listing of Hazardous Waste; Final Rule	10/20/2017
9969-90-Region 1	2017 Fall Joint Meeting of the Ozone Transport Commission and the Mid-Atlantic Northeast Visibility Union	10/20/2017
9969-91-Region 3	Approval and Promulgation of State Air Quality Plans for Designated Facilities and Pollutants; City of Philadelphia; Control of Emissions from Existing Sewage Sludge Incineration Units	10/20/2017
9969-92-Region 3	Approval and Promulgation of State Air Quality Plans for Designated Facilities and Pollutants; City of Philadelphia; Control of Emissions from Existing Sewage Sludge Incineration Units	10/20/2017
9969-93-Region 3	Determination of Attainment by the Attainment Date for the 2008 Ozone Standard; Philadelphia-Wilmington-Atlantic City, PA-NJ-MD-DE Nonattainment Area	10/20/2017
9969-84-OW	Clean Water Act; Contractor Access to Confidential Business Information	10/20/2017

9962-84-OCSPP	Voluntary Consensus Standards Update; Formaldehyde Emission Standards for Composite Wood Products	10/19/2017
9969-88-Region 5	Air Plan Approval; Wisconsin; 2017 Revisions to NR 400 and 406	10/19/2017
9969-89-Region 5	Air Plan Approval; Wisconsin; 2017 Revisions to NR 400 and 406	10/19/2017
9962-80-OCSPP	Voluntary Consensus Standards Update; Formaldehyde Emission Standards for Composite Wood Products	10/19/2017
9970-08-OAR	National Emission Standards for Hazardous Air Pollutants for Wool Fiberglass Manufacturing: Flame Attenuation Line Compliance Date Extension	10/19/2017
9969-95-OAR	National Emission Standards for Hazardous Air Pollutants: Publicly Owned Treatment Works Residual Risk and Technology Review	10/19/2017
9969-82-Region 3	Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Pennsylvania's Adoption of Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings	10/18/2017
9969-83-Region 3	Approval and Promulgation of Air Quality Implementation Plans; Pennsylvania; Pennsylvania's Adoption of Control Techniques Guidelines for Automobile and Light-Duty Truck Assembly Coatings	10/18/2017

Office of Research and Development

Administrator,

First let me offer a thank you to Ken Wagner and Henry Darwin for joining ORD senior managers on Wednesday to discuss EPA and ORD efforts to meet the science needs of states as well mission metrics and a lean management system. We much appreciated the time they spent with us.

Last week Richard Yamada and Bruce Rodan visited our Atlantic Ecology Division Lab in Narragansett, RI. The visit included tours of the lab facility, presentations from scientists about ongoing research, and meetings with management and staff, as well as state and local representatives from Rhode Island and Cape Cod, MA.

Hot issues

ORD Research Featured in a Story on Tracking Industrial Chemicals of Concern

On October 18 [HYPERLINK "https://www.northcarolinahealthnews.org/"] published an online article titled, [HYPERLINK "https://www.northcarolinahealthnews.org/2017/10/18/local-scientists-uncovered-cape-fear-river-genx-saga/"]. The story outlines the efforts being made to detect and monitor GenX and other per- and polyfluoroalkyl substances (PFAS). It centers on the work done by ORD scientists in detecting PFAS in a variety of studies, including learning how to detect shorter-chained PFAS, such as GenX. The article goes on to mention that other researchers used these findings to detect GenX in waterways outside the U.S. and that ORD scientists, in collaboration with North Carolina State University, were able to detect GenX in drinking water in North Carolina. The article provides an overview of the series of events that have followed the publication of that work and the steps being taken by North Carolina and others as a result. ORD worked with OPA on this media inquiry.

Meeting with Denka Performance Elastomers

On October 30th, ORD will participate in a listening session with representatives of Denka Corporation to hear their perspectives and concerns with the Request for Correction (RfC) for chloroprene.

Response to a Ricin Incident - ORD Provides Technical Support to OEM/CMAD and Region 8

ORD is providing technical support to OEM's CMAD and Region 8's response to ricin contamination of a condominium unit in Boulder, CO where one man is hospitalized after ricin was manufactured in the unit. ORD provided technical assistance during discussions with Lawrence Livermore National Laboratory, the lab capable of analyzing the samples. ORD assisted in planning out how the post decontamination samples will be analyzed, including employing our recent protocol "Sample Processing Approach for Post Bleach-Decontamination Ricin Sample Analysis". ORD also provided decontamination advice based on surface decontamination research as well as advice related to waste management.

Upcoming public events

ECOS-EPA PFAS Call

On October 30, ORD is coordinating a teleconference with the Environmental Council of the States (ECOS), interested states and EPA scientists to discuss TSCA implications for PFAS, updates on Cape Fear River Basin activities and other ongoing state issues, and updates from EPA workgroups on methods and toxicity. These

calls are held every other month for states and EPA to share information on PFAS methods, toxicity and treatment work.

Fort Campbell Net Zero Meeting

Ex. 5 Deliberative Process (DP)

Kansas City TRAQS Media Event

ORD and Region 7 recently launched the [HYPERLINK "https://www.epa.gov/air-research/kansas-city-transportation-and-local-scale-air-quality-study"], to learn more about local community air quality in three neighborhoods in Kansas City, KS, that have multiple air pollution sources from highways, railways, and industry. The project will be conducted for one year and provide comprehensive air quality monitoring using three different air measurement approaches. ORD is supporting the project by providing scientific expertise and multiple stationary and mobile monitoring technologies. They have also provided an AirMapper, developed by ORD researchers, for a citizen science project and educational outreach for residents and students. Region 7 is planning an open house and media event on Friday, Oct. 27 from 12 - 2 p.m. at the Argentine Police Station, where a monitor is located. Karen Flournoy, EPA Region 7 Special Assistant to the Regional Administrator, and Angela Markley, Commissioner of Wyandotte County Unified Government will participate.

Remediation strategies for the Sonford Products Superfund Site, Pearl, MS, November 2-3

At the request of Region 4, ORD will attend a meeting in Pearl, MS, to discuss groundwater remediation strategies at the Sonford Products Superfund Site in Flowood, MS. The [HYPERLINK "https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0402405"] was operated by companies producing wood preservative products containing pentachlorpophenol (PCP) as the primary ingredient. Operations on-site ceased after a 2,000-gallon spill of PCP into the marshland south of the property occurred in 1985, contaminating the soil, sediment, surface water, and ground water.

Remediation field studies at Chem-Dyne Superfund Site, Hamilton, OH, November 7

At the request of Region 5, ORD will assist in field studies to determine groundwater flow directions and rates in support of an evaluation of the ongoing monitored natural attenuation pilot remedy for groundwater at the Chem-Dyne site. ORD is providing technical assistance to Region 5 and the Ohio Environmental Protection Agency to investigate the impact of this remedial measure on groundwater flow and contaminant transport. The [HYPERLINK "https://cumulis.epa.gov/supercpad/cursites/csitinfo.cfm?id=0504440"] is a former waste transfer, storage, and disposal facility with groundwater and soil contamination, including arsenic, asbestos, benzene, and polychlorinated biphenyls.

EPA STAR Water Quality Benefits Conference (Nov 2-3)

ORD is organizing a kickoff meeting for the grants awarded under the Water Quality Benefits RFA. Grantees will highlight their research projects and coordinate collaboration with EPA scientists. These grants support working with local communities to better understand the economic value of water quality. The research will help communities and environmental experts make more informed choices about the costs and benefits of actions that protect and improve the quality of their waterways.

Last week Highlights

EPA releases Children's Environmental Health and Disease Prevention Centers Impact Report
The *NIEHS/EPA Children's Environmental Health and Disease Prevention Centers Impact Report: Protecting children's health where they live, learn, and play,* highlights some of the important contributions the centers have made toward reducing the burden of environmentally induced or exacerbated diseases placed on children. The report provides examples of community-based success in support of public health. The report is organized in three section: health outcomes, environmental exposures, and hallmark features. The Health Outcomes section presents scientific findings from the Children's Centers on diseases that sometimes affect children. The Environmental Exposures section presents research findings on chemicals and pollutants children are commonly exposed to through air, water and food. The Hallmark Features section highlights the unique features that have facilitated the work of the Children's Centers and advancements in the field.

Water Infrastructure for Improvements to the Nation (WIIN) Act Updates
Galesburg, IL. On October 20, the Region 5 laboratory sent ORD sequential sampling results from Galesburg that were collected in September, one of which had elevated lead levels Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Office of Water

OW Weekly October 26, 2017

Hot Issues

Peer Review of Modeling of Lead in Drinking Water: Tomorrow, OW anticipates posting the peer review report of modeling of lead in drinking water. As a part of EPA's ongoing effort to understand and assess lead exposure to children, the agency conducted peer review of draft scientific modeling approaches to inform EPA's evaluation of potential health-based benchmarks for lead in drinking water. Input from the public and peer reviewers assures EPA has a robust scientific evaluation and is considering the best available science on how lead in drinking water can potentially impact the health of children, one of our most vulnerable populations. EPA will consider the comments from the peer reviewers and will update and incorporate changes to the model as necessary to inform decision-making.

Hypoxia Task Force Report to Congress: This week, OCIR will send forward the *Hypoxia Task Force Report to Congress* for Administrator's signature and transmittal to the House and Senate. As required by the 2014 amendments to the Harmful Algal Bloom and Hypoxia Research and Control Act, this is EPA's second report to Congress on the activities and progress of the Task Force.

Perchlorate Court Filing Action: On Monday, we will file a status report with the U.S. District Court – Southern District of New York describing the progress of the external peer review process for perchlorate. Under the 2016 consent decree, EPA had a milestone to complete peer reviews of two scientific analyses to inform the selection of the health based goal (MCLG) for a perchlorate regulation by October 18, 2017. EPA has not completed the second of two peer reviews and must file a status report with the court by October 30, 2017. EPA worked with DOJ to prepare a status report explaining the progress of the peer review, reasons for the delay, and an updated timeline for completion of peer review.

Voluntary transfer of Idaho's UIC Class II program to EPA: As early as next week, OW anticipates sending forward to OP for Administrator's signature, a *Federal Register Notice* proposal package for the voluntary transfer of Idaho's Class II program to EPA. On August 25, 2017, the EPA received a letter from the Idaho Department of Water Resources, formally requesting that EPA administer the Class II UIC program in Idaho. Class II injection wells are used for the disposal of fluids produced in the production of oil and gas, and can be an essential component of a company's waste management strategy. The state of Idaho received primacy for Class I, II, III, IV, and V injection wells under the SDWA, section 1422, on July 22, 1985. Idaho banned Class II wells at that time, and did not submit Class II regulations as part of the UIC program. While Idaho unbanned Class II wells in 2013, Idaho does not have approved regulations in-place to be able to permit these wells. This transfer will result in the EPA implementing the Class II UIC program in the state of Idaho, including permitting, compliance, and enforcement responsibilities.

Combined Sewer Overflow (CSO) Public Notice in the Great Lakes, Final Rule: As early as next week, OW anticipates transmitting to OP for OMB review the Great Lakes CSO Public Notice final rule. This effort is in response to Section 425 of the 2016 Consolidated Appropriations Act which requires EPA to work with affected states to implement these requirements by December 18, 2017. The final rule requirements closely follow the legislation and address signage, notification of local public health departments and other potentially affected public entities, notification to the public, and annual notice provisions and apply to NPDES permittees authorized to discharge from a CSO to the Great Lakes Basin.
Working with states, the rule requirements are modeled after various existing requirements for public notification in the different states' programs and the final rule makes several changes that will add flexibility and decrease burden on some communities.

Waters of the U.S.: With the comment period having closed on the Step 1 proposal on September 27, EPA has received nearly 700,000 comments and the docket is nearly finished with processing the comments. In support of the Step 2 rulemaking, EPA and the Army held two meetings this week: an in-person meeting with small

entities and the 6th in the 10-part webinar listening sessions with stakeholders. On October 23, the in-person session drew about 40 external attendees and 15 speakers provided 3-minute remarks. On October 24, the webinar with industry groups including the energy, chemicals and manufacturing sectors, drew in about 200 participants and 11 speakers providing 3-minute remarks. On October 31, the agencies will host a webinar with the mining and resource extraction sector. As of this report, the Agency has received 125 written recommendations on the Step 2 rulemaking.

Upcoming Public Events

Council of Infrastructure Financing Authorities (CIFA) Conference: Next week, OW will attend the 2017 CIFA State Revolving Fund (SRF) Workshop. Senior managers participating in the workshop will provide remarks during the plenary session, focusing on accomplishments during the last 20 years of the Drinking Water State Revolving Fund, and the last 30 years of the Clean Water State Revolving Fund respectively. At this conference, EPA will also be announcing the projects recognized in the reconstituted 2017 Performance and Innovation in the SRF Creating Environmental Success (PISCES) program. The 2017 SRF Workshop is an essential training opportunity for SRF managers and staff, covering key topics in State Revolving Fund policy, management and operations. CIFA's annual SRF Workshop offers a unique opportunity for SRF professionals to access the information they require, learn new approaches for improved program management, and share in the insights and experiences of their peers from across the country.

NPDES National Meeting: Next week, Lee will speak at the 2017 NPDES Program Managers' meeting. The meeting is intended to support states and EPA to identify challenges & barriers to NPDES program implementation, highlight opportunities for permitting authority program improvement & enhancement, showcase innovations, assist with analysis of training, guidance, tools, and other support material needs, and attempt to solve some of the most intractable NPDES Program issues. The Program Managers meeting is open to states and EPA.

Last Week Highlights

Animal Agriculture Discussion Group Meeting: This week, OW convened a meeting of the Animal Agriculture Discussion Group. Presentation topics included the Animal Agriculture Education project, industry sustainability initiatives, Smart Sectors, and NPDES CAFO permitting inspections.

Meeting with States and Tribes on a Long-term Monitoring Program for the Animas-San Juan Watershed: This week, OW participated in a face-to-face meeting with Regions 6, 8 and 9 and states and tribes to plan for the long-term monitoring program for the Animas-San Juan watershed authorized by the WIIN Act and funded in part by FY 17 appropriations. The group made good progress on identifying important elements for watershed-wide monitoring as well as additional monitoring priorities for the individual jurisdictions. The group is on target to complete planning for the program and distribute funding to appropriate entities (e.g., states, tribes, USGS) for the 2018 monitoring season.

Message

From: Thurston, Jeanette - NIFA [JThurston@nifa.usda.gov]
Sent: 3/21/2018 8:09:06 PM
To: palmer.orlandi@fda.hhs.gov; Steven.Musser@fda.hhs.gov; Ramaswamy, Sonny - NIFA [sonny@nifa.usda.gov]; Toombs, Dionne - OSEC, Washington, DC [Dionne.Toombs@osec.usda.gov]; Deerin_S_Babb-Brott2@c[redacted] Ex. 6 Barrett, Larry [Larry.Barrett@hq.dhs.gov]; iws8@cdc.gov; Bohman, Mary - ERS [MBOHMAN@ers.usda.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]; Joe.Cornelius@hq.doe.gov; DunnPM@state.gov; heather.evans@nist.gov; lfriedl@nasa.gov; Glover, Jerry - ARS [jglover@usaid.gov]; Goldman, David - Commissioned Corps - FSIS [David.Goldman@fsis.usda.gov]; parker.liautaud@hq.doe.gov; Patrick.McDermott@fda.hhs.gov; millers@si.edu; Patel-Weynand, Toral -FS [tpatelweynand@fs.fed.us]; draff@usbr.gov; alan.risenhoover@noaa.gov; catherine.ronning@science.doe.gov; Sequeira, Ronald A - APHIS [Ron.A.Sequeira@aphis.usda.gov]; Silverstein, Jeff - ARS [Jeff.Silverstein@ARS.USDA.GOV]; nora_Stein@[redacted] Ex. 6 asylvest@nsf.gov; Woods, Lillian - NRCS, Washington, DC [Lillian.Woods@wdc.usda.gov]; esylak@ida.org; Matthew.Coats@hq.dhs.gov; comizzolip@si.edu; simon.frechette@nist.gov; Hahn, Intaek [hahn.intaek@epa.gov]; kathleen.a.hibbard@nasa.gov; Leibtag, Ephraim - ERS [ELEIBTAG@ers.usda.gov]; laurene.levy@aphis.usda.gov; mmishkin@nsf.gov; Roxann.motroni@hq.dhs.gov; Daniel.Northrup@hq.doe.gov; rip0@cdc.gov; Pablo.rabinowicz@science.doe.gov; michael.rubino@noaa.gov; Starke-Reed, Pamela - ARS [Pamela.Starke-Reed@ARS.USDA.GOV]; Stein, Susan -FS [sstein@fs.fed.us]; CrowellS@state.gov
Subject: SFA--Meeting notes and other items
Attachments: SFA DRAFT TIMELINE 3-2018.docx; CNSS APHIS Big Data Recommendations Final.pdf

Importance: High

Hi everyone. Thanks to those who could join us this afternoon for a brief call on where we are with the SFA. As we all agreed, please take a look at the attached timeline below and provide your suggestions no later than COB next Wednesday, March 28th.

Here is a brief overview of our discussion today:

- Palmer, Sonny, and Jeanette spoke with Chloe Kontos, Executive Director NSTC, and Deerin Babb-Brott, OSTP Director National Ocean Council and SFA OSTP liaison, on February 13th. Discussion centered around the SFA charter, which expires the end of April (2018) and its extension. The SFA was asked to develop a work plan for the subcommittee's activities and deliverables for the next 1.5 years. In response to this request, the SFA leadership team developed the attached draft timeline of activities and deliverables. This timeline addresses specific objectives and actions outlined in the Report to the President of the United States from the Task Force on Agriculture and Rural Prosperity .
- NSTC has already or will be reaching out to agencies very soon, for agency representatives on the SFA and other NSTC committees.
- We are waiting for a work plan template from OSTP. Once we receive it, we plan to populate it, request the SFA member input (this will be a quick turnaround), and submit it to the Committee on Science and OSTP for review and approval. We hope to get this accomplished in the next couple weeks as our charter expires late April.
- Sonny requested that everyone reviews the draft timeline and provide comments to Jeanette no later than COB March 28th.
- Sonny's appointment ends early May and will be leaving the federal government. We do not know at this time who will co-chair the SFA alongside Palmer.
- There was a bit of discussion surrounding the big data efforts identified in the Report from the Task force on Rural Prosperity and the associated items in our draft timeline.

- Ron S. (APHIS) will mentioned a report commissioned by APHIS that may be useful in SFA discussions surrounding big data—e.g., developing a vision and plan for how big data can be leveraged for the ag sector (pdf attached)
- Ephraim L. (ERS) forwarded a federal big data meeting occurring this May

- CNSTAT is hosting a Big Data Day on March 11 at the National Academy of Sciences--Details (and registration) can be found at this link: https://www.eventbrite.com/e/big-data-day-registration-42903215673

- We hope to see some of you there!
- Sonny reminded everyone to consider big data goals that are reflective of the needs across the federal government

Let me know if you have any questions and I look forward to your comments on our timeline.

Stay warm!

Jeanette

Jeanette Thurston, Ph.D.
Science Program & Analysis Officer
USDA/REE/NIFA/Office of the Director
Voice/cell: Ex. 6
WFC Room 3214
Jthurston@nifa.usda.gov

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Message

From: Domesle, Alexander R. EOP/CEQ [Ex. 6
Sent: 1/19/2018 4:27:02 PM
To: Beck, Nancy [Beck.Nancy@epa.gov]
CC: Prandoni, Christopher D. EOP/CEQ[Ex. 6; Baptist, Erik [Baptist.Erik@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]
Subject: Response to EPA comments on ESA MOA
Attachments: ESA MOA Draft 2018-01-18.docx

Hi Nancy,

Thank you for EPA's thoughtful comments on the draft MOA on ESA pesticide consultation. Our response is in two different parts. Specific changes you suggested have been incorporated with tracked changes and an explanatory comment in the attached new draft, along with changes suggested by DOI, USDA, and OMB. This draft will be sent out to the full group by Monday for final feedback.

You also raised somewhat more general questions and concerns beginning on page 3, to which we have responded individually below. We would very much appreciate if you could review these responses (as well as the attached document). If any of our explanations are unsatisfactory, please let us know as soon as possible and we can discuss whether to bring it to the full group.

Thank you and please don't hesitate to reach out with any questions.
Best regards,
Alex

Alexander Domesle
Senior Advisor for Natural Resources
Council on Environmental Quality
Executive Office of the President
Ex. 6
Alexander.R.Domesle@ Ex. 6
www.whitehouse.gov/ceq

Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Message

From: Keller, Kaitlin [keller.kaitlin@epa.gov]
Sent: 12/11/2017 3:19:29 PM
To: Keigwin, Richard [Keigwin.Richard@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Kaiser, Sven-Erik [Kaiser.Sven-Erik@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Frye, Tony (Robert) [frye.robert@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]
CC: Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Dourson, Michael [dourson.michael@epa.gov]; Dinkins, Darlene [Dinkins.Darlene@epa.gov]; Mosby, Jackie [Mosby.Jackie@epa.gov]; Keaney, Kevin [Keaney.Kevin@epa.gov]; Mclean, Kevin [Mclean.Kevin@epa.gov]; Perlis, Robert [Perlis.Robert@epa.gov]; Garrison, Scott [Garrison.Scott@epa.gov]; Schaible, Stephen [Schaible.Stephen@epa.gov]
Subject: RE: Updated Draft of the Response to the Udall Letter
Attachments: Response to Senator Udall Version8 with CB & LW.docx

Updated with a few additional comments from Louise.

Thanks,
Kaitlin

Kaitlin Keller, Special Assistant
Office of Chemical Safety and Pollution Prevention
U.S. Environmental Protection Agency
(202) 564-7098

From: Keigwin, Richard
Sent: Monday, December 11, 2017 9:14 AM
To: Beck, Nancy <Beck.Nancy@epa.gov>; Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>; Palich, Christian <palich.christian@epa.gov>; Frye, Tony (Robert) <frye.robert@epa.gov>; Sands, Jeffrey <sands.jeffrey@epa.gov>
Cc: Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Dinkins, Darlene <Dinkins.Darlene@epa.gov>; Mosby, Jackie <Mosby.Jackie@epa.gov>; Keaney, Kevin <Keaney.Kevin@epa.gov>; Mclean, Kevin <Mclean.Kevin@epa.gov>; Perlis, Robert <Perlis.Robert@epa.gov>; Garrison, Scott <Garrison.Scott@epa.gov>; Schaible, Stephen <Schaible.Stephen@epa.gov>
Subject: Updated Draft of the Response to the Udall Letter

Here is the most up-to-date version, incorporating comments that Charlotte circulated earlier today.

Message

From: Keigwin, Richard [Keigwin.Richard@epa.gov]
Sent: 12/11/2017 2:13:36 PM
To: Beck, Nancy [Beck.Nancy@epa.gov]; Kaiser, Sven-Erik [Kaiser.Sven-Erik@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Frye, Tony (Robert) [frye.robert@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]
CC: Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Dourson, Michael [dourson.michael@epa.gov]; Keller, Kaitlin [keller.kaitlin@epa.gov]; Dinkins, Darlene [Dinkins.Darlene@epa.gov]; Mosby, Jackie [Mosby.Jackie@epa.gov]; Keaney, Kevin [Keaney.Kevin@epa.gov]; Mclean, Kevin [Mclean.Kevin@epa.gov]; Perlis, Robert [Perlis.Robert@epa.gov]; Garrison, Scott [Garrison.Scott@epa.gov]; Schaible, Stephen [Schaible.Stephen@epa.gov]
Subject: Updated Draft of the Response to the Udall Letter
Attachments: Response to Senator Udall Version8 with CB.docx

Here is the most up-to-date version, incorporating comments that Charlotte circulated earlier today.

Message

From: Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]
Sent: 12/11/2017 1:08:28 PM
To: Lyons, Troy [lyons.troy@epa.gov]; Kaiser, Sven-Erik [Kaiser.Sven-Erik@epa.gov]
CC: Richardson, RobinH [Richardson.RobinH@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Ringel, Aaron [ringel.aaron@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Keigwin, Richard [Keigwin.Richard@epa.gov]
Subject: RE: 6th draft Sen. Udall PRIA Letters
Attachments: CBcomments_Response to Senator Udall Version6.docx

Thanks. Attached are some additional comments to consider in redline.

From: Lyons, Troy
Sent: Sunday, December 10, 2017 1:40 PM
To: Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>
Cc: Richardson, RobinH <Richardson.RobinH@epa.gov>; Palich, Christian <palich.christian@epa.gov>; Ringel, Aaron <ringel.aaron@epa.gov>; Sands, Jeffrey <sands.jeffrey@epa.gov>; Beck, Nancy <Beck.Nancy@epa.gov>; Keigwin, Richard <Keigwin.Richard@epa.gov>; Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>
Subject: Re: 6th draft Sen. Udall PRIA Letters

Sven, I agree w your recommendation.

Sent from my iPhone

On Dec 10, 2017, at 11:05 AM, Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov> wrote:

> Thoughts on who should sign the letter to Udall on PRIA and pesticides issues (latest draft attached at bottom)
>
> Considerations:
>
> **Ex. 5 Deliberative Process (DP)**
>
> Recommendation: **Ex. 5 Deliberative Process (DP)**

Sven-Erik Kaiser

U.S. EPA

Office of Congressional and Intergovernmental Relations

1200 Pennsylvania Ave., NW (1305A)

Washington, DC 20460

202-566-2753

Begin forwarded message:

From: "Beck, Nancy" <Beck.Nancy@epa.gov>
Date: December 10, 2017 at 9:22:04 AM EST
To: "Keigwin, Richard" <Keigwin.Richard@epa.gov>, "Bertrand, Charlotte" <Bertrand.Charlotte@epa.gov>, "Wise, Louise" <Wise.Louise@epa.gov>, "Dourson, Michael" <dourson.michael@epa.gov>
Cc: "Kaiser, Sven-Erik" <Kaiser.Sven-Erik@epa.gov>, "Lyons, Troy" <lyons.troy@epa.gov>, "Keller, Kaitlin" <keller.kaitlin@epa.gov>, "Bolen, Derrick" <bolen.derrick@epa.gov>, "Schaible, Stephen" <Schaible.Stephen@epa.gov>, "Dyner, Mark" <dyner.mark@epa.gov>, "Perlis, Robert" <Perlis.Robert@epa.gov>, "Mclean, Kevin" <Mclean.Kevin@epa.gov>, "Guilaran, Yu-Ting" <Guilaran.Yu-Ting@epa.gov>, "Lowit, Anna" <Lowit.Anna@epa.gov>, "Dyner, Mark" <dyner.mark@epa.gov>, "Palich, Christian" <palich.christian@epa.gov>, "Sands, Jeffrey" <sands.jeffrey@epa.gov>
Subject: 6th draft Sen. Udall PRIA Letters

Thank you all!
attached is working version 6--with the edits incorporated and some additional editorial tweaks.
OCIR- who do you recommend should sign this? At this point the letter is without a signature block but we need to add it.

Thanks,
Nancy

Nancy B. Beck, Ph.D., DABT
Deputy Assistant Administrator, OCSPP
P: 202-564-1273
M: Ex. 6
Beck.Nancy@epa.gov

<Response to Senator Udall Version6.docx>

Message

From: Kaiser, Sven-Erik [Kaiser.Sven-Erik@epa.gov]
Sent: 12/10/2017 4:04:59 PM
To: Lyons, Troy [lyons.troy@epa.gov]; Richardson, RobinH [Richardson.RobinH@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Ringel, Aaron [ringel.aaron@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]; Beck, Nancy [Beck.Nancy@epa.gov]; Keigwin, Richard [Keigwin.Richard@epa.gov]; Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]
Subject: Fwd: 6th draft Sen. Udall PRIA Letters
Attachments: Response to Senator Udall Version6.docx; ATT00001.htm

Thoughts on who should sign the letter to Udall on PRIA and pesticides issues (latest draft attached at bottom)

Considerations:

Ex. 5 Deliberative Process (DP)

Recommendation: **Ex. 5 Deliberative Process (DP)**

Sven-Erik Kaiser

U.S. EPA

Office of Congressional and Intergovernmental Relations

1200 Pennsylvania Ave., NW (1305A)

Washington, DC 20460

202-566-2753

Begin forwarded message:

From: "Beck, Nancy" <Beck.Nancy@epa.gov>
Date: December 10, 2017 at 9:22:04 AM EST
To: "Keigwin, Richard" <Keigwin.Richard@epa.gov>, "Bertrand, Charlotte" <Bertrand.Charlotte@epa.gov>, "Wise, Louise" <Wise.Louise@epa.gov>, "Dourson, Michael" <dourson.michael@epa.gov>
Cc: "Kaiser, Sven-Erik" <Kaiser.Sven-Erik@epa.gov>, "Lyons, Troy" <lyons.troy@epa.gov>, "Keller, Kaitlin" <keller.kaitlin@epa.gov>, "Bolen, Derrick" <bolen.derrick@epa.gov>, "Schaible, Stephen" <Schaible.Stephen@epa.gov>, "Dyner, Mark" <dyner.mark@epa.gov>, "Perlis, Robert" <Perlis.Robert@epa.gov>, "Mclean, Kevin" <Mclean.Kevin@epa.gov>, "Guilaran, Yu-Ting" <Guilaran.Yu-Ting@epa.gov>, "Lowit, Anna" <Lowit.Anna@epa.gov>, "Dyner, Mark" <dyner.mark@epa.gov>, "Palich, Christian" <palich.christian@epa.gov>, "Sands, Jeffrey" <sands.jeffrey@epa.gov>
Subject: 6th draft Sen. Udall PRIA Letters

Thank you all!
attached is working version 6--with the edits incorporated and some additional editorial tweaks.
OCIR- who do you recommend should sign this? At this point the letter is without a signature block but we need to add it.

Thanks,
Nancy

Nancy B. Beck, Ph.D., DABT
Deputy Assistant Administrator, OCSPP
P: 202-564-1273
M: Ex. 6
Beck.Nancy@epa.gov

Message

From: Keigwin, Richard [Keigwin.Richard@epa.gov]
Sent: 12/10/2017 3:33:45 PM
To: Beck, Nancy [Beck.Nancy@epa.gov]; Kaiser, Sven-Erik [Kaiser.Sven-Erik@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Frye, Tony (Robert) [frye.robert@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]
CC: Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Dourson, Michael [dourson.michael@epa.gov]; Keller, Kaitlin [keller.kaitlin@epa.gov]; Dinkins, Darlene [Dinkins.Darlene@epa.gov]; Mosby, Jackie [Mosby.Jackie@epa.gov]; Keaney, Kevin [Keaney.Kevin@epa.gov]; Mclean, Kevin [Mclean.Kevin@epa.gov]; Perlis, Robert [Perlis.Robert@epa.gov]; Garrison, Scott [Garrison.Scott@epa.gov]; Schaible, Stephen [Schaible.Stephen@epa.gov]
Subject: RE: Notes from call on WPS with Sen. Ag (min)
Attachments: Response to Senator Udall Version7.docx

Here's a new draft that attempts to incorporate the revised ask from Sen. Stabenow's office as well as the addition regarding the AEZ from Nancy's note below. I've added a couple of additional people to the cc: list so that we can verify the accuracy of the revisions.

From: Beck, Nancy
Sent: Sunday, December 10, 2017 10:05 AM
To: Keigwin, Richard <Keigwin.Richard@epa.gov>; Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>; Palich, Christian <palich.christian@epa.gov>; Frye, Tony (Robert) <frye.robert@epa.gov>; Sands, Jeffrey <sands.jeffrey@epa.gov>
Cc: Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Dinkins, Darlene <Dinkins.Darlene@epa.gov>
Subject: RE: Notes from call on WPS with Sen. Ag (min)

The draft I just circulated (also attached) does not mention the training issue as this was not part of the incoming ask. I presume the suggestion now is to add something about it?

Regarding the AEZ, I think our hope is to update the guidance by the effective date (Jan 2) and OPP is working on this. So there will be guidance and then also codification of it in rulemaking. We could also mention the further guidance clarifications in the letter, assuming OPP is confident we can get the clarifications done by Jan 2.

Thanks.

Nancy B. Beck, Ph.D., DABT
Deputy Assistant Administrator, OCSPP
P: 202-564-1273
Ex. 6 - Personal Privacy
Beck.Nancy@epa.gov

From: Keigwin, Richard
Sent: Sunday, December 10, 2017 9:53 AM
To: Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>; Palich, Christian <palich.christian@epa.gov>; Frye, Tony (Robert) <frye.robert@epa.gov>; Sands, Jeffrey <sands.jeffrey@epa.gov>
Cc: Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Beck, Nancy <Beck.Nancy@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Dinkins, Darlene <Dinkins.Darlene@epa.gov>
Subject: RE: Notes from call on WPS with Sen. Ag (min)

Thanks Sven. Your summary matches my recollection from Friday's discussion.

From: Kaiser, Sven-Erik
Sent: Friday, December 08, 2017 5:11 PM
To: Palich, Christian <palich.christian@epa.gov>; Frye, Tony (Robert) <frye.robert@epa.gov>; Sands, Jeffrey <sands.jeffrey@epa.gov>; Keigwin, Richard <Keigwin.Richard@epa.gov>
Subject: Notes from call on WPS with Sen. Ag (min)

Rick - thanks for the call with Sean Babington. For the others:
- Rick went over the WPS issue and explained that even while training materials are under development, key WPS requirements are in effect, particularly the exclusion zone, minimum age and worker protection.
- Sean said they are looking for a Udall -- Stabenow meeting on PRIA next Thurs, Dec 14 and would like an EPA letter. To the extent possible, it would be helpful if the letter clarifies the training materials issue. It would also be helpful if the letter provides that depending on comments, some issues might be handled through interpretive guidance rather than reg changes.

Rick – anything to add? Thanks,
Sven

Sven-Erik Kaiser
U.S. EPA
Office of Congressional and Intergovernmental Relations
1200 Pennsylvania Ave., NW (1305A)
Washington, DC 20460
202-566-2753 (o)
Ex. 6 - Personal Privacy

Appointment

From: Bolen, Derrick [bolen.derrick@epa.gov]
Sent: 3/7/2018 3:21:34 PM
To: Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Keller, Kaitlin [keller.kaitlin@epa.gov]; Keigwin, Richard [Keigwin.Richard@epa.gov]; Hughes, Hayley [hughes.hayley@epa.gov]; Dinkins, Darlene [Dinkins.Darlene@epa.gov]; McNally, Robert [Mcnally.Robert@epa.gov]; Leahy, John [Leahy.John@epa.gov]; Mendelsohn, Mike [Mendelsohn.Mike@epa.gov]; Wozniak, Chris [wozniak.chris@epa.gov]; Milewski, Elizabeth [Milewski.Elizabeth@epa.gov]; Kaczmarek, Chris [Kaczmarek.Chris@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]; Wakefield, Benjamin J. [wakefield.benjamin@epa.gov]; Huskey, Angela [Huskey.Angela@epa.gov]; Striegel, Wiebke [Striegel.Wiebke@epa.gov]; Pierce, Amanda [pierce.amanda@epa.gov]; Bohnenblust, Eric [Bohnenblust.Eric@epa.gov]; Reynolds, Alan [Reynolds.Alan@epa.gov]; Overstreet, Anne [overstreet.anne@epa.gov]; Subramanian, Hema [Subramanian.Hema@epa.gov]

Subject: EPA Options Under FIFRA for Gene-Edited PIPs
Attachments: Option Comparisons gene editing prebrief (004) version 03 06 2018.pptx
Location: DCRoomEast3156/DC-EPA-EAST-OCSPP (Call in Number (202) 991-0477, Access code 3093396)

Start: 3/8/2018 9:00:00 PM
End: 3/8/2018 10:00:00 PM
Show Time As: Tentative

Message

From: Burton, Tamika [burton.tamika@epa.gov]
Sent: 3/5/2018 9:51:53 PM
Subject: Weekly Report 03.05.2017
Attachments: Weekly Report 03.05.2017.docx; Weekly Report 03.05.2017.pdf

Good Afternoon,
Please see the attached report for the regions for the week.

Have a great week ☺
Best regards,

Tamika Burton
Staff Assistant to the Deputy Administrator
Immediate Office of the Administrator
MC 1104A Room 3412 WJC North
(202) 564-4771 (d)
Ex. 6 - Personal Privacy
burton.tamika@epa.gov

Region 1

Hot Topics

RA Dunn Travels Through Maine and Meets with State Leaders and Visits a Paper Mill
On March 1st, RA Dunn met with Maine State Legislature members and discussed President Trump's infrastructure plan and the importance of investing in infrastructure. RA Dunn also visited with the MEDEP Senior Management Team and discussed cooperative federalism, the state's interest in pursuing different RCRA authorities, and the implementation of a new enforcement collaboration policy.

Following the visits, RA Dunn met with Commissioner Mercer and Deputy Commissioner Loyzim and toured the Androscoggin Mill. The Androscoggin paper mill is currently in the process of being expanded and the upgrades are expected to create over 100 jobs this year.

Prior to concluding her trip, RA Dunn met with Governor LePage's Senior Policy Team to deliver Administrator Pruitt's letter on carbon neutrality biomass, a very important policy decision that will benefit the forestry sector of Maine.

Region 1 Hears from MA Watershed Associations on Concerns with MS4 Permit Delay
On February 28th, representatives of several Massachusetts watershed associations met with RA Dunn to express their support for the Massachusetts municipal stormwater general permit, which was issued by EPA in 2016 and is currently under appeal. OW, OGC, and DOJ participated by phone. The watershed associations urged EPA not to further extend the July 1, 2018 effective date of that permit (we had granted a one-year extension last year). At this point, EPA has not received any extension requests. We have begun a court-sponsored mediation process to attempt to resolve the appeal.

Region 1 Discusses Land Preservation and Environmental Protection
On February 28th, RA Dunn met with members of the Appalachian Mountain Club to discuss the potential for collaborative efforts in the areas of land preservation, community outreach and environmental stewardship as it relates to protecting human health and the environment.

Informative Coakley Landfill Discussions Take Place with Senator Staff Members
On February 28th, Region 1 met with staff from Senator Hassan and Senator Shaheen's offices to discuss the New Hampshire based Coakley Landfill site. The Coakley team committed to giving regular phone briefings to the staff prior to any upcoming public meetings and on an as needed basis. The main focus of the meeting was upcoming work at the site including a bedrock study and fish tissue sampling, as well as setting expectations for the findings, and effective public outreach.

Region 1 and Rhode Island Department of Health Meet to discuss Lead Issues
On February 22nd, Region 1 and RIDOH Drinking Water Program staff met in Providence, RI. The purpose of the meeting was to discuss action steps to be taken by Providence Water to address elevated lead in drinking water. A pilot to test out optimum water quality treatment changes will be finished in June 2018. Other recommendations included the need to inventory private lead service lines, pursue full lead line replacements, and increase public transparency.

Upcoming Major Decisions and Events

Delegation to New Hampshire of Sewage Sludge Incinerator Federal Plan
On February 20th, Region 1 routed for signature a proposed rulemaking approving the New Hampshire delegation request for the sewage sludge incinerator Federal Plan. NH DES has already entered into an MOA with EPA which outlines the roles and responsibilities for implementation and enforcement authority by the state for the federal rulemaking.

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Region 2

Hot Issues

Pace Environmental Litigation Clinic - Litigation Update (for EPA internal use only): EPA filed a Motion to Stay with the court to allow time for NYSDEC, with EPA's assistance, to propose water quality standards that would -- once adopted by NYSDEC -- replace the water quality standards that are the subject of the litigation. Last week the court denied our Motion. As a result of the denial, EPA has decided to disapprove NYSDEC's 2015 revised water quality criteria for pathogens for Class I and Class SD waters. These revised water quality criteria are based on outdated and unreliable indicators of fecal contamination and NYSDEC's revised fecal coliform water quality criteria for these waters lack a short-term upper limit (i.e., STV) rendering them less protective than EPA's 1976 recommended recreational water quality criteria. Regional Administrator Pete Lopez has discussed this matter with NYSDEC Commissioner Basil Seggos. Our decision to disapprove does not in any way affect our continued, collaborative work with New York State on revised water quality standards.

PFAS confirmed at Hercules, Inc. (a/k/a Ashland) Facility in Parlin, NJ: Hercules provided its report on the preliminary sampling for PFAS at the site. Groundwater was sampled from 4 wells up-gradient of the plant, where releases had not been expected (considered "background" well sites), and 7 wells near the locations of potential or suspected PFAS releases. The sampling confirmed the presence of PFAS. PFOA was detected in the background wells (3 of 4 exceeded NJDEP interim groundwater quality standard) and the on-site wells (6 of 7 wells exceeded the NJDEP standard). The exceedances were all within a similar range. Hercules proposes to submit a Remedial Investigation work plan in March to further delineate the PFAS and go further hydraulically upgradient. Coordination with the neighbor, DuPont, will be necessary.

Hurricane Response and Recovery Work for Non-PRASA Water Systems in PR: During our hurricane response work, and continuing into our forthcoming recovery work, one of our highest priorities has been addressing the many non-PRASA (i.e., non-utility) drinking water systems in Puerto Rico. Many of these systems suffered damage from the storms, and/or they have been without power for months. Under our response mission we are working to provide alternate power and needed repairs for systems. As part of our recovery mission, on 3/6/18 EPA, the PR Department of Health, and the PR Science and Technology Trust will facilitate a working meeting to develop draft strategies for recovery and resilience programs, projects, and initiatives related to the non-PRASA drinking water systems. This is the first of two events. The first one will be between federal and local agencies and the second (preliminarily scheduled for 4/3/18) will integrate other sectors, such as universities, NGOs, and private entities.

Upcoming Major Decisions and Events

Discussions with NYS Assembly Representative: On 3/6/18 Region 2 staff will have a call with staff from NY Assemblywoman Rosenthal's office about PCBs in New York City schools; the Assemblywoman is concerned, in particular, about Public School 199 in Manhattan, where the City's efforts to address PCB contamination have to date not been fully successful.

Event Community Meeting: on 3/6/18 RA Lopez will be the featured guest at a breakfast symposium hosted for key opinion-leaders and decision-makers in the Capitol District of NYS by the Albany Times Union.

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Region 3

Hot Topics

Performance Partnership Agreement with Commonwealth of Virginia

Key Message: Acting RA Cecil Rodrigues and Virginia DEQ Director David Paylor signed a Performance Partnership Agreement (PPA) that will continue until September 30, 2018.

- Per the agreement, DEQ and Region 3 staff and managers will work together to improve coordination, implement process improvements, build capacity in key programs, and, ultimately, achieve significant environmental and human health protection.
- Specific priority areas include rulemaking, compliance and enforcement referrals, modernization of information management systems, sustainability, continuous process improvement, and flexibility in negotiation of work commitments.
- Region 3 and DEQ will use a SharePoint site to facilitate collaboration. Preparations are underway for a kickoff meeting for key managers in May 2017.

Upcoming Major Decisions and Events

Court has ordered EPA to act by April 17, 2017 to approve or disapprove WV's constructive submission of "no" biological TMDLs

Key Message: Disapproving the "constructive submission" will take away West Virginia's discretion in issuing TMDLs and will require EPA to issue approximately 500 TMDLs with limited resources. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

- On February 14, the District Court granted a summary judgment in favor of *Ohio Valley Environmental Coalition v. McCarthy,* holding that WVDEP's deferral of TMDL development amounted to a constructive submission of "no" TMDLs, triggering a mandatory duty under Section 303(d) of the CWA for EPA to approve or disapprove the "constructive submission." EPA was granted a 30-day extension.
- On March 10, EPA sent a letter to DOJ requesting that the decision and order be appealed and stayed.
- One of the appeal issues questions OVEC's standing on all of the listed waters, potentially limiting EPA's obligation to approximately 50 waters.
- Ex. 5 Deliberative Process (DP)

Public Comment Period Closes on March 31 and Public Hearing to take place on April 13 for Two UIC Permits to be Reissued to EnerVest Operating, LLC in Southwest Virginia

Key Message: Permits for two underground injection control wells (UIC) for disposal of Class II-D fluid are proposed for a 10-year renewal.

- Wells are currently operating under original 10-year permit.
- EPA has primacy in Virginia for the UIC program.
- EPA is working closely with EnerVest to develop permit conditions for this reissuance so that future renewals of the company's nine southwestern Virginia injection well permits will be increasingly efficient and consistent depending on regional geologic conditions.

Petition for Review filed by NRDC and Blue Water Baltimore (this action is separate but connected in some way to the NOI to file a citizen suit for NRDC and Blue Water Baltimore)

Key Message: The MDE MS4 program currently regulates these stormwater sources and it provides sufficient certainty that Water Quality Standards will be attained.

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- On September 17, 2015, NRDC and BWB petitioned EPA for a determination that stormwater discharges from commercial, industrial, and institutional sites to the Back River in Baltimore be designated as point sources requiring NPDES permits as they are causing or contributing to a standards violation.
- On November 3, 2016, EPA denied the petition based on part that the MDE MS4 program required Baltimore City and Baltimore County to develop TMDL implementation plans designed to address the impairments.
- On February 28, 2017, NRDC filed a petition for review with Fourth Circuit Court of Appeals.

NRDC and Blue Water Baltimore issues a Notice of Intent to File a Citizen Suit to EPA under the CWA
Key Message: The MDE MS4 Program currently regulates these sources and the program provides sufficient certainty for standards attainment.

- EPA has failed to fulfill its nondiscretionary duty under the CWA to determine in response to a petition whether cited category of stormwater dischargers is contributing to a standards violation and, therefore, require designation as a point source.
- On February 28, 2017, issued a sixty-day notice requesting relief, namely, EPA make a determination whether these sources cause or contribute to violation of water quality standards.

Potomac River Keeper Network issues a Notice of Intent to File a Citizen Suit to City of Alexandria for CWA and RCRA Violations
Key Message: EPA continues discussions with VADEQ on needed improvements to Alexandria's LTCP

- February 28, 2017, notice alleges MS4 violations from discharges from 001. However, 001 is a CSO outfall and not subject to MS4 provisions.
- PRKN is concerned that Alexandria's LTCP does not adequately address combined sewer overflows from 001.
- EPA has been in discussions with VaDEQ on necessary improvements to the LTCP. Virginia State legislature is considering passing a regulation requiring the addressing of 001 in a timely and appropriate manner.
- Notice alleges imminent and substantial endangerment under RCRA for discharges of coal tar and creosote wastes from a legacy site.

EPA requesting additional time to respond to Inland Bays Foundation Petition to designate communities as point sources requiring an MS4 permit.
Key Message: EPA and Delaware Department of Natural Resources and Environmental Control are in discussions to develop a strategy to meet the intent of the request for residual designation.

- On March 31, 2016, EPA received a petition from IBF seeking designation of unregulated stormwater discharges from municipal separate storm sewer systems as point sources requiring a permit. The petition alleges that these discharges are causing or contributing to impairment of the Delaware Inland Bays. Under regulation, EPA had 180 days to respond to the petition.
- EPA believes Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

- On November 4, 2016, EPA requested an extension until the end of the calendar year to respond to the petition. On March 20, 2017, EPA will request additional time to finalize its discussions with DNREC and its determination.

Region 4

Hot Issues

CWA 404(q) Review of Isram Realty Management Project

Key Message: During the week of February 26th, Region 4 recommend the issuance of a Clean Water Act section 404(q) "3(b)" letter in regards to the proposed project by Isram Realty Management that would impact 1.6 acres of mangrove wetlands in Florida. On February 26, 2018, EPA issued a "3(a)" letter to the U.S. Army Corps of Engineers Jacksonville District regarding this project and stated concerns with compliance with the CWA Section 404(b)(1) Guidelines and impacts to Aquatic Resources of National Importance. If EPA wishes to maintain its concerns pursuant to the 404(q) process, Region 4 needs to notify the Corps in writing accordingly by March 23, 2018.

MS Phosphates Follow-Up (Pascagoula, MS)

Key Message: Regional Administrator Trey Glenn will have a call with the Chief of Staff from Governor Bryant's (R-MS) office regarding EPA's next steps at the Mississippi Phosphates superfund site. The call is a follow-up to the Administrator's briefing on February 27th.

Oak Ridge Reservation Water Management Issue (Oak Ridge, TN)

Key Message: Regional Administrator Trey Glenn anticipates engaging with the Environmental Secretary for the Tennessee Department of Environmental Protection regarding a potential formal dispute related to the Applicable, Relevant and Appropriate Requirements for rad contaminated waste water. In addition, the RA will discuss next steps with the Oak Ridge Environmental Manager for the U.S. Department of Energy.

Upcoming Major Decisions and Events

Decisions

None

Events

March 7th – Regional Administrator Trey Glenn will meet with staff from the Kentucky Department of Environmental Protection Division and external stakeholders.

March 8th – Regional Administrator Trey Glenn will provide the keynote at the Kentucky Chamber of Commerce's Annual Environmental Conference. Lexington, KY.

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Region 5

Hot Topics

Region 5 Will Approve Ohio's 2016 Impaired Waters List

Key Message: Region 5 Will Approve Ohio EPA's Impaired Waters List, while continuing discussions with the state regarding further Lake Erie assessments.

- Both EPA and Ohio EPA will work to explore options for future approvals that would protect Lake Erie water quality and public health, while providing the state with clear metrics.
- Given available data, Region 5 supports the use of Microcystin as a proxy for Ohio's 2018 List along with the development of a sampling protocol.
- Ohio has expressed their support for our efforts. Region 5 worked with Don Benton and OW in this effort.

Region 5 Continues Dialog with Ohio EPA and Eramet

Key Message: Region 5 has now finalized the delegation of National Emission Standards for Hazardous Air Pollutants (NESHAP) for Ferroalloys Production, 40 C.F.R. Part 63, Subpart XXX to Ohio.

- This action is expected to preserve 90 jobs at risk by allowing Eramet additional time to come into compliance.
- Region 5 reached out to the company and had a high-level meeting with Eramet's CEO and technical staff today to better understand their remaining issues.
- Region 5 will work with Ohio and Eramet on Subpart XXX issues compliance issues.

Region 5 Intends to Further Investigate the Source of Private Drinking Water Well Contamination in Kewaunee County, Wisconsin

Ex. 5 Deliberative Process (DP)

Mesabi Nugget Delaware, LLC Consent Decree with EPA, DOJ, and Minnesota Pollution Control Agency

Key Message: Mesabi Nugget uses a new technology to produce iron nuggets suited for use in electric arc furnaces, eliminating the need for traditional processes and recycling tailing wastes.

- EPA worked with MPCA on a settlement that resolves multiple emission exceedances, including mercury, of Mesabi's Title V permit.
- Mesabi Nugget will install equipment to monitor mercury emissions.
- The continuously monitored and reduced mercury emissions will also lessen the impact of pollution on wild rice, which is an important resource to the Minnesota Tribes.
- The facility has not been operating since Spring of 2015 due to low commodity prices.
- In consideration of the temporary shutdown, Region 5 conducted an ability to pay analysis was conducted and reduced the proposed penalty from $1 million to $150,000 (to be split with Minnesota).

Region 5 is Working with Stakeholders to Discuss Remedy Enhancement at Tremont City Barrel Fill Superfund Site

Key Message: EPA has worked with the state and local community to enhance the selected remedy and address local concerns.

- EPA has proposed removing an additional 997 drums of hazardous waste and will meet with local stakeholders on March 23 to discuss.

- Pending the results of the meeting, Ohio EPA will send a letter to EPA supporting this and other previously-identified remedy enhancements.
- With State acceptance, EPA will move forward with modifying the remedy and negotiating an agreement with the responsible parties to conduct the cleanup.

Region 5 Reached Agreement with Potentially Responsible Parties to Fund East Chicago Work
Key Message: The settlement funds will go towards remediation work at homes in Zones 2 and 3 of the USS Lead Superfund site.

- The settlement agreement reached is valued at an estimated $16 million, which supplements the $26 million secured in a prior consent decree.
- In Zone 2, Region 5 plans to remove contaminated soil at roughly 72 priority properties as well as test and conduct cleanings, if needed, inside those homes.
- In Zone 3, Region 5 will clean up roughly 120 yards, along with interior testing and cleanings.
- Zone 1 work is currently on hold while the city makes a future use determination for the property.

Region 5, The Army Corp of Engineers, Fish and Wildlife and Peabody Coal Company Met to Discuss the Proposed Seven Hills Coal Mine
Key Message: On March 16, 2017, Region 5 (Acting RA Bob Kaplan), The Corp and Peabody Energy held a meeting to discuss the Environmental Impact Statement requirements they may be subject to.

- Region 5, together with OW, is committed to working with both the Corp and Peabody regardless of whether an EIS is required.
- The Army Corp is the decision maker regarding the need for Peabody to develop an EIS.
- Peabody Energy would prefer to allocate funds to mitigation rather than develop and EIS.
- Peabody will work with Region 5 on an assessment methodology that will satisfy the Army Corps, and provide a basis for a technical and legally defensible permit.

On March 10, 2017, Governor Holcomb Issued an Extension of East Chicago Emergency Declaration
Key Message: The February 9 Declaration focused on the relocation of roughly 100 residents who remain at a housing complex in the Superfund site.

- The extension does not request any additional action by EPA.
- Region 5, with assistance from OGC and OW, discussed options with IDEM for water infrastructure in East Chicago.
- EPA will accommodate Gov. Holcomb's request to use SRF funds to pay for nontraditional items such as filters and lead line replacement.
- Region 5 has requested to brief the Administrator on urgent water issues in East Chicago.

Upcoming Major Decisions and Events

EPA will Award Michigan with the $100 Million WIIN Act Grant on March 17, 2017
Key Message: The state of Michigan will be awarded grant funds for water infrastructure projects in Flint, including lead line replacement as well as system improvements and studies.

- Region 5 is working with HQ to develop a press release that includes quotes from Governor Snyder and Mayor Weaver, talking points and a "Q & A."
- A statutory requirement imposes that the award must be made by March 19.

Flint, Michigan will Seek Public Participation Prior to Making a Water Source Decision
Key Message: In accordance with the EPA Enforcement Order, the City of Flint has provided a Public Participation Plan that includes a press conference on March 28 where the city will announce its proposed plan and a town hall meeting on March 29 to kick off the public comment period.

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Region 6

Hot Topics

Louisiana Requests One Year Extension to Ozone Designation
On February 20, 2018, LDEQ requested up to a one-year extension of the deadline for making the ozone designation for the Baton Rouge area. Louisiana is expected to send draft ozone exceptional event package on **March 1, 2018,** and post the demonstration on its website starting a 30-day comment period.

Illinois River Watershed modeling, Oklahoma and Arkansas
Region 6, Oklahoma Department of Environmental Quality and Arkansas Department of Environmental Quality will meet to review the two draft models [HYPERLINK "x-apple-data-detectors://3"] This is the first in a series of meetings with a broader group of stakeholders to prepare for the public release of the watershed and Lake Tenkiller models.

Louisiana Regional Haze
EPA took final action on the Louisiana Regional Haze SIP in December 2017 and has received petitions for review and reconsideration from Sierra Club. Sierra Club also filed a motion that our action failed to meet the Consent Decree terms. Entergy may also petition for review.

Upcoming Major Decisions and Events

St Bernard Parish, Louisiana
State of Louisiana provided both the modified order and new modeling for sulfur dioxide in St. Bernard Parish.

Ex. 5 Deliberative Process (DP)

Lindrith Compressor Station, Jicarilla Apache Land, New Mexico

Ex. 5 Deliberative Process (DP)

[HYPERLINK "x-apple-data-detectors://6"]: American Chemistry Council and Texas Chemical Council Meeting for Hurricane Harvey Lessons Learned, Houston, Texas

[HYPERLINK "x-apple-data-detectors://7"]: Texas Water Conservation Association Annual Convention, Lost Pines, Texas

[HYPERLINK "x-apple-data-detectors://8"]: Louisiana Oil and Gas Annual Conference, Lake Charles, Louisiana

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Region 7

Hot Topics

West Lake Landfill (Bridgeton, MO)

Key Message: Meetings on the Proposed Plan and preparations for the public meeting continue.

- Last week the region hosted a call with the Technical Community Advisory Group to clarify technical aspects of the Proposed Plan as they prepare to formulate comments ahead of the March 6 public meeting. The region satisfactorily addressed the TCAG's concerns and provided specific references in the Administrative Record that supported responses to their questions. This week the region is in the process of documenting the comments and responses to provide to the TCAG and post on the site's webpage for the availability of others of the public to review.
- The region also met with the Potentially Responsible Parties this week and discussed obligations under current enforcement orders, upcoming work for Operable Unit 3, and the North Quarry Investigation as well as clarifying questions regarding the preferred alternative in the Proposed Plan for Operable Unit 1. The region will follow the same process for documenting questions and responses as that discussed for the TCAG.
- Next Tuesday the region will be holding the public meeting on the Proposed Plan in Bridgeton, MO and a large crowd is expected. The region will provide a brief presentation and take oral and written comments during the approximate 3.5 hour session. To date, the region has received upwards of 300 comments on the Proposed Plan through written and electronic submissions.
- While in Bridgeton next Tuesday, senior agency leaders will provide an update to Congressional staff prior to the start of the public meeting. The region will also visit the site and meet with a private property owner who uses a private well and has requested that the agency sample that well.

Doe Run Consent Decree for Big River Residential Remedial Action

Key Message: Settlement agreement reached for final remedy at large lead site in Missouri.

- In January 2018, EPA reached final agreement with Doe Run and Federal parties on a settlement at OU01 of the Big River Superfund Site to complete the remedy for approximately 4,100 residential properties or high child impact areas affected by historic lead mining at the site.
- Ex. 5 - Deliberative

Clean Power Plan Proposed Repeal Listening Session (Kansas City, MO)

Key Message: On February 21, Region 7 Regional Administrator Gulliford kicked off a listening session in Kansas City, MO, regarding EPA's proposed repeal of the Clean Power Plan for existing power plants.

- Out of the 270 attendees, 181 people spoke at the listening session.
- Key elected and government officials who spoke included Kansas City, MO Mayor Sly James; Missouri Department of Natural Resources Director Carol Comer; Nebraska Department of Environmental Quality Director Jim Macy; Missouri Attorney General's Deputy Solicitor General Julie Marie Blake
- U.S. Congressional staff attended on behalf of the following members: Senator Roy Blunt, MO; Senator Pat Roberts, KS; Congressman Kevin Yoder, KS; Congressman Emanuel Cleaver, MO

- Local print media outlets and one national trade media outlet covered the event.

Upcoming Major Decisions and Events

West Lake Landfill Public Meeting
Key Message: Regional Administrator Jim Gulliford will attend the West Lake Landfill Public Meeting in Bridgeton, MO on March 6.

Region 8

Hot Issues

None

Upcoming Decisions/Events

Town of Minturn requests Region 8 Assistance in Evaluating Solar Reuse Option at Eagle Mine Superfund Site Tailings Pile
Region 8 received a request from the Minturn Town Council to assist in the evaluation of the Eagle Mine consolidated tailing pile near Minturn, Colorado, as a possible site for solar energy generation. The consolidated tailings pile has remarkably good solar access, given its location in a high alpine valley. The pile comprises almost 80 acres of mostly flat land at the top, which is enough land to site 20 megawatts of solar capacity. A solar array of that size could generate 4 times as much energy as the entire town of Minturn uses annually. Should the project proceed EPA will work with the town and developer to address liability concerns and reasonable steps to maintain protectiveness of the existing remedy for the consolidated tailings pile.

Region 8 hosting Lead and Copper Rule training next week
On Wednesday, March 7, EPA HQ will be conducting a Lead and Copper Rule Water Quality Parameter Training in Region 8 for state staff, technical assistance providers, and water systems.

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Region 9

Hot Topics

FIFRA: We settled an administrative penalty action with Bissell Homecare over imports which did not meet FIFRA's labelling and registration requirements; Bissell will pay a $121K penalty. We settled with Navajo Mesa Farms for worker-protection and misuse violations, for a $6K penalty.

Drinking water: We're working closely with California and Arizona in examining lead (Pb) compliance by systems with a pattern of repeated exceedances. By focusing on specific systems, our goal is to achieve sustained compliance. We are exchanging draft EPA reports with these two states to strengthen their implementation of the lead-and-copper rule.

Clean Power Plan repeal listening session: We conducted an all-day listening session yesterday which went very smoothly. An estimated 250 speakers and 250 listeners participated, including 12 elected/appointed officials, in concurrent sessions. Thanks to the HQ and Regional colleagues who worked hard to prepare for and host this major event.

Upcoming Major Decisions and Events

Nevada and Guam water quality standards: This week we'll approve updated CWA standards for Nevada (for Colorado River basin salinity), and for Guam's recreational waters (updating *Enterococci and E. coli* values per EPA's 2012 criteria).

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Region 10

Hot Topics

U.S. Supreme Court Will Hear Washington "Culverts Case" Re: Tribal Treaty Fishing Rights: The U.S. Supreme Court has set April 18th to hear arguments on the Washington state culverts case. The state of Washington is appealing a ruling by the 9th U.S. Circuit Court of Appeals that its network of culverts violated the terms of treaties that guaranteed Northwestern tribes continued access to fishing off their reservations. The 9th Circuit agreed with tribes in finding that the culverts prevent mature salmon from returning to sea, as well as hinder juvenile salmon from moving downstream. If the lower court finding stands, the State of Washington has indicated it must repair or replace 817 culverts.

Upcoming Major Decisions and Events

Region 10 to Participate in Groundbreaking Event Announcing First WIFIA Loan for $129M to King County, WA: On March 1, Region 10 participated in an event hosted by King County commemorating the groundbreaking of its "Georgetown Wet Weather Treatment Station" which will be nearly 50 percent funded by a $129M loan from the Water Infrastructure Finance and Innovation Act. This will be the first-ever loan from EPA's WIFIA program. Anticipated attendees include the EPA Regional Administrator, King County Executive, County Department of Public Works leadership, community leaders, and local and state representatives.

Clean Water Act Settlement with Trident Seafoods (AK): On March 1 Region 10 and DOJ issued a news release announcing that Trident Seafoods Corporation, DOJ and EPA reached an agreement to resolve Clean Water Act violations at two seafood processing facilities located in Sand Point and Wrangell, Alaska. Under the agreement, Trident will remove nearly three-and-a-half acres of waste from the seafloor near its Sand Point plant, and limit the amount of seafood waste discharged from its Wrangell plant. The company will pay a $297K penalty.

EPA and DOJ Agreement in North Idaho Ends Years of Litigation and May Return Bunker Hill Mine to Production (ID): On March 9, Region 10 will issue a press release announcing a settlement with the New Bunker Hill Mining Company/Placer Mining Company, Inc. resolving the company's cleanup liability in Idaho's northern panhandle. As part of the settlement, the company will pay $20M to partially cover EPA's past cleanup costs and agrees to drop its "takings" case against the U.S. Government. This settlement of claims enables the new lessor of the Bunker Hill Mine, one of the historically most productive mines in the Coeur d'Alene Mining District, to return to production after a hiatus of more than two decades.

Central Washington Fruit Packer and EPA Reach Agreement on Risk Management and Reporting Violations: During the week of March 5, Region 10 will issue a news release announcing a settlement with Evans Fruit Company of Yakima County for violations of Clean Air Act Section 112R including failing to have adequate and up-to-date Risk Management Programs in place at its cold storage facilities and failing to local fire departments and local and state authorities report how much anhydrous ammonia was stored at their facilities. The company, which is now in compliance, will pay $420,826 in penalties.

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Office of Administration and Resources Management

Hot Topics

OARM Kaizen Event to Improve Simplified Acquisitions
The week of February 26th OARM's Office of Acquisition Management conducted its second Kaizen event to identify ways to improve the performance action lead time for simplified acquisitions in support of the Agency's lean management system. The goal of the event is to develop more streamlined, well-defined processes, and a reduction in the time it takes to award simplified acquisitions, which account for the majority of the Agency's procurement actions.

Upcoming Major Decisions and Events

EPA's Misconduct Process Identified as Federal Best Practice
OARM and Office of General Counsel met with the Office of Personnel Management to discuss the Agency process for working with the Office of Inspector General on employee misconduct cases. The process has been identified as a best practice by Congress and we understand it is identified in a U.S. Government Accountability Office report that is to be released soon.

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Office of Air and Radiation

Hot Topics

Ex. 5 Deliberative Process (DP)

OAR Actions Under Review at OMB:

- Final Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program

Actions Signed this Week by the Administrator:

- Title V Petition Response for ExxonMobil Baytown Olefins Plant (Texas) and Title V Petition Response for Superior Silica Sands and Wisconsin Proppants
- Notice of Proposed Withdrawal of the Control Techniques Guidelines for the Oil and Natural Gas Industry
- Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classifications – Final rule
- Protection of Stratospheric Ozone: Revision to Reference for Refrigeration and Air Conditioning Sector to Incorporate Latest Edition of Certain Industry, Consensus-Based Standards – Withdrawal of Direct Final Rule
- National Emission Standards for Hazardous Air Pollutants: Leather Finishing Operations Residual Risk and Technology Review – Proposed Rule

Upcoming Major Decisions and Events

Repeal of the Clean Power Plan (CPP): The third and final of the listening sessions is March 27 in Gillette, Wyoming. The comment period closes April 26.

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Office of Chemical Safety and Pollution Prevention

Hot Topics

Final Registration Decision for Kasugamycin – On March 1st, the Office of Pesticide Programs (OPP) registered the antibiotic, Kasugamycin, for use on cherries and walnuts. The agency published its proposed decision in December 2017, for a 30-day comment period. Comments received were all favorable. There are no human health risks of concern, and minimal ecological risks for kasugamycin. Kasugamycin is one of several antibiotics with pesticidal uses. EPA coordinates with FDA and CDC when making registration decisions on antibiotics to consider possible impacts on the development of antibiotic resistance. Kasugamycin is currently approved for use on pome fruit, but this action would amend the pesticide registrations to add uses on walnut and cherries. Registration of this active ingredient will provide an important tool to growers to manage walnut blight as well as blossom blast and canker in cherries.

Upcoming Major Decisions and Events

Association of American Pesticide Control Officials 2018 Spring Meeting – Rick Keigwin and several staff will present at the Association of American Pesticide Control Officials Spring Meeting, March 5-7. Topics that will be presented include: Pollinators, Dicamba, Registration Review Update, PRIA, Biotechnology, Worker Protection and Certification of Pesticide Applicators Rule, EPA's biological evaluations and receipt of NMFS' Biological Opinion.

Household and Commercial Products Association Meeting - The Household and Commercial Products Association (HCPA), formerly known as the Consumer Specialty Products Association(CSPA), will meet with OPP on March 6. HCPA is a trade association representing companies that make and sell products used for cleaning and disinfecting homes and commercial environments.

Council of Producers and Distributors of Agrotechnology Meeting - The Council of Producers and Distributors of Agrotechnology (CPDA) will meet OPP on March 13. The Council's members primarily produce and sell adjuvants and inert ingredients. CPDA members have expressed an interested in talking about OPP priorities, registration review, pesticide inert ingredients, drift reduction technology, and proposed use of Globally Harmonized System language on pesticide labels.

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IMPORTANT DEADLINES

Row	Determination Type	Pending on 2/27/2018	Determinations Completed[1] as 2/27/2018	Determinations Posted on the Website as of 2/27/2018[6]
1	# of "not likely" determinations	**1**	**116[4]**	**116[4]**
2	# of §5(e) Orders signed by both EPA and the submitter	-	**330**	**327**
3	# of §5(e) Orders signed by EPA and awaiting submitter signature	**42**	-	-
4	# of non-Order SNURs/"not likely" determinations	**0**	**0**	**0**
5	# of cases in post-FOCUS final determination development[5]	**349[3, 5]**	-	-
6	# of cases flagged for in-depth review	**46**	-	-
7	# of PMNs, SNUNs and MCANs awaiting FOCUS (within 90-day review)	**11**	-	-
8	# of LVE/LOREX exemption grants	-	**538**	**535**
9	# of LVE/LOREX exemption denials	-	**120**	**120**
10	**Total number of cases**	**449**	**1104**	-
11	Normal active workload for the New Chemicals Program	300	-	-
12	Number of cases undergoing testing or data development by submitter	74[3]	-	-
13	**Backlog[2]**	75	-	-

[1]"Determinations Completed" means that EPA has completed its reviews on these cases and that final determinations have been made by EPA under TSCA section 5(a)(3).

[2] (Total number of cases) – (Normal active workload for the New Chemicals Program) - (Number of cases undergoing testing or data development) = Backlog

[3] Of these cases, approximately 73 are "active" lung toxicity cases that are suspended while submitters either conduct or are deciding whether to conduct testing to develop data on pchem properties, exposures and toxicity.

[4] "Not Likely" determinations are not posted until the final signed determination document is prepared and has been shared with submitter.

[5] These cases are those for which Post-FOCUS work is underway to develop: not likely determinations; non-Order SNURS coupled with not likely determinations; or section 5(e) or 5(f) Orders. When the OPPT Office Director decides which of these regulatory paths to follow, the case is moved to: Row 3 when the section 5(e) or 5(f) Order is sent to the submitter for signature; Row 4 when the SNUR is published and the not likely determination document is signed; and Row 1 when the determination document is sent to the OPPT OD for signature.

[6] These are all only final determinations posted on the web: grants and denials

Office of the Chief Financial Officer

Hot Topics

- As the appropriations staff finalize the FY 2018 appropriation bill and report, they are asking the agency to comment or provide information on a number of different issues. These issues are all being coordinated with the policy team. The House has targeted Floor action for March 12th and the Senate by the end of that same week. These are tentative schedules and subject to change but we expect that Congress will complete action in time for the President to sign the bill by March 23rd.

- OCFO is providing an overview of *FY 2018-2022 EPA Strategic Plan* and *FY 2019 Budget* at the March 6 ECOS/EPA Partnership and Performance Co-Chair Call.

- OCFO is moving forward the Computational Toxicology (CompTox) Report to send to Congress by March 2. This report describes EPA's pesticides and research programs' collaboration on evaluating and demonstrating CompTox tools and models.

- OCFO has representation on FEMA's Recovery Support Function Leadership Group which will coordinate planning for all disaster-related federal spending. This group is comprised of 25 agencies involved in disaster recovery with specific roles. OCFO will coordinate with relevant program offices and regions to develop reporting mechanisms for disaster recovery, to report on major projects funded and to identify overarching issues affecting policies and other agencies.

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Office of Congressional and Intergovernmental Relations

Hot Topics

March 7- Hearing on: The Future of Transportation Fuels and Vehicles -House Energy & Commerce Subcommittee on Environment

Upcoming Major Decisions and Events

- **March 3-7-** NACo Annual Legislative Conference (Washington Hilton)
- **March 5**- EPA to meet with Laredo, TX (per Rep. Cuellar) to discuss funding support and partnership opportunities under the Brownfields Program
- **March 5**- EPA HQ and R9 will meet with Morro Bay, CA officials regarding the City's Water Reclamation Facility project (conference call)
- **March 6** – EPA's OBLR/R10 will meet with Marion County, OR commissioner re: Brownfields grant (conference call)
- **March 7**- EPA to meet with Hi-Desert Water District Official re: WIFIA
- **March 10-11** – EPA hosting State Fly-In seeking input of policy, programmatic and technical delegations from states (AZ, MD, FL, NE, OR, PA, WY, AK)
- **March 11-14** - National League of Cities Conference
- **March 13-14** - National Environmental Performance Partnership System Spring Meeting (held in 2530 WJCN)
- **March 13** - EPA to meet with Wilmington, NC officials Mayor Bill Safo -per Sen. Burr to discuss EPA's process for identifying public health concerns for emerging contaminants
- **March 14** – EPA to meet with Mayor Ramirez (Oxnard, CA) to discuss clean-up efforts for the Halaco Superfund site

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Office of Enforcement and Compliance Assurance

Hot Topics

Meeting with Agricultural Retailers Association and The Fertilizer Institute Staff: On February 23, OECA staff met with representatives from these organizations to discuss collaborative efforts under the Chemical Accident Risk Reduction National Enforcement Initiative. OECA is drafting a list of minimum safety standards applicable to the fertilizer distribution industry and is seeking comments from industry.

"A" Rating from the Small Business Administration Ombudsman: For the twelfth year in a row, EPA received an "A" rating from the SBA Office of the Ombudsman as part of its FY16 Annual Report to Congress released last week. EPA's compliance assistance efforts were highlighted in the report.

Dyno-Nobel Pleads Guilty for Failing to Notify Federal Authorities of Anhydrous Ammonia Discharges: On February 23, Dyno Nobel pleaded guilty in the District of Oregon to violating CERCLA, following a series of large-scale ammonia discharges from a manufacturing plant outside St. Helens, Oregon. An investigation revealed that several failed attempts to restart the plant caused a series of massive discharges from the facility. Although Dyno Nobel personnel knew that excessive ammonia emissions were occurring, no effort was made to alert the authorities at the National Response Center until more than a week after the first discharge. Federal law requires such reports to be made "immediately."

Tyson Poultry Sentenced after Pleading Guilty to Clean Water Act Violations: On February 27, Tyson was sentenced in the Western District of Missouri to pay a $2 million fine, serve two years of probation, and implement a compliance plan with a cost of $500,000. In May 2014, the tank used to store the liquid food supplement "Alimet" at Tyson's Aurora feed mill sprang a leak, and the acidic substance flowed into a secondary containment area. The Alimet was unloaded into an in-house treatment system that was not designed to treat such waste and some of it went into the City of Monett's municipal waste water treatment plant, resulting in the death of approximately 108,000 fish.

Quarterly ECHO Webinar Trains 260 Participants: OECA hosted a public webinar on the Enforcement and Compliance History Online (ECHO) website focused on the features and data available in ECHO (participants: 151 state/tribal/municipality, 51 industries, 28 academic/research/other, 30 federal).

Oil and Gas Sector Roundtable: On February 28, OAR, OECA, OP, OW, Region 6, and Region 8 wrapped up a two-day oil and natural gas roundtable with stakeholders including state and local leaders, tribes, industry, trade groups, and environmental nongovernmental organizations. Co-hosted with ECOS and the Interstate Oil and Gas Compact Commission, the roundtable was organized to enhance coordination and communication, and ensure safe and responsible domestic energy production, especially in the oil and gas industry. Initial feedback from participants was uniformly positive.

Upcoming Major Decisions and Events

On March 4, OECA will update the Association of American Pest Control Officials on the status of ongoing compliance assurance projects in the agriculture sector, enforcement trends, training opportunities, and ongoing partnership efforts during their annual meeting in Alexandria VA.

As part of the Residential Wood Smoke Workshop March 6-8 with state, local, federal, and non-profit reps., OECA will discuss compliance monitoring and enforcement of the 2015 Wood Heater Rule.

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Office of Environmental Information

Hot Topics

E-Enterprise for the Environment Launches *Be Well Informed* – a State-developed Shared Service

- **Brief description:** On March 13, private well owners in New Hampshire and Wyoming will have a new web-based tool to help them understand their well water test results. The Be Well Informed tool was originally built by the New Hampshire Department of Environmental Services with information specific to the state of New Hampshire. OEI in collaboration with the NH Department of Information Technology has adapted Be Well Informed so it is available through the E-Enterprise portal and can be easily customized by other states to support their citizens. This partner-developed, interoperable, reusable component on the E-Enterprise Portal minimizes development costs for participating states, tribes or territories—making it easier and faster for them to provide this service to their citizens.
- **Who benefits or cares:** Private well owners in participating states, Commissioners with well water programs, state and tribal environmental agencies who are responding to citizen inquiries regarding their well water
- **Why this is important:** The tool demonstrates how collaborative innovation can:
    - Reduce costs to E-Enterprise partners (states, tribes and EPA)
    - Provide consistent, timely, and actionable information to citizens.
    - Highlight excellent examples of cooperative federalism and reusable shared services that are adaptable for other purposes.
- **Additional information:**
    - On March 13, Wyoming's Department of Environmental Quality will host a "Know Your Well Day" event highlighting the *Be Well Informed* tool as a resource for its citizens.
    - Massachusetts, Minnesota and Vermont are currently adopting the tool; other states and tribes have expressed interest.
    - As E-Enterprise resources allow, EPA/OEI will work with other states/tribes/territories to support this shared-service.

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Office of General Counsel

Hot Topics

- *Public Citizen, Inc. v. Trump*, No. 17-253 (RDM) (D.D.C.). New development: On Feb. 26, 2018, the court dismissed, for lack of standing, a challenge to Executive Order 13771 and OMB's implementing guidance. Among other things, EO 13771 directed agencies to identify for repeal two existing regulations for every new regulation. The court held that plaintiffs had failed to establish "associational standing" on behalf of its members or "organizational standing" on its own behalf. The court granted the government's motion to dismiss, denied plaintiffs' motion for summary judgment and scheduled a Mar. 1, 2018, conference to address appropriate next steps.

- *CREW v. EPA*, No. 1:18-cv-00406 (D.D.C.). New development: On Feb. 22, 2018, Citizens for Responsibility and Ethics in Washington and Public Employees for Environmental Responsibility filed suit against the EPA, Administrator Pruitt, the Archivist of the United States, and the National Archives and Records Administration. The suit alleges EPA and Administrator Pruitt violated the APA because Administrator Pruitt and "other top EPA officials" allegedly violated the Federal Records Act (FRA) by not adequately documenting Agency functions, policies, decisions, procedures, and essential transactions, and not maintaining an adequate federal records program. It also alleges the Archivist and National Archives failed to follow 44 U.S.C. § 2115, which requires the Archivist to inform an agency head in writing of any concerned FRA violation, and if not corrected within a reasonable time, submit a written report to the President and Congress.

- *Entergy Louisiana, LLC v. EPA*, consolidated with *Sierra Club, et al. v. EPA*, No. 18-60116 (5th Cir). New development: On Feb. 21, 2018, Entergy Louisiana filed a challenge to EPA's approval of a Louisiana State Implementation Plan (SIP) addressing regional haze requirements under the Clean Air Act. The state's SIP establishes, in part, Best Available Retrofit Technology requirements for certain facilities in the state. The petition has been consolidated with a previously filed challenge by the Sierra Club and National Parks Conservation Association.

- *Thomas v. United States*, No. 5:18-cv-10243 (E.D. Mich.). New development: A new complaint was served on the U.S. Attorney's Office on Feb. 2, 2018, seeking $2.023 billion on behalf of 1,923 plaintiffs. The complaint makes the following allegations against the government: (1) failure to take mandatory actions required by SDWA §§ 1431 and 1414; (2) negligent performance in conducting a timely investigation; and (3) negligence in failing to warn the public of known environmental dangers and risks posed by drinking water.

Upcoming Major Decisions and Events

3/6	Hearing on plaintiffs' motion for summary judgment in *Environmental Law and Policy Center v. EPA*, challenge to EPA's approval of Ohio's 303(d) for not identifying the open waters of Lake Erie as impaired.
3/8	Telephonic hearing on United States' motion to stay in *Georgia v. EPA*, 11-state challenge to 2015 Clean Water Rule.
3/16	Oral Argument in *Air Alliance Houston v. EPA*, petition for review of EPA's final action titled "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Further Delay of Effective Date."

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Office of International and Tribal Affairs

Hot Topics

G7 Environment Ministers Meeting - The NSC, EPA and State Department participated in a G7 preparatory meeting chaired by Canada. The issues related to climate, sustainable finance and resource efficiency were discussed as well as the deliverables for the Leaders' Summit.

Upcoming Major Decisions and Events

Israeli Delegation - EPA will host of a delegation from Ministry of Environmental Protection next week to share experiences on phosphate management.

U.K. Secretary of Environment - The Administrator will meet with the U.K. Secretary of Environment on March 6 to discuss areas of bilateral cooperation.

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Office of Land and Emergency Management

Hot Topics

Emergency Response. On-boarding briefings during March (see below).

Coal Combustion Residuals (CCR).

- **State permit programs.** Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

- **Remand rule.** Ex. 5 Deliberative Process (DP)

Clean Air Act 112(r) Risk Management Program (RMP) Reconsideration NPRM. Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP)

Ongoing major Superfund NPL sites (including East Chicago, West Lake, Bonita Peak, Hudson River, Portland Harbor, Mississippi Phosphates, Oak Ridge).

- Ex. 5 Deliberative Process (DP)

CERCLA 108(b) Financial Assurance.

- **Other Three Sectors.** Ex. 5 Deliberative Process (DP)

CERCLA-EPCRA AFO-CAFO Rule. Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP)

Aerosol Cans Rule. Ex. 5 Deliberative Process (DP)

PFOA and PFAS.

Upcoming Major Decisions and Events

LEAN Kaizen Events. The Brownfields Ready for Anticipated Use event took place this week, and the Superfund Sites Ready for Anticipated Use event is next week.

Emergency Response: Headquarters Senior Leader On-Boarding. We will host two briefings (March 7, 5-6 pm, and March 21, 5–6 pm, in the Emergency Operations Center), to orient new senior leaders on their responsibilities.

ACC-TCC Hurricane Harvey Forum in Houston. On March 5, OLEM will participate in an after-action meeting to discuss chemical preparedness, hosted by the American Chemistry Council and Texas Chemistry Council.

Office of Policy

Upcoming Major Decisions or Events

Environmental Justice and Community Revitalization Priorities - On February 23, 2018, Samantha Dravis, Associate Administrator for Policy, released a memorandum to EPA senior leadership on EPA's [HYPERLINK "https://www.epa.gov/sites/production/files/2018-02/documents/epa_ej_memo_02.23.2018.pdf"]. The memo outlines specific goals and describes how the move of OEJ to OP reaffirms Administrator Pruitt's commitment to engaging with and meeting the needs of the nation's most vulnerable communities. It also asks EPA Regions, with support of the national programs, to identify communities that would benefit from a coordinated approach to addressing environmental justice challenges, and announces the convening of an Environmental Justice and Community Revitalization Council (formerly the EJ Council) to provide guidance for EPA's community-based work and alignment of that work with EPA's Strategic Plan.

International Economics Meeting - On March 7 and 8, two representatives from OP's National Center for Environmental Economics will participate in the Organization for Economic Co-operation and Development (OECD) meeting of the Working Party on Integrating Environmental and Economic Policies. Several technical presentations will be offered for discussion, including (1) macroeconomic modeling (economic impacts of regulation), (2) how to better incorporate flexibility in regulation, and (3) the benefits and costs of moving towards digitalization technologies on the design, implementation and evaluation of environmental policies. The Working Party will also discuss future work for the coming year.

NEJAC Meeting – On March 8, Samantha Dravis will participate in a public teleconference with the National Environmental Justice Advisory Council (NEJAC). The meeting agenda includes discussion of draft reports that were requested by EPA in 2016 from the NEJAC's *Youth Perspectives on Climate Change Workgroup* and the *Environmental Justice and Water Infrastructure Finance and Capacity Workgroup.* The teleconference is open to the public and includes a public comment opportunity.

OP

Number of Actions to OFR this Year:

- Signed by Regions:
  - Notices: 11
  - Proposed Rules: 33
  - Direct Final Rules: 4
  - Withdrawal of Proposed Rule: 1
  - Withdrawal of Direct Final: 3
  - Final Rules: 31
- Signed by HQ:
  - Notices: 70
  - Proposed Rules: 10
  - Withdrawal of Direct Final: 1
  - Final Rules: 30

Number of Actions to OFR this Week (Feb 23 – Mar 1):

- Signed by Regions:
  - Notices: 4

  - Proposed Rules: 6
  - Direct Final Rules: 2
  - Withdrawal of Proposed Rule: 0
  - Withdrawal of Direct Final: 0
  - Final Rules: 6
- Signed by HQ:
  - Notices: 16
  - Proposed Rules: 2
  - Withdrawal of Direct Final: 1
  - Final Rules: 6

Documents Submitted to OFR from February 22 - 28, 2018

FRL	Title	Date Submitted to OFR
9975-13-Region 3	Approval and Promulgation of Air Quality Implementation Plans; Virginia; Amendment to Ambient Air Quality Standard for Ozone	2/28/2018
9971-35-OCSPP	FIFRA Scientific Advisory Panel; Notice of Public Meeting and Request for Nomination of Ad Hoc Expert Members	2/28/2018
9975-12-OEI	Proposed Information Collection Request; Comment Request; Exchange Network Grants Progress Reports (Renewal)	2/28/2018
9974-41-OAR	Recent Postings of Broadly Applicable Alternative Test Methods	2/28/2018
9974-90-OAR	Review of Existing VOC Emissions Factor for Flares at Natural Gas Production Sites and New Emissions Factors for Enclosed Ground Flares	2/28/2018
9975-10-OAR	Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources; Amendments	2/28/2018
9975-00-Region 3	Pennsylvania - Lebanon County 2012 Fine Particulate Matter Standard Determination of Attainment	2/28/2018
9975-04-OAR	Proposed Approval of the Transuranic Waste Characterization Program at Idaho National Laboratory's Advanced Mixed Waste Treatment Project	2/28/2018
9974-93-OARM	Information Collection Request Submitted to OMB for Review and Approval; Contractor Conflicts of Interest; EPA ICR 1550.11, OMB Control No. 2030-0023	2/27/2018
9974-69-Region 1	RI IM Reopening of comment period	2/27/2018
9972-97-Region 1	Approval of the Clean Air Act, Section 112(l), Authority for Hazardous Air Pollutants: Perchloroethylene Air Emission Standards for Dry Cleaning Facilities; State of Vermont	2/27/2018
9974-77-Region 1	Approval of the Clean Air Act, Section 112(l), Authority for Hazardous Air Pollutants: Perchloroethylene Air Emission Standards for Dry Cleaning Facilities; State of Vermont	2/27/2018

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9975-03-Region 2	Approval and Promulgation of Air Quality Implementation Plans; New Jersey; Infrastructure Requirements for the 2008 Lead, 2008 Ozone, 2010 Nitrogen Dioxide, 2010 Sulfur Dioxide, 2011 Carbon Monoxide, 2006 PM10, 2012 PM2.5, 1997 Ozone, and the 1997 and 2006 PM2.5 National Ambient Air Quality Standards	2/26/2018
9974-99-Region 3	Air Plan Approval; Virginia; Regional Haze Plan and Visibility for the 2010 SO2 and 2012 PM2.5 Standards	2/26/2018
9974-98-Region 3	Approval and Promulgation of Air Quality Implementation Plans; Maryland; 2011 Base Year Inventory for the 2008 8-Hour Ozone National Ambient Air Quality Standard for the Maryland Portion of the Philadelphia-Wilmington-Atlantic City Nonattainment Area	2/26/2018
9973-57-OCSPP	Receipt of a Pesticide Petition Filed for Residues of Pesticide Chemicals in or on Various Commodities	2/26/2018
9971-19-OCSPP	Methyl Bromide; Pesticide Tolerances for Emergency Exemptions	2/26/2018
9974-89-Region 8	SETTLEMENT AGREEMENT AND ORDER ON CONSENT: GILT EDGE MINE SUPERFUND SITE, LEAD, LAWRENCE COUNTY, SOUTH DAKOTA	2/26/2018
9974-94-OECA	National Environmental Justice Advisory Council; Public Teleconference and Public Comment; Correction	2/26/2018
9974-92-OEI	Privacy Act of 1974; System of Records	2/26/2018
9974-97-Region 9	Determination to Defer Sanctions; Bay Area Air Quality Management District	2/23/2018
9974-95-Region 9	Revisions to California State Implementation Plan; Bay Area Air Quality Management District; Stationary Sources; New Source Review	2/23/2018
9972-63-OCSPP	Titanium dioxide; Exemption from the Requirement of a Tolerance	2/23/2018
9972-18-OCSPP	Pesticide Product Registration; Receipt of Applications for New Uses	2/23/2018
9971-08-OCSPP	Final Test Guidelines; Series 810 - Product Performance Test Guidelines; Notice of Availability	2/23/2018
9974-86-Region 5	Air Plan Approval; Illinois; Redesignation of the Illinois Portion of the St. Louis-St. Charles-Farmington, Missouri-Illinois Area to Attainment of the 2008 Ozone Standard	2/23/2018
9974-65-Region 4	Clean Air Act Operating Permit Program; Petitions for Objection to State Operating Permits for Tennessee Valley Authority – Gallatin Fossil Plant (Sumner County, Tennessee)	2/23/2018
9974-52-Region 10	Notification of Decision not to Withdraw Proposed Determination to Restrict the Use of an Area as a Disposal Site; Pebble Deposit Area, Southwest Alaska	2/23/2018
9974-30-OEI	Comment Request; Annual Public Water Systems Compliance Report (EPA ICR Number 1812.06)	2/23/2018

9974-36-OEI	Regulation of Fuels and Fuel Additives: Detergent Gasoline (EPA ICR 1655.10)	2/23/2018
9974-85-Region 9	Approval and Promulgation of Implementation Plans; California; California Mobile Source Regulations	2/22/2018
9974-51-Region 6	Approval and Promulgation of Implementation Plans; Texas; Approval of Texas Motor Vehicle Rule Revisions	2/22/2018
9974-50-Region 6	Approval and Promulgation of Implementation Plans; Texas; Approval of Texas Motor Vehicle Rule Revisions	2/22/2018
9974-87-Region 5	Air Plan Approval; Illinois; Rule Part 225, Control of Emissions from Large Combustion Sources	2/22/2018
9973-09-OCSPP	Interim Registration Review Decisions and Case Closures for Several Pesticides; Notice of Availability	2/22/2018
9973-08-OCSPP	Registration Review Proposed Interim Decisions for Several Pesticides; Notice of Availability	2/22/2018
9973-07-OCSPP	Registration Review; Draft Human Health and/or Ecological Risk Assessments for Several Pesticides; Notice of Availability	2/22/2018
9972-19-OCSPP	Pesticide Product Registration; Receipt of Applications for New Active Ingredients	2/22/2018
9974-57-OECA	Inquiry to Learn Whether Businesses Assert Business Confidentiality Claims	2/22/2018
9974-78-OAR	Proposed Information Collection Request; Comment Request; Certification and Compliance Requirements for Medium- and Heavy-Duty Engines and Vehicles (Greenhouse Gases and Fuel Economy)	2/22/2018
9974-21-OCSPP	Access to Confidential Business Information by [Science Applications International Corporation]	2/22/2018
9972-17-OCSPP	Receipt of Several Pesticide Petitions Filed for Residues of Pesticide Chemicals in or on Various Commodities	2/22/2018
9974-88-Region 5	Air Plan Approval; Indiana; Indiana NSR/PSD; Indiana PM2.5 NSR; Correction	2/22/2018

Office of Research and Development

Hot Topics

ORD and OAR/OAQPS met this week in Phoenix with Arizona State University, Maricopa County and AZ DEQ to discuss a pilot project in Phoenix focused on sensor technology for air quality measurements. The meeting included discussion on key research questions, community involvement and project design. Local stakeholders and tribal representatives were invited by ASU to also share their perspectives. Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) e will also visit the EPA ORD Edison lab. [HYPERLINK "x-apple-data-detectors://0"] Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) They would also like more information on the FY 2019 Justification and how it pertains to the Science and Technology budget and to ORD.

Press Release on Nutrients Sensor Action Challenge
This week EPA is issuing a press release announcing the launch of Stage II of the Nutrient Sensor Action Challenge. Teams will compete for 100K in cash prizes by using sensor data to improves actions and decisions for nutrient management. The challenge is a collaboration between EPA, USGS, USDA, NIST, NOAA and the Cleveland Water Alliance.

Alternative Toxicity Testing Strategy Paper
ORD continues to provide major support to OCSPP in the development of the alternative toxicity testing strategy paper. A major driver toward transitioning away from using vertebrates in toxicity testing is to demonstrate the utility of the in vitro and in silico approaches. ORD is developing and applying many of those new approaches and will discuss this work at a TSCA Special Session during the Society of Toxicology Meeting the week of March 12th.

Upcoming Major Decisions and Events

Water Resilience Tool featured at SXSW Conference
ORD's [HYPERLINK "https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=337888"] will be highlighted at the [HYPERLINK "https://www.sxsw.com/"] (SXSW) [HYPERLINK "x-apple-data-detectors://0"] in Austin, Texas. Alvand Salehi, Senior White House Technology Officer, is presenting about government developed open source software using WNTR as an example. WNTR is a software tool designed to simulate and analyze resilience of water distribution networks to a variety of disaster scenarios. The software can help water utilities explore the capacity of their systems to handle disasters and guide the planning necessary to make systems more resilient over time.

Bringing Million Hearts to the National Heart, Lung, and Blood Institute
On March 6, ORD's Wayne Cascio, and HHS' Million Hearts Initiative Director Janet Wright, will meet with the National Heart, Lung, and Blood Institute in Bethesda to discuss collaboration around air pollution and cardiovascular disease. They will share information about outreach and collaboration through Million Hearts to provide guidance to heart attack and stroke patients on avoiding exposure to particle pollution. Collaboration with federal, state, and non-governmental partners to date has supported translating environmental health science into actionable information for the public health officials, health care professionals, and at-risk populations. Discussions with the Heart, Blood, and Lung Institute will include opportunities for broader collaboration, particularly to support states.

Public meeting on lead in drinking water, Galesburg, IL

On March 6, ORD will join Region 5 and Illinois EPA to answer questions at a public meeting on "Lead in Drinking Water and Other Sources" in the City of Galesburg. The purpose of this meeting is to provide information to the community on lead in drinking water and other sources. The City will provide information on the City's water quality report, recent lead testing results, and steps residents can take to reduce their exposure to lead in drinking water. They will also provide an update on the lead service line replacement project and the corrosion inhibitor program.

Alternative Toxicity Testing Strategy Paper

ORD played a major role in the development of the alternative toxicity testing strategy paper that will be Ex. 5 Deliberative Process (DP) A major driver toward transitioning away from using vertebrates in toxicity testing is to demonstrate the utility of the in vitro and in silico approaches. ORD is developing and applying many of those new approaches Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) The team also plans to discuss the document at a TSCA Special Session (March 14) during the Society of Toxicology Meeting Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) The paper is a joint effort of ORD, OPPT, OPP and OCSP.

Office of Water

Hot Topics

Waters of the U.S.: Earlier this week, the U.S. Court of Appeals for the 6th Circuit lifted its nationwide stay of the 2015 Waters of the U.S. Rule. The Step 0 Rule was published in the Federal Register last month, which provides clarity and certainty for the states and tribes as the agencies continue to work through the process of reconsidering the 2015 Rule. Next week, the EPA and the Army are hosting two, two-day in-person tribal and state meetings to obtain further input for the Step 2 Rule to revise the definition of "waters of the U.S."

WIFIA: In the next week or two, we anticipate seeking the Administrator's approval of our first WIFIA transaction for the King County, Washington, Georgetown Wet Weather Treatment Station. We have finalized the underwriting and negotiation of terms and have received approval from the WIFIA Credit Council. We have also provided OMB with the materials and have reached out to OCFO and OGC for concurrence.

EFAB Charter: Next week we anticipate publishing in the Federal Register an announcement of the two-year renewal of the Environmental Financial Advisory Board (EFAB) Charter, which expires March 7, 2018. The renewed charter will be effective for a period of two years from the date of publication in the Federal Register.

Waterkeeper II Steam Electric FOIA: On Wednesday, February 28, EPA released an interim production for the Waterkeeper II Steam Electric FOIA as required by the court. This production includes 363 documents totaling 2,139 pages of releasable records, some of which have been redacted based on staff and management level review in OW, OGC, OP and OEX. This is the first release in the Waterkeeper II FOIA and will be followed by monthly releases through May, as required by the court.

Upcoming Major Decisions and Events

National Association of Counties: This Saturday, March 3, Lee Forsgren will attend NACo's Environment, Energy and Land Use Committee Meeting and will provide an update on OW's 2018 priorities, including the Waters of the U.S. rulemaking effort, Lead and Copper Rule revisions, and support for water infrastructure. This meeting is open to the press.

2018 Water Resources Congressional Summit: Next week, Lee Forsgren will give a keynote address at the 2018 Water Resources Congressional Summit, which is organized by the National Ground Water Association, Irrigation Association, and Water Quality Association. His remarks will focus on OW's 2018 priorities. The Summit is closed to the press.

American Fuel & Petrochemical Manufacturers: Next week, Lee Forsgren will present comments on EPA's water priorities for 2018 at AFPM's Environment Committee Meeting (closed to the press).

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Region 1

Hot Topics

RA Dunn Travels Through Maine and Meets with State Leaders and Visits a Paper Mill

On March 1st, RA Dunn met with Maine State Legislature members and discussed President Trump's infrastructure plan and the importance of investing in infrastructure. RA Dunn also visited with the MEDEP Senior Management Team and discussed cooperative federalism, the state's interest in pursuing different RCRA authorities, and the implementation of a new enforcement collaboration policy.

Following the visits, RA Dunn met with Commissioner Mercer and Deputy Commissioner Loyzim and toured the Androscoggin Mill. The Androscoggin paper mill is currently in the process of being expanded and the upgrades are expected to create over 100 jobs this year.

Prior to concluding her trip, RA Dunn met with Governor LePage's Senior Policy Team to deliver Administrator Pruitt's letter on carbon neutrality biomass, a very important policy decision that will benefit the forestry sector of Maine.

Region 1 Hears from MA Watershed Associations on Concerns with MS4 Permit Delay

On February 28th, representatives of several Massachusetts watershed associations met with RA Dunn to express their support for the Massachusetts municipal stormwater general permit, which was issued by EPA in 2016 and is currently under appeal. OW, OGC, and DOJ participated by phone. The watershed associations urged EPA not to further extend the July 1, 2018 effective date of that permit (we had granted a one-year extension last year). At this point, EPA has not received any extension requests. We have begun a court-sponsored mediation process to attempt to resolve the appeal.

Region 1 Discusses Land Preservation and Environmental Protection

On February 28th, RA Dunn met with members of the Appalachian Mountain Club to discuss the potential for collaborative efforts in the areas of land preservation, community outreach and environmental stewardship as it relates to protecting human health and the environment.

Informative Coakley Landfill Discussions Take Place with Senator Staff Members

On February 28th, Region 1 met with staff from Senator Hassan and Senator Shaheen's offices to discuss the New Hampshire based Coakley Landfill site. The Coakley team committed to giving regular phone briefings to the staff prior to any upcoming public meetings and on an as needed basis. The main focus of the meeting was upcoming work at the site including a bedrock study and fish tissue sampling, as well as setting expectations for the findings, and effective public outreach.

Region 1 and Rhode Island Department of Health Meet to discuss Lead Issues

On February 22nd, Region 1 and RIDOH Drinking Water Program staff met in Providence, RI. The purpose of the meeting was to discuss action steps to be taken by Providence Water to address elevated lead in drinking water. A pilot to test out optimum water quality treatment changes will be finished in June 2018. Other recommendations included the need to inventory private lead service lines, pursue full lead line replacements, and increase public transparency.

Upcoming Major Decisions and Events

Delegation to New Hampshire of Sewage Sludge Incinerator Federal Plan

On February 20th, Region 1 routed for signature a proposed rulemaking approving the New Hampshire delegation request for the sewage sludge incinerator Federal Plan. NH DES has already entered into an MOA with EPA which outlines the roles and responsibilities for implementation and enforcement authority by the state for the federal rulemaking.

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Region 2

Hot Issues

Pace Environmental Litigation Clinic - Litigation Update (for EPA internal use only): EPA filed a Motion to Stay with the court to allow time for NYSDEC, with EPA's assistance, to propose water quality standards that would -- once adopted by NYSDEC -- replace the water quality standards that are the subject of the litigation. Last week the court denied our Motion. As a result of the denial, EPA has decided to disapprove NYSDEC's 2015 revised water quality criteria for pathogens for Class I and Class SD waters. These revised water quality criteria are based on outdated and unreliable indicators of fecal contamination and NYSDEC's revised fecal coliform water quality criteria for these waters lack a short-term upper limit (i.e., STV) rendering them less protective than EPA's 1976 recommended recreational water quality criteria. Regional Administrator Pete Lopez has discussed this matter with NYSDEC Commissioner Basil Seggos. Our decision to disapprove does not in any way affect our continued, collaborative work with New York State on revised water quality standards.

PFAS confirmed at Hercules, Inc. (a/k/a Ashland) Facility in Parlin, NJ: Hercules provided its report on the preliminary sampling for PFAS at the site. Groundwater was sampled from 4 wells up-gradient of the plant, where releases had not been expected (considered "background" well sites), and 7 wells near the locations of potential or suspected PFAS releases. The sampling confirmed the presence of PFAS. PFOA was detected in the background wells (3 of 4 exceeded NJDEP interim groundwater quality standard) and the on-site wells (6 of 7 wells exceeded the NJDEP standard). The exceedances were all within a similar range. Hercules proposes to submit a Remedial Investigation work plan in March to further delineate the PFAS and go further hydraulically upgradient. Coordination with the neighbor, DuPont, will be necessary.

Hurricane Response and Recovery Work for Non-PRASA Water Systems in PR: During our hurricane response work, and continuing into our forthcoming recovery work, one of our highest priorities has been addressing the many non-PRASA (i.e., non-utility) drinking water systems in Puerto Rico. Many of these systems suffered damage from the storms, and/or they have been without power for months. Under our response mission we are working to provide alternate power and needed repairs for systems. As part of our recovery mission, on 3/6/18 EPA, the PR Department of Health, and the PR Science and Technology Trust will facilitate a working meeting to develop draft strategies for recovery and resilience programs, projects, and initiatives related to the non-PRASA drinking water systems. This is the first of two events. The first one will be between federal and local agencies and the second (preliminarily scheduled for 4/3/18) will integrate other sectors, such as universities, NGOs, and private entities.

Upcoming Major Decisions and Events

Discussions with NYS Assembly Representative: On 3/6/18 Region 2 staff will have a call with staff from NY Assemblywoman Rosenthal's office about PCBs in New York City schools; the Assemblywoman is concerned, in particular, about Public School 199 in Manhattan, where the City's efforts to address PCB contamination have to date not been fully successful.

Event Community Meeting: on 3/6/18 RA Lopez will be the featured guest at a breakfast symposium hosted for key opinion-leaders and decision-makers in the Capitol District of NYS by the Albany Times Union.

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Region 3

Hot Topics

Performance Partnership Agreement with Commonwealth of Virginia

Key Message: Acting RA Cecil Rodrigues and Virginia DEQ Director David Paylor signed a Performance Partnership Agreement (PPA) that will continue until September 30, 2018.

- Per the agreement, DEQ and Region 3 staff and managers will work together to improve coordination, implement process improvements, build capacity in key programs, and, ultimately, achieve significant environmental and human health protection.
- Specific priority areas include rulemaking, compliance and enforcement referrals, modernization of information management systems, sustainability, continuous process improvement, and flexibility in negotiation of work commitments.
- Region 3 and DEQ will use a SharePoint site to facilitate collaboration. Preparations are underway for a kickoff meeting for key managers in May 2017.

Upcoming Major Decisions and Events

Court has ordered EPA to act by April 17, 2017 to approve or disapprove WV's constructive submission of "no" biological TMDLs

Key Message: Disapproving the "constructive submission" will take away West Virginia's discretion in issuing TMDLs and will require EPA to issue approximately 500 TMDLs with limited resources. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

- On February 14, the District Court granted a summary judgment in favor of *Ohio Valley Environmental Coalition v. McCarthy,* holding that WVDEP's deferral of TMDL development amounted to a constructive submission of "no" TMDLs, triggering a mandatory duty under Section 303(d) of the CWA for EPA to approve or disapprove the "constructive submission." EPA was granted a 30-day extension.
- On March 10, EPA sent a letter to DOJ requesting that the decision and order be appealed and stayed.
- One of the appeal issues questions OVEC's standing on all of the listed waters, potentially limiting EPA's obligation to approximately 50 waters.
- Ex. 5 Deliberative Process (DP)

Public Comment Period Closes on March 31 and Public Hearing to take place on April 13 for Two UIC Permits to be Reissued to EnerVest Operating, LLC in Southwest Virginia

Key Message: Permits for two underground injection control wells (UIC) for disposal of Class II-D fluid are proposed for a 10-year renewal.

- Wells are currently operating under original 10-year permit.
- EPA has primacy in Virginia for the UIC program.
- EPA is working closely with EnerVest to develop permit conditions for this reissuance so that future renewals of the company's nine southwestern Virginia injection well permits will be increasingly efficient and consistent depending on regional geologic conditions.

Petition for Review filed by NRDC and Blue Water Baltimore (this action is separate but connected in some way to the NOI to file a citizen suit for NRDC and Blue Water Baltimore)

Key Message: The MDE MS4 program currently regulates these stormwater sources and it provides sufficient certainty that Water Quality Standards will be attained.

- On September 17, 2015, NRDC and BWB petitioned EPA for a determination that stormwater discharges from commercial, industrial, and institutional sites to the Back River in Baltimore be designated as point sources requiring NPDES permits as they are causing or contributing to a standards violation.
- On November 3, 2016, EPA denied the petition based on part that the MDE MS4 program required Baltimore City and Baltimore County to develop TMDL implementation plans designed to address the impairments.
- On February 28, 2017, NRDC filed a petition for review with Fourth Circuit Court of Appeals.

NRDC and Blue Water Baltimore issues a Notice of Intent to File a Citizen Suit to EPA under the CWA
Key Message: The MDE MS4 Program currently regulates these sources and the program provides sufficient certainty for standards attainment.

- EPA has failed to fulfill its nondiscretionary duty under the CWA to determine in response to a petition whether cited category of stormwater dischargers is contributing to a standards violation and, therefore, require designation as a point source.
- On February 28, 2017, issued a sixty-day notice requesting relief, namely, EPA make a determination whether these sources cause or contribute to violation of water quality standards.

Potomac River Keeper Network issues a Notice of Intent to File a Citizen Suit to City of Alexandria for CWA and RCRA Violations
Key Message: EPA continues discussions with VADEQ on needed improvements to Alexandria's LTCP

- February 28, 2017, notice alleges MS4 violations from discharges from 001. However, 001 is a CSO outfall and not subject to MS4 provisions.
- PRKN is concerned that Alexandria's LTCP does not adequately address combined sewer overflows from 001.
- EPA has been in discussions with VaDEQ on necessary improvements to the LTCP. Virginia State legislature is considering passing a regulation requiring the addressing of 001 in a timely and appropriate manner.
- Notice alleges imminent and substantial endangerment under RCRA for discharges of coal tar and creosote wastes from a legacy site.

EPA requesting additional time to respond to Inland Bays Foundation Petition to designate communities as point sources requiring an MS4 permit.
Key Message: EPA and Delaware Department of Natural Resources and Environmental Control are in discussions to develop a strategy to meet the intent of the request for residual designation.

- On March 31, 2016, EPA received a petition from IBF seeking designation of unregulated stormwater discharges from municipal separate storm sewer systems as point sources requiring a permit. The petition alleges that these discharges are causing or contributing to impairment of the Delaware Inland Bays. Under regulation, EPA had 180 days to respond to the petition.
- EPA believes Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

- On November 4, 2016, EPA requested an extension until the end of the calendar year to respond to the petition. On March 20, 2017, EPA will request additional time to finalize its discussions with DNREC and its determination.

Region 4

Hot Issues

CWA 404(q) Review of Isram Realty Management Project

Key Message: During the week of February 26th, Region 4 recommend the issuance of a Clean Water Act section 404(q) "3(b)" letter in regards to the proposed project by Isram Realty Management that would impact 1.6 acres of mangrove wetlands in Florida. On February 26, 2018, EPA issued a "3(a)" letter to the U.S. Army Corps of Engineers Jacksonville District regarding this project and stated concerns with compliance with the CWA Section 404(b)(1) Guidelines and impacts to Aquatic Resources of National Importance. If EPA wishes to maintain its concerns pursuant to the 404(q) process, Region 4 needs to notify the Corps in writing accordingly by March 23, 2018.

MS Phosphates Follow-Up (Pascagoula, MS)

Key Message: Regional Administrator Trey Glenn will have a call with the Chief of Staff from Governor Bryant's (R-MS) office regarding EPA's next steps at the Mississippi Phosphates superfund site. The call is a follow-up to the Administrator's briefing on February 27th.

Oak Ridge Reservation Water Management Issue (Oak Ridge, TN)

Key Message: Regional Administrator Trey Glenn anticipates engaging with the Environmental Secretary for the Tennessee Department of Environmental Protection regarding a potential formal dispute related to the Applicable, Relevant and Appropriate Requirements for rad contaminated waste water. In addition, the RA will discuss next steps with the Oak Ridge Environmental Manager for the U.S. Department of Energy.

Upcoming Major Decisions and Events

Decisions

None

Events

March 7th – Regional Administrator Trey Glenn will meet with staff from the Kentucky Department of Environmental Protection Division and external stakeholders.

March 8th – Regional Administrator Trey Glenn will provide the keynote at the Kentucky Chamber of Commerce's Annual Environmental Conference. Lexington, KY.

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Region 5

Hot Topics

Region 5 Will Approve Ohio's 2016 Impaired Waters List

Key Message: Region 5 Will Approve Ohio EPA's Impaired Waters List, while continuing discussions with the state regarding further Lake Erie assessments.

- Both EPA and Ohio EPA will work to explore options for future approvals that would protect Lake Erie water quality and public health, while providing the state with clear metrics.
- Given available data, Region 5 supports the use of Microcystin as a proxy for Ohio's 2018 List along with the development of a sampling protocol.
- Ohio has expressed their support for our efforts. Region 5 worked with Don Benton and OW in this effort.

Region 5 Continues Dialog with Ohio EPA and Eramet

Key Message: Region 5 has now finalized the delegation of National Emission Standards for Hazardous Air Pollutants (NESHAP) for Ferroalloys Production, 40 C.F.R. Part 63, Subpart XXX to Ohio.

- This action is expected to preserve 90 jobs at risk by allowing Eramet additional time to come into compliance.
- Region 5 reached out to the company and had a high-level meeting with Eramet's CEO and technical staff today to better understand their remaining issues.
- Region 5 will work with Ohio and Eramet on Subpart XXX issues compliance issues.

Region 5 Intends to Further Investigate the Source of Private Drinking Water Well Contamination in Kewaunee County, Wisconsin

Key Message: Next week, Region 5 intends to issue 308s to several dairies that are the alleged source of the drinking well contamination.

- We have received a petition urging EPA to use its emergency authorities under the Safe Drinking Water Act.
- Inspections have already taken place at some of the facilities; additional information is needed to determine the impacts they may be having.
- Region 5 has been coordinating with Justin Schwab and OECA.

Mesabi Nugget Delaware, LLC Consent Decree with EPA, DOJ, and Minnesota Pollution Control Agency

Key Message: Mesabi Nugget uses a new technology to produce iron nuggets suited for use in electric arc furnaces, eliminating the need for traditional processes and recycling tailing wastes.

- EPA worked with MPCA on a settlement that resolves multiple emission exceedances, including mercury, of Mesabi's Title V permit.
- Mesabi Nugget will install equipment to monitor mercury emissions.
- The continuously monitored and reduced mercury emissions will also lessen the impact of pollution on wild rice, which is an important resource to the Minnesota Tribes.
- The facility has not been operating since Spring of 2015 due to low commodity prices.
- In consideration of the temporary shutdown, Region 5 conducted an ability to pay analysis was conducted and reduced the proposed penalty from $1 million to $150,000 (to be split with Minnesota).

Region 5 is Working with Stakeholders to Discuss Remedy Enhancement at Tremont City Barrel Fill Superfund Site

Key Message: EPA has worked with the state and local community to enhance the selected remedy and address local concerns.

- EPA has proposed removing an additional 997 drums of hazardous waste and will meet with local stakeholders on March 23 to discuss.

- Pending the results of the meeting, Ohio EPA will send a letter to EPA supporting this and other previously-identified remedy enhancements.
- With State acceptance, EPA will move forward with modifying the remedy and negotiating an agreement with the responsible parties to conduct the cleanup.

Region 5 Reached Agreement with Potentially Responsible Parties to Fund East Chicago Work
Key Message: The settlement funds will go towards remediation work at homes in Zones 2 and 3 of the USS Lead Superfund site.

- The settlement agreement reached is valued at an estimated $16 million, which supplements the $26 million secured in a prior consent decree.
- In Zone 2, Region 5 plans to remove contaminated soil at roughly 72 priority properties as well as test and conduct cleanings, if needed, inside those homes.
- In Zone 3, Region 5 will clean up roughly 120 yards, along with interior testing and cleanings.
- Zone 1 work is currently on hold while the city makes a future use determination for the property.

Region 5, The Army Corp of Engineers, Fish and Wildlife and Peabody Coal Company Met to Discuss the Proposed Seven Hills Coal Mine
Key Message: On March 16, 2017, Region 5 (Acting RA Bob Kaplan), The Corp and Peabody Energy held a meeting to discuss the Environmental Impact Statement requirements they may be subject to.

- Region 5, together with OW, is committed to working with both the Corp and Peabody regardless of whether an EIS is required.
- The Army Corp is the decision maker regarding the need for Peabody to develop an EIS.
- Peabody Energy would prefer to allocate funds to mitigation rather than develop and EIS.
- Peabody will work with Region 5 on an assessment methodology that will satisfy the Army Corps, and provide a basis for a technical and legally defensible permit.

On March 10, 2017, Governor Holcomb Issued an Extension of East Chicago Emergency Declaration
Key Message: The February 9 Declaration focused on the relocation of roughly 100 residents who remain at a housing complex in the Superfund site.

- The extension does not request any additional action by EPA.
- Region 5, with assistance from OGC and OW, discussed options with IDEM for water infrastructure in East Chicago.
- EPA will accommodate Gov. Holcomb's request to use SRF funds to pay for nontraditional items such as filters and lead line replacement.
- Region 5 has requested to brief the Administrator on urgent water issues in East Chicago.

Upcoming Major Decisions and Events

EPA will Award Michigan with the $100 Million WIIN Act Grant on March 17, 2017
Key Message: The state of Michigan will be awarded grant funds for water infrastructure projects in Flint, including lead line replacement as well as system improvements and studies.

- Region 5 is working with HQ to develop a press release that includes quotes from Governor Snyder and Mayor Weaver, talking points and a "Q & A."
- A statutory requirement imposes that the award must be made by March 19.

Flint, Michigan will Seek Public Participation Prior to Making a Water Source Decision
Key Message: In accordance with the EPA Enforcement Order, the City of Flint has provided a Public Participation Plan that includes a press conference on March 28 where the city will announce its proposed plan and a town hall meeting on March 29 to kick off the public comment period.

Region 6

Hot Topics

Louisiana Requests One Year Extension to Ozone Designation
On February 20, 2018, LDEQ requested up to a one-year extension of the deadline for making the ozone designation for the Baton Rouge area. Louisiana is expected to send draft ozone exceptional event package on **March 1, 2018,** and post the demonstration on its website starting a 30-day comment period.

Illinois River Watershed modeling, Oklahoma and Arkansas
Region 6, Oklahoma Department of Environmental Quality and Arkansas Department of Environmental Quality will meet to review the two draft models on Tuesday, March 6. This is the first in a series of meetings with a broader group of stakeholders to prepare for the public release of the watershed and Lake Tenkiller models.

Louisiana Regional Haze
EPA took final action on the Louisiana Regional Haze SIP in December 2017 and has received petitions for review and reconsideration from Sierra Club. Sierra Club also filed a motion that our action failed to meet the Consent Decree terms. Entergy may also petition for review.

Upcoming Major Decisions and Events

St Bernard Parish, Louisiana
State of Louisiana provided both the modified order and new modeling for sulfur dioxide in St. Bernard Parish.

Ex. 5 Deliberative Process (DP)

Lindrith Compressor Station, Jicarilla Apache Land, New Mexico

Ex. 5 Deliberative Process (DP)

March 5: American Chemistry Council and Texas Chemical Council Meeting for Hurricane Harvey Lessons Learned, Houston, Texas

March 7: Texas Water Conservation Association Annual Convention, Lost Pines, Texas

March 8: Louisiana Oil and Gas Annual Conference, Lake Charles, Louisiana

Region 7

Hot Topics

West Lake Landfill (Bridgeton, MO)

Key Message: Meetings on the Proposed Plan and preparations for the public meeting continue.

- Last week the region hosted a call with the Technical Community Advisory Group to clarify technical aspects of the Proposed Plan as they prepare to formulate comments ahead of the March 6 public meeting. The region satisfactorily addressed the TCAG's concerns and provided specific references in the Administrative Record that supported responses to their questions. This week the region is in the process of documenting the comments and responses to provide to the TCAG and post on the site's webpage for the availability of others of the public to review.
- The region also met with the Potentially Responsible Parties this week and discussed obligations under current enforcement orders, upcoming work for Operable Unit 3, and the North Quarry Investigation as well as clarifying questions regarding the preferred alternative in the Proposed Plan for Operable Unit 1. The region will follow the same process for documenting questions and responses as that discussed for the TCAG.
- Next Tuesday the region will be holding the public meeting on the Proposed Plan in Bridgeton, MO and a large crowd is expected. The region will provide a brief presentation and take oral and written comments during the approximate 3.5 hour session. To date, the region has received upwards of 300 comments on the Proposed Plan through written and electronic submissions.
- While in Bridgeton next Tuesday, senior agency leaders will provide an update to Congressional staff prior to the start of the public meeting. The region will also visit the site and meet with a private property owner who uses a private well and has requested that the agency sample that well.

Doe Run Consent Decree for Big River Residential Remedial Action

Key Message: Settlement agreement reached for final remedy at large lead site in Missouri.

- In January 2018, EPA reached final agreement with Doe Run and Federal parties on a settlement at OU01 of the Big River Superfund Site to complete the remedy for approximately 4,100 residential properties or high child impact areas affected by historic lead mining at the site.

Ex. 5 AC/DP

Clean Power Plan Proposed Repeal Listening Session (Kansas City, MO)

Key Message: On February 21, Region 7 Regional Administrator Gulliford kicked off a listening session in Kansas City, MO, regarding EPA's proposed repeal of the Clean Power Plan for existing power plants.

- Out of the 270 attendees, 181 people spoke at the listening session.
- Key elected and government officials who spoke included Kansas City, MO Mayor Sly James; Missouri Department of Natural Resources Director Carol Comer; Nebraska Department of Environmental Quality Director Jim Macy; Missouri Attorney General's Deputy Solicitor General Julie Marie Blake
- U.S. Congressional staff attended on behalf of the following members: Senator Roy Blunt, MO; Senator Pat Roberts, KS; Congressman Kevin Yoder, KS; Congressman Emanuel Cleaver, MO

- Local print media outlets and one national trade media outlet covered the event.

Upcoming Major Decisions and Events

West Lake Landfill Public Meeting

Key Message: Regional Administrator Jim Gulliford will attend the West Lake Landfill Public Meeting in Bridgeton, MO on March 6.

Region 8

Hot Issues

None

Upcoming Decisions/Events

Town of Minturn requests Region 8 Assistance in Evaluating Solar Reuse Option at Eagle Mine Superfund Site Tailings Pile
Region 8 received a request from the Minturn Town Council to assist in the evaluation of the Eagle Mine consolidated tailing pile near Minturn, Colorado, as a possible site for solar energy generation. The consolidated tailings pile has remarkably good solar access, given its location in a high alpine valley. The pile comprises almost 80 acres of mostly flat land at the top, which is enough land to site 20 megawatts of solar capacity. A solar array of that size could generate 4 times as much energy as the entire town of Minturn uses annually. Should the project proceed EPA will work with the town and developer to address liability concerns and reasonable steps to maintain protectiveness of the existing remedy for the consolidated tailings pile.

Region 8 hosting Lead and Copper Rule training next week
On Wednesday, March 7, EPA HQ will be conducting a Lead and Copper Rule Water Quality Parameter Training in Region 8 for state staff, technical assistance providers, and water systems.

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Region 9

Hot Topics

FIFRA: We settled an administrative penalty action with Bissell Homecare over imports which did not meet FIFRA's labelling and registration requirements; Bissell will pay a $121K penalty. We settled with Navajo Mesa Farms for worker-protection and misuse violations, for a $6K penalty.

Drinking water: We're working closely with California and Arizona in examining lead (Pb) compliance by systems with a pattern of repeated exceedances. By focusing on specific systems, our goal is to achieve sustained compliance. We are exchanging draft EPA reports with these two states to strengthen their implementation of the lead-and-copper rule.

Clean Power Plan repeal listening session: We conducted an all-day listening session yesterday which went very smoothly. An estimated 250 speakers and 250 listeners participated, including 12 elected/appointed officials, in concurrent sessions. Thanks to the HQ and Regional colleagues who worked hard to prepare for and host this major event.

Upcoming Major Decisions and Events

Nevada and Guam water quality standards: This week we'll approve updated CWA standards for Nevada (for Colorado River basin salinity), and for Guam's recreational waters (updating *Enterococci and E. coli* values per EPA's 2012 criteria).

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Region 10

Hot Topics

U.S. Supreme Court Will Hear Washington "Culverts Case" Re: Tribal Treaty Fishing Rights: The U.S. Supreme Court has set April 18th to hear arguments on the Washington state culverts case. The state of Washington is appealing a ruling by the 9th U.S. Circuit Court of Appeals that its network of culverts violated the terms of treaties that guaranteed Northwestern tribes continued access to fishing off their reservations. The 9th Circuit agreed with tribes in finding that the culverts prevent mature salmon from returning to sea, as well as hinder juvenile salmon from moving downstream. If the lower court finding stands, the State of Washington has indicated it must repair or replace 817 culverts.

Upcoming Major Decisions and Events

Region 10 to Participate in Groundbreaking Event Announcing First WIFIA Loan for $129M to King County, WA: On March 1, Region 10 participated in an event hosted by King County commemorating the groundbreaking of its "Georgetown Wet Weather Treatment Station" which will be nearly 50 percent funded by a $129M loan from the Water Infrastructure Finance and Innovation Act. This will be the first-ever loan from EPA's WIFIA program. Anticipated attendees include the EPA Regional Administrator, King County Executive, County Department of Public Works leadership, community leaders, and local and state representatives.

Clean Water Act Settlement with Trident Seafoods (AK): On March 1 Region 10 and DOJ issued a news release announcing that Trident Seafoods Corporation, DOJ and EPA reached an agreement to resolve Clean Water Act violations at two seafood processing facilities located in Sand Point and Wrangell, Alaska. Under the agreement, Trident will remove nearly three-and-a-half acres of waste from the seafloor near its Sand Point plant, and limit the amount of seafood waste discharged from its Wrangell plant. The company will pay a $297K penalty.

EPA and DOJ Agreement in North Idaho Ends Years of Litigation and May Return Bunker Hill Mine to Production (ID): On March 9, Region 10 will issue a press release announcing a settlement with the New Bunker Hill Mining Company/Placer Mining Company, Inc. resolving the company's cleanup liability in Idaho's northern panhandle. As part of the settlement, the company will pay $20M to partially cover EPA's past cleanup costs and agrees to drop its "takings" case against the U.S. Government. This settlement of claims enables the new lessor of the Bunker Hill Mine, one of the historically most productive mines in the Coeur d'Alene Mining District, to return to production after a hiatus of more than two decades.

Central Washington Fruit Packer and EPA Reach Agreement on Risk Management and Reporting Violations: During the week of March 5, Region 10 will issue a news release announcing a settlement with Evans Fruit Company of Yakima County for violations of Clean Air Act Section 112R including failing to have adequate and up-to-date Risk Management Programs in place at its cold storage facilities and failing to local fire departments and local and state authorities report how much anhydrous ammonia was stored at their facilities. The company, which is now in compliance, will pay $420,826 in penalties.

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Office of Administration and Resources Management

Hot Topics

OARM Kaizen Event to Improve Simplified Acquisitions

The week of February 26th OARM's Office of Acquisition Management conducted its second Kaizen event to identify ways to improve the performance action lead time for simplified acquisitions in support of the Agency's lean management system. The goal of the event is to develop more streamlined, well-defined processes, and a reduction in the time it takes to award simplified acquisitions, which account for the majority of the Agency's procurement actions.

Upcoming Major Decisions and Events

EPA's Misconduct Process Identified as Federal Best Practice

OARM and Office of General Counsel met with the Office of Personnel Management to discuss the Agency process for working with the Office of Inspector General on employee misconduct cases. The process has been identified as a best practice by Congress and we understand it is identified in a U.S. Government Accountability Office report that is to be released soon.

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Office of Air and Radiation

Hot Topics

Ex. 5 Deliberative Process (DP)

OAR Actions Under Review at OMB:

- Final Guidance on Significant Impact Levels for Ozone and Fine Particles in the Prevention of Significant Deterioration Permitting Program

Actions Signed this Week by the Administrator:

- Title V Petition Response for ExxonMobil Baytown Olefins Plant (Texas) and Title V Petition Response for Superior Silica Sands and Wisconsin Proppants
- Notice of Proposed Withdrawal of the Control Techniques Guidelines for the Oil and Natural Gas Industry
- Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classifications – Final rule
- Protection of Stratospheric Ozone: Revision to Reference for Refrigeration and Air Conditioning Sector to Incorporate Latest Edition of Certain Industry, Consensus-Based Standards – Withdrawal of Direct Final Rule
- National Emission Standards for Hazardous Air Pollutants: Leather Finishing Operations Residual Risk and Technology Review – Proposed Rule

Upcoming Major Decisions and Events

Repeal of the Clean Power Plan (CPP): The third and final of the listening sessions is March 27 in Gillette, Wyoming. The comment period closes April 26.

Office of Chemical Safety and Pollution Prevention

Hot Topics

Final Registration Decision for Kasugamycin – On March 1st, the Office of Pesticide Programs (OPP) registered the antibiotic, Kasugamycin, for use on cherries and walnuts. The agency published its proposed decision in December 2017, for a 30-day comment period. Comments received were all favorable. There are no human health risks of concern, and minimal ecological risks for kasugamycin. Kasugamycin is one of several antibiotics with pesticidal uses. EPA coordinates with FDA and CDC when making registration decisions on antibiotics to consider possible impacts on the development of antibiotic resistance. Kasugamycin is currently approved for use on pome fruit, but this action would amend the pesticide registrations to add uses on walnut and cherries. Registration of this active ingredient will provide an important tool to growers to manage walnut blight as well as blossom blast and canker in cherries.

Upcoming Major Decisions and Events

Association of American Pesticide Control Officials 2018 Spring Meeting – Rick Keigwin and several staff will present at the Association of American Pesticide Control Officials Spring Meeting, March 5-7. Topics that will be presented include: Pollinators, Dicamba, Registration Review Update, PRIA, Biotechnology, Worker Protection and Certification of Pesticide Applicators Rule, EPA's biological evaluations and receipt of NMFS' Biological Opinion.

Household and Commercial Products Association Meeting - The Household and Commercial Products Association (HCPA), formerly known as the Consumer Specialty Products Association(CSPA), will meet with OPP on March 6. HCPA is a trade association representing companies that make and sell products used for cleaning and disinfecting homes and commercial environments.

Council of Producers and Distributors of Agrotechnology Meeting - The Council of Producers and Distributors of Agrotechnology (CPDA) will meet OPP on March 13. The Council's members primarily produce and sell adjuvants and inert ingredients. CPDA members have expressed an interested in talking about OPP priorities, registration review, pesticide inert ingredients, drift reduction technology, and proposed use of Globally Harmonized System language on pesticide labels.

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IMPORTANT DEADLINES

Row	Determination Type	Pending on 2/27/2018	Determinations Completed[1] as 2/27/2018	Determinations Posted on the Website as of 2/27/2018[6]
1	# of "not likely" determinations	**1**	**116[4]**	**116[4]**
2	# of §5(e) Orders signed by both EPA and the submitter	-	**330**	**327**
3	# of §5(e) Orders signed by EPA and awaiting submitter signature	**42**	-	-
4	# of non-Order SNURs/"not likely" determinations	**0**	**0**	**0**
5	# of cases in post-FOCUS final determination development[5]	**349[3, 5]**	-	-
6	# of cases flagged for in-depth review	**46**	-	-
7	# of PMNs, SNUNs and MCANs awaiting FOCUS (within 90-day review)	**11**	-	-
8	# of LVE/LOREX exemption grants	-	**538**	**535**
9	# of LVE/LOREX exemption denials	-	**120**	**120**
10	**Total number of cases**	**449**	**1104**	-
11	Normal active workload for the New Chemicals Program	300	-	-
12	Number of cases undergoing testing or data development by submitter	74[3]	-	-
13	**Backlog[2]**	75	-	-

[1] "Determinations Completed" means that EPA has completed its reviews on these cases and that final determinations have been made by EPA under TSCA section 5(a)(3).

[2] (Total number of cases) – (Normal active workload for the New Chemicals Program) - (Number of cases undergoing testing or data development) = Backlog

[3] Of these cases, approximately 73 are "active" lung toxicity cases that are suspended while submitters either conduct or are deciding whether to conduct testing to develop data on pchem properties, exposures and toxicity.

[4] "Not Likely" determinations are not posted until the final signed determination document is prepared and has been shared with submitter.

[5] These cases are those for which Post-FOCUS work is underway to develop: not likely determinations; non-Order SNURS coupled with not likely determinations; or section 5(e) or 5(f) Orders. When the OPPT Office Director decides which of these regulatory paths to follow, the case is moved to: Row 3 when the section 5(e) or 5(f) Order is sent to the submitter for signature; Row 4 when the SNUR is published and the not likely determination document is signed; and Row 1 when the determination document is sent to the OPPT OD for signature.

[6] These are all only final determinations posted on the web: grants and denials

Office of the Chief Financial Officer

Hot Topics

- As the appropriations staff finalize the FY 2018 appropriation bill and report, they are asking the agency to comment or provide information on a number of different issues. These issues are all being coordinated with the policy team. The House has targeted Floor action for March 12th and the Senate by the end of that same week. These are tentative schedules and subject to change but we expect that Congress will complete action in time for the President to sign the bill by March 23rd.

- OCFO is providing an overview of *FY 2018-2022 EPA Strategic Plan* and *FY 2019 Budget* at the March 6 ECOS/EPA Partnership and Performance Co-Chair Call.

- OCFO is moving forward the Computational Toxicology (CompTox) Report to send to Congress by March 2. This report describes EPA's pesticides and research programs' collaboration on evaluating and demonstrating CompTox tools and models.

- OCFO has representation on FEMA's Recovery Support Function Leadership Group which will coordinate planning for all disaster-related federal spending. This group is comprised of 25 agencies involved in disaster recovery with specific roles. OCFO will coordinate with relevant program offices and regions to develop reporting mechanisms for disaster recovery, to report on major projects funded and to identify overarching issues affecting policies and other agencies.

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Office of Congressional and Intergovernmental Relations

Hot Topics

March 7- Hearing on: The Future of Transportation Fuels and Vehicles -House Energy & Commerce Subcommittee on Environment

Upcoming Major Decisions and Events

- **March 3-7-** NACo Annual Legislative Conference (Washington Hilton)
- **March 5**- EPA to meet with Laredo, TX (per Rep. Cuellar) to discuss funding support and partnership opportunities under the Brownfields Program
- **March 5**- EPA HQ and R9 will meet with Morro Bay, CA officials regarding the City's Water Reclamation Facility project (conference call)
- **March 6** – EPA's OBLR/R10 will meet with Marion County, OR commissioner re: Brownfields grant (conference call)
- **March 7**- EPA to meet with Hi-Desert Water District Official re: WIFIA
- **March 10-11** – EPA hosting State Fly-In seeking input of policy, programmatic and technical delegations from states (AZ, MD, FL, NE, OR, PA, WY, AK)
- **March 11-14** - National League of Cities Conference
- **March 13-14** - National Environmental Performance Partnership System Spring Meeting (held in 2530 WJCN)
- **March 13** - EPA to meet with Wilmington, NC officials Mayor Bill Safo -per Sen. Burr to discuss EPA's process for identifying public health concerns for emerging contaminants
- **March 14** – EPA to meet with Mayor Ramirez (Oxnard, CA) to discuss clean-up efforts for the Halaco Superfund site

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Office of Enforcement and Compliance Assurance

Hot Topics

Meeting with Agricultural Retailers Association and The Fertilizer Institute Staff: On February 23, OECA staff met with representatives from these organizations to discuss collaborative efforts under the Chemical Accident Risk Reduction National Enforcement Initiative. OECA is drafting a list of minimum safety standards applicable to the fertilizer distribution industry and is seeking comments from industry.

"A" Rating from the Small Business Administration Ombudsman: For the twelfth year in a row, EPA received an "A" rating from the SBA Office of the Ombudsman as part of its FY16 Annual Report to Congress released last week. EPA's compliance assistance efforts were highlighted in the report.

Dyno-Nobel Pleads Guilty for Failing to Notify Federal Authorities of Anhydrous Ammonia Discharges: On February 23, Dyno Nobel pleaded guilty in the District of Oregon to violating CERCLA, following a series of large-scale ammonia discharges from a manufacturing plant outside St. Helens, Oregon. An investigation revealed that several failed attempts to restart the plant caused a series of massive discharges from the facility. Although Dyno Nobel personnel knew that excessive ammonia emissions were occurring, no effort was made to alert the authorities at the National Response Center until more than a week after the first discharge. Federal law requires such reports to be made "immediately."

Tyson Poultry Sentenced after Pleading Guilty to Clean Water Act Violations: On February 27, Tyson was sentenced in the Western District of Missouri to pay a $2 million fine, serve two years of probation, and implement a compliance plan with a cost of $500,000. In May 2014, the tank used to store the liquid food supplement "Alimet" at Tyson's Aurora feed mill sprang a leak, and the acidic substance flowed into a secondary containment area. The Alimet was unloaded into an in-house treatment system that was not designed to treat such waste and some of it went into the City of Monett's municipal waste water treatment plant, resulting in the death of approximately 108,000 fish.

Quarterly ECHO Webinar Trains 260 Participants: OECA hosted a public webinar on the Enforcement and Compliance History Online (ECHO) website focused on the features and data available in ECHO (participants: 151 state/tribal/municipality, 51 industries, 28 academic/research/other, 30 federal).

Oil and Gas Sector Roundtable: On February 28, OAR, OECA, OP, OW, Region 6, and Region 8 wrapped up a two-day oil and natural gas roundtable with stakeholders including state and local leaders, tribes, industry, trade groups, and environmental nongovernmental organizations. Co-hosted with ECOS and the Interstate Oil and Gas Compact Commission, the roundtable was organized to enhance coordination and communication, and ensure safe and responsible domestic energy production, especially in the oil and gas industry. Initial feedback from participants was uniformly positive.

Upcoming Major Decisions and Events

On March 4, OECA will update the Association of American Pest Control Officials on the status of ongoing compliance assurance projects in the agriculture sector, enforcement trends, training opportunities, and ongoing partnership efforts during their annual meeting in Alexandria VA.

As part of the Residential Wood Smoke Workshop March 6-8 with state, local, federal, and non-profit reps., OECA will discuss compliance monitoring and enforcement of the 2015 Wood Heater Rule.

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Office of Environmental Information

Hot Topics

E-Enterprise for the Environment Launches *Be Well Informed* – a State-developed Shared Service

- **Brief description:** On March 13, private well owners in New Hampshire and Wyoming will have a new web-based tool to help them understand their well water test results. The Be Well Informed tool was originally built by the New Hampshire Department of Environmental Services with information specific to the state of New Hampshire. OEI in collaboration with the NH Department of Information Technology has adapted Be Well Informed so it is available through the E-Enterprise portal and can be easily customized by other states to support their citizens. This partner-developed, interoperable, reusable component on the E-Enterprise Portal minimizes development costs for participating states, tribes or territories—making it easier and faster for them to provide this service to their citizens.
- **Who benefits or cares:** Private well owners in participating states, Commissioners with well water programs, state and tribal environmental agencies who are responding to citizen inquiries regarding their well water
- **Why this is important:** The tool demonstrates how collaborative innovation can:
    - Reduce costs to E-Enterprise partners (states, tribes and EPA)
    - Provide consistent, timely, and actionable information to citizens.
    - Highlight excellent examples of cooperative federalism and reusable shared services that are adaptable for other purposes.
- **Additional information:**
    - On March 13, Wyoming's Department of Environmental Quality will host a "Know Your Well Day" event highlighting the *Be Well Informed* tool as a resource for its citizens.
    - Massachusetts, Minnesota and Vermont are currently adopting the tool; other states and tribes have expressed interest.
    - As E-Enterprise resources allow, EPA/OEI will work with other states/tribes/territories to support this shared-service.

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Office of General Counsel

Hot Topics

- *Public Citizen, Inc. v. Trump*, No. 17-253 (RDM) (D.D.C.). New development: On Feb. 26, 2018, the court dismissed, for lack of standing, a challenge to Executive Order 13771 and OMB's implementing guidance. Among other things, EO 13771 directed agencies to identify for repeal two existing regulations for every new regulation. The court held that plaintiffs had failed to establish "associational standing" on behalf of its members or "organizational standing" on its own behalf. The court granted the government's motion to dismiss, denied plaintiffs' motion for summary judgment and scheduled a Mar. 1, 2018, conference to address appropriate next steps.

- *CREW v. EPA*, No. 1:18-cv-00406 (D.D.C.). New development: On Feb. 22, 2018, Citizens for Responsibility and Ethics in Washington and Public Employees for Environmental Responsibility filed suit against the EPA, Administrator Pruitt, the Archivist of the United States, and the National Archives and Records Administration. The suit alleges EPA and Administrator Pruitt violated the APA because Administrator Pruitt and "other top EPA officials" allegedly violated the Federal Records Act (FRA) by not adequately documenting Agency functions, policies, decisions, procedures, and essential transactions, and not maintaining an adequate federal records program. It also alleges the Archivist and National Archives failed to follow 44 U.S.C. § 2115, which requires the Archivist to inform an agency head in writing of any concerned FRA violation, and if not corrected within a reasonable time, submit a written report to the President and Congress.

- *Entergy Louisiana, LLC v. EPA*, consolidated with *Sierra Club, et al. v. EPA*, No. 18-60116 (5th Cir). New development: On Feb. 21, 2018, Entergy Louisiana filed a challenge to EPA's approval of a Louisiana State Implementation Plan (SIP) addressing regional haze requirements under the Clean Air Act. The state's SIP establishes, in part, Best Available Retrofit Technology requirements for certain facilities in the state. The petition has been consolidated with a previously filed challenge by the Sierra Club and National Parks Conservation Association.

- *Thomas v. United States*, No. 5:18-cv-10243 (E.D. Mich.). New development: A new complaint was served on the U.S. Attorney's Office on Feb. 2, 2018, seeking $2.023 billion on behalf of 1,923 plaintiffs. The complaint makes the following allegations against the government: (1) failure to take mandatory actions required by SDWA §§ 1431 and 1414; (2) negligent performance in conducting a timely investigation; and (3) negligence in failing to warn the public of known environmental dangers and risks posed by drinking water.

Upcoming Major Decisions and Events

3/6	Hearing on plaintiffs' motion for summary judgment in *Environmental Law and Policy Center v. EPA*, challenge to EPA's approval of Ohio's 303(d) for not identifying the open waters of Lake Erie as impaired.
3/8	Telephonic hearing on United States' motion to stay in *Georgia v. EPA*, 11-state challenge to 2015 Clean Water Rule.
3/16	Oral Argument in *Air Alliance Houston v. EPA*, petition for review of EPA's final action titled "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Further Delay of Effective Date."

Office of International and Tribal Affairs

Hot Topics

G7 Environment Ministers Meeting - The NSC, EPA and State Department participated in a G7 preparatory meeting chaired by Canada. The issues related to climate, sustainable finance and resource efficiency were discussed as well as the deliverables for the Leaders' Summit.

Upcoming Major Decisions and Events

Israeli Delegation - EPA will host of a delegation from Ministry of Environmental Protection next week to share experiences on phosphate management.

U.K. Secretary of Environment - The Administrator will meet with the U.K. Secretary of Environment on March 6 to discuss areas of bilateral cooperation.

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Office of Land and Emergency Management

Hot Topics

Emergency Response. On-boarding briefings during March (see below).

Coal Combustion Residuals (CCR).

- **State permit programs.** Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

- **Remand rule.** Ex. 5 Deliberative Process (DP)

Clean Air Act 112(r) Risk Management Program (RMP) Reconsideration NPRM. We anticipate it going to OMB this week.

Ongoing major Superfund NPL sites (including East Chicago, West Lake, Bonita Peak, Hudson River, Portland Harbor, Mississippi Phosphates, Oak Ridge).

- Ex. 5 Deliberative Process (DP)

CERCLA 108(b) Financial Assurance.

- **Other Three Sectors.** Ex. 5 Deliberative Process (DP)

CERCLA-EPCRA AFO-CAFO Rule. Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP)

Aerosol Cans Rule. Ex. 5 Deliberative Process (DP)

PFOA and PFAS.

Upcoming Major Decisions and Events

LEAN Kaizen Events. The Brownfields Ready for Anticipated Use event took place this week, and the Superfund Sites Ready for Anticipated Use event is next week.

Emergency Response: Headquarters Senior Leader On-Boarding. We will host two briefings (March 7, 5-6 pm, and March 21, 5–6 pm, in the Emergency Operations Center), to orient new senior leaders on their responsibilities.

ACC-TCC Hurricane Harvey Forum in Houston. On March 5, OLEM will participate in an after-action meeting to discuss chemical preparedness, hosted by the American Chemistry Council and Texas Chemistry Council.

Office of Policy

Upcoming Major Decisions or Events

Environmental Justice and Community Revitalization Priorities - On February 23, 2018, Samantha Dravis, Associate Administrator for Policy, released a memorandum to EPA senior leadership on EPA's Environmental Justice and Community Revitalization Priorities. The memo outlines specific goals and describes how the move of OEJ to OP reaffirms Administrator Pruitt's commitment to engaging with and meeting the needs of the nation's most vulnerable communities. It also asks EPA Regions, with support of the national programs, to identify communities that would benefit from a coordinated approach to addressing environmental justice challenges, and announces the convening of an Environmental Justice and Community Revitalization Council (formerly the EJ Council) to provide guidance for EPA's community-based work and alignment of that work with EPA's Strategic Plan.

International Economics Meeting - On March 7 and 8, two representatives from OP's National Center for Environmental Economics will participate in the Organization for Economic Co-operation and Development (OECD) meeting of the Working Party on Integrating Environmental and Economic Policies. Several technical presentations will be offered for discussion, including (1) macroeconomic modeling (economic impacts of regulation), (2) how to better incorporate flexibility in regulation, and (3) the benefits and costs of moving towards digitalization technologies on the design, implementation and evaluation of environmental policies. The Working Party will also discuss future work for the coming year.

NEJAC Meeting – On March 8, Samantha Dravis will participate in a public teleconference with the National Environmental Justice Advisory Council (NEJAC). The meeting agenda includes discussion of draft reports that were requested by EPA in 2016 from the NEJAC's *Youth Perspectives on Climate Change Workgroup* and the *Environmental Justice and Water Infrastructure Finance and Capacity Workgroup.* The teleconference is open to the public and includes a public comment opportunity.

OP

Number of Actions to OFR this Year:

- Signed by Regions:
  - Notices: 11
  - Proposed Rules: 33
  - Direct Final Rules: 4
  - Withdrawal of Proposed Rule: 1
  - Withdrawal of Direct Final: 3
  - Final Rules: 31
- Signed by HQ:
  - Notices: 70
  - Proposed Rules: 10
  - Withdrawal of Direct Final: 1
  - Final Rules: 30

Number of Actions to OFR this Week (Feb 23 – Mar 1):

- Signed by Regions:
  - Notices: 4

  - Proposed Rules: 6
  - Direct Final Rules: 2
  - Withdrawal of Proposed Rule: 0
  - Withdrawal of Direct Final: 0
  - Final Rules: 6
- Signed by HQ:
  - Notices: 16
  - Proposed Rules: 2
  - Withdrawal of Direct Final: 1
  - Final Rules: 6

Documents Submitted to OFR from February 22 - 28, 2018

FRL	Title	Date Submitted to OFR
9975-13-Region 3	Approval and Promulgation of Air Quality Implementation Plans; Virginia; Amendment to Ambient Air Quality Standard for Ozone	2/28/2018
9971-35-OCSPP	FIFRA Scientific Advisory Panel; Notice of Public Meeting and Request for Nomination of Ad Hoc Expert Members	2/28/2018
9975-12-OEI	Proposed Information Collection Request; Comment Request; Exchange Network Grants Progress Reports (Renewal)	2/28/2018
9974-41-OAR	Recent Postings of Broadly Applicable Alternative Test Methods	2/28/2018
9974-90-OAR	Review of Existing VOC Emissions Factor for Flares at Natural Gas Production Sites and New Emissions Factors for Enclosed Ground Flares	2/28/2018
9975-10-OAR	Oil and Natural Gas Sector: Emission Standards for New, Reconstructed, and Modified Sources; Amendments	2/28/2018
9975-00-Region 3	Pennsylvania - Lebanon County 2012 Fine Particulate Matter Standard Determination of Attainment	2/28/2018
9975-04-OAR	Proposed Approval of the Transuranic Waste Characterization Program at Idaho National Laboratory's Advanced Mixed Waste Treatment Project	2/28/2018
9974-93-OARM	Information Collection Request Submitted to OMB for Review and Approval; Contractor Conflicts of Interest; EPA ICR 1550.11, OMB Control No. 2030-0023	2/27/2018
9974-69-Region 1	RI IM Reopening of comment period	2/27/2018
9972-97-Region 1	Approval of the Clean Air Act, Section 112(l), Authority for Hazardous Air Pollutants: Perchloroethylene Air Emission Standards for Dry Cleaning Facilities; State of Vermont	2/27/2018
9974-77-Region 1	Approval of the Clean Air Act, Section 112(l), Authority for Hazardous Air Pollutants: Perchloroethylene Air Emission Standards for Dry Cleaning Facilities; State of Vermont	2/27/2018

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9975-03-Region 2	Approval and Promulgation of Air Quality Implementation Plans; New Jersey; Infrastructure Requirements for the 2008 Lead, 2008 Ozone, 2010 Nitrogen Dioxide, 2010 Sulfur Dioxide, 2011 Carbon Monoxide, 2006 PM10, 2012 PM2.5, 1997 Ozone, and the 1997 and 2006 PM2.5 National Ambient Air Quality Standards	2/26/2018
9974-99-Region 3	Air Plan Approval; Virginia; Regional Haze Plan and Visibility for the 2010 SO2 and 2012 PM2.5 Standards	2/26/2018
9974-98-Region 3	Approval and Promulgation of Air Quality Implementation Plans; Maryland; 2011 Base Year Inventory for the 2008 8-Hour Ozone National Ambient Air Quality Standard for the Maryland Portion of the Philadelphia-Wilmington-Atlantic City Nonattainment Area	2/26/2018
9973-57-OCSPP	Receipt of a Pesticide Petition Filed for Residues of Pesticide Chemicals in or on Various Commodities	2/26/2018
9971-19-OCSPP	Methyl Bromide; Pesticide Tolerances for Emergency Exemptions	2/26/2018
9974-89-Region 8	SETTLEMENT AGREEMENT AND ORDER ON CONSENT: GILT EDGE MINE SUPERFUND SITE, LEAD, LAWRENCE COUNTY, SOUTH DAKOTA	2/26/2018
9974-94-OECA	National Environmental Justice Advisory Council; Public Teleconference and Public Comment; Correction	2/26/2018
9974-92-OEI	Privacy Act of 1974; System of Records	2/26/2018
9974-97-Region 9	Determination to Defer Sanctions; Bay Area Air Quality Management District	2/23/2018
9974-95-Region 9	Revisions to California State Implementation Plan; Bay Area Air Quality Management District; Stationary Sources; New Source Review	2/23/2018
9972-63-OCSPP	Titanium dioxide; Exemption from the Requirement of a Tolerance	2/23/2018
9972-18-OCSPP	Pesticide Product Registration; Receipt of Applications for New Uses	2/23/2018
9971-08-OCSPP	Final Test Guidelines; Series 810 - Product Performance Test Guidelines; Notice of Availability	2/23/2018
9974-86-Region 5	Air Plan Approval; Illinois; Redesignation of the Illinois Portion of the St. Louis-St. Charles-Farmington, Missouri-Illinois Area to Attainment of the 2008 Ozone Standard	2/23/2018
9974-65-Region 4	Clean Air Act Operating Permit Program; Petitions for Objection to State Operating Permits for Tennessee Valley Authority – Gallatin Fossil Plant (Sumner County, Tennessee)	2/23/2018
9974-52-Region 10	Notification of Decision not to Withdraw Proposed Determination to Restrict the Use of an Area as a Disposal Site; Pebble Deposit Area, Southwest Alaska	2/23/2018
9974-30-OEI	Comment Request; Annual Public Water Systems Compliance Report (EPA ICR Number 1812.06)	2/23/2018

9974-36-OEI	Regulation of Fuels and Fuel Additives: Detergent Gasoline (EPA ICR 1655.10)	2/23/2018
9974-85-Region 9	Approval and Promulgation of Implementation Plans; California; California Mobile Source Regulations	2/22/2018
9974-51-Region 6	Approval and Promulgation of Implementation Plans; Texas; Approval of Texas Motor Vehicle Rule Revisions	2/22/2018
9974-50-Region 6	Approval and Promulgation of Implementation Plans; Texas; Approval of Texas Motor Vehicle Rule Revisions	2/22/2018
9974-87-Region 5	Air Plan Approval; Illinois; Rule Part 225, Control of Emissions from Large Combustion Sources	2/22/2018
9973-09-OCSPP	Interim Registration Review Decisions and Case Closures for Several Pesticides; Notice of Availability	2/22/2018
9973-08-OCSPP	Registration Review Proposed Interim Decisions for Several Pesticides; Notice of Availability	2/22/2018
9973-07-OCSPP	Registration Review; Draft Human Health and/or Ecological Risk Assessments for Several Pesticides; Notice of Availability	2/22/2018
9972-19-OCSPP	Pesticide Product Registration; Receipt of Applications for New Active Ingredients	2/22/2018
9974-57-OECA	Inquiry to Learn Whether Businesses Assert Business Confidentiality Claims	2/22/2018
9974-78-OAR	Proposed Information Collection Request; Comment Request; Certification and Compliance Requirements for Medium- and Heavy-Duty Engines and Vehicles (Greenhouse Gases and Fuel Economy)	2/22/2018
9974-21-OCSPP	Access to Confidential Business Information by [Science Applications International Corporation]	2/22/2018
9972-17-OCSPP	Receipt of Several Pesticide Petitions Filed for Residues of Pesticide Chemicals in or on Various Commodities	2/22/2018
9974-88-Region 5	Air Plan Approval; Indiana; Indiana NSR/PSD; Indiana PM2.5 NSR; Correction	2/22/2018

Office of Research and Development

Hot Topics

ORD and OAR/OAQPS met this week in Phoenix with Arizona State University, Maricopa County and AZ DEQ to discuss a pilot project in Phoenix focused on sensor technology for air quality measurements. The meeting included discussion on key research questions, community involvement and project design. Local stakeholders and tribal representatives were invited by ASU to also share their perspective Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP). We will also visit the EPA ORD Edison lab Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) they would also like more information on the FY 2019 Justification and how it pertains to the Science and Technology budget and to ORD.

Press Release on Nutrients Sensor Action Challenge
This week EPA is issuing a press release announcing the launch of Stage II of the Nutrient Sensor Action Challenge. Teams will compete for 100K in cash prizes by using sensor data to improves actions and decisions for nutrient management. The challenge is a collaboration between EPA, USGS, USDA, NIST, NOAA and the Cleveland Water Alliance.

Alternative Toxicity Testing Strategy Paper
ORD continues to provide major support to OCSPP in the development of the alternative toxicity testing strategy paper. A major driver toward transitioning away from using vertebrates in toxicity testing is to demonstrate the utility of the in vitro and in silico approaches. ORD is developing and applying many of those new approaches and will discuss this work at a TSCA Special Session during the Society of Toxicology Meeting the week of March 12th.

Upcoming Major Decisions and Events

Water Resilience Tool featured at SXSW Conference
ORD's Water Network Tool for Resilience (WNTR) will be highlighted at the South by Southwest Conference (SXSW) on Friday, March 9 in Austin, Texas. Alvand Salehi, Senior White House Technology Officer, is presenting about government developed open source software using WNTR as an example. WNTR is a software tool designed to simulate and analyze resilience of water distribution networks to a variety of disaster scenarios. The software can help water utilities explore the capacity of their systems to handle disasters and guide the planning necessary to make systems more resilient over time.

Bringing Million Hearts to the National Heart, Lung, and Blood Institute
On March 6, ORD's Wayne Cascio, and HHS' Million Hearts Initiative Director Janet Wright, will meet with the National Heart, Lung, and Blood Institute in Bethesda to discuss collaboration around air pollution and cardiovascular disease. They will share information about outreach and collaboration through Million Hearts to provide guidance to heart attack and stroke patients on avoiding exposure to particle pollution. Collaboration with federal, state, and non-governmental partners to date has supported translating environmental health science into actionable information for the public health officials, health care professionals, and at-risk populations. Discussions with the Heart, Blood, and Lung Institute will include opportunities for broader collaboration, particularly to support states.

Public meeting on lead in drinking water, Galesburg, IL

On March 6, ORD will join Region 5 and Illinois EPA to answer questions at a public meeting on "Lead in Drinking Water and Other Sources" in the City of Galesburg. The purpose of this meeting is to provide information to the community on lead in drinking water and other sources. The City will provide information on the City's water quality report, recent lead testing results, and steps residents can take to reduce their exposure to lead in drinking water. They will also provide an update on the lead service line replacement project and the corrosion inhibitor program.

Alternative Toxicity Testing Strategy Paper

ORD played a major role in the development of the alternative toxicity testing strategy paper that will be Ex. 5 Deliberative Process (DP) A major driver toward transitioning away from using vertebrates in toxicity testing is to demonstrate the utility of the in vitro and in silico approaches. ORD is developing and applying many of those new approaches. Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) The team also plans to discuss the document at a TSCA Special Session (March 14) during the Society of Toxicology Meeting. Ex. 5 Deliberative Process (DP) Ex. 5 Deliberative Process (DP) The paper is a joint effort of ORD, OPPT, OPP and OCSP.

Office of Water

Hot Topics

Waters of the U.S.: Earlier this week, the U.S. Court of Appeals for the 6th Circuit lifted its nationwide stay of the 2015 Waters of the U.S. Rule. The Step 0 Rule was published in the Federal Register last month, which provides clarity and certainty for the states and tribes as the agencies continue to work through the process of reconsidering the 2015 Rule. Next week, the EPA and the Army are hosting two, two-day in-person tribal and state meetings to obtain further input for the Step 2 Rule to revise the definition of "waters of the U.S."

WIFIA: In the next week or two, we anticipate seeking the Administrator's approval of our first WIFIA transaction for the King County, Washington, Georgetown Wet Weather Treatment Station. We have finalized the underwriting and negotiation of terms and have received approval from the WIFIA Credit Council. We have also provided OMB with the materials and have reached out to OCFO and OGC for concurrence.

EFAB Charter: Next week we anticipate publishing in the Federal Register an announcement of the two-year renewal of the Environmental Financial Advisory Board (EFAB) Charter, which expires March 7, 2018. The renewed charter will be effective for a period of two years from the date of publication in the Federal Register.

Waterkeeper II Steam Electric FOIA: On Wednesday, February 28, EPA released an interim production for the Waterkeeper II Steam Electric FOIA as required by the court. This production includes 363 documents totaling 2,139 pages of releasable records, some of which have been redacted based on staff and management level review in OW, OGC, OP and OEX. This is the first release in the Waterkeeper II FOIA and will be followed by monthly releases through May, as required by the court.

Upcoming Major Decisions and Events

National Association of Counties: This Saturday, March 3, Lee Forsgren will attend NACo's Environment, Energy and Land Use Committee Meeting and will provide an update on OW's 2018 priorities, including the Waters of the U.S. rulemaking effort, Lead and Copper Rule revisions, and support for water infrastructure. This meeting is open to the press.

2018 Water Resources Congressional Summit: Next week, Lee Forsgren will give a keynote address at the 2018 Water Resources Congressional Summit, which is organized by the National Ground Water Association, Irrigation Association, and Water Quality Association. His remarks will focus on OW's 2018 priorities. The Summit is closed to the press.

American Fuel & Petrochemical Manufacturers: Next week, Lee Forsgren will present comments on EPA's water priorities for 2018 at AFPM's Environment Committee Meeting (closed to the press).

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Message

From: Beck, Nancy [Beck.Nancy@epa.gov]
Sent: 12/10/2017 2:22:04 PM
To: Keigwin, Richard [Keigwin.Richard@epa.gov]; Bertrand, Charlotte [Bertrand.Charlotte@epa.gov]; Wise, Louise [Wise.Louise@epa.gov]; Dourson, Michael [dourson.michael@epa.gov]
CC: Kaiser, Sven-Erik [Kaiser.Sven-Erik@epa.gov]; Lyons, Troy [lyons.troy@epa.gov]; Keller, Kaitlin [keller.kaitlin@epa.gov]; Bolen, Derrick [bolen.derrick@epa.gov]; Schaible, Stephen [Schaible.Stephen@epa.gov]; Dyner, Mark [dyner.mark@epa.gov]; Perlis, Robert [Perlis.Robert@epa.gov]; Mclean, Kevin [Mclean.Kevin@epa.gov]; Guilaran, Yu-Ting [Guilaran.Yu-Ting@epa.gov]; Lowit, Anna [Lowit.Anna@epa.gov]; Dyner, Mark [dyner.mark@epa.gov]; Palich, Christian [palich.christian@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]
Subject: 6th draft Sen. Udall PRIA Letters
Attachments: Response to Senator Udall Version6.docx

Thank you all!
attached is working version 6--with the edits incorporated and some additional editorial tweaks.
OCIR- who do you recommend should sign this? At this point the letter is without a signature block but we need to add it.

Thanks,
Nancy

Nancy B. Beck, Ph.D., DABT
Deputy Assistant Administrator, OCSPP
P: 202-564-1273
M: Ex. 6
Beck.Nancy@epa.gov

From: Keigwin, Richard
Sent: Monday, December 4, 2017 3:25 PM
To: Beck, Nancy <Beck.Nancy@epa.gov>; Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>
Cc: Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>; Lyons, Troy <lyons.troy@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Bolen, Derrick <bolen.derrick@epa.gov>; Schaible, Stephen <Schaible.Stephen@epa.gov>; Dyner, Mark <dyner.mark@epa.gov>; Perlis, Robert <Perlis.Robert@epa.gov>; Mclean, Kevin <Mclean.Kevin@epa.gov>; Guilaran, Yu-Ting <Guilaran.Yu-Ting@epa.gov>; Lowit, Anna <Lowit.Anna@epa.gov>; Dyner, Mark <dyner.mark@epa.gov>
Subject: RE: Fifth Draft (?): Sen. Udall PRIA Letters

Here's a revised draft that attempts to address the comments in the draft Nancy circulated this morning, along with the comments subsequently provided by Mike Dourson, Mark Dyner, and Steve Schaible.

From: Beck, Nancy
Sent: Monday, December 04, 2017 11:19 AM
To: Keigwin, Richard <Keigwin.Richard@epa.gov>; Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>
Cc: Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>; Lyons, Troy <lyons.troy@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Bolen, Derrick <bolen.derrick@epa.gov>; Schaible, Stephen <Schaible.Stephen@epa.gov>; Dyner, Mark <dyner.mark@epa.gov>; Perlis, Robert <Perlis.Robert@epa.gov>; Mclean, Kevin <Mclean.Kevin@epa.gov>; Guilaran, Yu-Ting <Guilaran.Yu-Ting@epa.gov>; Lowit, Anna <Lowit.Anna@epa.gov>; Dyner, Mark <dyner.mark@epa.gov>
Subject: Fifth Draft (?): Sen. Udall PRIA Letters

Rick,
Attached is an updated draft Udall response. Some comments remain but I would greatly appreciate further input.
Thanks.
Nancy

Nancy B. Beck, Ph.D., DABT
Deputy Assistant Administrator, OCSPP
P: 202-564-1273
M: Ex. 6
beck.nancy@epa.gov

From: Keigwin, Richard
Sent: Wednesday, November 8, 2017 7:50 AM
To: Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Beck, Nancy <Beck.Nancy@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>
Cc: Kaiser, Sven-Erik <Kaiser.Sven-Erik@epa.gov>; Lyons, Troy <lyons.troy@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Bolen, Derrick <bolen.derrick@epa.gov>; Schaible, Stephen <Schaible.Stephen@epa.gov>; Dyner, Mark <dyner.mark@epa.gov>; Perlis, Robert <Perlis.Robert@epa.gov>; Mclean, Kevin <Mclean.Kevin@epa.gov>; Guilaran, Yu-Ting <Guilaran.Yu-Ting@epa.gov>; Lowit, Anna <Lowit.Anna@epa.gov>; Dyner, Mark <dyner.mark@epa.gov>
Subject: Second Draft: Sen. Udall PRIA Letters

Thanks for everyone's comments and feedback. I think this draft addresses the comments provided. If it doesn't, I'm sure you'll let me know – I'd like to blame it on the altitude here in Guanajuato.

From: Keigwin, Richard
Sent: Sunday, November 05, 2017 5:07 PM
To: Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Beck, Nancy <beck.nancy@epa.gov>; Louise Wise (Wise.Louise@epa.gov) <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>
Cc: Sven-Erik Kaiser (Kaiser.Sven-Erik@epa.gov) <Kaiser.Sven-Erik@epa.gov>; Lyons, Troy <lyons.troy@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Bolen, Derrick <bolen.derrick@epa.gov>; Schaible, Stephen <Schaible.Stephen@epa.gov>; Mark Dyner (dyner.mark@epa.gov) <dyner.mark@epa.gov>; Bob Perlis (Perlis.Robert@epa.gov) <Perlis.Robert@epa.gov>; Mclean, Kevin <Mclean.Kevin@epa.gov>; Guilaran, Yu-Ting <Guilaran.Yu-Ting@epa.gov>; Anna Lowit (Lowit.Anna@epa.gov) <Lowit.Anna@epa.gov>
Subject: FW: Sen. Udall PRIA Letters

I've taken a stab at developing a response to Senator Udall's October 2017 letter to Senators Roberts and Stabenow, reflecting the discussion Nancy and I had with Jonathan Black last week as well as the input recently received from the PPDC.

All comments are welcome.

From: Kaiser, Sven-Erik
Sent: Tuesday, October 31, 2017 11:55 AM
To: Beck, Nancy <Beck.Nancy@epa.gov>; Bertrand, Charlotte <Bertrand.Charlotte@epa.gov>; Wise, Louise <Wise.Louise@epa.gov>; Dourson, Michael <dourson.michael@epa.gov>; Keller, Kaitlin <keller.kaitlin@epa.gov>; Bolen, Derrick <bolen.derrick@epa.gov>; Keigwin, Richard <Keigwin.Richard@epa.gov>; Schaible, Stephen

<Schaible.Stephen@epa.gov>; Lyons, Troy <lyons.troy@epa.gov>
Subject: Sen. Udall PRIA Letters

PRIA Team – following up on this morning's call, attached are the two letters from Sen. Udall and others to Sens. Roberts and Stabenow concerning the PRIA hold. Possible next steps include: Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP)
Ex. 5 Deliberative Process (DP) Please let me know if any questions. Thanks,
Sven

Sven-Erik Kaiser
U.S. EPA
Office of Congressional and Intergovernmental Relations
1200 Pennsylvania Ave., NW (1305A)
Washington, DC 20460
202-566-2753

Message

From: Burton, Tamika [burton.tamika@epa.gov]
Sent: 12/8/2017 9:04:18 PM
Subject: Weekly Report 12.08.2017
Attachments: Weekly Report 12082017.docx

Importance: High

Good Afternoon,
Please see the attached Weekly Report.

Best Regards,

Tamika Burton
Staff Assistant to the Deputy Administrator
Immediate Office of the Administrator
MC 1104A Room 3412 WJC North
(202) 564-4771 (d)
Ex. 6 - Personal Privacy
burton.tamika@epa.gov

Region 1

Hot Issues

National Ambient Air Quality Standards - *Failure to Submit*

- EPA is under a consent decree deadline of December 17 to make a finding of failure to submit for several states, including Massachusetts and Rhode Island, for failing to make a submission to EPA addressing the interstate transport requirements of the Clean Air Act for the 2012 fine particle ($PM_{2.5}$) National Ambient Air Quality Standards (NAAQS).
- Rhode Island submitted their SIP on December 6, but Massachusetts is not expected to have their complete SIP submittal by the December 17 deadline. Region 1, in close coordination with OAR, has prepared a *Federal Register* notice for signature for Massachusetts.
- This notice will start a 2-year deadline for EPA to issue a Federal Implementation Plan (FIP). It is expected that we will receive and approve a SIP from Massachusetts before this 2-year deadline, avoiding our obligation to issue a FIP.

Ricin Incident, Shelburne, VT

- On November 28th a report of a toxic powder substance, later confirmed as ricin, was found in a retirement community apartment in Shelburne, VT.
- The incident triggered a response by a variety of state and local agencies as well as the FBI.
- Vermont Department of Public Health (VTDOH) is seeking information on characterization sampling and decontamination options for the apartment and has requested EPA assistance.
- Region 1 continues to support VTDOH and is working in coordination with OEM's Consequence Management Advisory Division.

Upcoming Public Events

RCRA Compliance

- On December 7th, Region 1 and New England States met (in partnership with the Northeast Waste Management Officials Association) on improving compliance at RCRA Treatment, Storage and Disposal Facilities.

Emergency Planning and Community Right-to-Know

- On December 11-19th, Region 1 will be conducting seven Emergency Planning and Community Right-to-Know workshops in New England to provide local responders and other community members the opportunity to learn about EPCRA reporting obligations and help to ensure that communities are protected from exposure to hazardous materials.

Septic Sensor Challenge – Webinar December 18th

- In January, 2017, EPA launched a Design Challenge to encourage the development of an Advanced Septic System Nitrogen Sensor to improve the performance and accelerate acceptance of innovative and advanced septic systems that reduce nitrogen loading to ground and surface waters.

- Phase II of the Challenge will launch on December 18, 2017, with an informational webinar designed to ensure that sensor developers fully understand the prototype testing performance goals, logistical requirements, and test conditions.

Federal Green Challenge

- On December 13th, Region 1 will be hosting a Federal Green Challenge national webinar on recycling.

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Soak Up the Rain

- On December 14th, Region 1 will be hosting a Soak Up the Rain New England webinar: Engaging Urban Residents: Innovative Approaches to Promoting Community-Based Stormwater Management.

Upcoming Major Decisions

None.

Highlights from last week

New Bedford Harbor Superfund Site – Completed Remediation and Restoration

- On November 28th, Region 1 completed the cleanup and restoration of the Pierce Mill Cove Shoreline, part of a massive cleanup underway at the New Bedford Harbor Superfund Site funded by a $366.25M settlement.
- This is the 2nd shoreline cleanup that is part of a collaborative effort with the City to construct a 2+ mile "Riverwalk" urban green space using 800 feet of an EPA constructed haul road.
- The cleanup involved the excavation of 13,500 cubic yards of contaminated soils and sediments, disposal at an off-site TSCA landfill, and restoration by planting thousands of saltmarsh plants, trees and shrubs.

Connecticut Oil Recycling Services, LLC TSCA PCB Settlement

- On November 22nd Region 1 filed a Consent Agreement and Final Order resolving civil administrative penalty claims arising from an alleged violation of the TSCA and underlying federal regulations regarding PCBs.

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Region 2

Region 2 Weekly Report to the Administrator
December 7, 2017

Hot Issues:

Emergency Response in Puerto Rico and U.S. Virgin Islands: Large scale power outages remain a major obstacle to improvements in other areas, including proper management of wastewater and providing drinking water to residents. The PR electric utility estimates about 2/3 of its generating capacity is operational; entire municipalities are still without power. In the USVI, fewer than half the residents have utility power. Use of generators is widespread, but there are frequent failures because the units are not suited to such extended operation. Nevertheless, EPA is making good progress on our mission assignments and has been able to help guide efforts of both Army Corps and FEMA to provide support for both drinking water and storm water system repairs in Puerto Rico. To date we have collected some 43,000 household hazardous waste and orphan containers, e-waste items and white goods (for extraction of refrigerant); and we are managing large quantities of medical waste in the USVI. The US Coast Guard has also started removing sunken and stranded vessels, and EPA is managing the oil and hazardous materials from those boats. EPA remains on standby to provide air monitoring in the event that either PR or the USVI authorize the Army Corps of Engineers to carry out air curtain incineration of vegetative debris. Particularly in the USVI the question of whether or not to do such burning has become a matter of considerable public controversy. Here, EPA has provided leadership in promoting federal agency cooperation in support of local decision making. The FEMA Administrator recently visited the USVI; he was complimentary of EPA's work in the islands.

Disaster Recovery: Region 2 Administrator Pete Lopez will continue to actively participate in the Recovery Support Function Leadership Group (RSFLG) Undersecretaries meetings every Tuesday in Washington, DC. Pete is seeking to secure recommendations from HQ and the other regions to report back to the RSFLG. On a parallel note, Region 2 staff are participating, in person or via conference call, in the various Recovery Support Function (RSF) workgroup meetings to develop comprehensive Mission Scoping Assessments and Recovery Support Strategies for Puerto Rico and the Virgin Islands as outlined in the National Disaster Recover Framework. These documents will provide the roadmap to streamline and safeguard federal investments through-out the recovery process.

Hudson River PCB site: Region 2 will coordinate closely with HQ OLEM, OPA and others as we draw closer to a final Hudson River Five-Year Review and also as we continue to consider a certification of completion for the work required of GE under a 2006 Consent Decree. The region expects that these processes will continue into the new year in order to allow for full engagement by Regional Administrator Lopez and to allow consideration of the more than 1,000 comments received on the proposed five-year review and recent detailed comments from federal and state trustees on the certification of completion.

DRBC Hydraulic Fracturing Draft Regulations: The Delaware River Basin Commission published revised draft regulations addressing hydraulic fracturing within the Delaware River Basin on November 30, 2017 ([HYPERLINK "http://www.nj.gov/drbc/meetings/proposed/notice_hydraulic-fracturing.html"]). The Administrator's office has decided to submit comments to DRBC on these draft regulations. A conference call is scheduled for December 11 to establish EPA's internal review mechanics for the proposed rules. The call will include unconventional oil and gas program leads from Region 2 and 3 and HQ offices (OECA, OGC, OLEM, ORD, OW, OPA).

Extensions for Final 3rd Round SO_2 Designation: In response to direction from the Office of Air Quality Planning and Standards (OAQPS) regarding areas where it is appropriate for EPA to seek additional time or extend the effective date of attainment/ non-attainment designations beyond the current consent decree

deadline of December 31, 2017, Region 2 identified three areas where an extension is appropriate. One area is Monroe County, NY, which we expect to designate Attainment/Unclassifiable for final SO_2 designations based on new permit levels for the RED (Kodak) facility that will be effective in March 2018. There are also two non-attainment areas in Puerto Rico for which additional time is needed, following Hurricanes Irma and Maria, to allow the PR Environmental Quality Board (PREQB) to complete its State Implementation Plans (SIPs). Region 2 understands that OGC/DOJ will request consent decree extensions (e.g., 6-12 months) for the two Puerto Rico nonattainment areas to delay the start of the 18-month time clock for PREQB to submit its SIPs.

Past Week:

Long Island Sound Futures Fund Event: On December 4, Region 2 RA Pete Lopez joined Rep. Zeldin (NY-1) and Carrie Meek Gallagher, Region 1 Director, NYSDEC, at an event in Old Field, NY to announce the New York Futures Fund awardees. Media coverage included: [HYPERLINK "https://www.newsday.com/long-island/long-island-sound-water-quality-environment-1.15314030"], [HYPERLINK "https://patch.com/new-york/northport/grant-benefit-long-island-sound-waters-fort-salonga"], [HYPERLINK "https://westfaironline.com/96758/federal-grants-awarded-for-long-island-sounds-health/"], [HYPERLINK "http://wshu.org/post/rep-zeldin-announces-2m-long-island-sound-restoration"].

Caño Martín Peña/ San José Lagoon Dredging: On Thursday, November 30, 2017, Regional Administrator Pete Lopez joined the Puerto Rico citizen organization ENLACE at a meeting at the Pentagon with officials at the U.S. Army Corps of Engineers regarding the Corps' plans for dredging the Cano Martin Pena in San Juan, Puerto Rico.

Litigation against EPA by Puerto Rico contractor for failure to make Clean Water Act State Revolving Fund (SRF) payments: On December 4, 2017, in the matter of *Longo En-Tech Puerto Rico v. EPA*, Judge Dominguez of the U.S. District Court for the District of Puerto Rico granted the motion by the plaintiff ("Longo") for a dismissal without prejudice of all the Puerto Rico government defendants in this case. However, Longo's litigation against EPA continues. Longo filed the lawsuit in 2016 because it had not been paid approximately $5 million under a contract that it had with Puerto Rico's water utility (PRASA) for an infrastructure revitalization project that was to be funded with funds from Puerto Rico's Clean Water Act State Revolving Fund (CWA-SRF). PRASA had cited lack of SRF funds from EPA as one of its reasons for delaying payments to Longo. Longo asserted various legal theories against EPA, including that: (i) EPA violated the Operating Agreement of the Puerto Rico CWA-SRF program by withholding funds from the Commonwealth; and (ii) EPA committed a "taking" of Longo's property by withholding the monies with which PRASA could pay Longo for its work on the project. EPA suspended further CWA-SRF payments to the Commonwealth in 2016 after the Puerto Rico government lost the balance of its CWA-SRF revolving fund in the fiscal collapse of its Government Development Bank, and PRASA stopped repaying its existing SRF debt to the revolving funds and requested long-term restructuring of that debt. The Office of Water and Region 2 continue to work with the Puerto Rico government and PRASA to restructure the CWA-SRF program in Puerto Rico.

Upcoming:

Limetree Bay Terminal, St. Croix, U.S. Virgin Islands: Region 2 is working with OAR and OECA to develop an agency response to inquiries by Limetree Bay Terminal regarding air and water permits and approvals that would be needed to allow a partial restart of oil refinery operations at its facility on the island of St. Croix in the U.S. Virgin Islands.

2015 Ozone Standard Attainment and Non-Attainment Designations in Region 2: Consistent with direction from the Office of Air, the Regional Administrator plans to send notification letters to the Governors of New York and New Jersey by December 15, 2017 of EPA's intended Non-Attainment designations for the 2015 ozone standard for the 9-county New York City Metropolitan Area and all counties in the State of New Jersey.

Region 3

Upcoming Public Events

RA Servidio Meeting with Philadelphia Chamber of Commerce
RA Servidio was invited to speak with the members of the Philadelphia Chamber of Commerce on Tuesday, December 12, 2017. Approximately 25 to 30 members are expected to attend. Some topics of discussion will include the Clean Power Plan and the Renewable Fuel Standard. This meeting is closed to press.

RA Servidio to Meet with Members of Congress and Senate
On Wednesday, December 13, 2017 RA Servidio will be in the Washington D.C. meeting with Congressman Don Beyer (VA), Congressman Andy Harris (MD), Senator Ben Cardin (MD), and Senator Tom Carper (DE).

Past Events

RA Servidio Met with WV Chamber of Commerce
RA Servidio spoke at the WV Chamber of Commerce 2017 Board Meeting and Leaders' Retreat. Approximately 125 members participated. This provided the Regional Administrator with the opportunity to discuss the Administrator's priorities, with an emphasis on cooperative federalism and the latest economic energy development with China. This meeting was closed to the press.

RA Servidio Welcomed Everyone to Brownfields National Conference in Pittsburgh, Pennsylvania
Region 3 hosted the Brownfields National Conference, in Pittsburgh from December 5-7, 2017. The conference welcomed approximately 2,500 registrants from community groups, academia, state and local governments, private sector, and other interested parties. Registrants were comprised of every U.S. state and eight countries. Regional Administrator Cosmo Servidio opened up the conference, provided opening remarks at the Environmental Justice Caucus, and also joined the Mayors at the Mayoral Roundtable.

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Region 4

Hot Issues

B.F. Goodrich (Calvert City, Kentucky)
Key Message: Region 4 has received formal requests from the three Potentially Responsible Parties (PRPs), Westlake Vinyl, PolyOne, and Goodrich Corporation, to extend the public comment period. A meeting with the PRPs is tentatively scheduled for Tuesday, December 12, 2017.

Highlights from Last Week

Oakridge Reservation Formal Dispute
Key Message: Regional Administrator Trey Glenn, along with the Tennessee Department of Environmental Conservation Commissioner and the Oakridge Reservation Department of Energy (DOE) Environmental Manager, formally signed the Dispute Resolution Agreement for Oakridge Reservation federal facility. Region 4 anticipates DOE will prepare to initiate data collection under the Remedial Investigation/Feasibility Study.

Upcoming Travel for the RA

None

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Region 5

HOT ISSUES:

EPA Requests Michigan and Flint to Expedite the Use of Federal WIIN Funds

Key Message: On December 7, 2017, Region 5 sent a letter to the city of Flint and Michigan Department of Environmental Quality (MDEQ) regarding the city of Flint's expenditures of the $100 million that EPA conditionally awarded MDEQ on March 17, 2017, under the Water Infrastructure Improvements for the Nation Act (WIIN).

As of mid-November, it appears that only **$192,972** in federal WIIN funds (and roughly $11 million in state funds) have been paid out for projects thus far. Based on these expenditures of the federal WIIN funds to date, EPA requests that MDEQ and the city make efforts to expedite the planning and implementation of critically needed infrastructure improvement projects.

In addition to the $100 million of federal WIIN funding, the state contributed a $20 million state match. The conditional award approved $51.5 million for three projects: lead service line replacement ($40 million), water main replacement ($10 million), and a corrosion control study and asset management plan ($1.5 million). While the lead service line replacement project, and the corrosion control study and asset management plan are proceeding, the water main project has not begun. Also, plans for the remaining $68.5 million have not been finalized.

EPA Sends Wolverine World Wide Information Request Regarding Releases and Dumping of Contaminated Material

Key Message: On December 1, 2017, EPA mailed a CERCLA 104(e) information request to Wolverine World Wide (WWW), requesting information on their production processes and waste at its Rockford, Michigan shoe factory, former tannery, and off-site disposal locations.

This is the second 104(e) information request the region has sent to WWW. The prior information request, sent in 2012, was to support a preliminary assessment of WWW's former tannery operations. At that time, EPA was not sampling for PFAS, and the 2012 information request did not include questions pertaining to PFAS compounds.

The Michigan Department of Environmental Quality (MDEQ) is overseeing WWW's voluntary response efforts to clean up WWW's House Street site and to mitigate human exposure to environmental releases of PFAS in areas around former WWW disposal sites. These voluntary response actions include providing neighboring residents with water filters and/or bottled water.

Region 5 worked with MDEQ in developing the information request and on a coordinated desk statement. EPA set a deadline of 20 days from receipt for a response.

County Road 595 Oral Arguments Held Before U.S. Court of Appeals

Key Message: On December 6, 2017, oral arguments were held before a three-judge panel of the 6th Circuit U.S. Court of Appeals in Cincinnati in the matter of *Marquette County Road Commission v U.S. EPA*.

The primary issue in the appeal is whether EPA's objection to a Clean Water Act Section 404 wetlands dredge and fill permit proposed by the Michigan Department of Environmental Quality constitutes final agency action subject to judicial review under the Administrative Procedure Act. In 2011, the Road Commission applied to MDEQ for a wetlands fill permit in order to construct a 22-mile ore haul road (County Road 595) in the Upper Peninsula of Michigan. In its oversight capacity, EPA objected to the proposed permit on grounds that it did not comply with the CWA and its implementing regulations [the Section 404 (b)(1) Guidelines].

After MDEQ was unable to resolve the objection within the statutory timeframe, permitting authority passed by operation of law to the U.S. Army Corps of Engineers. Rather than pursuing the permit application with the Corps, some two and a half years later the Road Commission filed suit in federal district court against EPA and the Corps, alleging that EPA's objection constituted a "veto" of the permit that was immediately reviewable in federal court and that the Corps should have processed the permit application even though the Road Commission never asked it to do so. The district court granted the government's motion to dismiss and denied the Road Commission's motion for reconsideration, ruling that EPA's objection was merely an intermediate step in the permitting process, rather than a final decision on the permit application, and that the Corps had no duty to act on the permit application without some request by the Road Commission. The Court of Appeals has taken the matter under advisement.

EPA to Seek Public Comment on Explanation of Significant Differences for USS Lead Superfund Site in East Chicago, Indiana

Key Message: The document explains an increase in the cost estimate for residential soil cleanup in Zones 2 and 3 of the site, and will be released for a 60-day public comment period December 18, 2017.

Since fall 2016, potentially responsible parties (PRPs) have been working cooperatively with EPA under a 2014 Consent Decree (CD) and 2016 Administrative Settlement Agreement on Consent (ASAOC) to conduct residential soil cleanups in Zones 2 and 3 of the residential area of the USS Lead site. The 2012 Record of Decision (ROD) estimated that the cleanups would cost $22.8 million, however, projected total cleanup costs for Zones 2 and 3 have risen to more than $80 million based on actual cleanup conducted to date.

The large cost increase is due to several factors, including a projected 70 percent increase in the volume of soil, higher prevailing wages for laborers, and a substantial increase in the level-of-effort necessary to both conduct (more hand-digging versus mechanical) and oversee the work. Notwithstanding the projected cost increase, the remedy selected in the 2012 ROD - excavation of contaminated soil and off-site disposal - is the correct remedy for Zones 2 and 3. This remedy would have been selected if the projected costs in 2012 had been the current estimate. The Explanation of Significant Difference (ESD) does not propose any changes to the remedy itself, it only explains the differences in the costs between the ROD estimate and the ESD estimate. The Indiana Department of Environmental Management has concurred with the ESD. The draft ESD will be made available to the public no later than December 11, 2017, and public comments will be accepted on it for 60 days starting December 18, 2017

In December 2017, EPA plans to issue two Unilateral Orders on Consent to site PRPs, the first will order the PRPs to complete the soil cleanups in Zone 2 beginning in 2018 and the second will order them to conduct indoor dust sampling and cleanups, if indicated, at both Zone 2 and Zone 3 remediated properties. EPA also

plans to complete the final 100-120 residential cleanups in Zone 3 during 2018. DOJ recommends that EPA issue the ESD to document the projected cost increases in order to mitigate the risk of a reimbursement claim under CERCLA 106(b) by the PRPs being ordered to complete the work in Zones 2 and 3.

UPCOMING EVENTS:

NONE

UPCOMING MAJOR DECISIONS:

NONE

PAST WEEK ACCOMPLISHMENTS/HIGHLIGHTS:

Acting Regional Administrator Participated in McCook Reservoir Ribbon Cutting
Key Message: On December 4, 2017, Acting RA Bob Kaplan gave remarks at the Metropolitan Water Reclamation District of Greater Chicago's (MWRD) celebration of the completion of Phase I of the McCook Reservoir.

Senator Dick Durbin, Congressman Mike Quigley and Dan Lipinski, Illinois EPA Commissioner Alec Messina, U.S. Army Corps of Engineers Chicago District Colonel Aaron Reisinger, and representatives from the Metropolitan Water Reclamation District also spoke at the event. Press coverage can be viewed [HYPERLINK "http://abc7chicago.com/mccook-reservoir-opens-seeks-to-alleviate-flooding/2737877/"].

The McCook Reservoir is part of MWRD's Tunnel and Reservoir Plan (TARP). TARP was started by MWRD more than 40 years ago to help control the hundreds of combined sewer overflows (CSOs) running into Lake Michigan and Chicago area waterways every year. In 2011, a Consent Decree between MWRD, the state of Illinois, and the United States was reached to accelerate the pace of TARP. As required by the Consent Decree, the completion of Phase I of the McCook Reservoir will provide storage capacity for 3.5 billion gallons of wastewater that would be otherwise discharged as CSOs. By the completion of Phase II in 2029, the storage capacity of the reservoir will increase to 10 billion gallons. This project will significantly decrease the amount of pollutants entering the nearby waters.

Region 5 Continues to Support Region 2 In Hurricane Response
Key Message: Region 5 continues to support Region 2 with response and recovery efforts associated with Hurricanes Irma's and Maria's impacts to Puerto Rico and the U.S. Virgin Islands.

Currently, Region 5 has 25 personnel deployed. Additionally, 43 personnel have returned from deployments and another 42 are scheduled to deploy over the next several weeks.
The region's on-scene coordinators, remedial project managers, community involvement coordinators, response support corps (RSC) members, and incident management team (IMT) members continue to step up to the plate. Region 5 personnel are being deployed for sixteen day rotations in Puerto Rico, St. Thomas, St. Croix, Edison, New Jersey, and Washington DC and are working on incident planning/staffing, household hazardous material collection/disposal, community involvement/engagement activities, and logistics support.

Additionally, the Region 5 Emergency Operations Center (EOC) is activated to work with Region 2 on staffing critical needs in all locations. The region's EOC also assists personnel with logistical needs, assists the health and safety group to ensure all deployed personnel are up to date on required safety training and vaccinations, and coordinates closely with the region's RSC program, which has provided initial training to over 50 new RSC members in the past three months. Daily EOC operations require three or four staff members and current EOC staff are training additional RSC members on EOC functions given the extended nature of this deployment assistance.

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Region 6

UPCOMING HOT ISSUES AND IMPORTANT DEADLINES
December 7, 2017

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Georgia-Pacific, Crossett, Arkansas
[HYPERLINK "x-apple-data-detectors://1"], EPA is attending a public meeting in Crossett, Arkansas where they will present the results of their 6-month hydrogen sulfide community monitoring study. The six-month monitoring study evaluated hydrogen sulfide emissions from the Georgia-Pacific paper mill's wastewater treatment system. The Arkansas Department of Environmental Quality (ADEQ) is hosting the meeting to request comments on several state air and wastewater permitting actions at the facility and invited the Region to attend and present our study findings. Georgia-Pacific will also attend to present their wastewater treatment improvement projects and ongoing monitoring. The Arkansas Department of Health also plans to attend. We expect that a reporter with the Arkansas Democrat Gazette will attend the meeting, as will the Concerned Citizens for Crossett Environmental Justice group.

Anadarko Petroleum Company, Port Fourchon, Louisiana
On December 6, 2017, EPA filed a Consent Agreement and Final Order (CAFO) with Anadarko Petroleum for facilities located in Galveston Texas, Port Fourchon, Louisiana, and Federal waters located in the Gulf of Mexico. The CAFO addresses violations of RCRA hazardous waste management requirements including requirements to provide employee training, first responder notification and failure to comply with applicable notification, reporting and waste management requirements. Data from Texas and Louisiana treatment, storage and disposal facilities showed that the facilities were shipping large quantities of hazardous waste, however, the facilities had not notified the states or EPA as large quantity generators. The States of Texas and Louisiana are aware of the Region's data mining effort and participated in training on the data mining method. The Region notified the States of the potential violations and our intention to investigate and pursue enforcement before notifying the company. The CAFO requires Anadarko Petroleum to certify and document compliance with all applicable RCRA requirements, and to pay civil penalty of $1,383,174.

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Lindon Manufacturing and Laboratory, Houston, Texas
On December 4, 2017, EPA formally notified Lindon Manufacturing by letter of the potential imminent and substantial endangerment (ISE) resulting from the improper and illegal storage of hazardous waste. The letter references information contained in Lindon's response to a RCRA information request and findings contained in EPA inspection reports previously provided to the company. The December 4 letter requests Lindon to address the incompatible wastes creating the potential ISE within 5 days and report all corrective measures taken within 15 days of receipt. Meanwhile the Region is contemplating the appropriate formal enforcement response including the issuance of a RCRA 7003 unilateral administrative order.

Bird Creek, Osage County, Oklahoma
EPA continues to work on the response to comments from the public comment period and the hearing held on October 11, 2017 related to Proposed Administrative Orders (SDWA) sent to Warren American Oil Company,

Jireh Resources LLC, and Novy Oil and Gas, Inc. All three respondents believe the contamination is a one-time occurrence and dispute EPA's contention that the Mississippi Chat is over-pressurized. EPA is collecting additional in-stream monitoring data the week of December 4th.

City of Santa Fe, New Mexico

EPA intends to conduct an unannounced inspection at the City of Santa Fe's Wastewater Treatment Plant. The inspection's focus is to evaluate the wastewater utility's capacity, management, operations, and maintenance to compliance with the City's NPDES permit. The City of Santa Fe has continuing permit noncompliance issues. NMED will participate in this inspection with EPA.

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Walker Wood Treaters Assessment, Living, Texas

EPA intends to conduct an assessment at the former wood treater. As part of the assessment teams will sample and gauge the volumes in each of the 15 site vessels. The samples will be sent to EPA's Houston Lab to identify the waste streams.

Gallup's Wastewater Treatment Plant (WWTP), Gallup, New Mexico

EPA intends to conduct an inspection at the City of Gallup's WWTP. The inspection's focus is to evaluate the wastewater utility's capacity, management, operations, and maintenance to compliance with the City's NPDES permit. The City of Gallup has consistently had issues with deficient reporting, received previous Administrative Orders, and a Letter of Violation/EPA Warning. NMED will not participate in this inspection with EPA.

Inspections, Dardanelle, Arkansas

EPA intends to conduct an inspection of non-permitted Animal feeding operations facilities in the Dardanelle, AR area. These facilities were selected based upon a Water Quality Index (WQI) report given to Region 6 from HQ. Inspections will evaluate facility compliance with requirements of the Clean Water Act and their Nutrient Management Plan. The ADEQ inspectors have been invited to attend the inspection.

Nambe Pueblo Uranium violation, Nambe, New Mexico

EPA's intends to issue a notice of violation and an Administrative Order to address a uranium MCL violation. Nambe Pueblo's quarterly uranium sample, taken on 9/28/17, brought the system's Running Annual Average (RAA) to 35.5 µg/L for the last four quarters. The RAA Maximum Contaminant Level (MCL) for uranium is 30 µg/L. The main health impacts of uranium are on the kidneys and reproductive system. While the Nambe Pueblo water system has treatment for arsenic, the treatment has not historically been completely effective at removing uranium.

Final EPA-Issued NPDES Permits, Texas

EPA intends to issue the following *final* NPDES permits:

TX0134058 -Natural Gas Pipeline Company (no comments on draft)
TX0134047 - Valley Crossing Pipeline (no comments on draft)
TX0134002 - Corpus Christi Liquefaction

Draft EPA-Issued NPDES Permit Proposals, Texas and New Mexico
EPA intends to *propose* the following NPDES permits:
NM0028436 - Pojoaque Terrace Mobile Home Park
NM0029629 - Anthony Water & Sanitation District
NM0023477 - Village of Fort Sumner (expired, late reapplication)
TX0134022 - C F KORUS (Produced Water Discharge)

Section [HYPERLINK "x-apple-data-detectors://10"] **and New Mexico**
EPA intends to issue information requests for oil discharges to the following:
White Oak Operating Co, LLC, LaFource Parish, Louisiana
Texegy Operating Co., LLC, Beauregard Parish, Louisiana
Harvest Pipeline, Plaquemines Parish, Louisiana
East Texas Salt Water Disposal, Gregg County, Texas
2 Bayous, Inc., Acadia Parish, Louisiana
Magna Operating, Calcasieu Parish, Louisiana
GNC Petroleum, Inc., Payne County, Oklahoma
Mesa Gulf Coast, LaFourche Parish, Louisiana
Chevron, Van Zandt County, Texas
Oil & Gas Corp., Carter County, Oklahoma
Chapparal Energy, Osage County, Oklahoma
Targa Pipeline, Carter County, Oklahoma
Harvest Pipeline, Refugio County, Texas
Cimarex, Blaine County, Oklahoma

NEPA

Midcontinent Supply Header Interstate Pipeline Project, Bennington, Oklahoma
[HYPERLINK "x-apple-data-detectors://15"], EPA intends to issue comments relating potential wetland impacts to the Federal Energy Regulatory Commission (FERC) on the Administrative Draft Environmental Impact Statement (ADEIS) documents for the Midcontinent Supply Header Interstate Pipeline (MIDSHIP) Project. The proposed project will provide an additional 1,440 million standard cubic feet per day (MMcf/d) of year-round firm transportation capacity from the South Central Oklahoma to existing natural gas pipelines near Bennington, Oklahoma for transport to growing Gulf Coast and Southeast markets.

UPCOMING PUBLIC EVENTS

[HYPERLINK "x-apple-data-detectors://16"] – TCEQ meeting with environmental organizations on Hurricane Harvey response, Austin, Texas. EPA invited to participate.

[HYPERLINK "x-apple-data-detectors://17"] – Georgia Pacific Public meeting hosted by Arkansas DEQ, Crossett, Arkansas.

[HYPERLINK "x-apple-data-detectors://18"] – New Mexico State Bar/Natural Resources, Energy, and Environmental Law (NREEL) CLE Program, Albuquerque, New Mexico.

UPCOMING DECISIONS

TX Scrap Tire Program, Texas

EPA will provide clarification to the Texas Commission on Environmental Quality (TCEQ) on the Non-hazardous Secondary Materials (NHSM) Rule and the Texas Scrap Tire Program. TCEQ has asked whether scrap tires that were previously under the oversight of an Established Tire Collection Program per the NHSM standards, but are now under the control of a separate state program authority due to bankruptcy or other factors relative to the receiving tire collection facility, are considered to be solid wastes or non-wastes. The letter will advise TCEQ that EPA has determined that the scrap tires described above fall within an Established Tire Collection program and are not solid wastes. That determination is based on information indicating that at no point are the tires outside the purview of either the Texas scrap tire program or the subsequent state program authority, and the tires are managed as a valuable commodity.

TCEQ Exceptional Events Demonstration, El Paso, Texas

EPA intends to concur on the document for the El Paso Exceptional Event demonstration presented by the Texas Commission on Environmental Quality (TCEQ). TCEQ has asked to except the air quality 8-hour ozone concentration value of 77 parts per billion and flag the hours of 1100-1800 local standard time (LST) on June 21, 2015, at the University of Texas at El Paso (UTEP) monitor. TCEQ submitted the demonstration package on September 27, 2016, after completing a 30-day public review period. Additional information was submitted for review on January 19, 2017, January 20, 2017, and May 20, 2017. After careful consideration of the information provided, the EPA concurs, based on the weight of evidence, that the TCEQ has made such demonstration.

Title V Permit for Monarch Waste Technologies, Nambe, New Mexico

EPA intends to request a complete Part 71 permit application by [HYPERLINK "x-apple-data-detectors://25"] in order to permit operation of the Pyromed 550 system incinerator on Pueblo of Nambe tribal lands. An operating permit is required pursuant to the New Source Performance Standards for Hospital/Medical/Infectious Waste Incineration (HMIWI) regulations. EPA's federal operating permit rules require operating permits to be submitted within 12 months after the source becomes subject to the permit program, or on or before such earlier dates as the permitting authority may require. EPA may request permit applications earlier than 12 months provided the source is notified of an earlier submittal date at least 6 months in advance of that date. Because of expected interest in this operation, we are requesting the Title V permit application by [HYPERLINK "x-apple-data-detectors://26"].

Louisiana Regional Haze

EPA is required to take final action on all outstanding requirements for the Louisiana Regional Haze Program by [HYPERLINK "x-apple-data-detectors://27"]. EPA intends to finalize our Nelson proposal as part of the final

consolidated RH action approving revisions to the Louisiana SIP submitted by LDEQ. We are also finalizing our proposed determination that Louisiana's participation in the Cross-State Air Pollution Rule's trading program for ozone season NOx qualified as an alternative to BART.

New Mexico SIP Submittals for Infrastructure and Interstate Transport for the 2012 Fine PM NAAQs
EPA intends to approve the NM SIP demonstrating that CAA infrastructure and interstate transport requirements have been met for the 2012 $PM_{2.5}$ NAAQS.

PAST WEEK ACCOMPLISHMENTS

Albuquerque Regional Haze, Albuquerque & Bernalillo County, New Mexico
EPA approved the Albuquerque and Bernalillo County, New Mexico Regional Haze Progress Report SIP Final Action. The report assesses progress toward a reasonable goal for mandatory Class I Federal areas in and outside the County and includes a determination of the adequacy of the County's existing regional haze SIP.

PENDING ACTIONS (Pending Federal Register Publication)

Approval and Promulgation of Implementation Plans; Texas; Revisions to Emissions Banking and Trading Programs for Area and Mobile Sources
9971-04-Region 6
Sent to OFR on 12/1.

Clean Air Act Operating Permit Program; Petitions for Objection to State Operating Permit for Big River Steel, LLC, Osceola, Arkansas
9970-84-Region 6
Sent to OFR on 12/4.

Approval and Promulgation of Implementation Plans; New Mexico; Albuquerque and Bernalillo County; Regional Haze Progress Report State Implementation Plan
9971-43-Region 6
Sent to OFR on 12/6.

Oklahoma: Final Approval of State Underground Storage Tank Program Revision
FRL 9968-28-Region 6 and 99

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Region 7

Region 7 Weekly Report
December 7, 2017

Hot Issues

West Lake Landfill Site Update (Bridgeton, MO)

Key Message: Communications continue with PRPs on Final FS

- On 11/29/17, the Potentially Responsible Parties of the West Lake Superfund Site submitted the final draft of the Remedial Investigation Addendum. The document was distributed for review internally and with our partner reviewers at the State and the USACE. Conference calls to discuss comments on the document have been scheduled for next week.
- On 12/6/17, EPA received the PRPs' written response to our 11/28 letter regarding modification of the Final Feasibility Study to include on-site disposal of the excavated radiological materials. This week several calls were held between the PRPs and Region 7 regarding the need for prioritization of work on the two alternatives for which EPA does not yet have schedule or cost information- the risk based industrial use partial excavation alternative and the full excavation of RIM with on-site disposal in an engineered cell alternative.
- This week Region 7 and OSRTI also discussed options and timing for consultation with the NRRB on the pending proposed decision.

Des Moines TCE Site Update

Key Message: Dico requests extension to respond to 11/22/17, EPA letter.

- On 11/22/17, EPA sent a response letter to the Potentially Responsible Party of the Des Moines TCE Superfund Site (Dico) agreeing to delay the finalization of the Action Memo for building demolition on the site for four months. This extension was offered with the qualifiers that during the four-month period Dico will perform additional sampling within the buildings to better define demolition and disposal costs, and Dico will meet monthly with EPA, IDNR and DOJ (if appropriate) to discuss progress being made at the site.
- At the end of the four-month period, EPA will assess the progress being made and discuss next steps with Dico, as appropriate. The response letter also stated that if at any time, EPA determines Dico is not engaged in the above mentioned activities in good faith, EPA may terminate the four month delay period.
- EPA asked for a response to the letter request within 14 days (by December 6). This week Dico has asked for an extension to respond until December 12 and this extension has been approved by EPA.
- In addition, on 11/28/17 EPA sent a letter to IDNR stating that EPA approval or oversight is not required if IDNR wishes to work with Dico to demolish and dispose of the office building and production building located on the Des Moines TCE site. These two buildings were not part of the original removal and remedial actions taken by EPA at the site and do not require EPA's involvement unless the materials are going to be disposed of on-site.

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Region 7 Hosts Semi-Annual Four State Environmental Director's Meeting

Key Message: The Four State Environmental Directors and staff, along with Ken Wagner and Lee Forsgren from HQ, met on December 6 and 7, 2017.

- Discussion topics included state updates, Office of Water Priorities, EPA Superfund Task Force, Cooperative Federalism, Criminal Enforcement, and Hypoxia/Harmful Algal Blooms.
- A number of state specific meetings were held between state directors and Region 7 and HQ senior leaders.

Upcoming Meetings

Meeting in Region 7 with Doe Run Company

Key Message: Region 7 is hosting a regularly scheduled meeting with Doe Run.

- On 12/12/17, the Region 7 Superfund program will be holding a regularly scheduled meeting with Doe Run at the Regional Office to discuss ongoing work at active and historic mine and processing sites in SE Missouri and the Tri-State Mining area. The Regional RCRA Office and General Counsel will also be participating.

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Region 8

Hot Issues

Wetlands and OPA Enforcement Unit Files a Combined Complaint and Consent Agreement with HollyFrontier Transportation LLC. Resolving Civil Penalty Liability for a Spill in Utah.
Region 8 ECEJ is filing a Combined Complaint and Consent Agreement with HollyFrontier Transportation LLC for an oil spill that occurred on January 30, 2014, causing the release of approximately 150 barrels (6,300 gallons) of crude oil. The discharge impacted the Gray Mountain Canal, a tributary of the Green River, both of which are waters of the United States.
The discharge violated section 311(b)(3) of the CWA, 33 U.S.C. § 1321(b)(3). The Region pursued this action because section 311 of the CWA is not delegated to the State of Utah. HollyFrontier Transportation LLC, Inc. consents and agrees to pay a civil penalty in the amount of $26,000.00.

Underground Storage Tank (UST) Expedited Settlement Agreement (ESA) And Final Order for Shelby's Mini Mart, Docket No. RCRA-08-2018-0001
On December 4, 2017, the Regional Judicial Officer entered an ESA and Final Order for Shelby's Mini Mart located on the Crow Creek Reservation for an alleged violation of RCRA Subtitle I, Underground Storage Tanks. Pursuant to the ESA, the owner has achieved compliance by providing a record showing the CP test has been conducted.

Colorado Smelter Superfund Site Removal Action at Benedict Park
On December 12, 2017, Region 8 will begin a time-critical removal action in the former smelter area, Operable Unit 2, at the Colorado Smelter Superfund Site. This action is in response to the City of Pueblo's request to address elevated levels of arsenic and leachable cadmium found in the Benedict Park play area. The removal action will reduce the likelihood that recreational park users, primarily children and park workers, could potentially be exposed to elevated concentration of heavy metals, particularly arsenic, in subsurface soils while playing or performing routine park maintenance.

Town Hall Meeting to Discuss PFAS Groundwater Contamination
Approximately 60 people attended a town hall meeting on Monday, December 4 in Fountain, Colorado to discuss perfluoroalkyl substances (PFAS) groundwater contamination. Attendees asked questions about the status of the remediation work at Peterson AFB, health effects, including from PFAS other than PFOS and PFOA, and whether EPA intends to regulate PFOA and PFOS in drinking water. Presentations were given by the water districts, El Paso County Public Health, Colorado Department of Public Health and Environment, the El Paso County Commissioner, a State Representative, a representative from Congressman Lamborne's office, a representative from Senator Bennett's office, and EPA Region 8. CDPHE discussed the ground water standard they are proposing, which would serve as a basis for remediation efforts.

Meridian Energy Group, Proposed Davis Refinery Project in North Dakota
The public comment period has been announced for the North Dakota Department of Health's (NDDH) draft synthetic minor air permit for the proposed Davis Refinery project planned to be constructed west of Belfield, North Dakota, in Billings County near Theodore Roosevelt National Park. There is a high level of public interest in this project partly due to its close proximity to the park (approximately three miles from the eastern boundary). The refinery will have slightly under 55,000

barrel per-day processing capacity and is being designed to produce refined products including gasoline, diesel fuel, jet fuel and fuel oil, as well as liquefied petroleum gas. NDDH's public comment period will run December 8, 2017, through January 26, 2018. A public hearing is scheduled on January 17, 2018, at Dickinson State University in Dickinson, North Dakota. Region 8's Air Program, along with federal land managers, have been participating in monthly calls arranged by NDDH to coordinate on the permit development. EPA does not typically review states' "synthetic minor" source construction permits, but NDDH invited our involvement due to the public interest in this project.

RA/DRA Public / Media Engagements - None

Upcoming Major Decisions - None

Last Week Highlights

TransCanada Spill Response Update

TransCanada crews continue with excavation of the contaminated soils. Approximately, 6,000 cubic yards of material have been excavated to date. Excavated soils are placed in a holding cell where they are sampled and characterized for proper disposal. Soils will be transferred for disposal beginning Dec 6. These soils were determined to be non-hazardous based on the TCLP analysis. They will be transferred to a Clean Harbors industrial landfill in North Dakota for disposal. Air sampling for volatile organic compounds (VOCs) and benzene for worker safety continues. TransCanada is aiming to have the excavation work completed by the end of the year, pending weather and additional pipeline integrity work.

Region 9

URGENT OR IMPORTANT ITEMS:

CALIFORNIA WILDFIRES: while we are fully engaged in asbestos removal and have completed 99% of our household hazardous waste collection, we expect shortly to receive additional mission assignments from FEMA in the wake of the So. California fires. At FEMA's request, we are deploying staff to the State Ops Center (Sacramento), while So. California centers are being set up. At least 20 drinking water systems are affected thus far, of which several are under boil-water notices due to loss of power.

ANACONDA: my senior managers and I met with BP/Atlantic Richfield and NV DEP to reach a conceptual agreement on our NPL Deferral Agreement, pending our final consultation with OLEM and OECA on the specific termination provisions. Next steps are for principals to meet Dec. 19 re past costs, closing EPA's three administrative orders, NV signing an administrative order with BP/Atlantic Richfield, and finalizing MOUs with the two tribes. With NV, we are developing a communications strategy and schedule.

FEDERAL FACILITY DISPUTE: next week, I'll convene a meeting of senior US Air Force and State of California representatives to seek resolution of the DOD/State differences regarding the toxicity of PCE and the state's proposed toxicity criteria regulation.

EXTERNAL ENGAGEMENT:

CASMALIA: we held a well-attended community meeting regarding our proposed remedy for this former commercial disposal site in Santa Barbara County.

NATIONAL HOMEBUILDERS: this week, Regional senior managers and I met with representatives from the National Homebuilders Association and a local So. California builder. We discussed strategies regarding the State of California's permit and compliance activities, and set the stage for future cooperation.

PAST WEEK'S HIGHLIGHTS

SUPERFUND SETTLEMENT: the District Court entered our sixth consent decree to recover $5.9 million in costs at the "Rockets, Fireworks and Flares Superfund Site", formerly the Goodrich site, ending years of litigation and providing funds for PRP response actions.

CAA SETTLEMENT: we signed a consent agreement and final order with Yoshimura R&D America, a manufacturer of motorcycle and RV components to address violations associated with 46,502 after-

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market motorcycle exhaust systems that defeated their emission-control systems. The company will pay a $225K penalty.

Region 10

Region 10 Weekly Report December 7, 2017

Hot Issues

Groundwater Contamination from Firefighting Training at Portland International Airport (Oregon): On November 30th, the Portland Tribune released an article about PFOS and PFOA contamination of soil and groundwater at the Portland International Airport (PDX). At this time, testing has not indicated any spread of contamination beyond a few hundred feet of the airport's fire training pits. However, due to concerns over the potential for leaching into drinking water wells east of the airport as well as into the Columbia River, the Port of Portland (which runs the airport) is continuing its investigation into the extent of contamination. The Port is also partnering with the Oregon Department of Environmental Quality for a voluntary cleanup. The state previously partnered with the Oregon Air National Guard in 2016 to address contamination from firefighter training south of the base's main airport, which is co-located with PDX.

Upcoming Public Events

Region 10 Hosts Regional Tribal Operations Committee Meeting: December 12 -14th Region 10 will host its Regional Tribal Operations Committee meeting. The RTOC is made up of representatives of regional senior management and elected tribal representatives from around the region. The group will discuss topics of mutual interest and concern.

Senior Advisor for Superfund to Visit Region 10 Sites: Albert (Kell) Kelly will visit Region 10 December 12 – 14th to attend the Regional Tribal Operations Committee meeting and to visit the region's two Superfund sites on the Administrator's Special Emphasis List – the Portland Harbor Site in Oregon and Quendall Terminals near Seattle. When in Portland, Kell will tour the site and meet with key stakeholders including congressional staff.

Puget Sound Grant Funding News Release (Washington): On December 13th Region 10's press office will issue a news release announcing $25 million in National Estuary Program funding for Puget Sound recovery work conducted by the Puget Sound Partnership, University of Washington's Puget Sound Institute, Northwest Indian Fisheries Commission (and its member tribes), Washington Department of Health, Washington Department of Ecology, Washington Department of Fish & Wildlife, Washington Department of Commerce, Washington Department of Natural Resources, and Washington State University. The release notes successes achieved with NEP funds (e.g. re-opened shellfish acreage) and highlights goals for this round of funding (e.g., restoration of critical salmon and Orca habitat).

EPA awards Pacific Northwest tribes $2 million for Water Quality Restoration and Protection: On December 13, Region 10 will announce via a news release just over $2M in grants to support 32 tribes' nonpoint source pollution programs, boosting tribal water quality programs across three Northwest states to help protect people's health and the environment.

Upcoming Major Decisions

Nanushuk Oil and Gas Development Project Comment Letter Due on December 11: December 11th is Region 10's deadline to submit a second round of comments to the Army Corps of Engineers on a Clean Water Act Section 404 permit application for the proposed Nanushuk Oil and Gas development project in the Colville

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River Delta area on Alaska's North Slope. The applicant is Armstrong Energy, LLC. The company proposes to place clean fill material into 271.6 acres of waters of the U.S., including wetlands, to construct the project. The project also includes temporary discharges to 5.8 additional acres of jurisdictional waters. As specified in the national MOA with the Corps, EPA sent a Clean Water Act Section 404 "3a" letter on November 13th invoking dispute resolution with Army Corps, Alaska District. No new information has been provided since the 3a letter was sent. Decebmer 11 is the deadline for the "3b" letter.

Last Week Highlights

Region 10 Works with Partners to Ensure Emergency Response Readiness: During the week of December 4th, Region 10 hosted several key meetings with partners at all levels of government and various industry sectors to aid in mutual emergency response readiness. The Northwest Area Committee Response Planning Summit was held in Seattle and was focused on making improvements to the Northwest Area Contingency Plan. This is the seventh year that the NWAC has used this inclusive process to gather items for the response community can improve. Region 10 also conducted 11 meetings in Alaska with agencies and industry partners to discuss improvements to response planning that state.

Region 10 Announces $1.7 million to State Agriculture Departments to Support Statewide Pesticide Programs: Last week, Region 10 issued a news release announcing $302,000 to the Alaska Department of Environmental Conservation , $574,000 to the Washington State Department of Agriculture, $394,000 to the Idaho State Department of Agriculture and $445,000 to the Oregon Department of Agriculture to support statewide pesticide programs.

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Office of Administration and Resources Management

Hot Issues

Best Places to Work

On December 6, 2017, Partnership for Public Service and Deloitte announced the results of the "Best Places to Work in the Federal Government." The agency's employee engagement score is 63.5 out of 100, placing EPA at 18 out of 25 mid-size agencies (agencies with 1,500-15,000 employees). This is a 0.9-point decrease from EPA's 2016 score of 64.4. OPM for the first time withheld data on 186 agencies and subcomponents after a review of its privacy policies. Of the 17 subcomponent(s) within EPA that were included in past rankings, five were withheld in 2017.

Next Steps: The Partnership for Public Service and Deloitte will revise the rankings for small agencies and subcomponents in early 2018.

Sammies

Recognition is an important part of employee engagement and the Samuel J. Heyman Service to America Medals (Sammies) are considered a top honor. These awards highlight excellence in our federal workforce and inspire other talented and dedicated individuals to go into public service. Nominations can be made by anyone and are due January 17, 2018. More information can be found at [HYPERLINK "https://servicetoamericamedals.org/"]

Suspension and Debarment

Ex. 5 Deliberative Process (DP)

Upcoming Public Events

None

Upcoming Major Decisions

None

Last Week's Highlights

Lean Project (Off-boarding)

The lean off-boarding project was initiated in FY 2017 to standardize, streamline and automate EPA's off-boarding processes. The results were revisions and updates to the EPA Personnel Separation or Transfer Checklist (EPA Form 3110-1) as well as integrating it with the EPA Records Management Checklist for Separating/Transferring or Separated Personnel (EPA Form 3110-49), which reduced the size of the checklist by 75%.

Next Steps: Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Security Audit

Ex. 5 Deliberative Process (DP)

Lean Training

OARM-Cincinnati is hosting an on-site LEAN Six Sigma green belt training the week of December 4, 2017. Twenty-eight attendees are participating in the course (including four HRSSC-Las Vegas employees and two employees from OCFO in Cincinnati).

Office of Air and Radiation

Upcoming Hot Issues and Important Deadlines

- Ex. 5 Deliberative Process (DP)
- **OAR actions under review at OMB:**
  - Municipal Solid Waste (MSW) Landfills New Source Performance Standards (NSPS) and Emission Guidelines (EG) – Stay Notices
  - Implementation of the 2015 National Ambient Air Quality Standards for Ozone: Nonattainment Area Classifications Approach – Supplemental Proposal
  - Greenhouse Gas Emission Guidelines for Existing Stationary Sources: Electric Utility Generating Units – Advance Notice of Proposed Rulemaking

State Implementation Plan (SIP)-Related Actions

- The Regions report that the following 8 SIP-related actions was signed this week:
  - **Region 1: Final Rule -** Vermont Regional Haze Five-Year Progress Report
  - **Region 1: Proposed Rule -** Vermont New Source Review
  - **Region 1: Final Rule -** Rhode Island Transport SIP for 2010 NO2 and SO2 NAAQS
  - **Region 3: Withdrawal Notice -** Control of VOCs from Auto and Light-Duty Truck Assembly Coating Operations and Heavier Vehicle Coating Operations – PA
  - **Region 6: Final Rule -** Big River Steel LLC Title V Petition – Arkansas
  - **Region 6: Final Rule -** Final Approval of Texas Emissions Banking and Trading Programs for Area and Mobile Sources
  - **Region 6: Final Rule -** Albuquerque Regional Haze Progress Report SIP Approval
  - **Region 7: Direct Final Rule -** MO-346; 2010 SO2 infrastructure SIP (except prongs 1, 2, and 4)

Upcoming Meetings, Public Events, or Other Public Releases

- **Light Duty Vehicle Fuel Economy Trends Report and Greenhouse Gas Performance Report:** EPA is close to releasing the annual Trends and GHG Performance reports.
- **Clean Air Act Advisory Committee (CAAAC) Annual Fall Meeting:** On Tuesday, December 12, 2017, EPA staff will participate in the CAAAC Fall meeting here in Washington, D.C.
- **State Implementation Plan Reform Workgroup Annual Meeting:** On Monday, December 11, EPA staff will meet with National Association of Clean Air Agencies (NACAA) and Environmental Council of the States (ECOS) to discuss state implementation plan (SIP) reform.

Upcoming Decisions

- Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Recap of Past Week

- **Glider Public Hearing:** EPA held a public hearing on the proposed repeal of emission requirements for glider vehicles, glider engines, and glider kits on Monday, December 4, 2017.
- **New Source Review Memo**: Administrator Pruitt sent a memo to the Regional Administrators titled, "New Source Review Preconstruction Permitting Requirements: Enforceability and Use of the Actual-to-Projected-Actual Applicability Test in Determining Major Modification Applicability."

Office of Chemical Safety and Pollution Prevention

IMPORTANT DEADLINES

TSCA New Chemicals Determinations			
Determination Type	**Pending on 9/5/2017**	**Determinations Completed* as of 9/5/2017**	**Determinations Posted on the Website as of 9/5/2017**
# of "not likely" determinations	**1**	**102******	**101******
# of §5(e) Orders signed by both EPA and the submitter	-	**258**	**255**
# of §5(e) Orders signed by EPA and awaiting submitter signature	**90**	-	-
# of cases in Order development process	**225*****	-	-
# of cases flagged for in-depth review	**51**	-	-
# of PMNs, SNUNs and MCANs awaiting FOCUS (within 90-day review)	**19**	-	-
# of LVE/LOREX exemption grants	-	**448**	**441********
# of LVE/LOREX exemption denials	-	**97**	**88********
Total number of cases	**386**	**905**	-
Normal active workload for the New Chemicals Program	**300**	-	-
Number of cases undergoing testing or data development by submitter	**79**	-	-
Backlog**	**7**	-	-

*"Determinations Completed" means that EPA has completed its reviews on these cases and that final determinations have been made by EPA under TSCA section 5(a)(3).

** (Total number of cases) – (Normal active workload for the New Chemicals Program) - (Number of cases undergoing testing or data development) = Backlog

*** Of these cases, approximately 74 are "active" lung toxicity cases that are suspended while submitters conduct testing to develop data on pchem properties and toxicity.

**** "Not Likely" determinations are not posted until the final determination document is prepared and has been shared with submitter.

***** Previous editions of this table included cases for which either an interim or a final determination of "not likely" had been made. This edition only includes cases for which a final determination has been made.

****** Different criteria had been used in editions of this table prior to May 23, 2017, for the counting of exemptions for "determinations completed" and "determinations posted." These have now been standardized.

HOT ISSUES

Hurricane Relief Efforts. OPP continues to provide support for hurricanes Harvey and Irma and is preparing lists of pesticide production facilities to inform officials on potential pesticide chemicals in the hurricane affected states. As of today, two Public Health Corps personnel have been activated and one OPP Response Service Corp volunteer has been activated.

Chemical Data for Areas Affected by Hurricanes. OCSPP has been pulling together information on chemical facilities in areas that have been impacted by Hurricane Harvey and those that could face potential impacts from Hurricane Irma. This information includes chemical facility, sector, and release information collected under OCSPP's Toxics Release Inventory (TRI) program, as well as information on chemicals manufactured and imported collected under OCSPP's Chemical Data Reporting Rule. Additionally, this same information will be compiled for geographic regions on the US mainland most likely to be severely impacted by Irma over the next several days.

Formaldehyde Compliance Dates. OCSPP will soon be publishing a final rule in the Federal Register to extend the compliance dates under the Formaldehyde Emission Standards for Composite Wood Products rule. In the interim, OCSPP is making available a signed prepublication version of the rule. This action adds regulatory flexibility for regulated entities, reduces compliance burdens, and helps to prevent disruptions to supply chains. Additionally, the final rule extends the end of the transitional period during which Third Party Certifiers (TPCs) recognized by the California Air Resources Board (CARB) may certify composite wood products under TSCA Title VI without accreditations issued by an EPA TSCA Title VI Accreditation Body.

Formaldehyde Voluntary Consensus Standards. OCSPP will soon publish a direct final rule to update several voluntary consensus standards listed at 40 CFR § 770.99 and incorporated by reference in the Formaldehyde Emission Standards for Composite Wood Products rule. These updates apply to emission testing methods and regulated composite wood product construction characteristics. Several of those voluntary consensus standards (technical specifications for products or processes developed by standards-setting bodies) were updated, withdrawn, and/or superseded through the normal course of business by these various bodies to take into account new information, technology, and methodology.

Reports of Crop Damage from Use of the Pesticide Dicamba

The Office of Pesticide Programs (OPP) is continuing to lead efforts to assess and understand reported damage to non-target crops from the use of dicamba to control weeds in genetically-modified cotton and soybeans. Monsanto and BASF are the primary companies that market these dicamba products for "over-the-top" applications in-season. To address these risks, the two companies have proposed additional restrictions for dicamba, to be implemented in time for the 2018 growing season. EPA will continue to work with Monsanto and BASF to make the necessary changes to these registrations. These additional restrictions include: limiting applications to times when wind speeds are below 10 miles per hour, limiting the time of day during which applications can occur, lowering tractor speeds during applications, and reclassifying these products as "restricted use

pesticides." The reclassification of these products as "restricted use pesticides" will enable the states to mandate specific training for the proper use of these products and require that farmers maintain specific records regarding the use of these products, which will aid the states in any follow-up investigations they may need to conduct. In September, we expect to be able to announce an "agreement in principle" for these new restrictions, which will allow farmers to make informed choices for seed purchases for the 2018 growing season.

UPCOMING DECISIONS

Registration of the New Active Ingredient Florpyrauxifen-benzyl (Rinksor Herbicide). In early September, OPP expects to publish a final regulatory decision for the new active ingredient florpyrauxifen-benzyl (Rinskor Herbicide). Rinskor is an aquatic herbicide that will be used to control weeds in rice paddies and to control invasive weeds in slow moving aquatic areas, such as lakes, ponds, marshes, slow moving areas in rivers. The proposed decision for Rinskor was published on June 28, 2017, and remained open for 30 days. The Agency received a total of 40 comments during that period, with 38 in favor of the registration of Rinskor. Rinskor is considered to be a reduced risk herbicide because it shows extremely low toxicity to humans and demonstrates less potential risk to humans and other animals than the available aquatic herbicide alternatives. The registration of Rinskor will provide rice growers with an additional tool for weed resistance management, and will also provide aquatic weed managers with an additional tool to combat invasive weeds that are otherwise very difficult to control and a threat to natural aquatic species.

UPCOMING MEETINGS AND PUBLIC EVENTS

September 12 - OCSPP, in collaboration with the Small Business Administration (SBA) Office of Advocacy, is holding a public workshop on the use of the paint remover methylene chloride in furniture refinishing. This workshop will inform EPAs understanding of the use of the chemical, which is the subject of a proposed Section 6 rule and also one of the first ten chemicals identified for risk evaluation under TSCA. OCSPP learned during previous consultations with small businesses that many commercial furniture refinishers rely on methylene chloride for paint and coating removal. This meeting will be held at EPA Region 1 Headquarters in Boston, Massachusetts and will also be providing a remote access format to promote participation by phone.

September 13-14 - The CDR Inorganic Byproducts Negotiated Rulemaking Committee will be meeting again September 13-14, 2017; the meeting is open to the public. The objective of the Committee is to negotiate a proposed rule that would limit chemical data reporting requirements, under subsection 8(a) of the Toxic Substances Control Act (TSCA), for manufacturers of any inorganic byproducts when such byproducts are subsequently recycled, reused, or reprocessed. This negotiation process is required by TSCA, as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act. OCSPP believes the Chemical Data Reporting (CDR) rule is the only current reporting obligation under TSCA section 8(a) that is likely to affect the manufacturers of inorganic byproduct chemical substances.

USDA Shadow/Visit with The Office of Pesticide Programs. During the week of September 11-15, Jonathan Senn-Carter, a chemist with USDA's AMS Pesticide Data Program (PDP), will participate in a shadow/visit with the Office of Pesticide Program's Health Effects Division (HED). Jonathan is a liaison

for the Texas and Washington USDA labs where his responsibilities include providing sampling plans and priorities of chemicals. Jonathan is also responsible for preparing the monthly reports on presumptive tolerance violations. During Jonathan's visit with OPP, he will attend Chemical Science Advisory Council meetings on crop groups and work with OPP scientists to gain a better understanding of how OPP uses PDP data. Jonathan will share information on how PDP collects their samples and generates pesticide residue data on food. The Health Effects Division will share ways of estimating dietary exposure and risk to pesticides with PDP data.

State Officials and FIFRA Meeting. On September 18, OPP will host a meeting with the State-FIFRA Issues Research and Evaluation Group (SFIREG), a network of state officials interested in Federal/State "co-regulation" of pesticides under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). SFIREG was established by the Association of American Pesticide Control Officials (AAPCO) with support from EPA.

LAST WEEK HIGHLIGHTS

Webinar on Persistent, Bioaccumulative and Toxic (PBT) Chemicals. On September 7, EPA hosted a webinar for interested parties to explain the process for gathering use and exposure information on five persistent, bioaccumulative, and toxic (PBT) chemicals under the amended Toxic Substances Control Act (TSCA). The webinar provided background on new requirements for regulating certain PBT chemicals and explained how interested parties can provide use information to EPA. Under TSCA section 6(h), EPA is required to take expedited regulatory action to address risks and exposures from certain PBT chemicals. By June 22, 2019, EPA must propose rules for the five PBT chemicals that have been identified under TSCA section 6(h)(1). OCSPP is currently identifying where these chemicals are used and how people are exposed to them.

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Office of the Chief Financial Officer

Hot Issues

- With the current continuing resolution expiring this Friday, the House of Representatives passed another short term continuing resolution funding the government thru December 22. This Bill now goes to the Senate for a vote.
- Continuing to work with OMB on reaching settlement on the FY 2019 Passback issues. Following agreement on all issues, we will be transmitting final decisions to the agency next week so that they can begin developing the President's Budget that will be transmitted to Congress on February 5th.

Upcoming Public Events

- OCFO is working with NPMs to arrange OMB meetings on:
    - Savings from Category Management and Procurement Action Lead Time (PALT) proposed performance measures – Dec 12
    - E-Manifest – Dec 14

Upcoming Major Decisions

- Working with the COO who has requested all Strategic targets be finalized and for all DQRs to be completed by December 8. OCFO will continue to coordinate with the COO to ensure we receive the requested information; can give OMB an initial review during the week of December 11; and incorporate the targets in the final draft *FY 2018-2022 EPA Strategic Plan* due to OMB no later than December 22.
- **Ex. 5 Deliberative Process (DP)**

  Ex. 5 Deliberative Process (DP) and through December 14 on the draft *FY 2017 Annual Performance Report* and two-page performance highlights, which reflects results in meeting budget measure targets in the *FY 2017 Annual Performance Plan and Congressional Justification*, which will be part of the *FY 2019 CJ*.

Last Week Highlights

- Last Friday, OCFO prepared options, developed draft materials and delivered the agency's response to OMB Passback.

Other

- OCFO is issuing process guidance for the FY 2019 Congressional Justification, which informs the NPMs about when and how the CJ documents will be created, reviewed, and submitted to Congress.
- To date, EPA has received 49 mission assignments or agreements from other federal agencies for a total of $167.4 million to support disaster responses, including $51 million to support the California wildfires, all of which is in addition to EPA's base appropriated funding. Region 9 was activated for the new round of California wildfires, but OCFO has not received the new mission assignment yet.
- OCFO completed the first round of Hurricane Harvey billings, totaling $6.7 million. FEMA requires detailed information concerning the expenses, and SCORPIOS is used to compile that information necessary for reimbursement.

Office of Congressional and Intergovernmental Relations

- ***Upcoming Hot Issues and Important Deadlines***

  - ***Upcoming Events***

    - **Week of Dec 11** – Transmittal of 2017 National Water Quality Indicators Report to Congress
    - **Dec 11 –** Public meeting on TSCA prioritization for risk evaluation w/OCSPP
    - **Dec 12** – Meeting with Cong. Walden (OR) staff and OR ag contacts re: pesticides and water issues w/ OCSPP and OW
    - **Dec 12** – Ken Wagner, Senior Advisor to the Administrator will attend the Ag State Directors meeting for Region 7 and Region 8 and speak on Cooperative Federalism
    - **Dec 14** - Meeting with Congressman Cramer's staff, Sabin Metals and Mayer Brown LLP to discuss the impacts of the import ban of petrochemical byproducts to the U.S. for recycling.

  - ***Past week accomplishments***

    - **Week of Dec 4** – Ken Wagner, Senior Advisor to the Administrator, met with Region 10 visited Utah with Region 8 Administrator and attended an all states meeting with Region 7.
    - **Dec 5** – Meet and Greet with Lee Forsgren and Mayor Dan Horrigan of Akron, OH. The meeting gave Mayor Horrigan an opportunity to get acquainted with the new Office of Water leadership, and to share highlights about the city's continuing efforts to address Combined Sewer Overflow (CSO) issues, and advance its Integrated Plan for Storm water Management
    - **Dec 5** – HSST briefing to discuss IRIS RFC
    - **Dec 6** – Public meeting on TSCA New Chemicals program w/OCSPP
    - **Dec 6** - OCIR notified interested congressional offices that EPA will hold three additional public listening sessions on the proposed repeal of the Clean Power Plan in San Francisco, Calif., Gillette, Wyo. and Kansas City, Mo.
    - **Dec 6** - SEPW held a hearing on "Challenges Facing Superfund and Waste Cleanup Efforts Following Natural Disasters
    - **Dec 7** - the House Energy & Commerce Committee will hold a hearing on "The Mission of the U.S. Environmental Protection Agency. "Administrator Pruitt testified.
    - **Dec 7** – Susan Bodine was confirmed as Associate Administrator for OECA by voice vote in the Senate

    - **Dec 8** - OIR managed a conference call between EPA's WIFIA staff and Mayor of Akron, Ohio Pro Tem Michael Johnson, Council Member William Morgan, and city staff. Region IV will also participate

- ***Ongoing activities***

    - **FY18 Appropriations:** A short-term continuing resolution was past. government running past a Dec. 8.

Office of Enforcement and Compliance Assurance

Hot Issues

VW Criminal Sentencing: On December 6th, a federal judge in the Eastern District of Michigan (Detroit) sentenced former Volkswagen AG executive Oliver Schmidt to seven years in prison and a fine of $400,000 for his role in the company's emissions scandal. The sentence was the statutory maximum under the law. On August 4, 2017, Schmidt, a citizen and resident of Germany, pled guilty to conspiracy to defraud the United States, commit wire fraud, and violate the Clean Air Act. Schmidt is the former general manager of Volkswagen AG's U.S. Environment and Engineering Office.

As part of his guilty plea, Schmidt admitted that he agreed with other VW employees to mislead and defraud the United States and U.S. customers who purchased the diesel vehicles, and to violate the Clean Air Act. Also as part of his guilty plea, Schmidt agreed that during his participation in the scheme, he and his co-conspirators caused losses to victims of more than $150 million and that he obstructed justice.

Upcoming Events/Public Meetings

On December 12th, as part of Annex 5 of the China-U.S. Environmental Cooperation MOU, OECA will host a delegation of enforcement officials from China's Ministry of Environmental Protection and local environmental regulators in China on enforcement and compliance.

On December 8th, Patrick Traylor will meet with representatives from the Natural Resources Defense Council to discuss enforcement issues.

On December 13th, OECA's National Enforcement Investigations Center will be hosting a delegation from the Environmental Protection Administration Taiwan – Bureau of Environmental Inspection on techniques for environmental enforcement investigations.

Upcoming Major Decisions

None.

Last Week's Highlights

Edison Electric Institute (EEI) and the Environment, Health, Safety & Security (EHS^2) Roundtable: On December 6th, Acting Assistant Administrator Larry Starfield joined DOJ Acting Assistant Attorney General Jeff Wood in speaking with senior environmental leaders and managers from the electric power industry on current priorities for environmental compliance and enforcement.

Clean Air Act Civil Settlement: On December 5th, the Department of Justice, on behalf of EPA, lodged a consent decree with Swedish company Husqvarna, to resolve alleged violations of the Clean Air Act by improving testing and reporting of emissions from outdoor power products, such as trimmers, leaf blowers, and chainsaws, that the company makes and sells in the United States. Consumers will benefit from reductions in emissions from products the company sells in the future. The company also agreed to pay a $2.85 million civil penalty.

OECA Meets with State and Tribal Pesticide Officials: This week, leaders of state and tribal pesticide programs met with OECA and OPP management to discuss various current and emerging pesticide regulatory

and enforcement issues facing state and tribal pesticide programs. The state and tribal officials were in Washington for a meeting of the State FIFRA Issues and Research Evaluation Group (SFIREG), held twice each year as a forum for collaboratively raising issues to EPA. Issues raised included compliance and enforcement concerns over implementation of two recently revised regulations for worker protection standards and applicator certification and training requirements, as well as new label requirements for future use of new technology dicamba products that have been linked to significant off-target crop damage during the 2017 growing season.

Pilot of Online Tool for Per- and Polyfluoroalkyl Substances (PFASs) Data: OECA is undertaking the pilot of a tool that consolidates scattered data resources across Federal Agencies to identify areas of environmental concern from PFAS that could represent potential human health risk. The tool includes an interactive map of information from a variety of data sources, such as Unregulated Contaminant Monitoring Rule public water supply data, and Department of Defense fire training site locations. The tool also allows the user to search for particular facilities by name and provides other interactive charts and tables. The pilot tool reflects input from some regions and states, though currently it is only available to EPA.

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Office of Environmental Information

Last Week's Highlights

State and Tribal Partners Participation in the Developers' Guild

- ***Brief description:***
  - *On November 28, through the Exchange Network coordinator, State and Tribal Partners collectively decided to participate in the Developers' Guild.*
  - State and Tribal Partners have come to know of the Developers' Guild Community of Practice through the Exchange Network, where a number of partners became interested in accessing the webinars as a shared resource for professional development and education.
  - On November 7, OEI hosted its first monthly Developers' Guild webinar meeting that included State and Tribal Partners, and although their turnout was relatively low, moving forward, we anticipate increased participation from the States and Tribes and will further coordinate with them to present best practices in information technology and information management.
- ***Who benefits or cares:*** *EPA and State & Tribal Partners*
- ***Why this is important:*** *Previously, the Developers' Guild has been a community of practice only open to EPA and Contractors to EPA.*
- **Additional information:**
  - The Developers' Guild supports EPA developers and IT professionals to share the best available information and tools to innovate, collaborate, and develop the highest quality environmental information application and systems.
  - The Exchange Network is an Internet-based system used by state, tribal and territorial partners to securely share environmental and health information with one another and EPA.

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Office of General Counsel

New Judicial Decisions

- EPA received a favorable decision granting the agency's motion for summary judgment and dismissing NRDC's mandatory suit against the agency for lack of jurisdiction. NRDC argued that EPA had a duty to conduct a CWA review of a series of Temporary Urgency Change Petition (TUCP) Orders that California had issued while operating under a state emergency declared by the Governor. The district court held that NRDC's claims were moot given the following considerations: (1) the orders have all since expired; (2) the Governor's declaration of drought emergency has since expired; and (3) EPA has since completed an administrative review detailing why these TUCP Orders were not water quality standards changes requiring a review. (*Natural Resources Defense Council v. Pruitt*, No. 3:16-cv-02184)

New Complaints Filed

- The National Parks Conservation Association and Sierra Club have filed a petition for review in the D.C. Circuit challenging a rule withdrawing Texas from Phase 2 of CSAPR for annual emissions of SO2 and NOx. The challenged rule also included EPA's determination that CSAPR will continue to provide for greater reasonable progress than BART following EPA's response to the remand of a number of states' CSAPR budgets. Although the petition for review does not identify the basis for the environmental groups' challenge, it is almost certainly a challenge to EPA's determination that states may continue to rely on CSAPR to satisfy the regional haze program's BART requirements. (*National Parks Conservation Ass'n v. EPA*, No. 17-1253)

- Four new FOIA cases have been initiated in the past week:

    - The New York Times filed a FOIA lawsuit in the U.S. District Court for D.C. with two counts alleging in Count One that EPA failed to respond to a FOIA request (HQ-2017-009347) and in Count Two that EPA failed to make records available that were requested three or more times as required by 5 U.S.C. § 552(a)(2)(D). The FOIA request was submitted on July 12, 2017 and sought the Administrator's daily calendar from April 1 through the date of the search. (*Lipton, et al. v. EPA*, No. 1:17-cv-2588)

    - Natural Resources Defense Council filed a FOIA lawsuit in the U.S. District Court for the Southern District of New York alleging that EPA failed to respond to a FOIA request (HQ-2017-011514). The FOIA request sought various records concerning (1) the "red team-blue team" climate-change related exercise announced by the Administrator in June 2017 and (2) EPA's Protocol for Office of Affairs of Draft Competitive Grant Solicitations released in August 2017. The complaint alleges that Plaintiff contacted the EPA FOIA Headquarters in October (voice mail) and November (email) and did not receive a response. (*Natural Resources Defense Council, Inc. v. EPA*, No. 1:17-cv-9492)

    - Environmental Integrity Project filed a FOIA lawsuit in the U.S. District Court for D.C. alleging that EPA failed to respond to a FOIA request (HQ-2018-000967). The FOIA request sought copies of the Administrator's speeches or written remarks for speeches through the date of the request (October 25, 2017). The request included a chart of the Administrator's speeches

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as obtained from the Administrator's calendar. (*Environmental Integrity Project v. EPA*, No. 1:17-cv-2578)

- The Energy & Environment Legal Institute and Free Market Law Clinic sued EPA for allegedly failing to respond to a FOIA in the U.S. District Court for D.C. The FOIA (2018-000982) sought communications between Thomas Sinks (EPA Office of the Science Advisor) and either Linda Birnbaum (National Institutes of Health) or John Ray Bucher (National Institutes of Health) that contains glyphosate, IARC, EFSA, and/or "Cancer Assessment Review Committee" or CARC. (*Energy & Environment Legal Institute v. EPA*, No. 1:17-cv-2571)

Hot Topics

- On December 1, the Administrator signed a final action determining that the risk from the hard-rock mining industry is minimal and that no additional federal requirements for financial responsibility are necessary under CERCLA section 108(b). OGC provided significant legal counsel on this effort, which resulted in EPA meeting its court-ordered deadline of December 1, 2017. The underlying case is *In re: Idaho Conservation League, et al.*, No. 14-1149 (D.C. Cir.).

New Petitions that OGC is Aware Of

- None that OGC is aware of.

Upcoming Public Events & Important Meetings in the Next Two Weeks

- On December 15, Kevin Minoli, Acting General Counsel, and Elise Packard, Acting Principal Deputy General Counsel, will be off-site attending training.
- Kevin Minoli will be out of the office from December 20 through December 26.

Upcoming Major Deadlines in the Next Two Weeks

12/08 EPA's Brief due in *Air Alliance Houston, et al. v. EPA*, a petition for review of EPA's final action titled "Accidental Release Prevention Requirements: Risk Management Programs Under the Clean Air Act, Further Delay of Effective Date."

12/08 *Certiorari* Recommendation Letter due in Ex. 5 AC/AWP/DP

Ex. 5 AC/AWP/DP

12/08 Response to Summary Judgment Motion and Cross-motion due in *Sierra Club, et al. v Pruitt*, a challenge to extension of compliance date for TSCA formaldehyde rule.

12/08 Report to court on reconsideration decisions due in *State of Maine v. Pruitt*, a challenge to EPA's approvals of sustenance fishing designated uses and disapproval of human health criteria for waters in Indian country.

12/11 Motion to Govern Further Proceedings due in *Natural Resources Defense Council, et al. v. EPA*, a petition for review of EPA's final action titled "Air Quality Designations for the 2010 Sulfur Dioxide (S02) Primary National Ambient Air Quality Standard."

12/11 Oral Argument in *U.S. v. U.S. District Court of Oregon and Juliana, et al.*, a petition for writ of mandamus over denial of motion to dismiss in Juliana v. United States, a case alleging multi-agency constitutional and public trust violations arising from actions and inactions on climate change.

12/11 The Reply to the Opposition Motion to EPA's Renewed Motion for Summary Judgment is due in *Hunton & Williams v. EPA*, a FOIA lawsuit pertaining to a Region 9 and OW response to a request that sought certain records relating to an AJD for the DMB Redwood City Saltworks site.

12/11 Court ordered mediation in *City of Bolivar v. EPA*, a city challenge to EPA TMDL for nutrients and suspended solids in Piper Creek, Mo. Parties participating in court-ordered mediation.

12/12 Opposition to Motion for Summary Judgment/Answer due in *Massachusetts Rivers Alliance, et al. v. EPA*, a protective petition for review of EPA's APA section 705 postponement of effective date of MA small MS4 general permit from July 1, 2017 to July 1, 2018.

12/13 Response Brief is due in *State of Connecticut v. EPA*, where plaintiff alleges EPA failed to grant or deny section 126 petition filed by Connecticut regarding Brunner Island Steam Electric Station in York County, Pennsylvania.

12/13 EPA's Reply on Pattern and Practice claim is due in *NRDC v. EPA*, a FOIA litigation concerning a request that sought policy or guidance for removing information or web pages from an EPA website.

12/13 EPA's Appellee Brief is due in *Hall & Assoc. v. EPA*, a FOIA litigation regarding the district court's denial of Hall's fee request and motion for reconsideration.

12/13 Response to Petitions due in *API v. EPA*, litigation involving two portions of the 2015 DSW rule that were vacated are: (1) certain provisions of the "verified recycler exclusion"; and (2) factor 4 of the definition of legitimate recycling for all recycling except the new generator-controlled exclusion, remanufacturing of high value solvents exclusion, and the reinstated transfer-based exclusion.

12/13 EPA response to petition for writ of certiorari due in *Center for Regulatory Reasonableness v. EPA*, a challenge to D.C. Circuit decision.

12/14 EPA's Reply due in *Sierra Club v. EPA*, litigation concerning Clean Air Act deadlines related to Commercial and Industrial Solid Waste Incinerators and other categories of Solid Waste Incinerators.

12/14 Consent Decree deadline to issue a final Integrated Science Assessment addressing health effects of SOx in *Center for Biological Diversity, et al. v. EPA*.

12/14 Motion on Scope of Hearing due in *Food and Water Watch v. EPA*, a challenge to denial of TSCA fluoride petition.

12/14 Response to Motion to Amend Complaint due in *Upper Missouri Waterkeeper v. EPA*, a challenge to EPA 2015 approval of Montana's nutrient variances.

12/15 Parties to file stipulation of dismissal or proposed briefing schedule in *Sierra Club v. EPA*, litigation where plaintiff alleges the EPA failed to promulgate a good neighbor FIP for Texas.

12/15 EPA's Answer or Motion to Dismiss due in *Small Retailers Coalition v. EPA*, litigation alleging the EPA is noncompliant with sections 603 and 604 of the RFA in issuing the 2017 RFS standards, and for failing to annually review the point of obligation of the RFS.

12/15 Consent Decree deadline for final RTR for the Wool Fiberglass NESHAP in *Sierra Club v. EPA*.

12/15 Consent Decree deadline to take final action on Louisiana's regional haze SIP in *Sierra Club v. Pruitt*, a complaint alleging EPA's failure to perform a non-discretionary duty to promulgate a FIP within two years of EPA's partial disapproval of Louisiana's Regional Haze SIP.

12/15 Motion for Summary Judgment due in *EIP v. EPA*, a FOIA matter seeking records pertaining Administrator Pruitt's meetings with outside parties and travel vouchers.

12/15 Response to Application for Attorneys' Fee in *CBD, et al. v. EPA*, a challenge to registration of cyantraniliprole.

12/15 Motion for Summary Judgment due in *Exxon Mobil Corp. v. U.S.*, where plaintiff alleges RCRA work constitutes "necessary costs of response...consistent with the national contingency plan" for which the U.S. is liable under CERCLA.

12/15 Consent Decree deadline to either propose nutrient water quality criteria for Missouri lakes or approve criteria adopted by Missouri in *Missouri Coalition for the Environment Foundation v. Pruitt*.

12/15 Response to environmental group petitioners' opening brief is due in *SWEPCO v. EPA*, petitions for review of EPA's 2015 parts of steam electric rule not being reconsidered.

12/15 Reply Brief due in *Riverkeeper v. Pruitt*, a mandatory duty challenge to EPA's inaction on NYS recreational water quality criteria submission.

12/18 Consent Decree deadline to object to the Special Master's report on fees in *Association of Irritated Residents, et al. v. EPA*.

12/18 Answer due in *State of Maryland v. EPA*, litigation alleging the EPA failed to hold a public hearing and take final action on the State's section 126 petition. The State's petition asks EPA to find that 36 power plant units located in Indiana, Kentucky, Ohio, Pennsylvania, and West Virginia are significantly contributing to nonattainment or interfering with maintenance of the 2008 ozone NAAQS in Maryland.

12/18 Consent Decree deadline to issue a finding of failure to submit for Pennsylvania and Washington and for Illinois, Massachusetts, and Rhode Island in *CBD v. Pruitt*, a PM2.5 deadline suit.

12/19 Reply Brief in support of motion to dismiss due in *City of Highland Park v. EPA, et al.*, where plaintiff alleges that EPA failed to enforce grant conditions and did not adequately oversee Michigan's state permit program.

12/20 Reply Brief due in *State of Connecticut v. EPA*, where plaintiff alleges EPA failed to grant or deny section 126 petition filed by Connecticut regarding Brunner Island Steam Electric Station in York County, Pennsylvania.

12/21 Motions to Govern due in *State of Texas, et al. v. EPA*, a petition for review of EPA's final rule titled "Protection of Visibility: Amendments to Requirements for State Plans."

12/21 Summary Judgment Brief due in *Potomac Riverkeeper, et al. v. Pruitt, et al.*, a challenge to EPA approval of Virginia 2014 303(d) list – Shenandoah River issue)

12/22 Reply in support of Cross-Motion for Summary Judgment due in *Sierra Club, et al. v. Pruitt*, a challenge to extension of compliance date for TSCA formaldehyde rule.

12/22 Reply Brief due in *Charleston Sanitary Board v. Pruitt*, a challenge to EPA's disapproval of site specific copper criteria in West Virginia.

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Office of International and Tribal Affairs

Hot Issues:

None

Upcoming Engagements:

December 8-13: U.S.-Morocco Environmental Cooperation Workshops and Meetings

Past Week Highlights:

PCC Meeting on G20 - OITA attend the White House Policy Coordinating Committee meeting on US engagement in the next cycle of the G20. The purpose of this meeting was to begin preparations and policy coordination for Argentina's G20 Presidency in 2018 and to prepare for the G20 Sherpa meeting later this month. Agencies were asked to develop briefing papers to support the US Sherpa's participation, including World Economy and Overview of Finance Track; Employment, Education, and Digital Economy; Development; Anticorruption; Health; Climate and Energy; Agriculture; and Trade and Investment. EPA offered contributions to several of these high-level papers and noted continuing efforts on resource efficiency under the G20.

United Nations Environment Assembly:

EPA (OITA, AO, OGC, OAR) and the State Department represented the U.S. at the third United Nations Environment Assembly. The US delegation successfully negotiated a number of resolutions, including US sponsored resolutions, one on lead paint and waste lead acid batteries and one on water and marine litter. EPA gave presentations at the Science Policy and Business Forum, and participated in the air quality monitoring and lead paint sessions. EPA also held numerous bilateral meetings to advance EPA's work with key country partners, and participated in the US private sector roundtable to support US environmental technologies and innovation.

South American Environmental Enforcement Network: The Fifth meeting of the South American Environmental Enforcement and Compliance Network was held in Brazil. The Network was established with EPA assistance to improve environmental enforcement and compliance in the region. The Network was chaired this year by Brazil and was attended by the following member countries - Chile, Ecuador, Peru, Paraguay and Argentina. Several new countries joined during this event, including Panama, Mexico and Costa Rica. In addition, the following countries requested admission to the Network - Bolivia, El Salvador, Guatemala, Dominican Republic and Honduras. As the result of this growing membership, the name of the Network has been changed to the Latin American Environmental Enforcement Network. Chairmanship for the next year passed to Argentina.

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Office of Land and Emergency Management

Hot Issues

1. **Emergency responses to hurricanes and wildfires.** Large-scale responses continue in both Region 2 (Puerto Rico and the US Virgin Islands) and Region 9 (Northern California). Ex. 5 Deliberative Process (DP)

   Ex. 5 Deliberative Process (DP)

2. **Coal Combustion Residuals.**

3. **Clean Air Act 112(r) Risk Management Program (RMP).**

4. **Ongoing major Superfund NPL sites (for example, B.F. Goodrich, East Chicago, West Lake, Gold King Mine/Bonita Peak, Hudson River, Portland Harbor, Mississippi Phosphates).**

   Ex. 5 Deliberative Process (DP)

5. **CERCLA-EPCRA AFO-CAFO Rule**. The DC Circuit Court of Appeals granted EPA's motion to further stay the mandate until January 22, 2018. No reporting is necessary until the mandate is issued.

Upcoming Public Events

Upcoming Major Decisions

1. **E-Manifest User Fee Final Rule.** Ex. 5 Deliberative Process (DP)

2. **Coal Combustion Residuals.**

   (a) Qs and As. We are working with the AO and OGC on answers to questions posed by Indiana.

   (b) Ex. 5 Deliberative Process (DP)

Last Week Highlights

1. **Brownfields Conference.** The national Brownfields Conference concludes today in Pittsburgh. Approximately 2,200 people registered.

2. **National Association of Remedial Project Managers Training Program (NARPM).** The national meeting is taking place this week in Denver. More than 300 representatives from federal, state, and tribal agencies are participating.

3. **Brownfields Legislation.** Ex. 5 Deliberative Process (DP)

   Ex. 5 Deliberative Process (DP)

4. **CERCLA 108(b) Financial Assurance for Hard Rock Mining and Mineral Processing**. The final rule was signed on December 1, the judicial deadline. It is pending publication in the Federal Register

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Office of Policy

FRL	Title	Date Submitted to OFR
9971-43-Region 6	Approval and Promulgation of Implementation Plans; New Mexico; Albuquerque and Bernalillo County; Regional Haze Progress Report State Implementation Plan	12/6/2017
9970-51-OCSPP	Agency Information Collection Activities; Proposed Renewal of an Existing Collection (EPA ICR No. 0276.16 and OMB Control No. 2070-0040); Comment Request	12/6/2017
9971-72-Region 4	Air Plan Approval; Florida; Stationary Sources Emissions Monitoring	12/6/2017
9971-83-Region 2	Approval and Promulgation of Implementation Plans; New York; Reasonably Available Control Technology for the 2008 8-Hour Ozone National Ambient Air Quality Standards	12/6/2017
9971-38-OCSPP	Voluntary Consensus Standards Update; Formaldehyde Emission Standards for Composite Wood Products	12/6/2017
9970-04-OCSPP	Sedaxane; Pesticide Tolerances	12/5/2017
9971-01-OCSPP	Certain New Chemicals or Significant New Uses; Statements of Findings for August and September 2017	12/5/2017
9971-02-OCSPP	Pesticide Emergency Exemptions; Agency Decisions and State and Federal Agency Crisis Declarations	12/5/2017
9971-50-OLEM	Financial Responsibility Requirements under CERCLA Section 108(b) for Classes of Facilities in the Hardrock Mining Industry	12/5/2017
9969-96-OCSPP	Bacillus subtilis strain BU1814; Exemption from the Requirement of a Tolerance	12/5/2017
9970-39-OCSPP	Indoxacarb; Pesticide Tolerances	12/5/2017
9971-61-Region 5	Air Plan Approval; Minnesota; 2008 Ozone Transport	12/5/2017
9971-24-Region 8	Montana Second 10-Year Carbon Monoxide Maintenance Plan for Missoula	12/5/2017
9971-66-OAR	Findings of Failure to Submit State Implementation Plan Submittals for the 2008 Ozone National Ambient Air Quality Standards (NAAQS)	12/5/2017
9971-62-Region 5	Adequacy Status of the Metro-East St. Louis, Illinois 2008 Ozone Standard Nonattainment Area for the Submitted Maintenance Plan for Transportation Conformity Purposes	12/5/2017
9956-82-OEI	Cross-Media Electronic Reporting: Authorized Program Revision Approval, State of West Virginia	12/5/2017

9971-48-OAR	Agency Information Collection Activities; Proposed Collection; Comment Request; EPA's Light-Duty In-Use Vehicle Testing Program (Renewal); EPA ICR No. 0222.11, OMB Control No. 2060-0086	12/5/2017
9971-53-OW	Notice of Availability of the Deepwater Horizon Oil Spill Louisiana Trustee Implementation Group Draft Restoration Plan and Environmental Assessment #2: Provide and Enhance Recreational Opportunities	12/5/2017
9971-44-OAR	Proposed Information Collection Request; Comment Request; Recordkeeping and Reporting for the Renewable Fuel Standard Program	12/5/2017
9971-23-Region 9	Public Water System Supervision Program Revision for the State of Hawaii	12/5/2017
9971-39-OLEM	Thirty-second Update of the Federal Agency Hazardous Waste Compliance Docket	12/5/2017
9970-84-Region 6	Clean Air Act Operating Permit Program; Petitions for Objection to State Operating Permit for Big River Steel, LLC, Osceola, Arkansas	12/4/2017
9971-74-Region 5	Air Plan Approval; Ohio; Redesignation of the Fulton County Area to Attainment of the 2008 Lead Standard; Withdrawal of Direct Final Rule	12/4/2017
9971-77-Region 5	Air Plan Approval; Illinois; Redesignation of the Chicago and Granite City Areas to Attainment of the 2008 Lead Standard; Withdrawal of Direct Final Rule	12/4/2017
9971-64-Region 5	Air Plan Approval; Illinois; Redesignation of the Illinois portion of the St. Louis-St. Charles-Farmington, Missouri-Illinois Area to Attainment of the 2008 Ozone Standard	12/4/2017
9971-78-Region 5	Approval and Promulgation of Air Quality Implementation Plans; Minnesota; Regional Haze Progress Report; Withdrawal of Direct Final Rule	12/4/2017
9971-79-Region 5	Air Plan Approval; Illinois; Regional Haze Progress Report; Withdrawal of Direct Final Rule	12/4/2017
9971-68-Region 7	Approval of Missouri Air Quality Implementation Plans; Infrastructure SIP Requirements for the 2012 Annual Fine Particulate Matter (PM2.5) National Ambient Air Quality Standard; Withdrawal of Direct Final Rule	12/4/2017
9971-69-Region 7	Approval of Missouri Air Quality Implementation Plans; Infrastructure SIP Requirements for the 2010 Nitrogen Dioxide National Ambient Air Quality Standard; Withdrawal of Direct Final Rule	12/4/2017

9971-70-Region 3	Approval and Promulgation of Air Quality Implementation Plans; District of Columbia; Interstate Transport Requirements for the 2010 1-Hour Sulfur Dioxide Standard; Withdrawal of Direct Final Rule	12/4/2017
9971-67-OAR	Periodic Reviews of the Renewable Fuel Standard Program	12/4/2017
9971-73-OAR	Renewable Fuel Volume Standards for 2018 and Biomass Based Diesel Volume (BBD) for 2019	12/4/2017
9971-75-Region 5	Air Plan Approval; Wisconsin; Regional Haze Progress Report; Withdrawal of Direct Final Rule	12/4/2017
9971-56-Region 3	Approval and Promulgation of Air Quality Implementation Plans; West Virginia; Removal of Clean Air Interstate Rule Trading Programs Replaced by Cross-State Air Pollution Rule Trading Programs; Withdrawal of Direct Final Rule	12/4/2017
9971-80-Region 5	Air Plan Approval; Michigan; Regional Haze Progress Report; Withdrawal of Direct Final Rule	12/4/2017
9971-58-Region 3	Approval and Promulgation of Air Quality Implementation Plans; Delaware; Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) Under the 2008 Ozone National Ambient Air Quality Standard (NAAQS)	12/1/2017
9971-60-Region 5	Air Plan Approval; Indiana; Regional Haze Five-Year Progress Report State Implementation Plan	12/1/2017
9971-63-Region 5	Air Plan Approval; Ohio; Infrastructure SIP Requirements for the 2012 PM2.5 NAAQS; Multistate Transport	12/1/2017
9971-41-Region 3	Approval and Promulgation of Air Quality Implementation Plans; Virginia; Amendment to Ambient Air Quality Standard for Ozone; Withdrawal of Direct Final Rule	12/1/2017
9969-70-Region 9	Notice of Availability of Proposed National Pollutant Discharge Elimination System (NPDES) General Permit for Low Threat Discharges in Navajo Nation and NPDES General Permit for Bulk Fuel Storage Facilities in Guam	12/1/2017
9971-04-Region 6	Approval and Promulgation of Implementation Plans; Texas; Revisions to Emissions Banking and Trading Programs for Area and Mobile Sources	12/1/2017
9971-59-Region 1	Air Plan Approval; Massachusetts; Logan Airport Parking Freeze	11/30/2017
9971-57-Region 3	Approval and Promulgation of Air Quality Implementation Plans; West Virginia; Removal of Source-Specific Requirements for Permanently Shutdown Facilities	11/30/2017

9971-65-OLEM	Information Collection Request Submitted to OMB for Review and Approval; Comment Request; Continuous Release Reporting Requirements; Reporting Air Releases of Hazardous Substances from Animal Wastes at Farms under CERCLA Section 103.	11/30/2017

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Office of Research and Development

We had a productive call last week with the ECOS ERIS board as part of our regular collaborative efforts on cooperative federalism. We also continue to provide support to Region 5 on the PFAS issue with the Wolverine tannery site in Michigan.

Hot issues

ORD Supporting Vermont Ricin Response

Betty Miller, a 70 year old resident of the Wake Robin retirement community in Shelburne, VT (suburb of Burlington) was arrested after she admitted to making ricin and then testing its effectiveness by putting it in the food and beverages of three other residents of the community. Ms. Miller stated that she made ricin to poison herself. This weekend, EPA was asked to prepare to clean up Ms. Miller's residence. ORD was asked by the Office of Emergency Management's CBRN Consequence Management Advisory Division to provide technical support related to analysis of surface samples that are anticipated to be taken this week. ORD helped select the sample processing and analysis method, using its expertise to assist in a method that met the sensitivity and selectivity requirements with the sample analysis cost and time. ORD recommended use of its "Sample Processing Approach for Detection of Ricin in Surface Samples" and will provide technical support to the laboratory analyzing the samples, likely Edgewood Biological and Chemical Center, in the coming days.

Integrated Science Assessment on Sulfur Oxides

Ex. 5 Deliberative Process (DP) The document has been revised in response to comments from the Clean Air Scientific Advisory Committee (CASAC) and the public, and the CASAC review is now complete. A court-ordered schedule requires that the final ISA be issued no later than December 14, 2017, and ORD is on track to meet this deadline.

Region 8 Technical Support on Arsenic in Yellowstone Pubic Water System

Yellowstone National Park has naturally occurring arsenic in their public water system (Old Faithful Water System), which provides water to about 900-5500 people in the park per day. Region 8 contacted ORD for assistance in reducing the arsenic levels below the maximum contaminant level. On December 6 ORD participated in a call with Region 8 and the Old Faithful Water System Operator to review the water system's arsenic removal plan and schedule.

Technical Support Request from U.S. Army on Lead Sampling

The Drinking Water Quality Branch of the U.S. Army Public Health Center contacted ORD regarding a lead sampling effort, requesting ORD's involvement and expertise. The Army has been collecting drinking water samples for lead in schools, day care centers, and some housing on bases and, as of the end of FY17, they have over 17,000 samples.

Upcoming public events

Interagency Meetings on Oil Pollution Research, Washington, DC

On December 12, ORD, OLEM and OITA, will participate in a meeting with representatives from Canada's Department of Fisheries and Oceans (DFO), including Ken Lee, National Senior Science Advisor for Oil Spills Research, Preparedness and Response, and Patrice Simon, Director of DFO Headquarters. The purpose of the meeting is to discuss formal inter-governmental partnerships between EPA and DFO Canada for oil spills research. On December 13-14, ORD will attend the quarterly Interagency Coordinating Committee for Oil Pollution Research ([HYPERLINK "http://www.dco.uscg.mil/ICCOPR/" \t "_blank"]) meeting to deliver FY18 research product updates and meet with OLEM at the U.S. Coast Guard headquarters.

Meeting and Visit from China Ministry of Environmental Protection

Next week, EPA's Research Triangle Park facility is hosting officials from the Chinese Ministry of Environmental Protection and the Nanjing Institute of Environmental Sciences. The December 11-13, 2017, visit is part of continuing meetings to respond to the interest of Chinese officials in how EPA is structured and, particularly, in how research laboratories are organized to support the important statutory missions of the Agency. Presentations and tours will focus on U.S. chemical risk assessment and risk management, including EPA research laboratory contributions to implementation of the Toxic Substances Control Act and other statutes.

Last week Highlights

Update on ORD Support to Region 6 and OK-DEQ on Dewey, Oklahoma Response

EPA Region 6, ORD, and Oklahoma Department of Environmental Quality (DEQ) have been working together in response to multiple cases of girls (ages ~14-18) falling ill in Dewey, Oklahoma. While the cause for their illnesses is unknown, EPA Region 6 was asked to perform a series of environmental tests at their high school. ORD previously provided advice regarding selection of methods to analyze metals, semi-volatile organic compounds, and pesticides in water and air and pesticides on surfaces. ORD is currently supporting Region 6 through review of the data they collected through air and surfaces wipes and is ready to provide additional assistance, specifically interpreting and developing Regional Screening Levels through their Superfund Technical Support Center, if needed.

Prescribed Burn Video Presented to State Environmental Directors: A picture is worth a thousand words. That may be the case with video of research to measure emissions from prescribed burning of Tallgrass Prairie National Preserve in Flint Hills, Kansas. The footage was requested by Region 7 for ORD to share at a meeting on Dec. 6 with State Environmental Directors for Kansas, Missouri, Iowa and Nebraska.

Dover Health Impact Assessment (HIA) Project Meeting

On November 28, the EPA Leadership Team for the Dover, Delaware Rapid HIA Project met with state, county, and academic partners. This project explores the social, economic, and health benefits that could result from the redevelopment of a brownfield site in downtown Dover into a hydroponic/aquaponics mixed-use food production facility. At the meeting, a draft HIA report was presented and discussed and next steps for local partners were developed. Dover's Mayor, Robin Christiansen, joined the group after the meeting to greet and thank everyone for their participation. The Dover HIA Team extended their gratitude to the EPA Leadership Team for their work on the project and the draft final report.

Harmful Algal Bloom Grants Awarded

ORD awarded two grants for a total of $1.4 million for research supporting innovative research on the prediction, prevention, control and mitigation of freshwater Harmful Algal Blooms (HABs). This research also

supports greater understanding in the drivers, life-cycle patterns, and fate of and effects from less-common, less-studied, and emerging freshwater HAB species and toxins. Grantees include:

1. Iowa State University for $760,000: This project explores genetic and environmental factors controlling the occurrence of HABs in Iowa's lakes. The project will produce tools and databases accessible and useful for state/local decision makers and managers dealing with HABs. This project improves monitoring and predictive tools targeting future cyanotoxin monitoring and mitigation efforts. Resulting research and tools may be applicable in other states.
2. Ohio State University for $681,343: The project is developing a watershed classification system to diagnose and manage HABs in the upper Ohio River basin. The focus of this project is to determine characteristics related to distribution, duration, and intensity of HABs and develop a classification system to predict and prevent HABs. The system provides a framework that can be used by managers as a standard part of watershed management, restoration, and risk assessment efforts.

These grants were awarded under the [HYPERLINK "https://www.epa.gov/research-grants/freshwater-harmful-algal-blooms"] RFA. ORD is currently working with OPA for outreach and announcement opportunities.

Grantee Publication

Emissions of air pollutants that contain or are precursors of fine particulate matter less than 2.5 micrometers in diameter ($PM_{2.5}$) have declined over the course of several decades, following the implementation of local, state, and federal air quality policies. However, estimating the corresponding change in population exposure and $PM_{2.5}$-attributable risk of death prior to the year 2000 is made difficult by the lack of PM2.5 monitoring data. In a [HYPERLINK "https://ehp.niehs.nih.gov/ehp507/"] from STAR grantees at the [HYPERLINK "https://cfpub.epa.gov/ncer_abstracts/index.cfm/fuseaction/display.abstractDetail/abstract/9282/report/0"] a researcher at Seoul National University and an EPA staff scientist in the Office of Air Quality Protection and Standards (OAQPS), the researchers used a new technique to estimate historical $PM_{2.5}$ concentrations and estimated the effects of changes in $PM_{2.5}$ population exposures on mortality in adults 30 years of age and older, and on life expectancy at birth, in the contiguous United States during the period 1980–2010. The investigators estimated annual mean county-level $PM_{2.5}$ concentrations in 1980, 1990, 2000, and 2010. County-level death rates and national life tables for each year were obtained from the U.S. Census and Centers for Disease Control and Prevention. The researchers used concentration–response coefficients from previous studies to estimate changes in the numbers of deaths and in life years and life expectancy at birth, attributable to changes in $PM_{2.5}$. The results show that between 1980 and 2010, population-weighted $PM_{2.5}$ exposures fell by about half, and the estimated number of excess deaths declined by about a third. The States of California, Virginia, New Jersey, and Georgia had some of the largest estimated reductions in $PM_{2.5}$-attributable deaths. The researchers estimate that if exposures had been held constant at 1980 levels, people born in 2050 would experience an ~1-y increase in life expectancy at birth, and that there would be a cumulative gain of 4.4 million life years among adults 30 years of age and older. The investigators conclude by suggesting that that declines in $PM_{2.5}$ exposures between 1980 and 2010 have benefitted public health.

Office of Water

OW Weekly December 7, 2017

Hot Issues

Missouri Nutrient Criteria Rulemaking: As early as today, EPA will provide a revised proposal for Missouri numeric nutrient criteria (NNC) for lakes to OMB for consideration. EPA is under a consent decree to sign the proposal by December 15.

Waters of the U.S.: As early as today, the agencies anticipate responding to NRDC and sportsmen and conservation organizations, denying requests to extend the comment period for the proposal to add an applicability date to the 2015 Rule (step 0 rule). The proposal published in the FR on November 22 for a 21-day comment period and will close next week on December 13.

Public Notification for CSOs in the Great Lakes: As early as next week, OW will finalize a rulemaking to enhance public notification requirements for CSO discharges into the Great Lakes Basin as required by Section 425 of the 2016 Appropriations Bill. The Act provides that the notice and publication requirements shall be implemented by December 18.

Report to Congress-National Water Quality Index: Next week, EPA anticipates releasing the National Water Quality Inventory Report to Congress. The report provides water quality information that states, tribes, and others can use to inform water resource protection and restoration priorities. The report will be available at: [HYPERLINK "https://www.epa.gov/waterdata/national-water-quality-inventory-report-congress"]

Upcoming Public Events

Roundtable Speaker Series at Clark Hill PLC: Next week, Lee will attend a stewardship roundtable at the Law Office of Clark Hill where special guest, Ed Russo, longtime environmental consultant to Donald Trump's businesses and author of "Donald J. Trump: An Environmental Hero," will join the Roundtable to discuss what it means to be a "practical environmentalist."

Last Week Highlights

WIFIA Credit Council: This week, OW approved five initial members of the WIFIA Credit Council. The functions of the Credit Council are to review the creditworthiness determination of applications for WIFIA credit assistance based on program level underwriting and risk analysis; to make recommendations to the WIFIA Director and Assistant Administrator regarding project approval prior to recommendations to the Administrator; to provide credit expertise in decision-making on other matters referred to the Credit Council; and to provide feedback to senior agency officials on the WIFIA program's risk exposure, credit policies, and other relevant issues directly related to federal credit as it applies within the agency and regarding federal credit within the federal government as whole. The WIFIA Credit Council members come from the Departments of Energy, Treasury, Transportation and the USDA and all meet the parameters established in the WIFIA Credit Council Charter.

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Message

From: Kyle Harris [kharris@corn.org]
Sent: 1/19/2018 1:47:56 PM
To: Subramanian, Hema [Subramanian.Hema@epa.gov]; Sands, Jeffrey [sands.jeffrey@epa.gov]
CC: David M. (Max) Williamson [maxwilliamson@williamsonlawpolicy.com]
Subject: RE: Ag Biogenic CO2
Attachments: Senate Dems Letter EPA Admin McCarthy re Ag Biomass (6-28-16).pdf; Biogenic Coalition Letter to EPA Administrator Pruitt (2-21-17).pdf; USDA Sec Vilsack Biogenic CO2 Coalition (10-26-16).pdf; BiobasedProductsEconomicAnalysis2016.pdf; 2016-09-02 Helping Hand Tools Opinion.pdf; Biogenic CO2 Case Studies.pdf; Biogenic CO2 Coalition - 1-pg Overview (3-13-17).pdf; Biogenic CO2 Coalition Slides (Hill) (2-1-16).pdf

Jeff & Hema,

Thanks again for meeting with us on Wednesday, January 17th. As follow up, I wanted to share with you some more information around the biogenic CO2 issue, along with some of our efforts to date.

- Letter from 7 key Senate Democrats to Administrator McCarthy asking EPA to work with stakeholders to provide clarity around agricultural biomass.
- Letter to Administrator Pruitt advising him of the Ag Biogenic CO2 issue.
- Letter from Secretary Vilsack discussing USDA review of Ag Biomass, and consultation with EPA.
- USDA commissioned study titled "An Economic Impact Analysis of the US Biobased Products Industry" -among recommendations found towards the end of the study, "Ensure biogenic CO2 emissions related to biobased products are treated as carbon neutral in EPA's carbon accounting framework." (Recommendation 5, page 107).
- Case Studies that we have developed to show how regulatory uncertainty is blocking further investment and innovation.
- The Helping Hands Court Decision- case study of years of litigation over biogenic CO2 permitting.
- Our Coalition 1-pager, along with our slide deck.

We want to be as supportive of EPA's efforts as possible. Please do not hesitate to reach out if there is any further information that we may provide, or need any further clarification around the Biogenic Issue.

Best Regards,

Kyle

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From: Subramanian, Hema [mailto:Subramanian.Hema@epa.gov]
Sent: Monday, January 08, 2018 5:11 PM
To: Kyle Harris <kharris@corn.org>; Sands, Jeffrey <sands.jeffrey@epa.gov>
Subject: RE: Ag Biogenic CO2

Kyle,

I am Jeff's Special Assistant and can help coordinate this meeting. Jeff can meet with you in his office at 3 pm on the 17th. I'll send you a calendar invite with further details, but just let me know if a better time works for you.

Thank you,
---Hema.

Hema Subramanian
Special Assistant to the Senior Advisor for Agriculture (detail)
Office of the Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460
Phone (202) 564-5041
subramanian.hema@epa.gov

From: Kyle Harris [mailto:kharris@corn.org]
Sent: Monday, January 08, 2018 1:08 PM
To: Sands, Jeffrey <sands.jeffrey@epa.gov>
Cc: Subramanian, Hema <Subramanian.Hema@epa.gov>
Subject: RE: Ag Biogenic CO2

Jeff,

Thanks for getting back to me, and I hope the New Year is treating you well!

I am flexible next Wednesday 17th, please advise on any times that might work on your end, I am able to come to EPA headquarters.

Best Regards,

Kyle

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Ex. 6

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From: Sands, Jeffrey [mailto:sands.jeffrey@epa.gov]
Sent: Monday, January 08, 2018 12:57 PM
To: Kyle Harris <kharris@corn.org>
Cc: Subramanian, Hema <Subramanian.Hema@epa.gov>
Subject: RE: Ag Biogenic CO2

Kyle,

Hope this note finds you well. How does next Wednesday look on your end for a meeting?

Thanks for your consideration. Look forward to speaking with you soon.

Best,
Jeff

From: Kyle Harris [mailto:kharris@corn.org]
Sent: Friday, January 5, 2018 12:47 PM
To: Sands, Jeffrey <sands.jeffrey@epa.gov>
Subject: Ag Biogenic CO2

My name is Kyle Harris and I manage the Environmental Affairs for the Corn Refiners Association, who chairs the Biogenic CO2 Coalition (please find our 1-pager attached).

I would appreciate the opportunity to come and brief you on our issue, which involves air emissions from the processing and/or combustion of short-cycle herbaceous crops. The Ag sector is poised to invest billions of dollars throughout the United States to expand the bioeconomy, which can provide 21st century solutions to economic growth, domestic energy security, and environmental benefits in the form of bioenergy, biofuels, and bioproducts made from corn, oilseeds, crop residues, farm wastes and other agricultural feedstocks.

We have been working on this issue closely with OAR, and Alex Dominguez has kindly given me your contact information.

Please advise any times that may work for you and your team where we could sit down and further discuss.

Thanks in advance,

Kyle

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FOR PUBLICATION

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

HELPING HAND TOOLS; ROB SIMPSON, *Petitioners*, v. U.S. ENVIRONMENTAL PROTECTION AGENCY; GINA MCCARTHY, in her capacity as Administrator of the U.S. Environmental Protection Agency; DEBORAH JORDAN, in her capacity as Director of the Air Division of U.S. Environmental Protection Agency Region IX, *Respondents*, SIERRA PACIFIC INDUSTRIES, INC., *Respondent-Intervenor*.	No. 14-72553

CENTER FOR BIOLOGICAL DIVERSITY, *Petitioner*,	No. 14-72602
v.	EPA No. EPA-R09-OAR-2012-0634
U.S. ENVIRONMENTAL PROTECTION AGENCY; GINA MCCARTHY, in her official capacity as Administrator of the United States Environmental Protection Agency; JARED BLUMENFELD, in his official capacity as Regional Administrator of Region 9 of the United States Environmental Protection Agency; DEBORAH JORDAN, in her official capacity as Director of the Air Division of Region 9 of the United States Environmental Protection Agency, *Respondents*,	OPINION
SIERRA PACIFIC INDUSTRIES, INC., *Respondent-Intervenor*.	

On Petitions for Review of an Order of the
United States Environmental Protection Agency

Argued and Submitted July 19, 2016
San Francisco, California

Filed September 2, 2016

Before: Susan P. Graber and Richard C. Tallman, Circuit Judges, and Nancy G. Edmunds,* Senior District Judge.

Opinion by Judge Tallman

SUMMARY**

Environmental Law

The panel denied a petition for review of a decision of the United States Environmental Protection Agency granting Sierra Pacific Industries, Inc. a prevention of significant deterioration permit for construction of a new biomass-burning power plant at its lumber mill in California.

The panel held that the EPA did not act arbitrarily or capriciously in granting a prevention of significant deterioration permit to Sierra Pacific.

Addressing petitioner Helping Hands Tools' claims that the EPA was required to consider solar power and a greater natural gas mix as clean fuel control technologies in the best available control technology ("BACT") analysis for pollutants subject to Clean Air Act regulation, the panel held that because the EPA properly took the requisite hard look at Sierra Pacific's proposed design and the key purpose of

* The Honorable Nancy G. Edmunds, Senior United States District Judge for the Eastern District of Michigan, sitting by designation.

** This summary constitutes no part of the opinion of the court. It has been prepared by court staff for the convenience of the reader.

burning its own biomass waste, the EPA reasonably concluded that consideration of solar or increased natural gas would disrupt that purpose and redefine the source.

Addressing petitioner Center for Biological Diversity's claims raised in response to the supplemental greenhouse gas BACT analysis, the panel deferred to the agency's determination because EPA was largely relying on its own guidance, acting at the frontiers of science.

COUNSEL

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OPINION

TALLMAN, Circuit Judge:

Helping Hand Tools ("Helping Hand") and Center for Biological Diversity ("Center") petition for review of a final decision of the United States Environmental Protection Agency ("EPA") granting Sierra Pacific Industries ("Sierra Pacific") a prevention of significant deterioration ("PSD") permit for construction of a new biomass-burning power plant at its lumber mill in California. Plaintiffs contend that EPA issued the PSD permit in violation of the Clean Air Act, 42 U.S.C. §§ 7401–7671q. This is the first time we have reviewed EPA's doctrine of "redefining the source." It also appears to be the first time that EPA's framework for evaluating the best available control technology for greenhouse gas emissions from facilities burning biomass fuels is considered by any circuit in the United States. We hold that EPA did not act arbitrarily or capriciously in granting a PSD permit to Sierra Pacific pursuant to that framework.

I

Sierra Pacific owns and operates a lumber manufacturing facility in Anderson, California, situated at the northern end of the Central Valley in Shasta County. On March 29, 2010, Sierra Pacific filed an application for a PSD permit with EPA

in order to construct a new cogeneration[1] unit at its mill. The new unit was designed to burn biomass fuels[2] in a boiler to produce steam used to turn turbine blades to generate 31 megawatts of electricity and to heat existing lumber dry kilns. Fuel for the unit would come primarily from wood wastes from Sierra Pacific's own lumber mills, as well as other readily available sources of agricultural and urban wood wastes. The new boiler replaces a smaller existing boiler at the Anderson Facility. The smaller boiler could burn only 60,000 bone-dry tons ("BDT")[3] of the 160,000 BDT of wood waste the Anderson Facility annually produces. The new boiler has the increased capacity to burn up to 219,000 BDT of wood waste. Additionally, the boiler will utilize natural gas for the limited purpose of startup, shutdown, and flame stabilization.[4]

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[1] Cogeneration units produce both electrical power and heat. *See, e.g.*, *In re N. Mich. Univ. Ripley Heating Plant*, 14 E.A.D. 283, 285 (E.A.B. 2009).

[2] Used interchangeably with the terms "bioenergy" and "biogenic," biomass fuels include wood waste such as chips and bark from sawmill operations, forest residue, agricultural residue, crops, grasses, standing trees, and waste from landfills or water treatment. 76 Fed. Reg. 43,490-01, 43,493 (July 20, 2011).

[3] A BDT is 2,000 pounds of wood pulp with a zero percent moisture content.

[4] Flame stabilization is necessary when optimal operations of the boiler are upset by fuel variability, such as from burning wet wood waste fuel. At these times, the optimal combustion of the wood waste is not occurring and natural gas is used to stabilize combustion and to maximize efficiency by returning the boiler to desired high temperature operations.

To understand the process by which Sierra Pacific sought approval by EPA to build the new boiler and the resulting litigation that ensued first requires an examination of the statutory and regulatory framework underlying the permitting process and then an examination of how EPA employed that process with Sierra Pacific's particular permit application.

A

The Clean Air Act establishes a comprehensive program for controlling and improving air quality. As part of this program, 42 U.S.C. §§ 7470–7479 require new and modified major emitting facilities, like Sierra Pacific's new boiler, to seek a PSD permit prior to construction. *Id.* § 7475(a). These permits are required in geographical regions designated to meet particular national ambient air quality standards. *Id.* § 7471. Critically, in order to obtain a PSD permit, the applicant must demonstrate that the proposed facility utilizes the best available control technology ("BACT") for every pollutant subject to regulation by the Clean Air Act. *Id.* § 7475(a)(4). BACT is defined as

> an emission limitation based on the maximum degree of reduction of each pollutant subject to regulation . . . from any major emitting facility, which [EPA], on a case-by-case basis, . . . determines is achievable for such facility through application of production processes and available methods, systems, and techniques, including fuel cleaning, clean fuels, or treatment or innovative fuel combustion techniques for control of each such pollutant.

Id. § 7479(3). In every case-by-case analysis, EPA will consider "energy, environmental, and economic impacts and other costs." *Id.*

In 1990, in the absence of any clear guidance from Congress on how to evaluate BACT for a particular pollutant, EPA developed a five-step, "top-down" approach. *See* Environmental Protection Agency, New Source Review Workshop Manual, Chapter B (1990) (hereinafter "NSR Manual"). PSD permit applicants must engage in this analysis for every regulated pollutant with a significant emissions increase. *Id.* at B.4.

Briefly, the top-down analysis begins at Step 1 when the applicant lists all available control technologies. *Id.* at B.5. Control technologies are those technologies that have "a practical potential for application to the emissions unit and the regulated pollutant under evaluation." *Id.* This list is meant to be comprehensive and include all options applicable to the particular pollutant even though the option may be eliminated in later steps. *Id.* at B.5–7. At Step 2, the applicant eliminates any technically infeasible options and must clearly document why the particular control option cannot be used. *Id.* at B.7. At Step 3, the applicant ranks the remaining control options against each other in order of overall effectiveness. *Id.* at B.7–8. Then, based on this ranking, at Step 4, the applicant evaluates each control option to consider the energy, environmental, and economic impacts. *Id.* at B.8. If the top candidate is unfavorable for any of these reasons then the applicant evaluates the impacts of the next available control option. *Id.* at B.8–9. The most effective control option that is not eliminated at Step 4 is then chosen as BACT at step 5. *Id.* at B.9.

EPA supplemented the top-down approach as it applied to greenhouse gases[5] in March 2011 when it issued new guidance.[6] *See* Environmental Protection Agency, PSD and Title V Permitting Guidance for Greenhouse Gases (2011) (hereinafter "GHG Permitting Guidance"). At the same time, EPA issued more specific BACT guidance for carbon dioxide emissions from facilities that use biomass as a primary fuel source. *See* Environmental Protection Agency, Guidance for Determining Best Available Control Technology for Reducing Carbon Dioxide Emissions from Bioenergy Production (2011) (hereinafter "Bioenergy BACT Guidance"). The Bioenergy BACT Guidance describes how each step of the five-step BACT analysis should be approached when a facility proposes to use mostly biomass as a fuel. *Id.* at 10–11. It does not supersede prior guidance, *id.* at 4, and agencies must still consider each PSD application on a case-by-case basis, *id.* at 5.

EPA promulgated a more particular BACT framework because carbon dioxide emissions from biomass fuels participate in the carbon cycle differently than other fuels, and biomass fuel stocks replenish more quickly than fossil

[5] "Greenhouse gases" are considered a single pollutant comprised of the aggregate of carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

[6] Though the extent to which EPA can require particular facilities to comply with BACT requirements for greenhouse gases has been heavily litigated, the Supreme Court recently held that "EPA's decision to require BACT for greenhouse gases emitted by sources otherwise subject to PSD review is" permissible. *Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427, 2448 (2014). The cogeneration power plant proposed by Sierra Pacific is such a facility and neither party disputes EPA's authority to regulate greenhouse gas emissions from that facility.

fuel stocks. *Id.* at 6. Trees are a classic example of this phenomenon in nature. The short regenerative time means that new growing plant matter, biomass carbon stocks, can absorb excess carbon dioxide from the atmosphere more quickly than fossil fuel carbon stocks. *Id.* Additionally, photosynthesis from a well-managed biomass carbon stock, such as a well-managed forest, can act as a carbon sink, thereby decreasing the net carbon dioxide released from burning biomass as fuels. *Id.* "Biogenic [carbon dioxide] emissions are distinct from other regulated pollutants at bioenergy facilities because, unlike other pollutants and other [greenhouse gases], [carbon dioxide] emissions can participate directly in the global carbon cycle through photosynthesis." *Id.* at 7. Therefore, EPA modified the steps of the traditional BACT analysis in particular ways to account for the unique properties of biomass.

Of particular relevance, at Step 1, EPA notes that "it will be important to address the extent to which the BACT analysis for [greenhouse gases] should include" an evaluation of other fuel types. *Id.* at 15. However, if utilization of biomass is the primary purpose of the project, then the agency can rely on that purpose to determine that another fuel would redefine the project. *Id.* If a facility relies primarily on biomass as fuel, the options at Step 1 "may be limited to (1) utilization of biomass fuel alone, (2) energy efficiency improvements, and (3) carbon capture and sequestration." *Id.*

Skipping to Step 4,[7] the Bioenergy BACT Guidance notes that the traditional Step 4 analysis is "an environmental, economic, and energy impacts analysis that includes both

[7] Steps 2 and 3 are conducted in the same manner as promulgated in the NSR Manual. Bioenergy BACT Guidance at 16–17.

direct and indirect (*i.e.*, collateral) considerations." *Id.* at 18. EPA emphasizes that indirect environmental impacts and benefits are better suited to analysis in Step 4, *id.* at 21, and burning different biomass fuel stocks will not have a differential impact on emissions at the facility but at the forest or region where the biomass fuel is taken, *id.* at 22.[8]

In holding that facilities like Sierra Pacific's were subject to PSD permit requirements for greenhouse gas emissions, the Supreme Court expressly refrained from deciding whether to approve or endorse EPA's current approach for determining BACT for greenhouse gases. *Util. Air Regulatory Grp. v. EPA*, 134 S. Ct. 2427, 2449 (2014). To our knowledge, no other court has evaluated EPA's approach. We examine it here as it was used to grant Sierra Pacific its PSD permit.

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[8] To illustrate the point, burning a dead tree that has fallen in the forest, instead of a live tree, will have a different impact on the environment. Burning the dead tree releases the same amount of carbon dioxide into the atmosphere that would be released anyway as the tree decomposed. But the emissions occur faster and at the facility, not in the forest. Burning the live tree, which uses carbon dioxide for photosynthesis, removes a carbon dioxide absorbing source from the forest and also releases carbon dioxide emissions at the facility. The facility emits carbon dioxide in either case but the environmental impact at the forest—the benefit of removing a carbon dioxide emitting decomposing tree or the harm in removing a carbon dioxide absorbing live one—are an indirect result of burning biomass fuel at the facility. However, a comparison of different biomass fuel stocks, such as comparing the effects of burning mill waste to the effects of burning a dead tree, is a much more technical endeavor that EPA is actively trying to calculate at present. Bioenergy BACT Guidance at 23. The problem, according to the agency, is the current inability of the available science to quantify the tradeoff. *Id.* Where the agency is acting on the frontiers of developing science, our deference is at its highest level. *Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983).

B

EPA's consideration of Sierra Pacific's permit application took place in two phases. During the first phase in September 2012, EPA proposed to issue a PSD permit to Sierra Pacific that required the use of add-on control technologies and inherently lower-emitting controls as BACT for the pollutants analyzed. EPA did not consider BACT for greenhouse gases because it was not then required.[9] EPA accepted Sierra Pacific's cap on natural gas use of no more than 10% of the total fuel required, because it was to be used only for limited purposes during startup, shutdown, and flame stabilization.

After public comment, EPA issued the PSD permit, and Helping Hand petitioned the Environmental Appeals Board ("the Board") for review. On July 18, 2013, the Board remanded the PSD permit to EPA for further proceedings on a single ground—that EPA had abused its discretion in not holding a public hearing. The Board held that EPA did not abuse its discretion in approving the permit on all other issues, two of which are relevant to the current petition before us.

First, the Board held that EPA did not abuse its discretion by declining to consider the inclusion of solar power as a fuel source or a greater percentage of natural gas because it would impermissibly redefine the source. In making this determination, the Board reviewed the administrative record

[9] At the time, EPA had issued a rule deferring regulation of biogenic carbon sources in order to examine the science behind biogenic carbon dioxide emissions from stationary sources like power plants. *See Ctr. for Biological Diversity v. EPA*, 722 F.3d 401, 407 (D.C. Cir. 2013). The District of Columbia Circuit later vacated this rule. *Id.* at 412.

and determined that the primary purpose of the project was to allow Sierra Pacific "to put to use the hundreds of thousands of bone-dry tons of wood waste the company has in the Shasta County region, for the production of lumber and electricity." The Board then held that "requiring [Sierra Pacific] to burn fewer tons of wood waste so that it could generate solar power or burn more natural gas instead would plainly disrupt the project's 'basic business purpose' of using as much surplus biomass as possible" to get rid of the byproduct and to generate steam to dry lumber in kilns and produce electricity for use on site and for sale to the electrical grid.

Second, the Board held that EPA did not abuse its discretion in limiting the mix of fuel to 90% biomass and 10% natural gas. The Board held that Sierra Pacific's prudent use of natural gas for startup, shutdown, and flame stabilization was a valid reason to limit the quantity of natural gas used and "not evidence of a project design 'derived for reasons of air quality permitting.'"

The second phase of consideration occurred when, just a few days before the Board's decision, the District of Columbia Circuit vacated EPA's rule deferring BACT determinations for greenhouse gases emitted from facilities like Sierra Pacific's boiler. *See Ctr. for Biological Diversity v. EPA*, 722 F.3d 401, 412 (D.C. Cir. 2013). As a result, EPA conducted a supplemental BACT analysis on Sierra Pacific's new biomass facility. EPA considered public comments on the supplemental analysis, and the Center contended that EPA could not consider the burning of biomass fuel alone as a control option at Step 1 and should have directly compared the environmental impacts of different biomass fuel stocks at Step 1.

EPA nonetheless issued a final PSD permit notice on April 25, 2014. The Center appealed to the Board and the Board dismissed for lack of jurisdiction because, in its July 2013 decision, the Board specifically stated that, pursuant to 40 C.F.R. § 124.19(*l*)(2)(iii), it would not require or accept an appeal after the remand. Helping Hand and the Center then filed the petitions for review now before us. Because all available administrative remedies have been exhausted, we have jurisdiction under 42 U.S.C. § 7607(b)(1).[10]

II

EPA's decision is reviewed under the Administrative Procedure Act and may be set aside only if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A); *see Alaska Dep't of Envtl. Conservation v. EPA*, 540 U.S. 461, 496–97 (2004). EPA must "articulate[] a rational connection between the facts found and the choice made." *Sierra Club v. EPA*, 346 F.3d 955, 961 (9th Cir. 2003) (alteration in original) (quoting *Ariz. Cattle Growers' Ass'n v. U.S. Fish & Wildlife*, 273 F.3d 1229, 1236 (9th Cir. 2001)).

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[10] Though not disputed by EPA, because this is the first time the case is before an Article III court, Helping Hand and the Center must establish standing. *See Sierra Club v. EPA*, 762 F.3d 971, 976 (9th Cir. 2014). We are satisfied that, through the declarations of its members, both Helping Hand and the Center have associational standing to bring the current petition. *See id.* at 976–78 (discussing that "[a]n association has standing to bring suit on behalf of its members when its members would otherwise have standing to sue in their own right" and further discussing the factors demonstrating that the individual members had standing to pursue Clean Air Act claims (internal quotation marks omitted)).

"[W]e do not simply review whether it was arbitrary or capricious" for the Board to reject a petitioner's claims that EPA clearly erred. *Citizens for Clean Air v. EPA*, 959 F.2d 839, 845–46 (9th Cir. 1992). "Rather, we conduct a deferential review of the entire agency action," including whether approval of the PSD permit is based on a clearly erroneous finding of fact or conclusion of law. *Id.* at 846.

III

First, we address the claims raised by Helping Hand that EPA was required to consider solar power and a greater natural gas mix as clean fuel control technologies in the BACT analysis. This is an issue of first impression in our circuit, but our opinion is guided by well-reasoned decisions of the Board and the Seventh Circuit. Because EPA properly took the requisite hard look at Sierra Pacific's proposed design and the key purpose of burning its own biomass waste, we hold that EPA reasonably concluded that consideration of solar or increased natural gas would disrupt that purpose and redefine the source.

A

Though failure to consider all available control alternatives in a BACT analysis constitutes clear error, EPA does not have to consider control alternatives that would "redefine the source." *See, e.g.*, *In re Desert Rock Energy Co.*, 14 E.A.D. 484, 526 (E.A.B. 2009); *see also* NSR Manual at B.13. In essence, a control alternative redefines the source if it requires a complete redesign of the facility. In a classic and simple example, a coal-burning power plant need not consider a nuclear fuel option as a "cleaner" fuel because it would require a complete redesign of the coal-burning power-

plant. *See Sierra Club v. EPA*, 499 F.3d 653, 655 (7th Cir. 2007). Considering control technologies is rarely so simple, however, and EPA engages in a two-step process to determine whether a control technology will redefine the source.

First, "the permit applicant initiates the process and . . . defines the proposed facility's end, object, aim or purpose—that is the facility's basic design." *In re Prairie State Generating Co.*, 13 E.A.D. 1, 22 (E.A.B. 2006), *aff'd sub nom Sierra Club*, 499 F.3d 653; *accord Desert Rock*, 14 E.A.D. at 530; *In re N. Mich. Univ. Ripley Heating Plant*, 14 E.A.D. 283, 301–02 (E.A.B. 2009) (hereinafter "NMU"). The purpose must be "objectively discernable." *Prairie State*, 13 E.A.D. at 22. Additionally, the applicant's proposed definition "must be for reasons independent of air permitting" and cannot be motivated by cost savings or avoidance of risks. *Id.* at 23 n.23; *see also Desert Rock*, 14 E.A.D. at 530; *NMU*, 14 E.A.D. at 302 n.28.

Second, EPA takes a "hard look" at the proposed definition to determine which design elements are inherent to the applicant's purpose and which elements can be changed to reduce pollutant emissions without disrupting the applicant's basic business purpose. *Desert Rock*, 14 E.A.D. at 530 (remanding a permit back to the agency because it failed to take a "hard look" when the agency determined a particular technology would redefine the source even though the applicant had considered the technology in its application); *see also Prairie State*, 13 E.A.D. at 25–26; *NMU*, 14 E.A.D. at 302. This determination and "[r]efining [of] the statutory definition of 'control technology' . . . to exclude redesign is the kind of judgement by an administrative agency to which a reviewing court should

defer." *Sierra Club*, 499 F.3d at 655. Our examination of this two-step process for Sierra Pacific's PSD permit is guided significantly by the reasoning of our sister circuit in *Sierra Club* in which it denied the petition arising from *Prairie State*.

When a fuel source is co-located with a facility, EPA need not consider in the BACT analysis fuel sources that are not readily available, because it would redefine the source. *Prairie State*, 13 E.A.D. at 28. There, Prairie State Generating Company filed an application for a PSD permit with EPA to build a coal-burning electrical plant in southern Illinois. *Id.* at 4–5. The proposed facility was a "mine-mouth" plant in which the plant is located at the site of the coal mine which fuels it. *Id.* at 16. However, the mine only produced high-sulfur coal which emits more sulfur dioxide pollution than low-sulfur coal from other outlying mines. *Id.* at 15. EPA did not list low-sulfur coal as a control technology in Step 1 of the BACT analysis, however, because low-sulfur coal would have to be shipped in by rail from long distances. *Id.* EPA explained that "it would be inconsistent with the scope of the project to use coal from other regions of the country." *Id.* at 16.

In making this determination, EPA noted that "the project that must be addressed when evaluating BACT is the project for which an application has been submitted." *Id.* In this instance, the construction of a "mine-mouth" plant. *Id.* EPA found that "use of a particular coal supply is an inherent aspect of the proposed project." *Id.* EPA broadly considered alternative coal supplies but rejected a more detailed analysis because it was beyond the scope of the project. *Id.* at 18.

The ultimate dispute before the Board lay in determining how to define the basic purpose of the project and whether Prairie State could include use of coal from a particular source as part of that purpose. *Id.* at 21–22. "The permit issuer must be mindful that BACT, in most cases, should not be applied to regulate the applicant's objective or purpose for the proposed facility." *Id.* at 23. The Board specifically rejected petitioners' assertion that the facility's business purpose must be viewed broadly as the production of electricity from coal because "we have frequently recognized that an electric generating facility's purpose may be more narrowly defined." *Id.* at 25. The Board held that, in defining the scope of a project, EPA could consider if a particular fuel source was an inherent part of the project design. *See id.* ("It has also been long-standing EPA policy that certain fuel choices are integral to the electric power generating station's basic design." (citing NSR Manual at B.13)).

Additionally, the Board rejected the petitioners' argument that a purpose that includes a particular fuel source "would allow a permit applicant to avoid all BACT review by including its preferred fuel . . . and hide behind the claim that requiring anything different would unlawfully 'redefine' the proposed source." *Id.* at 27. Because Prairie State could narrowly define its purpose as burning a particular fuel source, EPA needed only to review the facility proposed, and that meant reviewing a facility that burned co-localized high-sulfur coal. The Board examined EPA's review of the proposed facility and was satisfied that EPA had taken a hard look at whether further emissions reductions were possible. *Id.* Therefore, the Board concluded, EPA did not err when it "determined that consideration of low-sulfur coal, because it necessarily involves a fuel source other than the co-located

mine, would require Prairie State to redefine the fundamental purpose or basic design of its proposed Facility" and, as a result, EPA properly rejected low-sulfur fuel from Step 1 of the BACT analysis. *Id.* at 28.

In denying the petition arising out of *Prairie State*, the Seventh Circuit noted that the Board and EPA were struggling to draw the line between where "control technology ends and redesign of the 'proposed facility' begins." *Sierra Club*, 499 F.3d at 655. The court noted that if EPA had to consider all clean fuels, it would be required to consider a nuclear plant rather than a coal-fired one, and it was clearly not required to do that. *See id.* ("That approach would invite a litigation strategy that would make seeking a permit for a new power plant a Sisyphean labor, for there would always be one more option to consider."). Because it was not as clear cut, the Seventh Circuit characterized its case as lying on the borderline between control technology and redesign. *Id.* at 656.

That borderline, defining the distinction between considering alternative fuels to be control technologies or to redefine the facility, is a product of EPA's framework for evaluating BACT. The Seventh Circuit therefore held that "it makes sense to let the EPA, the author of the underlying distinction, draw it, within reason." *Id.* at 655. In the facility proposed in *Sierra Club*, the court noted that, in isolation, the difference between low-sulfur and high-sulfur coal as a fuel source is a difference in control technology. *Id.* at 657. But "the difference between a plant co-located with a coal mine and a plant that obtains its coal from afar" is a difference in design. *Id.* Therefore, the Seventh Circuit upheld the BACT determination because EPA reasonably drew the line between control technology and redefining the source. *Id.*

The reasoning of *Prairie State* and *Sierra Club* has been applied to subsequent cases from the Board. In *NMU*, relating to the construction of a power plant on a college campus, the Board remanded a PSD permit back to the agency when it rejected the assertion that considering a different proportion of a coal and wood fuel mix would impermissibly redefine the source. 14 E.A.D. at 301–03. Particularly, the Board noted that NMU locked onto a particular fuel combination without any logic or data to justify the choice. *Id.* at 303; *see also id.* at 297 ("[A]lthough the record reflects that other coal . . . will produce the lowest sulfur emissions, [the agency] proceeds without explaining why these sources are unavailable or not technologically feasible."). Notably relevant to the current appeal, NMU did not fully analyze the possibility of natural gas as a fuel source when the permit application stated that it would be used for boiler startup and as a backup fuel source. *Id.* at 297 n.17; *see also In re Cash Creek Generation LLC*, 2009 WL 7513857 (E.P.A. 2009) (remanding the permit to the applicant because the record was insufficient to justify a determination that an exclusive use of natural gas, a secondary fuel for the project, would impermissibly redefine the source).

B

Adopting the two-step analysis promulgated by the Board and approved by the Seventh Circuit, we must now determine whether EPA erred in determining that using solar power or a greater natural gas mix in Sierra Pacific's proposed facility would impermissibly redefine the source.

First, we look at how Sierra Pacific itself defined its facility. In its application description, Sierra Pacific

explicitly stated that it intended to build a power plant "that would burn biomass fuels in a boiler to produce steam that would be used to generate electricity and to heat existing lumber dry kilns at the facility." Sierra Pacific then went on to define more particularly that its biomass fuel source would come from the existing Sierra Pacific mills, in-forest materials from timberlands owned by Sierra Pacific, and other readily available sources of agricultural and urban wood wastes. Sierra Pacific would use natural gas only for the limited purposes of startup, shutdown, and flame stabilization. Capped at 10%, Sierra Pacific estimated its annual usage of natural gas to be significantly below that limit.

Next, we must determine if EPA took the appropriate "hard look" at how Sierra Pacific defined the facility and whether EPA appropriately determined that the burning of biomass was an inherent element of the facility or whether it could be changed to reduce emissions. In the PSD permit issued by EPA, the project description stated that fuel for the power plant would be generated on-site or received from other local sources to produce steam in the new facility. The steam was then to be used to dry lumber and to power a steam turbine to generate electricity for use onsite or for sale to the northern California power grid.

Helping Hand argues that the Board improperly deferred to Sierra Pacific's purpose of "burning biomass 'as much as possible'" and read "clean fuels" out of the Clean Air Act. Sierra Pacific's purpose, according to Helping Hand, is only to generate steam for lumber drying kilns and to make electricity. However, Sierra Pacific's purpose need not be so limited, *see Prairie State*, 13 E.A.D. at 25, and Helping Hand concedes that "Sierra Pacific arguably can have a basic

business purpose of 'primarily' burning a dirtier fuel that is readily available to it." Just as the Prairie State facility was co-located with its fuel source, a high-sulfur coal mine, Sierra Pacific's facility is co-located with its fuel source, waste from its lumber manufacturing operations. Therefore, EPA took a "hard look" at the record and how Sierra Pacific defined its facility and reasonably determined that use of a co-located fuel source was an inherent part of the facility's design.

Having determined that biomass fuel was an inherent part of the design, we finally examine whether the two proposed alternative clean fuels were control alternatives that should have been considered or would impermissibly redefine the source; keeping in mind the deference EPA must be afforded in making such a determination. Like the petitioners in *Sierra Club*, Helping Hand essentially argues that "if a plant is capable—with redesign—of burning a clean fuel, it must undergo a 'best available control technology' analysis." 499 F.3d at 656. Requiring a solar component just because it is a cleaner fuel than biomass is the same as requiring Sierra Pacific to consider the nuclear option. *See id.* Sierra Pacific and EPA are not required to take on the "Sisyphean" task of considering every possible clean fuel alternative. *See id.* at 655. Therefore, EPA properly dismissed solar as a control technology.

The Board noted, correctly, that consideration of a greater natural gas mix was a closer question. Sierra Pacific's proposed project falls on the borderline discussed in *Sierra Club*. However, unlike the applicant in *Sierra Club*, Sierra Pacific is not considering two fuel sources as control options: one an off-site "clean" fuel, one an on-site "dirty" fuel. In this instance, Sierra Pacific has access to two on-site fuel sources: "clean" natural gas and "dirty" biomass. Though

this typically would suggest that Sierra Pacific must consider a greater mix of natural gas, even when an alternative fuel is available, it need not be considered at Step 1 if it disrupts the business purpose. GHG Permitting Guidance at 28 ("[G]reater utilization of a fuel that the applicant is already proposing to use in some aspect of the project design should be listed as an option in Step 1 unless it can be demonstrated that such an option would disrupt the applicant's basic business purpose for the proposed facility."). Here, a greater use of natural gas would disrupt Sierra Pacific's intent to burn the biomass waste it produces from mill operations.[11]

Notably, unlike the facilities in *NMU* and *Cash Creek*, Sierra Pacific does not propose to use natural gas as a "secondary" or backup fuel source but only for strictly limited purposes. And unlike the facilities in *NMU* and *Cash Creek*, Sierra Pacific gave valid reasons for imposing a 10% cap: that its purpose was to burn as much of its own biomass waste as possible, and that it expected to burn much less than 10% natural gas because it was being used for such a limited purpose. Burning natural gas is therefore incidental to Sierra Pacific's business purpose of using its on-site source of biomass as fuel for the new facility. Declining to consider greater use of an incidental fuel is not arbitrary, capricious, or an abuse of discretion.[12]

---

[11] This conclusion is supported by evidence in the record that Sierra Pacific produces more waste than could be consumed by the proposed generator.

[12] Petitioners seize upon Sierra Pacific's admission that it limited natural gas to 10% to avoid the nitrous oxide limiting requirements of the New Source Performance Standards ("NSPS"). *See* 40 C.F.R. § 60.44b(d). Limiting natural gas to avoid a nitrous oxide emission limit is not a design decision "independent of air permitting." The Board erroneously held that

Drawing the line between control technology and redefining the source is a technical determination to which a court should defer to EPA, *see Sierra Club*, 499 F.3d at 655, and there was sufficient justification in the record for EPA to determine that primarily burning biomass from Sierra Pacific's own wood waste, a co-localized source, was an inherent aspect of the facility's design. Requiring EPA and Sierra Pacific to consider solar power, a completely different fuel source, or a greater percentage of natural gas, an incidental fuel source, would redefine the source. EPA did not act arbitrarily or capriciously and Helping Hand's petition is denied.

IV

Next we address the claims raised by the Center in response to the supplemental greenhouse gas BACT analysis. The Center contends that EPA could not consider burning of biomass fuel alone as a control option at Step 1 and that it erred in weighing the effects of different biomass fuel stocks at Step 4 instead of directly comparing them at Step 1. Because EPA was largely relying on its own guidance, acting

---

such a self-imposed cap was acceptable because it was "federally enforceable." Deciding whether or not to impose a cap of 10% natural gas to avoid NSPS requirements does not exclude consideration of greater utilization of natural gas in the BACT analysis. *See* NSR Manual at B.12 ("The only reason for comparing control options to an NSPS is to determine whether the control option would result in an emissions level less stringent than the NSPS."). Though troubling, this error does not ultimately undermine the key fact that Sierra Pacific's basic business purpose and facility design is to use a co-localized source of biomass fuel, its own wood wastes, to generate steam and electricity for its mill and limited use of natural gas is incidental to that purpose. For that reason, any error in justifying the 10% cap is harmless.

at the frontiers of science, we defer to the agency's determination. *See Baltimore Gas & Elec. Co. v. Nat. Res. Def. Council, Inc.*, 462 U.S. 87, 103 (1983)

A

We review questions of statutory interpretations of the Clean Air Act by the two-step process of *Chevron U.S.A. Inc. v. Natural Resources Defense Council, Inc.*, 467 U.S. 837, 842–43 (1984). *See Vigil v. Leavitt*, 381 F.3d 826, 833–34 (9th Cir. 2004). If Congress has not directly spoken to the precise issue, or the statute is silent or ambiguous, the court must determine if the agency's construction is permissible. *Chevron*, 467 U.S. at 842–43. When Congress has not provided clear guidance in a statute, an agency may fill the gap and its construction is to be given "controlling weight unless . . . arbitrary, capricious, or manifestly contrary to the statute." *Id.* at 844 (deferring to EPA's interpretation of "source" in the Clean Air Act); *see also EPA v. EME Homer City Generation, L.P.*, 134 S. Ct. 1584, 1603–07 (2014) (deferring to EPA's interpretation of "amount" in the Good Neighbor Provision of the Clean Air Act).

"[T]he weight that we are to give an administrative interpretation not intended by an agency to carry the general force of law is a function of that interpretation's thoroughness, rational validity, and consistency with prior and subsequent pronouncements." *Wilderness Soc'y v. U.S. Fish & Wildlife Serv.*, 353 F.3d 1051, 1068 (9th Cir. 2003) (en banc). However, when an agency is acting "within its area of special expertise, at the frontiers of science," the court should "be at its most deferential." *Baltimore Gas & Elec. Co.*, 462 U.S. at 103; *see also Nat'l Wildlife Fed'n v. U.S. Army Corps of Eng'rs*, 384 F.3d 1163, 1174 (9th Cir. 2004)

("Where scientific and technical expertise is necessarily involved in agency decision-making, . . . a reviewing court must be highly deferential to the judgment of the agency.").

What level of deference we must show EPA's BACT guidance is unclear. The publications are not intended to carry the force of law because EPA must still analyze each application on a case-by-case basis. However, all the publications were promulgated by EPA in order to bring meaning to the BACT statute which Congress has not defined any further than it did in 42 U.S.C. § 7479(3). EPA promulgated these policies specifically to carry out Congress's intent. We need not resolve the issue here, however, because, as discussed below, under either standard EPA's actions were neither arbitrary nor capricious.

B

Ultimately, the Center's concerns are not particular to the Sierra Pacific permit but attack the Bioenergy BACT Guidance. The Bioenergy BACT Guidance builds on the NSR Manual that EPA has used for decades and proposes a more detailed analysis for a particular pollutant—greenhouse gas emissions from biomass fuels—because the emissions from this particular fuel source have unique environmental consequences. Nothing prohibits EPA from refining its top-down BACT approach for particular pollutants—particularly when the refinement is heavily dependent upon the agency's own scientific expertise. Following the Bioenergy BACT Guidance is therefore thorough, rational, and consistent with EPA's prior practice. *See Wilderness Soc'y*, 353 F.3d at 1068. And as explained above, we must defer to EPA agency expertise and not disturb the analysis set forth in the Bioenergy BACT Guidance.

In particular, the Center contends that utilization of biomass fuel alone cannot be considered a control technology for the burning of biomass fuel at Step 1 of the BACT analysis because it does not "control" biomass emissions. EPA argues, however, that the option is used as a baseline to which all other options are compared and is not inconsistent with the traditional top-down approach. Moreover, EPA did not ultimately choose this option but selected other control technologies including: combustion of specific biomass fuel stocks; energy efficient design, operation, and maintenance; and employing good combustion practices and efficient operation as a cogeneration unit. In the end, EPA chose the same control measures as five other facilities. Providing a baseline in the BACT analysis does not make the ultimate determination arbitrary, capricious, or even unreasonable.

The Center further argues that the effect of burning different biomass fuel stocks should be considered at Step 1 of the analysis. EPA does not disagree in theory. But EPA currently lacks the scientific data at this time to make such a quantitative determination and is actively collecting the data to do in the future the type of analysis desired by the Center. *See* Bioenergy BACT Guidance at 23. Furthermore, because the same amount of carbon dioxide will be released at the facility no matter which biomass fuel stock is burned, any difference in environmental consequences is indirect. *Id.* at 22. Therefore, consistent with the NSR Manual, these indirect environmental impacts and benefits are better suited to analysis in Step 4.

Acknowledging the differences in the environmental impact of different biomass fuel stocks, however, EPA responded to the Center's comment by clarifying the fuel restrictions in the final permit. Notably, Sierra Pacific and

EPA were particularly proactive in ensuring the appropriate fuel restrictions were written into the PSD permit. Sierra Pacific's initial application contemplated the use of co-localized mill waste as well as in-forest materials from Sierra Pacific's timber operations and other readily available agricultural and urban wood wastes.

The environmental impact report ("EIR") prepared by EPA noted that there were different estimates of the type of biomass fuel blend Sierra Pacific planned on using, ranging from 100% mill wastes to a blend supplementing mill wastes with biomass from forest-harvesting operations, forest-thinning operations, agricultural waste from the Sacramento Valley, and urban wood waste. EPA therefore conducted the EIR assuming a "worst-case" scenario in which 35% of the biomass used was not co-localized with the facility. The supplemental Statement of Basis and Ambient Air Quality Impact Report also assumed a biomass fuel mix of 75% mill residue and 25% in-forest residues, agricultural residues, and urban wood residues.

Based on the EIR, EPA drafted a PSD permit restricting fuel to "clean cellulosic biomass" allowing Sierra Pacific to burn an extensive list of biomass fuels at the facility. Sierra Pacific commented on the draft asking for more restrictive limitations on the types of biomass fuel it would be allowed to use in its facility because it was more consistent with the original application. EPA adopted Sierra Pacific's modifications in another draft of the permit, which was then further modified in response to the Center's comments.

Though it was not prepared at the time to compare the environmental impacts of sawmill residue versus other biomass wastes, EPA ensured that Sierra Pacific would not

log timber solely for the purpose of using it as biomass for the new facility. EPA limited Sierra Pacific to only the particular biomass fuels readily available to the facility: mill residues, untreated wood debris from urban areas such as pallets and crates, agricultural crops and residues, forest residues, and non-merchantable forest biomass. The only trees that can be burned in Sierra Pacific's facility, therefore, are those that would be removed from the forest anyway as part of Sierra Pacific's ongoing forest management and forest-thinning operations.

Though the Center argues that EPA is equipped to proceed with a quantitative analysis of different biomass fuel stocks at Step 1, EPA says it cannot do that based on the current state of the science. Because the agency is acting at the frontiers of science, we must defer. *See Baltimore Gas & Elec.*, 462 U.S. at 103. The Center does not clearly explain how EPA's analysis here is not thorough, rational, and consistent with EPA's prior guidance on BACT. Sierra Pacific is restricted to the forms of biomass waste readily available to it and cannot clear cut forests just to produce electricity for its lumber mills. EPA did consider the environmental impacts of different biomass fuel stocks, just not in the manner or the level of detail the Center would prefer. Because we must defer to EPA's interpretation of BACT and its scientific expertise, EPA's analysis is not arbitrary, capricious, or an abuse of discretion, and we deny the Center's petition.

V

Sierra Pacific's application went through an extensive process to issue a reasoned PSD permit for its new biomass burning boiler. EPA properly defined the project and rejected

control technologies that redefined the project with thoughtful and reasonable explanations. The Bioenergy BACT Guidance EPA applied to the greenhouse gas emissions from Sierra Pacific's new facility is rational and thoroughly consistent with EPA's prior guidance. The guidance relies extensively on the continually evolving analysis of the environmental effect of different biomass fuels in the ever-developing field of climate-change science. It is not our place to interfere with EPA's expertise when the record shows that its endeavors were reasonable.

Costs are awarded to Respondents.

The petitions for review are **DENIED**.

United States Court of Appeals for the Ninth Circuit

Office of the Clerk
95 Seventh Street
San Francisco, CA 94103

Information Regarding Judgment and Post-Judgment Proceedings

Judgment

- This Court has filed and entered the attached judgment in your case. Fed. R. App. P. 36. Please note the filed date on the attached decision because all of the dates described below run from that date, not from the date you receive this notice.

Mandate (Fed. R. App. P. 41; 9th Cir. R. 41-1 & -2)

- The mandate will issue 7 days after the expiration of the time for filing a petition for rehearing or 7 days from the denial of a petition for rehearing, unless the Court directs otherwise. To file a motion to stay the mandate, file it electronically via the appellate ECF system or, if you are a pro se litigant or an attorney with an exemption from using appellate ECF, file one original motion on paper.

Petition for Panel Rehearing (Fed. R. App. P. 40; 9th Cir. R. 40-1)
Petition for Rehearing En Banc (Fed. R. App. P. 35; 9th Cir. R. 35-1 to -3)

(1) A. Purpose (Panel Rehearing):

- A party should seek panel rehearing only if one or more of the following grounds exist:
  - A material point of fact or law was overlooked in the decision;
  - A change in the law occurred after the case was submitted which appears to have been overlooked by the panel; or
  - An apparent conflict with another decision of the Court was not addressed in the opinion.
- Do not file a petition for panel rehearing merely to reargue the case.

B. Purpose (Rehearing En Banc)

- A party should seek en banc rehearing only if one or more of the following grounds exist:

- ► Consideration by the full Court is necessary to secure or maintain uniformity of the Court's decisions; or
- ► The proceeding involves a question of exceptional importance; or
- ► The opinion directly conflicts with an existing opinion by another court of appeals or the Supreme Court and substantially affects a rule of national application in which there is an overriding need for national uniformity.

(2) Deadlines for Filing:

- A petition for rehearing may be filed within 14 days after entry of judgment. Fed. R. App. P. 40(a)(1).
- If the United States or an agency or officer thereof is a party in a civil case, the time for filing a petition for rehearing is 45 days after entry of judgment. Fed. R. App. P. 40(a)(1).
- If the mandate has issued, the petition for rehearing should be accompanied by a motion to recall the mandate.
- *See* Advisory Note to 9th Cir. R. 40-1 (petitions must be received on the due date).
- An order to publish a previously unpublished memorandum disposition extends the time to file a petition for rehearing to 14 days after the date of the order of publication or, in all civil cases in which the United States or an agency or officer thereof is a party, 45 days after the date of the order of publication. 9th Cir. R. 40-2.

(3) Statement of Counsel

- A petition should contain an introduction stating that, in counsel's judgment, one or more of the situations described in the "purpose" section above exist. The points to be raised must be stated clearly.

(4) Form & Number of Copies (9th Cir. R. 40-1; Fed. R. App. P. 32(c)(2))

- The petition shall not exceed 15 pages unless it complies with the alternative length limitations of 4,200 words or 390 lines of text.
- The petition must be accompanied by a copy of the panel's decision being challenged.
- An answer, when ordered by the Court, shall comply with the same length limitations as the petition.
- If a pro se litigant elects to file a form brief pursuant to Circuit Rule 28-1, a petition for panel rehearing or for rehearing en banc need not comply with Fed. R. App. P. 32.

- The petition or answer must be accompanied by a Certificate of Compliance found at Form 11, available on our website at www.ca9.uscourts.gov under *Forms*.
- You may file a petition electronically via the appellate ECF system. No paper copies are required unless the Court orders otherwise. If you are a pro se litigant or an attorney exempted from using the appellate ECF system, file one original petition on paper. No additional paper copies are required unless the Court orders otherwise.

Bill of Costs (Fed. R. App. P. 39, 9th Cir. R. 39-1)

- The Bill of Costs must be filed within 14 days after entry of judgment.
- See Form 10 for additional information, available on our website at www.ca9.uscourts.gov under *Forms*.

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Petition for a Writ of Certiorari

- Please refer to the Rules of the United States Supreme Court at www.supremecourt.gov

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- Please check counsel listing on the attached decision.
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Form 10. Bill of Costs .....*(Rev. 12-1-09)*

United States Court of Appeals for the Ninth Circuit

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_____ v. _____ 9th Cir. No. _____

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United States Department of Agriculture

An Economic Impact Analysis of the U.S. Biobased Products Industry

2016

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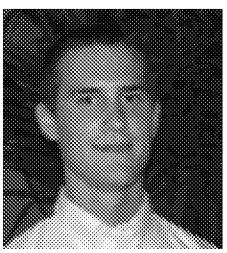

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Executive Summary

This report was prepared for the U. S. Department of Agriculture (USDA) BioPreferred® Program as a follow-up to the 2015 report to the Congress of the United States mandated in Section 9002 of the 2014 Farm Bill (the Agricultural Act of 2014; P.L. 113-79).[1] The conclusions and recommendations in this report are those of the authors, and have not been endorsed by USDA. The report seeks to provide information on the following contributions of the biobased products industry in the United States:

(i) Changes in value added and jobs between 2013 and 2014 for the national biobased products industry;
(ii) The value added and jobs contributed by the biobased products industry for all 50 states and the District of Columbia in 2013;
(iii) Changes and updates to the domestic biobased products industry, including case studies of advances and innovations;
(iv) The quantity of petroleum displaced by biobased products;
(v) Policy recommendations.

Established by the Farm Security and Rural Investment Act of 2002 (2002 Farm Bill) and strengthened by the Food, Conservation, and Energy Act of 2008 (2008 Farm Bill) and the Agriculture Act of 2014 (H.R. 2642 2014 Farm Bill), the USDA BioPreferred Program is charged with transforming the marketplace for biobased products and creating jobs in rural America. The Program's mandatory federal purchasing initiative and voluntary labeling initiative have quickly made it one of the most respected and trusted drivers in today's biobased product marketplace. Private and government purchasers now look to the USDA BioPreferred Program to ensure that their purchases are biobased. Beginning in 2005 with its first designations of six product categories, the Program has now designated 97 product categories representing approximately 14,200 products on the market today. With the Federal Government spending about $450 billion annually on goods and services, there is an incredible opportunity to increase the sale and use of biobased products as required by federal law. Executive Order 13693, Planning for Federal Sustainability in the Next Decade, increases federal agency accountability for achieving biobased purchasing requirements.[2]

Although there have been several studies on the contributions of the biobased products industry to the European and global economies, this report is the first to examine and quantify the effects of the U.S. biobased products industry on each state and the District of Columbia. The report provides a snapshot of available information and a platform upon which to build future efforts as more structured reporting and tracking mechanisms are developed.

As detailed in this report and similar to the 2015 report, we undertook an updated approach to gathering information on the biobased products industry. A broad spectrum of government, industry, and trade association representatives involved in the biobased products industry were

[1] Golden, J.S., Handfield, R.B., Daystar, J., and McConnell, T.E, An Economic Impact Analysis of the U.S. Biobased Products Industry: A Report to the Congress of the United States of America, A Joint Publication of the Duke Center for Sustainability & Commerce and the Supply Chain Resource Cooperative at North Carolina State University, 2015.
[2] The President, "Executive Order 13693 – Planning for Federal Sustainability in the Next Decade", *Federal Register*, accessed April 2015, https://www.federalregister.gov/articles/2015/03/25/2015-07016/planning-for-federal-sustainability-in-the-next-decade.

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interviewed in order to gain a better understanding of the challenges and the future growth potential for biobased products. Data were collected from government agencies and published literature on the biobased products industry. We also conducted extensive economic modeling using IMPLAN modeling software, which was initially developed by the U.S. Forest Service to analyze and trace spending through the U.S. economy and to measure the cumulative effects of that spending on the U.S. economy. The IMPLAN model tracks how dollars spent in one sector of the economy result in increased spending in other sectors of the economy because of those dollars, creating waves of economic activity (the "economic multiplier" effect). IMPLAN uses national industry data and county-level economic data to generate a series of multipliers, which, in turn, estimate the total implications of economic activity as direct, indirect, and induced effects. The spillover effect can be calculated from these results by adding the indirect and induced effects. A contribution analysis was conducted to assess the effects of specific biobased sectors of the U.S. economy.

The seven major sectors chosen here to represent the biobased products industry's contribution to the U.S. economy are:

- Agriculture and Forestry
- Biorefining
- Biobased Chemicals
- Enzymes
- Bioplastic Bottles and Packaging
- Forest Products
- Textiles

The USDA's definition of biobased products excludes the energy, livestock, food, feed, and pharmaceutical industries, so they have been excluded from this report as well.

Figure 1 shows that the total contribution of the biobased products industry to the U.S. economy in 2014 was $393 billion in value added and 4.223 million jobs. Every 1,000 jobs in the biobased industry supported 1,760 additional jobs in other parts of the economy. Figure 2 shows these numbers broken down into direct effects and spillover effects. The 1.528 million jobs directly supported by the biobased industry supported 2.695 million indirect and induced jobs. Similarly, the $127 billion in value added from sales by the biobased products industry generated another $266 billion in indirect and induced sales.

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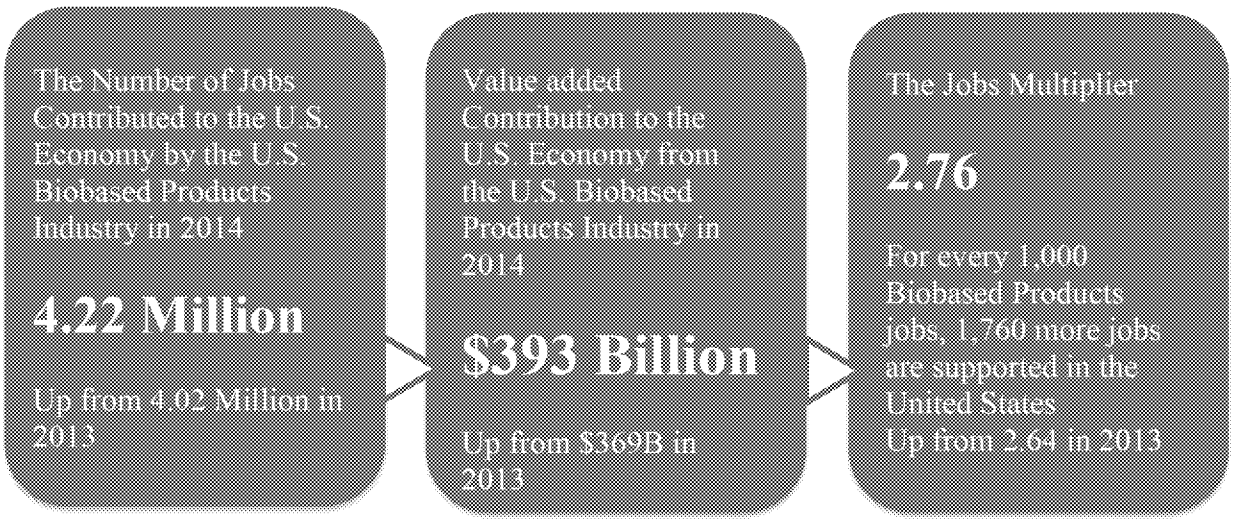

Figure 1: Key Findings of the U.S. Biobased Products Industry in 2014

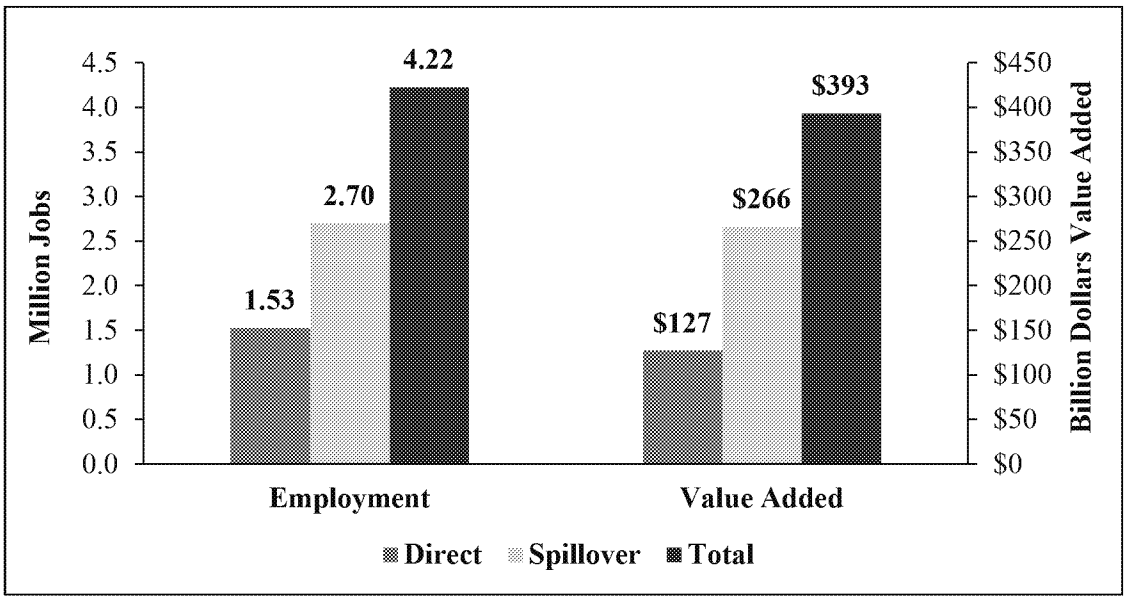

Figure 2: Total Employment and Value Added to the U.S. Economy from the Biobased Products Industry in 2014.

In the 2015 report, we highlighted states with particularly high concentrations of activity in the biobased products industry using location quotients (relative comparisons of direct jobs in each state to the national average for the biobased products industry). In this 2016 report, Section III provides fact sheets that detail jobs and value added contribution by the biobased products industry for all 50 states and the District of Columbia. Figure 3 shows the direct number of jobs supported by the biobased products industry for each state and the District of Columbia in 2013. The direct number of jobs by state is also listed in Appendix C. Table 1 lists the 10 states with the most direct jobs in the biobased products industry. Similarly, Figure 4 shows the direct value added by the biobased products industry in each state and the District of Columbia, while Table 2 lists the 10 states with the highest direct value added by the biobased products industry.

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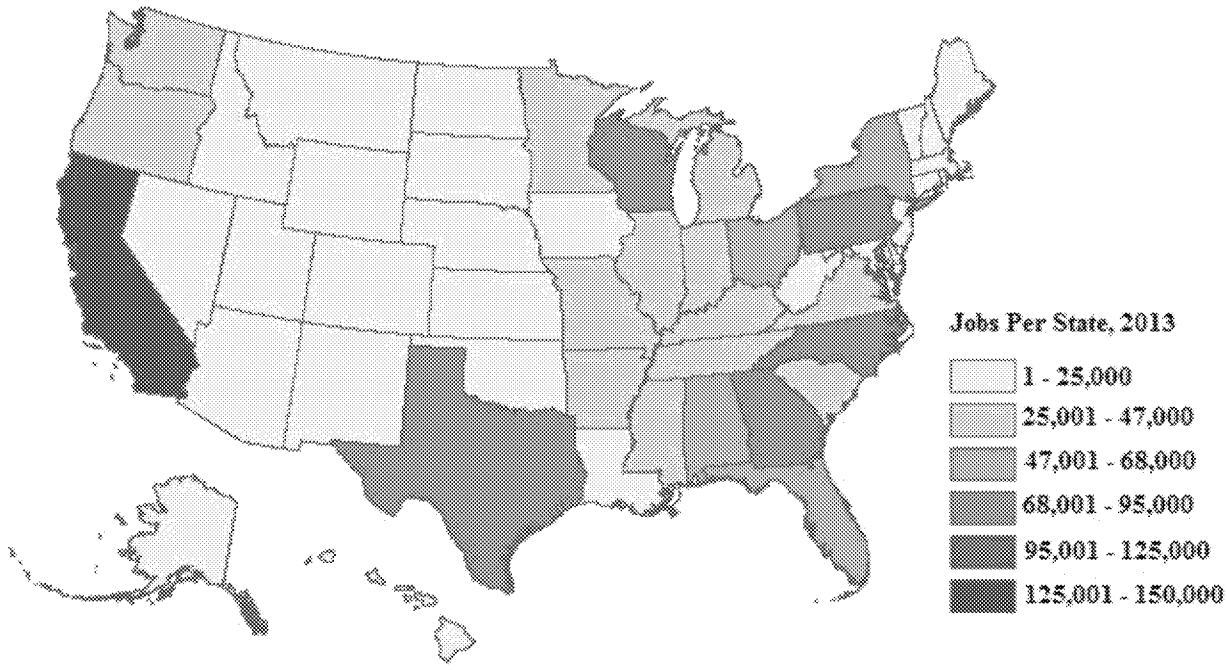

Figure 3: Direct Jobs Contributed by the Biobased Products Industry in Each State and the District of Columbia in 2013[3]

Table 1. Top 10 States for Direct Jobs in the Biobased Products Industry in 2013

Rank	State	Direct Jobs
1	California	145,080
2	North Carolina	90,040
3	Texas	88,680
4	Georgia	80,520
5	Pennsylvania	71,360
6	Wisconsin	68,250
7	Ohio	52,930
8	New York	52,300
9	Alabama	49,650
10	Florida	47,690

[3] Esri, TomTom, Department of Commerce, Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). "USA States" Basemap. *ArcGIS Online*, accessed 3/3/16, http://www.arcgis.com/home/item.html?id=1adcac723af14f9cac228b133ebcd2b.

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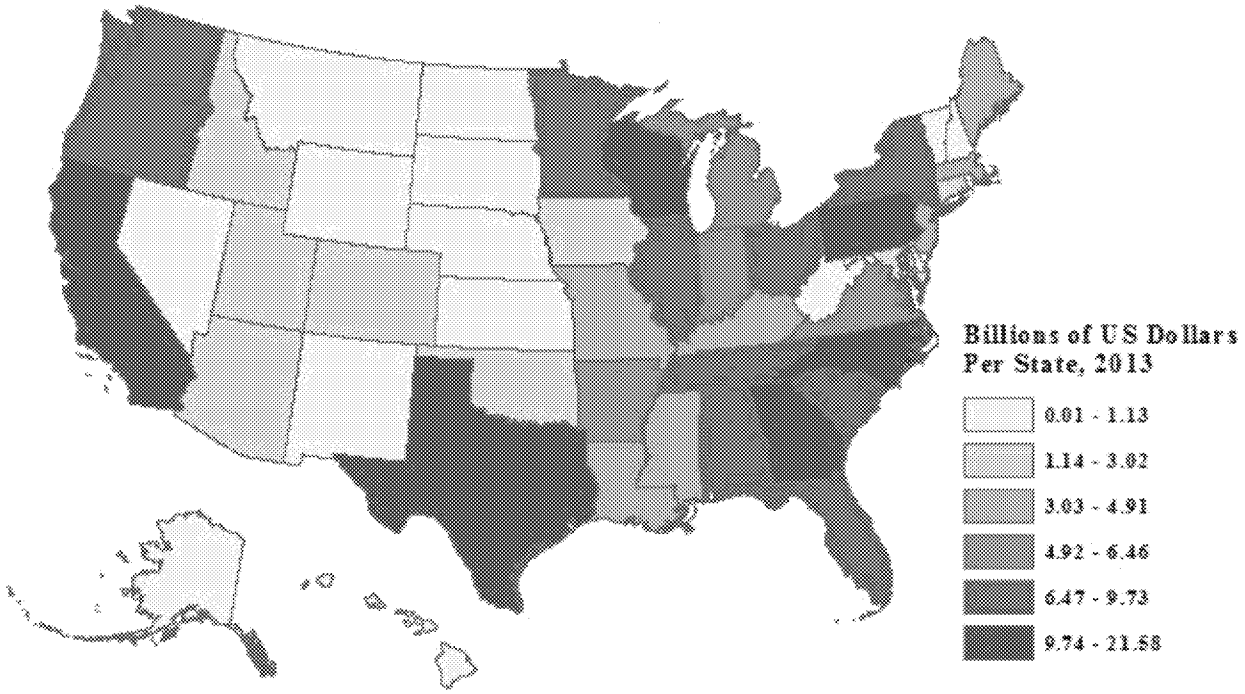

Figure 4: Direct Value Added Contribution in Each State by the Biobased Products Industry in 2013[4]

Table 2. Top 10 States for Direct Value Added to the Biobased Products Industry in 2013

Rank	State	Direct Value Added
1	California	$9,862,930,000
2	Georgia	$8,237,608,000
3	Texas	$6,828,425,000
4	Pennsylvania	$6,522,151,000
5	North Carolina	$6,437,140,000
6	Wisconsin	$6,252,403,000
7	Alabama	$4,977,941,000
8	Tennessee	$4,429,804,000
9	Ohio	$4,276,668,000
10	South Carolina	$4,227,162,000

[4] Esri, TomTom, Department of Commerce, Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). "USA States" Basemap. *ArcGIS Online*, accessed 3/3/16, http://www.arcgis.com/home/item.html?id=1b6cae723nf14f9cae228b133aebc620.

The original report sought to answer six questions:

(i) The quantity of biobased products sold

While there is no database that tracks the quantity of biobased products sold, the USDA BioPreferred Program's database currently includes over 20,000 biobased products. This database contains a limited number of forest products or traditional textile fiber products, as these products were only included in the Program recently. Therefore, we estimate that the actual number of biobased products on the market is dramatically higher than the number in the BioPreferred Program's database. In terms of jobs and value added contributed, the forest products sector alone more than doubles the estimates for the remainder of the biobased products industry. Thus, 40,000 would be a conservative estimate of the total number of existing biobased products. The data required to estimate the total number of individual "units" of biobased products that have been sold are not available. However, the total value added from direct sales of biobased products in 2014 was estimated to be $127 billion (Figure 2).

(ii) The value of biobased products

The total value added contribution to the U.S. economy from biobased products was $393 billion in 2014, the most recent year for which data are available (Figure 2).

(iii) The quantity of jobs contributed

The biobased products industry directly supported 1.53 million jobs in 2014 and through spillover effects, supported 4.22 million total jobs throughout the economy in the United States (Figure 2).

(iv) The quantity of petroleum displaced

The use of biobased products reduces the consumption of petroleum equivalents by two primary mechanisms. First, chemical feedstocks from biorefineries have replaced a significant portion of the chemical feedstocks that traditionally originate from crude oil refineries. Biorefineries currently produce an estimated 150 million gallons of raw materials per year that are used to manufacture biobased products. Second, biobased materials are increasingly being used as substitutes for petroleum-based materials, which have been used extensively for many years. An example of this petroleum displacement by a biobased material is the use of natural fibers in packing and insulating materials as an alternative to synthetic foams, such as Styrofoam. In this report, the research team utilized newly available data and scientific literature which, when modeled, estimate petroleum displacement of up to 6.8 million barrels in 2014.

(v) Other environmental benefits

While only limited lifecycle analyses of the production of biobased products have been conducted, the key environmental benefits of manufacturing and using biobased products are 1) reducing the use of fossil fuels and 2) reducing the associated greenhouse gas (GHG) emissions. The previous paragraph presents an estimate of the petroleum displacement associated with the biobased products industry. We also estimated the GHG emission reductions associated with the

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production of biobased products as alternatives to petroleum-based products. This number was not calculated for the 2015 report and is presented here for the first time. A literature review showed that there are a wide range of GHG reductions resulting from the use of biobased products as an alternative to petroleum-based products. Using the upper range of GHG emissions reductions potential, the analysis indicates that up to 10 million metric tons of CO_2 equivalents may have been reduced in 2014. Given the increasing interest in and use of biobased products, it is essential to conduct additional analyses of their potential impacts on water quality, water use, land use and other environmental impact categories.

(vi) Areas in which the use or manufacturing of biobased products could be more effectively used, including identifying any technical and economic obstacles and recommending how those obstacles can be overcome

A wide range of both near-term and long-term opportunities exists that the government and biobased products industry members can pursue to advance the biobased products industry. Congress should continue to advance the biobased products industry for National Security and Domestic Industrial Strength by enacting a short-term production tax credit, investment tax credits, and master limited partnerships for biobased product manufacturers to help level the playing field with petroleum-based products. Congress should also direct the U.S. Department of Commerce to work with USDA to develop NAICS codes that describe companies in the biobased products industry. Suggested avenues for promoting the biobased products industry also include funding the USDA BioPreferred Program at the levels similar to its counterparts to increase the visibility of the USDA Certified Biobased Product label, and expansion of other related USDA programs. Additionally, members of the biobased products industry should work together to solve the challenges facing their industry.

As noted above, in addition to collecting data from published sources and collecting government statistics, we interviewed organizations in the biobased products industry to understand the dynamics, drivers, and challenges that will affect the continued growth of the industry. We conducted the interviews with personnel in the following organizations, institutes, and companies:

- Agricultural Utilization Research Institute
- American Cleaning Institute
- American Chemical Society
- BASF Corporation
- Bayer AG
- BioAmber, Inc.
- BioFiber Solutions International
- Biotechnology Innovation Organization
- The Bureau of Labor Statistics of the U.S. Department of Labor
- The Coca-Cola Company
- ConVergInce Advisers
- Cotton Incorporated
- Deere & Company
- Dow Chemical Company
- DuPont
- Eastman Chemical Company
- Enviva
- Ford Motor Company
- Green Biologics Ltd.
- General Motors Company
- Johnson and Johnson
- Lanzatech
- Lenovo
- Lux Research, Inc.
- Michigan Biotechnology Institute
- Myriant Corporation
- NatureWorks LLC
- Nike

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- North Carolina Biotechnology Center
- Novozymes
- Patagonia, Inc.
- Penford Products
- POET, LLC
- Procter & Gamble
- Seventh Generation, Inc.
- Society of the Plastics Industry
- Tecnon OrbiChem
- Tetsis
- Tyton BioEnergy Systems
- United Soybean Board
- U.S. Forest Service
- Verdezyne, Inc.
- Walmart Stores, Inc.
- Yulex Corporation

The report includes case studies of the development, manufacture, and use of biobased products by the following organizations:

- NatureWorks LLC
- BASF Corporation
- Eastman Chemical Company
- Michigan Biotechnology Institute
- DuPont
- The Coca-Cola Company
- POET LLC
- Verdezyne, Inc.
- Green Biologics Ltd.
- Agricultural Utilization Research Institute

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Glossary of Terms

Biobased: Related to or based on natural, renewable, or living sources.

Biobased chemical: A chemical derived or synthesized in whole or in part from biological materials.

Biobased content: The amount of new or renewable organic carbon in a material or product as a percent of the material or product's total organic carbon. The standard method ASTM D6866 is used to determine this amount.

Biobased product: A product determined by USDA to be a commercial or industrial product (other than food, feed, or fuel) that is:

(1) Composed, in whole or in significant part, of biological products, including renewable domestic agricultural materials and forestry materials; or

(2) An intermediate ingredient or feedstock.

Biobased products industry: Any industry engaged in the processing and manufacturing goods from biological products, renewable resources, domestic or agricultural or forestry material. The USDA excludes food, feed, and fuel when referring to the biobased products industry.

Bioeconomy: The global industrial transition of sustainably utilizing renewable aquatic and terrestrial resources into energy, intermediates, and final products for economic, environmental, social, and national security benefits.

Biomass: Material derived from recently living organisms, which includes plants, animals, and their by-products. For example, manure, garden waste, and crop residues are all sources of biomass. It is a renewable energy source based on the carbon cycle, unlike other natural resources, such as petroleum, coal, and nuclear fuels.[5]

Biobased plastics: Plastics derived from renewable biomass sources, such as vegetable oil and cornstarch. In contrast to conventional plastics that utilize petroleum-based products as raw material, biobased plastics utilize biomass, which can be regenerated, as their raw material.

Biobased polymers: Polymers produced by living organisms that form long chains by the interlinking of repeating chemical blocks. Common biobased polymers in nature are cellulose in the cell walls of plants and polysaccharides such as starch and glycogen.

Biorefining: Process of production of heat, electricity, fuel, or chemicals from biomass. For example, production of transportation fuel such as ethanol or diesel from natural sources, such as vegetable oil and sugarcane.

By-product: Substance, other than the principal product, generated because of creating a biofuel. For example, a by-product of biodiesel production is glycerin and a by-product of ethanol production is distiller's dried grains with solubles.

Cellulose: Fiber contained in the leaves, stems, and stalks of plants and trees. Cellulose is the most abundant organic compound on earth.[6]

Contribution analysis: The economic effect of an existing sector, or group of sectors, within an economy. The results define to what extent the economy is influenced by the sector(s) of interest.

Co-product: Product that is jointly produced with another product, which has a value or use by itself. For example, paraffin wax is a

[5] Khan, F.A., Biotechnology Fundamentals: Second Edition, (Boca Raton: CRC Press, 2015), 336.

[6] The Biofuels Handbook, ed. J. G. Speight (London: RSC Publishing, 2011), 524.

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co-product during the refining of crude oil to derive petroleum products.

Direct effects: Effects generated by the industry of interest through employment, value-added, and industrial output to meet final demands.

EIO-LCA: Economic input-output life cycle assessments quantify the environmental impact of a sector of the economy.

Emissions: Gases and particles that are released into the air or emitted by various sources.[7]

Employment: Considered in this report as full and part-time jobs in a sector.

Enzyme: A protein that catalyzes or increases the rate at which chemical reactions occur in living organisms.[8]

Ethanol: Produced from fermenting any biomass that contains a high amount of carbohydrates. It is typically made from starches and sugars but advanced generation technologies allow it to be made from cellulose and hemicellulose.[9].

Forestry materials: Materials derived from the practice of forestry or the management of growing timber.[10]

Genetically Modified Organism (GMO): An organism (i.e., plants, animals, or microorganisms) whose genetic material (DNA) has been altered in a way that does not occur by mating or natural recombination.[11]

IMPLAN: Originally developed by the U.S. Forest Service and currently owned and operated by IMPLAN Group LLC (Huntersville, NC). The IMPLAN database and software system can be used to measure the economic effects of a given change or event in a region.

Indirect effects: The result of all sales by the industry of interest's supply chain.

Induced effects: The changes produced from the purchasing of goods and services by households because of changes in employment and/or production levels.

Intermediate ingredient or feedstock: A material or compound that has undergone processing (including thermal, chemical, biological, or a significant amount of mechanical processing), excluding harvesting operations. It is subsequently used to make a more complex compound or product.[10]

Location Quotient: The measure of the concentration of an industry in a state, relative to the national average concentration of that industry.

NAICS: Acronym for the North American Industry Classification System. A classification system for grouping businesses by similarity of production process.

Output: An industry's gross sales, which includes sales to other sectors (where the output is used by that sector as input) and those to final demand.

PET: Polyethylene terephthalate

PLA: Polylactic acid

Production Tax Credit (PTC): A tax credit that provides a company with financial support based on their production. PTCs can be offered by the Federal Government or a State Government, and can be refundable, partially refundable, or nonrefundable.

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[7] U.S. Environmental Protection Agency (EPA), "Air Pollution Emissions Overview", *U.S. EPA*, accessed June 2016, http://www.epa.gov/airquality/emissions.html.

[8] Alberts B, Johnson A, Lewis J, et al., Molecular Biology of the Cell (New York: Garland Science, 2002), http://www.ncbi.nlm.nih.gov/books/NBK26911/#A1(c).

[9] International Energy Agency (IEA), "Glossary", *IEA*, accessed May 2016, http://www.iea.org/aboutus/glossary/e/.

[10] U.S. Government Publishing Office (GPO) Electronic Code of Federal Regulations (e-CFR), Title 7 CFR part 3201.2, *e-CFR*, accessed June 2016, http://www.ecfr.gov/cgi-bin/text-idx?SID=e2cbc504306f3a9911d9f0d0d77bb94&node=7:15.9.201_12&rgn=div8.

[11] World Health Organization, "Food Safety", *World Health Organization*, accessed June 2016, http://www.who.int/foodsafety/areas_work/food-technology/biotechnology/genetically-modified-foods/en/.

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Qualified biobased product: A product that is eligible for the BioPreferred® Program's mandatory Federal purchasing initiative because it meets the definition and minimum biobased content criteria for one or more of the 97 product categories designated for this initiative.

Renewable chemical: A monomer, polymer, plastic, formulated product, or chemical substance produced from renewable biomass.

Sector: Unique field of firms that is a portion of the U.S. economy defined by NAICS.

Spillover: Used in the economic modeling in this report to define Employment and Value Added resulting collectively from indirect and induced activities.

Subsector: Field of firms that produce a specialized product.

Total effect: The sum of the effects of all sales generated by all sectors, supply chains, and influence of employees spending within the study region. The sum of the direct, indirect, and induced effects.

Type I multiplier: The sum of direct effect plus indirect effect divided by the direct effect.

Type Social Accounting Matrix (SAM) multiplier: The Type SAM multiplier considers portions of value added to be both endogenous and exogenous to a study region. It is the sum of the direct, indirect, and induced effects divided by the direct effect. Type SAM multipliers are generally the preferred multipliers used in input-output analysis.

USDA Certified Biobased Product: A biobased product that meets the BioPreferred® Program's criteria to display the USDA Certified Biobased Product certification mark.

Value Added: Composed of labor income, which includes employee compensation and sole proprietor (self-employed) income, other property type income (OPI), and taxes on production and imports, less subsidies (TOPI).

- OPI in IMPLAN includes corporate profits, capital consumption allowance, payments for rent, dividends, royalties, and interest income.
- TOPI primarily consist of sales and excise taxes paid by individuals to businesses through normal operations.
- A sector's value added is its contribution to the study area's Gross Regional Product.

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I. INTRODUCTION

A. The USDA BioPreferred® Program

The USDA BioPreferred Program is charged with transforming the marketplace for biobased products and creating jobs in rural America. It was established by the Farm Security and Rural Investment Act of 2002 (2002 Farm Bill) and strengthened by the Food, Conservation, and Energy Act of 2008 (2008 Farm Bill), and the Agriculture Act of 2014 (H.R. 2642 2014 Farm Bill). The Program's mandatory federal purchasing initiative and voluntary USDA Certified Biobased Product label have quickly made it one of the most respected and trusted drivers in today's biobased marketplace. Visit www.BioPreferred.gov for more information.

Strategic Goals

The mission of the BioPreferred Program is to facilitate the development and expansion of markets for biobased products. To accomplish this mission, the Program has two broad strategic goals: 1) to advance the markets for biobased products and 2) to increase the purchase of biobased products government-wide. As of June 2016, there were approximately 20,000 products in the BioPreferred Program's database.

Mandatory Federal Purchasing

Private and public purchasers now look to the USDA BioPreferred Program to ensure that their purchases are biobased. Beginning in 2005 with its first designations of six product categories, the Program has now designated 97 product categories that include approximately 14,200 products that are in the mandatory federal purchasing initiative. The Program offers purchasers of biobased products an independent assessment of the product's biobased content using a universal standard.[12] By providing a central product registry through its online catalog, accessible at www.BioPreferred.gov, the BioPreferred Program enables purchasers to find and compare products, such as cleaners, lubricants, and building materials, from all participating manufacturers. This encourages manufacturers to compete to provide products with higher biobased content.

Voluntary Consumer Label

In February 2011, USDA introduced the BioPreferred Program's voluntary label to the consumer market. To date, more than 2,700 products have been authorized to display the USDA Certified Biobased Product label, and the number of applications continues to increase. With a web-based application process, the BioPreferred Program makes it simple for manufacturers to apply for the label and track their applications. The Program's partnership with ASTM International ensures quality control and consistent results.

Executive Order 13693, Planning for Federal Sustainability in the Next Decade

With the Federal Government spending about $450 billion annually on goods and services,

[12] American Society for Testing and Materials (ASTM) International, "ASTM D6866-16. Standard Test Methods for Determining the Biobased Content of Solid, Liquid, and Gaseous Samples Using Radiocarbon Analysis," *ASTM International*, accessed April 2015, http://www.astm.org/Standards/D6866.htm,.

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there is an extraordinary opportunity to increase the sale and use of biobased products as required by Federal law. Executive Order 13693, "Planning for Federal Sustainability in the Next Decade[13]" increases federal agencies' accountability for purchasing biobased products in each of the 97 designated product categories. Federal agencies are directed to establish annual targets for the number of contracts awarded that include biobased products in these categories. The dollar value of biobased products is required to be reported under those contracts. Federal agencies are also directed to ensure that contractors submit timely annual reports of their biobased purchases.

B. About this Report

To date, the availability of data quantifying the biobased products industry in the United States has been very limited. Consistent with the 2015 report, a three-pronged approach to gather information was taken for this report. A broad spectrum of representatives of government, industry, and trade associations involved in the biobased products industry were interviewed to understand the challenges and future growth potential for biobased products. Information was also collected from government agencies and published literature on biobased products. IMPLAN's economic databases were used to analyze and trace spending through the U.S. economy and measure the cumulative effects of that spending.[14]

IMPLAN is an economic impact modeling system that uses input-output analysis to quantify the economic activities of an industry in a given region. Impacts or contributions to the region are expressed in terms of dollars added to the economy and the number of jobs produced. IMPLAN models are ready-made using benchmark data from various government sources and non-survey techniques to create regional input-output tables. The time and money savings advantages provided by non-survey techniques must be balanced with the limitation of introducing potential error into local accounts. The inaccuracies of individual cells, though, do not necessarily compromise the overall holistic portrait a regional table can provide of an economy's interactions. Users do have the ability to override any presented data when locally collected information is deemed superior.

When examining the economic contributions of an industry, IMPLAN generates four types of indicators:

- Direct effects: effects of all sales (dollars or jobs) generated by a sector.
- Indirect effects: effects of all sales by the supply chain for the industry of interest.
- Induced effects: A change in dollars or jobs within the study region that represents the influence of the value chain employees' spending wages in other sectors to buy goods and services.
- Total effect: the sum of the direct plus spillover (indirect effect and induced effect).

A Type Social Accounting Matrix (SAM) multiplier was used in determining the overall monetary contribution or jobs supported by an industry sector. The Type SAM multiplier accounts for the direct, indirect, and induced effects on employment and value added. Appendix A describes the IMPLAN modeling framework in detail.

[13] The President, "Executive Order 13693 – Planning for Federal Sustainability in the Next Decade", *Federal Register* web site, accessed April 2015, https://www.federalregister.gov/articles/2015/03/25/2015-07016/planning-for-federal-sustainability-in-the-next-decade.

[14] IMPLAN, "IMPLAN" Computer Software, *IMPLAN Group LLC*, http://www.implan.com.

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The greatest limitation of the findings in this report relates to the percentages of biobased sectors within the larger economic sectors, such as biobased chemicals within the chemical industry. To provide conservative estimates of the biobased products sectors, we consistently utilized percentages at the lower end of the ranges we modeled. As discussed in the recommendations section, the authors of this report strongly emphasize the need to develop specific industrial sector (North American Industry Classification System/NAICS) codes so that the biobased products industry's activities can be tracked more effectively and accurately.

This report is intended to serve as a platform for greater understanding and tracking of the progress of the bioeconomy in the United States.

Section II provides an updated overview of the industry based on a search of the literature and interviews of industrial members, governmental agency personnel, members of non-governmental organizations (NGOs), and academics during 2015 and 2016. Also in Section II, there are case studies of eight companies that are engaged in different parts of the biobased products industry.

Section III begins with an overview of the state initiatives and policies that support the development of the biobased products industry at the state level. The most substantial new element of our report is the inclusion of in-depth analyses and economic modeling of all 50 states and the District of Columbia regarding their activities related to the biobased products industry. Section III provides this state-by-state value added contributions and jobs associated with the biobased products industry. There are also two case studies of organizations active in the biobased products industry at the state level.

Environmental considerations related to the biobased products industry are discussed in Section IV, where an overview of the GHG reduction benefits derived from the utilization of biological feedstocks in lieu of non-renewable feedstocks is provided.

Section V of this report explores various recommendations put forward to expand the domestic biobased products industry.

Appendix A describes the economic modeling framework using IMPLAN. Appendix B lists the product categories used by the BioPreferred Program to classify biobased products as well as the number of products grouped in each category. Appendix C ranks states by the number of direct jobs contributed by the biobased products industry. Appendix D ranks states by the direct value added contribution from the biobased products industry. Appendix E contains an alphabetical listing of the states with their direct jobs, direct value added contribution, and number of companies participating in the BioPreferred Program.

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II. INDUSTRY OVERVIEW

This section provides an overview of the biobased products industry from 2013 to 2014. There is first a focus on some of the key metrics used for measuring the biobased products industry – jobs and value added contribution. This is followed by a discussion of some of the biggest factors influencing the biobased products industry. The focus then shifts to the future with a forecast of where the biobased products industry is headed. This section closes with case studies of eight companies at the forefront of the biobased products industry.

A. Overview of the Changes from 2013 to 2014

Figure 5 shows the contributions of the biobased products industry to employment and GDP in the United States in 2014. When compared to the 2013 results (presented in the previous study[15]), the direct value added contribution of the biobased products industry grew by 0.2 percent. Year to year percent changes in direct value added were measured using Producer Price Index for all commodities to account for inflation. The direct jobs contribution to the U.S. economy from the biobased products industry grew 0.5 percent from 2013 to 2014. Figure 6 shows the growth in total jobs and total value added to the biobased products industry from 2013 to 2014.

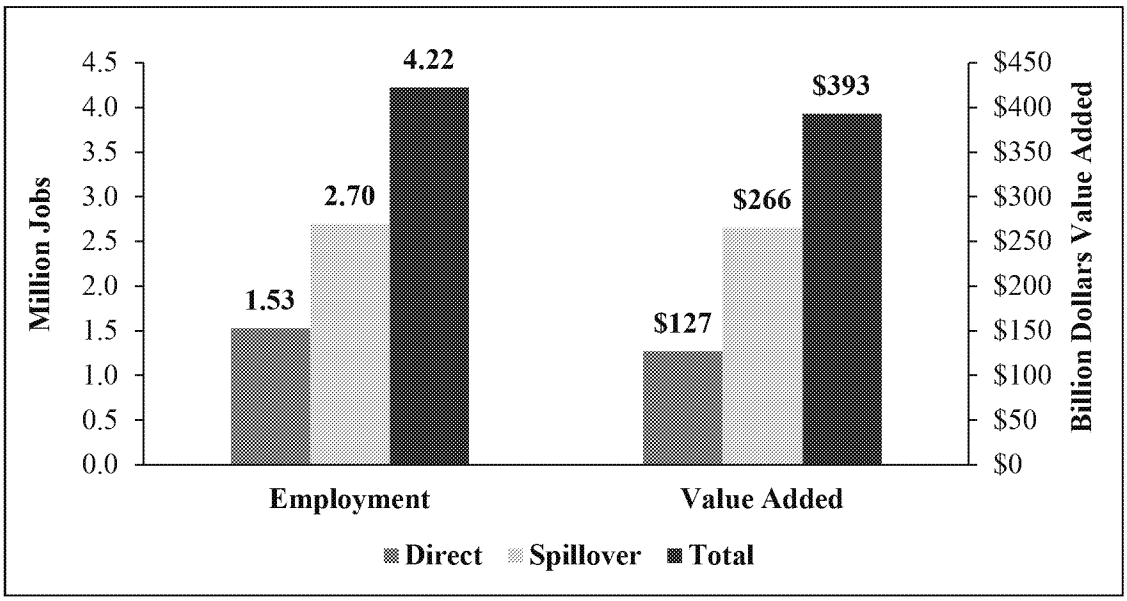

Figure 5: Total Employment and Value Added to the U.S. Economy by the Biobased Products Industry in 2014

[15] Golden, J.S., Handfield, R.B., Daystar, J., and McConnell, T.E, An Economic Impact Analysis of the U.S. Biobased Products Industry: A Report to the Congress of the United States of America, A Joint Publication of the Duke Center for Sustainability & Commerce and the Supply Chain Resource Cooperative at North Carolina State University, 2015.

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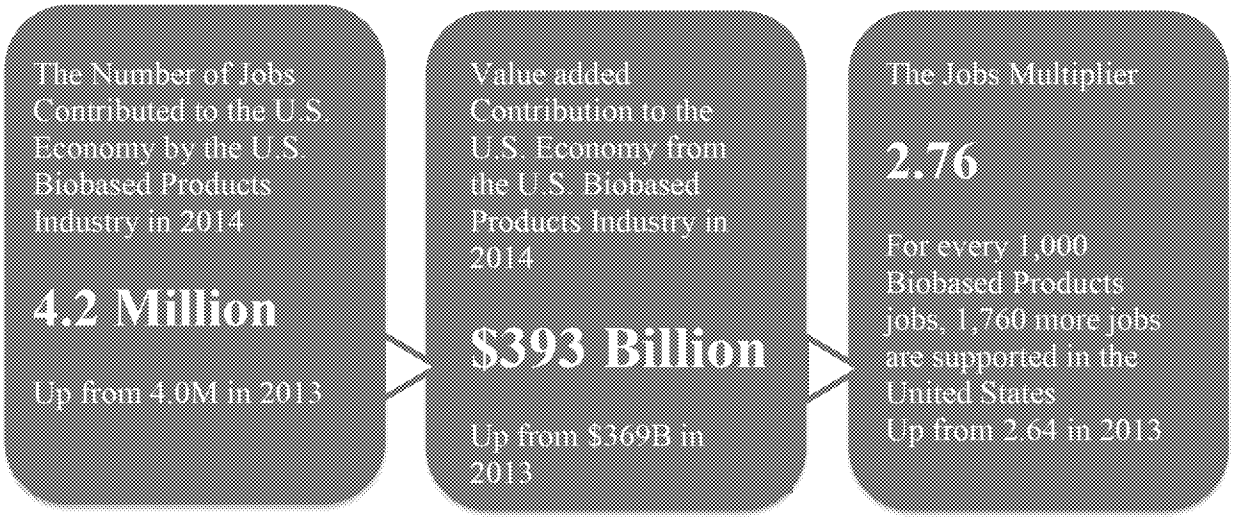

Figure 6: Key Findings of the U.S. Biobased Products Industry in 2014

The biobased products industry experienced steady growth from 2013 to 2014. The growth in the direct value added was smaller than the growth in the total value added. This contributions-based total value added growth is predicated on the strengthening of inter-industry linkages between the biobased products industry and other parts of the U.S. economy.

The steady growth of the biobased products industry is particularly impressive given that the price of oil dropped to roughly half its January 2014 price by December 2014. Many biobased products are in direct competition with petroleum-based products. One would expect that as the price of oil decreased and petroleum-based products became relatively cheaper, the biobased products industry would see a decrease in demand for the products that compete with petroleum-based products. The growth in the biobased products industry proves that the industry is robust and diverse enough to grow even in the face of a sharp decrease in oil prices. It is likely that the biobased products industry will experience even greater growth when the cycle of low oil prices turns around.

Interviews conducted for this report indicate that pricing pressure from petroleum-based products resulted in challenges to profitability, but, in spite of that, revenue and jobs increased and the biobased products industry expanded.

It is apparent that growth is occurring increasingly in specialty sectors (see the Eastman Chemical Company case study for an example). The methodology used to create this report involved scaling the outputs from IMPLAN using estimates of the biobased portion of each sector from the 2015 study. This limited the ability to measure the growth of specialty sectors. For example, the 2015 study estimated that 0.28 percent of all plastic bottles and packaging produced in the U.S. was made with biobased materials. The focus of this study was to provide a state-by-state analysis of the biobased products industry, so the authors kept the original 0.28 percent estimate for this report. It is very reasonable to assume however, that the biobased products share of the plastic bottles and packaging market increased from 2013 to 2014, so using the 0.28 percent estimate provides conservative growth estimates. It is inappropriate to draw conclusions from

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the biobased products industry growth rate without recognizing that the market share of biobased products may be increasing, which is not reflected in the growth rate presented in the report. Including the change in the percentage of biobased products' market share would provide additional granularity that would enable a more meaningful analysis and understanding of the shifts in specific sectors of the biobased products industry.

B. Factors Shaping the Biobased Products Industry

The key factors that influence the biobased products industry are identified below. These factors reflect a challenging environment for the biobased products industry, but they also include several encouraging signs that suggest the industry is poised to grow in the next decade.

1. Oil Prices

Figure 7 shows the volatility in oil and natural gas prices over the past 16 years. When the price of oil is high, we expect the demand to increase for biobased chemicals that can be used as replacements for petroleum because they become relatively cheaper. The highly cyclical nature of oil prices suggests that prices have reached a low and are beginning to increase again The price was in the $40 to $50 per barrel range in the summer of 2016. As oil prices increase, the barriers to biobased ethanol producers using first-and second-generation feedstocks will decrease. Currently, producers are struggling to survive with the existing profit margins and they are receiving very low payments for their products, regardless of whether the products are used as additives or as fuels. This has made the business environment very challenging.

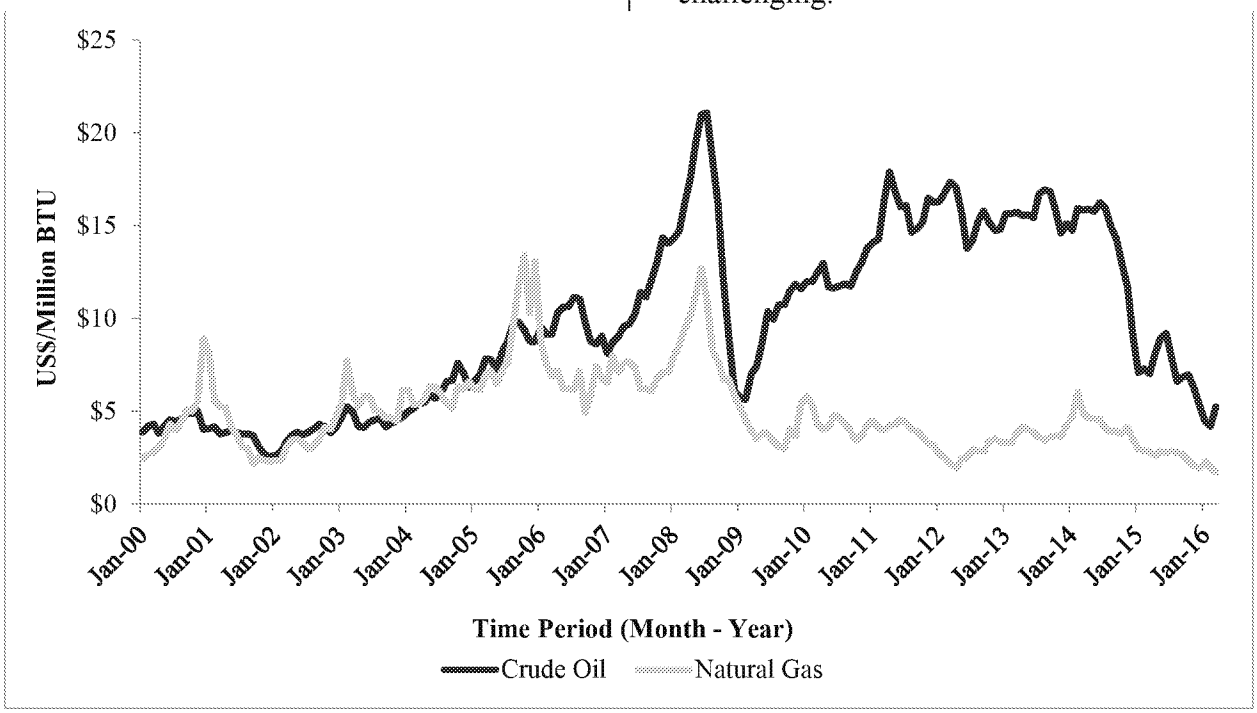

Figure 7: Crude Oil and Natural Gas Price Volatility

U.S. Energy Information Administration (EIA) a, "Natural Gas: Henry Hub Natural Gas Spot Price", *U.S. EIA*, accessed 6/6/16, http://www.eia.gov/dnav/ng/hist/rngwhhdm.htm.

U.S. EIA b. "U.S. Crude Oil First Purchase Price", *U.S. EIA*, accessed 6/6/16, https://www.eia.gov/dnav/pet/hist/LeafHandler.ashx?n=PET&s=F000000__3&f=A.

Low margins tend to diminish investment in future business, so it is more important than ever to take a long-term view of this technology. Government incentives seeking to encourage investments in these technologies are critically important at this time because it is virtually certain that the outlook for these technologies will be more favorable from the long-term perspective.

As oil prices increase, large companies are increasingly focused on making more investments in the biobased chemicals sector and enhancing their production capacity in this sector. This is evident in the on-going mergers of Dow Chemical and DuPont to produce a division focused on biobased technologies, as well as other investment strategies in the works at BASF, Bayer AG, Eastman Chemical Company, and other leaders in the chemical industry.

We project that oil prices will not remain low for an extended period. The expected increases in oil prices will have a positive impact on the biobased products industry because often, the overall investments made in petrochemical plants and in biobased product development come from the same companies and investors. Even though many view the two industries as competitors, there are strong ties between them.

Investors, as well as the public, sometimes think that biobased products cost more than their petroleum-based counterparts do. Several third-party studies have been conducted, and the results support the contention that biobased products sequester carbon and have more favorable LCAs than non-biobased products. In fact, a 2015 Argonne National Laboratory report indicated that all biobased products they research that have a fossil-based counterpart exhibited reduced cradle-to-grave GHG emissions reductions ranging from 27% to 86%.[16] Additionally, life cycle assessment models that incorporate biogenic carbon storage show even higher environmental performance.[17] Our interviews suggest that industry executives are beginning to understand how efficient the chemical transition from sugar to plastic is, and these processes should become cost competitive when they are scaled up. However, to achieve this, biobased product producers must collaborate with investors who have a long-term view and who will invest in efficient facilities and eventually find their functional fit in the marketplace.

2. Second-Generation Biobased Feedstocks

First-generation feedstocks are the easiest to utilize and the most common. They are derived from food components such as vegetable oil, sugars, grains, and animal fats. Second generation feedstocks are from non-food biomass: waste, woody or highly cellulosic sources, and agricultural by-products, which are referred to as lignocellulosic biomass.

One of the key insights gained from our interviews indicated that the level of investment for second-generation biofuels and feedstocks has diminished significantly. Many of the company representatives with whom we spoke have been working to reduce the cost of a commercially viable plant, but the slow start of the second-generation technologies has resulted in less capital available for investments in equipment.

[16] Dunn, J., Adom, F., Han, J., and Snyder, S. "A Life Cycle analysis of Bioproducts and Their Conventional Counterparts in GREET™", *Argonne National Laboratory*, last updated 9/30/15, https://greet.es.anl.gov/publication-bioproducts-lca.

[17] Pawelzik, P., Carus, M., Hotchkiss, J., Narayan, R., Selke, S., Wellisch, M., Weiss, M., and Patel, M.K. "Critical aspects in the life cycle assessment (LCA) of bio-based materials – Reviewing methodologies and deriving recommendations", *Resources, Conservation and Recycling* 73 (2013): 211-228.

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A second reason for the slow start of production using second-generation feedstocks is the global uncertainty regarding the projected demand for second-generation fuels. Few of the industries that use these fuels expect demand to increase enough to influence the adoption of biobased products. There is a need to develop a better understanding of the potential and real impacts of government policies on the biobased industry, especially on biobased chemicals. As the numbers of collaborations and co-development activities continue to increase, it is apparent that the stimuli for these activities are investments and the perceived success of second-generation technologies that produce biofuels. However, rather than investing in a new facility, it may be more practical to use existing systems for the production and collection of feedstocks rather than developing new systems. After years of effort, there are also indications that other feedstocks, such as algae, are becoming more practical for higher value chemicals.[18]

Our discussions with the manufacturers of several major brands suggest that they prefer using first-generation feedstocks because there is no efficient pathway and supply chain for cellulosics. Taking the woody stems of plants and trying to convert them into carbon sugar costs a lot more and takes more effort than using first-generation feedstocks. Sugar is the most efficient feedstock in terms of the acreage required to grow product biobased feedstocks, and, until this changes, there is uncertain growth in second-generation feedstocks.

3. New Applications for Enzymes

Enzymes are used in detergents in the textile sector to break down proteins, starches, and fatty stains in the finishing of fabrics. Enzymes also are used in several other industrial sectors, such as pulp and paper. An innovation in the enzymes sector is the use of symbiotic microorganisms to improve the yields of agricultural products.

Generally, the enzymes sector is undergoing stable, moderate growth driven by various businesses, including manufacturers of household care products and laundry detergents. Enzyme companies traditionally acquired very large accounts in end-use packaged goods, which allowed them to make investments in innovations with a specific application in mind. However, now enzymes are being used to improve biobased products and companies are seeking to collaborate with smaller, more nimble companies to drive new product innovation.

One of the differentiators of the enzyme sector is that, even with low revenue growth, returns are improved by optimizing production based on biological efficiencies as well as capital investments, such as purchasing new fermenters. Enzyme companies can select organisms that have better biological efficiencies and can improve them over time through genetic engineering. The ability to improve without capital upgrades is an important characteristic of the enzyme sector, but may not provide advantages over chemical plant and petroleum refinery processes, which can also be improved with new catalysts or alterations to operational conditions, without major capital expenditures.

4. Federal Government Purchasing

One key to stimulating growth and participation in the biobased products

[18] Savage, S., "Replacing Petro-chemicals With Bio-Based Alternatives. Can We Do It?", *Forbes*, last modified 4/23/16, http://www.forbes.com/sites/steve-savage/2016/04/23/replacing-petro-chemicals-with-bio-based-alternatives-can-we-do-it/#621bf03637 8b.

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industry is a reliable and robust purchasing commitment from the Federal Government. The USDA BioPreferred® Program, which includes procurement preferences within the Federal Government and voluntary labeling, provides a key way to inform the public. The Program has been remarkably successful, despite a funding setback when the 2008 Farm Bill expired. Interest in the Program from companies producing biobased products is growing and the number of products participating in the Program is increasing. The entire Federal Government should follow the example set by USDA and ensure that biobased products are given preference whenever possible in the procurement process.

There is a general lack of awareness from the public regarding biobased products, as is the case in some parts of the Federal Government outside USDA. Non-fuel biobased products are virtually unknown to the people along the supply chain, including wholesale and retail distributors, Federal Strategic Sourcing Initiative contract holders (sellers), Federal buyers, and most importantly, American consumers. Awareness in the private sector is of particular importance because purchasing biobased products is a matter of choice. If the Federal Government becomes a reliable customer, these products will be produced and distributed efficiently, demand will be met, and the industry will thrive. If manufacturers assume the risk of producing biobased products in response to the requirements of the Federal Government, the government, in turn, should support these products and help "jump start" this industry. One executive noted that the non-fuel biobased products industry is in the early stages of evolution, and as such, products in this industry are “custom made” for the federal government. That executive believes that, in light of this, these types of products should be supported by the government.

Our interviews also led us to believe that the Federal Government’s ability to gain traction in the acquisition community relative to the purchase of biobased products and services is in a nascent stage. This is not due to any lack of effort on the part of the USDA; rather, it is due to a lack of widespread awareness within the General Services Administration and Federal agencies, including the Department of Defense (DoD) regarding the availability and use of biobased products.

One company executive remarked that, while the USDA Certified Biobased Product label is important, he/she believes it is not providing the level of market benefit and impact at the consumer level that it was believed would emerge. Furthermore, from this executive’s perspective, the extent to which DoD mandated purchasing of biobased products is driving demand for these products within the traditional chemical industry is not clear.

Another executive emphasized that there is a lack of top-down federal policy on using biobased products, which makes it difficult for industry leaders to commit to long-term investment, given that there is no indication that investment will be supported. According to this executive, there is a lot of support for biofuels, but there has not been an equal level of support for biobased materials until recently. For example, legislation has been written around biofuels, creating investment tax credits for biofuels, but not for biobased products. Thus, without investment from a big firm, there is no assurance that biobased products will be supported. This executive believes that a solid value proposition is essential to access the capital needed in order for the biobased industry to grow.

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5. Biobased Product Innovation and the Need to Consider Supply Chain Impacts

To innovate in the biobased products industry, companies must consider the factors that affect supply chain integration and consider incentives to build in the United States. Petrochemical supply chains are highly integrated and the pathways for plastics are already reasonably well established and understood. However, the biobased chemicals supply chain is a combination of the chemical and biotechnology fields. The creation of an efficient supply chain requires investment and education, both within the industry and the consumer base. Many of these supply chain challenges are related to reaching a revenue break-even point that will support investments in the infrastructure that must be built for this emerging industry.

Education within the industry is essential to help biotechnology scientists understand the dynamics of the chemical industry. The people who run some of the new start-up biobased companies have no experience in the traditional petrochemical industry. Many rely on consultants and market studies to make their decisions and they do so without understanding the nature of the overall chemical sector supply chain. Some individuals point to the fact that there is a huge end market but they neglect to emphasize that 70 percent of that market is already captive to downstream conversion processes. When chemical companies decide which chemical to produce, they already have downstream applications in mind, ensure that the products they produce are cost effective, and can beat out competitors.

However, when a new product is introduced into the biobased chemicals sector, there is sometimes less of a clear downstream application in mind and sustainable options are not always immediately accepted into the supply chain. The decision to introduce a biobased chemical product is often made without understanding the macro-level issues in the chemical market, such as understanding the end users' technical specifications, volume requirements, environmental and regulatory requirements, and controlled-substance issues. This lack of understanding can cause otherwise highly innovative companies to fail.

To prevent the recurrence of this situation, companies producing biobased chemicals should hire people from the both the chemical and biotechnology fields. Comprehensive knowledge and consideration of the factors involved in operating a business in the chemical sector helps insure profitability.

6. Emerging Education

Education is emerging to address food versus fuel and GMO misconceptions. Many of the organizations interviewed for this report noted that the food-versus-fuel debate remains an inhibitor to market growth, based on consumers' misperceptions concerning this issue. In addition, many consumers will not buy products that are derived from GMOs. Many biobased products fall into this category, as it is difficult to trace whether the feedstocks used to make the biobased products come from GMO or non-GMO sources, and even in cases where the feedstocks can be traced, the distribution and processing and of the feedstocks frequently mixes GMO and non-GMO feedstocks.

The origin of this debate goes back to the 1990s, when some NGOs were fighting against the push of companies selling genetically modified crops into European markets. Some NGOs campaigned against GMOs, and as a result, many consumers became sensitized to genetically modified

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ingredients. Even when biobased companies purchase non-GMO corn to send to the mills that provide them with sugar, many of the mills are part of a larger biorefinery campus, which makes it impossible to segregate non-GMO feedstocks. Although many European brands accept the idea that offsets, such as wind power, used by these facilities are enough to cancel out the use of GMOs, many North American retailers and manufacturers do not feel that these offsets are enough to cancel-out the use of GMOs.

In fact, many large European brands point to the fact that sugar cane and corn are the most efficient plants to use for biobased products and second-generation feedstocks, such as wood stems, take a lot more effort and are much more costly to utilize. Second generation feedstocks have encountered limited growth in the market, but there are concerns that the release of GHGs globally may cancel the benefits of our domestic renewables policy. The link between the use of domestic crops for biobased products rather than as a food source has almost no correlation with the changes in the patterns of land use worldwide; nevertheless, it is a concern that some people express in the "food versus fuel" debate. In actuality, the United States is using fewer acres for corn than it did 10 years ago, but the public perception is that a higher percentage of corn being used to make ethanol means there is less land available for food production, which simply is not true.

7. Production credits and financing incentives

Investments by large chemical companies are focused on biobased chemicals facilities, but production credits and financing incentives are needed to create U.S.-based facilities. After a somewhat rocky start following the expiration of funding from the 2008 Farm Bill, the BioPreferred Program had a good level of support in the 2014 Farm Bill. The administrative regulatory rules are well developed, particularly for the Biorefinery Assistance Program. Previously, this rule was strictly for advanced biofuels, whereas the current iteration expanded the program to include biobased products and renewable chemicals. This has led to the development of a framework for assessing the biobased products economy. However, this framework also requires that the public and private sectors be made aware of the fact that biobased products are not in stand-alone facilities; rather, they are part of a large supply chain that begins with biorefineries. In the past, if a biorefinery produced anything other than biofuels, it did not qualify for Farm Bill benefits, but this has changed.

The Biomass Crop Assistance Program (BCAP) is an extremely important part of the Farm Bill. For members of the farming community to grow cellulosic, non-food crops, they need assurance that they can make money by doing so. Some biomass crops require a planting lead-time of one to five years, and this program now provides an assured market with mandatory funding.

Cellulosic ethanol was the initial focus of the BCAP, but the first wave of cellulosic technologies were disappointing. The second- generation cellulosic biofuels have a PTC that expires on December 31, 2016, but currently, they are receiving a tax credit. There is a possibility that a PTC linked to a flexible format based on the specific business plan would be very beneficial. This is currently in the works for the biofuels and renewable chemicals sectors. This tax credit is available to the oil and gas industry through Master Limited Partnerships (MLPs) and the credit is related to how business partners and business liabilities are defined.

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MLPs may be made available to renewable energy companies.

The Environmental Protection Agency (EPA) is developing general frameworks for carbon accounting. Currently, carbon accounting with low carbon fuel standards does not treat biobased carbon feedstocks as neutral; however, many in the biobased industry believe they should be. This long-term iterative framework could take years to resolve. Those in the industry hope that the framework will incorporate a credit for biobased feedstocks that are converted into biobased chemicals.

Many of the investments in the biobased products industry are being made by large chemical companies, and these companies are going through many mergers and acquisitions. These companies include Bayer/Monsanto, National Chemicals (China)/Syngenta, and Dow/DuPont. These mega-mergers will result in companies that will have many more resources to invest in biobased products and that have a longer capitalization timeline.

However, there are major challenges for emerging companies that are often small start-ups without significant capital. Without a partner to provide the required financial resources, it may be difficult to interest investors in a five-year planning horizon. The length of time required to develop a product is a function of the available infrastructure and the fact that the biobased products industry and the biofuels industry are closely connected. Currently, there is a lack of infrastructure for the value chain that extends from biofuels to biobased products, and biobased products do not have a public policy driving the front end of the value chain. This is an enormous roadblock to growth in the biobased economy.

Another legislative challenge has to do with EPA's regulations that are in place to standardize fuel. The regulations were intended to assure people that their vehicles would run properly when they buy fuel. The central focus of EPA's regulations in this area has been to standardize fuels with the intent of reducing emissions. However, EPA's standardization effort is focused primarily on gas derived from petrochemical sources rather than renewable sources. The assumption is that any biobased fuels that are added to fossil fuels must comply with the standards for fossil fuels. This has created a challenge for biobased fuels, making it more difficult to use them in flex-fuel vehicles, which are designed to operate primarily with 15 percent ethanol in the fuel mixture, imposing a cap on the growth of the market. The current challenge is how to go about getting approval for a higher level of renewable fuels for all vehicles. Various companies, including POET, are working on these problems with the automotive industry. The next- generation fuel for vehicles must meet these regulatory constraints because, currently, they are impeding the growth of the renewables market.

The biopolymer sector has experienced tremendous technology development over the last decade, with the United States leading these advancements. However, for production capacity, the sector is still in its nascent stage. The opportunity and the danger for the United States is whether the construction of biopolymer plants over the next five to 10 years and the full range of their associated facilities and jobs will predominantly be located in the United States or elsewhere, where feedstocks and the cost of production can be cheaper. For example, companies identified as the "hot leaders" in the biobased products industry, such as Verdezyne, are building facilities in Malaysia, because of the vision and financial

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support of the country's government. It is clear that certain governments and emerging economies are offering incentives to convince companies to invest there in an effort to ensure their country's long-term, sustainable growth. Southeast Asia, Europe, and Brazil are establishing regional hubs of industrial biobased products. Good examples of companies facing this issue are Verdezyne and Green Biologics, both of which have pursued a dual approach of sourcing outside and inside the United States based on local government support.

The businesses that will survive most easily in the biobased products industry are those that emerge from creatively designed collaborations. This means carefully selecting a pathway, carefully assessing and minimizing the risks associated with that pathway, and appointing leaders who are creative, smart, and spend money wisely, as they go forward. This is the basic path forward for this industry, all the way from feedstock suppliers and treatment technologies, to downstream building block technologies and sustainable materials that are converted into higher value chemicals. Partners along the end-to-end supply chain will need to work together to design these supply chains, with a given end product in mind, and the total end-to-end cost to serve the customer must be used to drive cost targets for those enterprises along the way. This may involve larger companies collaborating with smaller companies that have new and innovative ideas.

One example of successful use of PTCs is in Iowa. Iowa also has identified biobased products as a targeted growth industry for the state and has advocated for a biobased production credit to be established.[19]

Interviews suggest that a renewable chemical PTC would be fundamental to the ultimate location decision in or outside Iowa for new projects. Iowa has invested more in biobased manufacturing capital assets than any other state. The state invested $61 million in the ethanol industry. This money will be returned to the state though taxes and increased economic activity. The payback from income taxes alone would take just two years. The payback period is only one year if we assume that 8 percent of the economic activity is returned in taxes.[20]

The success of the biobased products industry depends on its ability to function at a large enough scale to be competitive with the petrochemical industry. Being competitive does not require that biobased products industry be the size of the petrochemical industry, but it cannot simply be a series of small plants scattered around a landscape. Moreover, many of the chemicals produced through fermentation that go into biobased products happen to be competing in commodity markets. Producers should think clearly about focusing on specialty markets, with products that have unique performance characteristics, based on conversion of biobased commodity chemicals into specialized chemicals through chemical synthesis. Specialty biobased chemicals can be produced in this manner at a total cost of production that is lower than the variable cost of production of petrochemically derived chemicals, which allows them to grow and compete.

An executive interviewed argued that producers of biobased products must adapt to the market they are in, and to do this, they must understand their product on every level. This executive continued, adding that it is

[19] Willett, B. and Hrdlicka, J., "The Case for a Renewable Biochemical Production Tax Credit", Iowa Biotechnology Association, 2016.

[20] Cultivation Corridor, "Biobased Chemicals: The Iowa Opportunity," *Cultivation Corridor*, last updated 1/14/16, http://www.cultivationcorridor.com/assets/pdf/Iowa-Biobased-Chemicals-Full-Report.pdf.

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important to understand the performance of the molecules that make up a product and how they blend with other ingredients; it is important to be able to target the right applications through innovation and understand the commercial impacts of a product. According to this executive, having a deep understanding of their products allows biobased producers to be more adaptable than big commodity players.

Our interviews regarding PTCs also lead us to believe that short-term incentives are sorely needed. Several companies with U.S.-developed biobased technologies are looking for locations to build new facilities. Some countries provide incentives to build these types of facilities, but incentives for them are absent in the United States. Given the intense international competition at this historic point, the companies we interviewed are exploring all global options for expansion projects, which includes taking into account political leadership and market push and pull policies.

Investment in the biobased products industry remains strong. However, continued growth can be bolstered by the development of a strong end user market as well as growth in production credits to help launch the industry.

C. Biobased Products Industry Growth Forecast

A recent forecast stated the following: "One of the bright spots in American manufacturing is the petrochemical industry, which produces chemicals used to make everything from car tires to fertilizer to fabrics. According to the American Chemistry Council (ACC), chemical companies have committed $153 billion in new investment in production in the United States over the next decade."[21] Given the growth in the petrochemical investment sector as a whole, it is also likely that some growth will be seen in the biobased chemical sector investment as part of overall increased investment in the chemicals sector. Indeed, interviews we conducted with university centers that focus on piloting new biobased chemical technologies indicated that the university centers are seeing strong demand for their services, an indicator of the increasing number of emergent technologies, especially in the pilot stage. (See the MBI case study in section III.) The ACC estimates that growth in the chemicals sector will create more than 800,000 permanent jobs, paying an average salary of over $69,400 and generating more than $322 billion in annual economic output.

However, if the price of oil stays low for an extended period, projects may be delayed or cancelled, which would result in fewer manufacturing jobs being supported in the U.S. In addition, the number of gas field jobs would decrease, because less natural gas is needed for domestic manufacturing.

Despite the current low price of oil, we project that the biobased products industry in the United States will exhibit steady growth over the next five years. The rationale for this projection is the following trends evident in our interviews:

- The major focus of the leaders in the biobased products industry is on innovation and differentiation of products.
- Oil prices are increasing, which will make biobased products more competitive.

[21] Hoium, T., "4 Reasons Why Falling Oil Prices Are Worse Than You Think", *The Motley Fool*, last modified 12/5/15, http://www.fool.com/investing/general/2015/12/05/4-reasons-why-falling-oil-prices-are-worse-than-you.aspx.

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- There will continue to be growth in enzyme-related industries.
- Federal purchasing policies are becoming more focused on biobased products.
- A wave of emerging innovations is targeting the biobased products industry.
- Investments by large chemical companies are focused on biobased chemical facilities.

We also identified several steps that must be taken to overcome factors that challenge the growth of the biobased products industry:

- Production tax credits (PTCs) must be extended beyond biofuels to include biobased products.
- Further legislation is required to support the biobased products industry.
- Financial incentives are needed to promote the construction and operation of more U.S.-based facilities.
- States need to provide resources to support the growth of the biobased products industry, which is very important because currently there are insufficient pilot plants to foster innovation.
- Further efforts to integrate the biobased products industry's supply chain are needed.
- Increased education is needed to help address the "food versus fuel" myth and the "no-genetically modified organisms (GMOs)" faction, leading to increased understanding of and growth in the biobased products industry.

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C1. Case Study: NatureWorks

NatureWorks began as a joint venture between Cargill (a large private agricultural products company) and Dow (a chemical, plastic, and agricultural products company). Cargill had done a lot of development work on high-end products using biological feedstocks and expressed interest in forming a company focused on creating a carbohydrate products economy. The Cargill-Dow joint venture included a 154,000-ton facility in Nebraska to transform carbon sugars (cornstarch) into lactic acid, which is a key building block for biobased products. The lactic acid produced on an industrial scale was used as a monomer to produce several different polymers, including 20 different grades of plastic.

One product, polylactide (Ingeo™), is used primarily by the packaging markets. The product has properties similar to PET and is a clear plastic that is used in drinking bottles, plates and cups, flexible film packaging, computer housings, baby wipes, apparel, covers for cellphones, and many other products. Ingeo produces 75 percent less GHGs and uses 50 percent less non-renewable energy than traditional plastics, such as PET and polystyrene (PS).

Identifying the right applications for Ingeo was a challenge. NatureWorks' Director of Public Affairs, Steve Davies, explained that NatureWorks understands that there is not a green premium for biobased products, so a product's performance must be superior to what is already on the market. Mr. Davies went on to say that after about ten years of studying the properties of Ingeo, NatureWorks now knows where the material works well and where it does not.

For example, NatureWorks determined not to use Ingeo to make plastic bottles because the material is technically "breathable", and the water it contains can evaporate. However, it is excellent for packaging leafy greens, as Ingeo allows a longer shelf life for the product.

Mr. Davies also emphasized that understanding the fundamentals and cost of what one is selling is important. There is a wide spectrum of biobased plastics, from hard (PET) to soft (polyethylene for trash bags), and everything in between. It is also important to look at the ratio of the pounds of sugar required to produce a pound of plastic. For PLA, 1.25 pounds of sugar produces one pound of plastic. Biobased PET requires a ratio of three pounds of sugar to one pound of plastic. Mr. Davies explained that there is constantly a need to make tradeoffs and consider the cost-effectiveness and characteristics of one plastic versus another, as PLA is better for some applications, while PET is better for others. Mr. Davies argued that materials must be cost-effective, and this point is often lost in discussion.

NatureWorks works with hundreds of partners that produce biobased products. They are also expanding, and a petrochemical company based in Thailand has invested as an equity partner, due to their large export of cane sugar. There are plans to build a new biorefining facility in Thailand near the source of feedstocks, as well as plans to expand the Nebraska facility due to the increasing demand.

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There is significant interest in certain product sectors, including replacing PET clamshell packaging, using Ingeo for packaging yogurt at Danone, and in other food-packaging areas. Ingeo is cost neutral, but it performs better and has a smaller carbon footprint, and this has become a winning combination for many manufacturers.

Another important element of food packaging is where the packaging ends up. Many people discard packaging and do not consider what happens to it after that. What if all of the food packaging could be composted? The "killer value proposition" is to render the entire value stream compostable by using PLA-based food packaging. Packaging for food products is one of the biggest opportunities on the horizon for NatureWorks, but there are enormous barriers. The conventional plastics industry may never be replaced, and other than milk jugs and water bottles, most plastics are not recycled.

Mr. Davies noted the importance of the Three Ps: **P**erforming the right function at the right **p**rice and meeting the customer's **p**reference, in that order. If a product is performing better than the alternative and it is priced competitively, then it follows that consumers will prefer it.

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C2. Case Study: BASF

Biotechnology is a key component of the German chemical company BASF. It has the potential to manufacture products more efficiently than conventional chemical processes and it can produce new products inaccessible using conventional synthesis approaches. BASF uses biobased-based methods of fermentation and biocatalysis to manufacture various products, such as chiral compounds, enzymes, and specialty ingredients for the personal care industry.

In February 2012, BASF opened a new biotechnology and microbiology research center in Tarrytown, New York. In the new laboratory, scientists from a number of disciplines, including material scientists, biologists, polymer scientists, molecular biologists, and chemists, are working together to develop more efficient biotechnological production processes. These researchers are also working to develop new antimicrobial products for medical technology, hygiene, and health care. The use of metabolic engineering, targeted metabolism modification, can enhance the efficiency of the microorganisms that are used in these production processes.

In 2013, BASF acquired Verenium, an enzyme company based in San Diego, CA. Using proprietary and patented genomic technologies, Verenium extracts microbial DNA directly from collected samples to avoid growing microbes in a laboratory. Then, Verenium mines its collection of microbial genes, which number in the billions, using high-throughput screening technologies designed to identify unique enzymes as candidate products. In making these investments, BASF demonstrated its

Source: BASF. Three BASF scientists in laboratory in Tarrytown, New York.

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unmitigated belief in the strength of the biobased products industry. Now, BASF is working to integrate the Verenium technology into its business portfolio.

For example, BASF produces a biobased product known as polytetrahydrofuran 1000 (PolyTHF), which is used in outerwear, sportswear, and swimsuits. PolyTHF mainly is used as a chemical building block for thermoplastic polyurethane, which is used to make parts of ski boots and skates, shoe soles, and instrument panel 'skin' for automotive applications. It also is used to make hoses, films, and sheathing for cables and as a component of thermoplastic polyether esters and polyether amides. Other applications include cast elastomers, which are used, for example, in the production of wheels for skateboards and inline skates.

PolyTHF is derived from 1,4-butanediol (BDO), which BASF produces under license from Genomatica.[22] Although it is biobased, it is a bit more expensive than petroleum-based BDO. Cost of materials is a key issue that BASF always must consider. It is very important to evaluate customers' and brand owners' opinions of biobased products versus conventional products, particularly when the biobased products may be marginally less cost effective.

BASF is committed to biobased feedstocks, and to this end, in 2015, BASF expanded the scope of its license agreement with Genomatica. Using Genomatica's patented process, BASF produces BDO from renewable feedstocks in a large production facility. Under the expanded license agreement, BASF can produce up to 75,000 tons of renewable BDO per year, while Genomatica will continue to advance its patented process technology. Today, BASF produces more BDO than any other company, and it has the capability of producing this product in multiple locations. BDO is a versatile monomer, which can be used in the manufacture of many other chemicals. As such, BASF views BDO as an increasingly important product in its portfolio.[23]

BASF recognizes that a core unknown underlying the future of the biobased products industry is customers' perceptions. BASF's goal is to produce products to sell to customers in the most economical and sustainable way possible. The Company has invested in extended LCAs for many of its technologies, which involves exploring the various technological pathways to produce any given product. For some products, there are clearly huge advantages for chemical processes over fermentation. New chemical and fermentation processes are being developed, and these studies will continue. Markus Pompejus, Vice President of Research, noted that biotechnology is the only pathway for certain products, especially those that involve enzymes. BASF invests in research to examine internal pathways for the production of chemicals in integrated production facilities rather than in isolated facilities, which allows it to produce at a more efficient scale in its major production sites in Europe and China.

BASF does not let the low price of oil detract the company from its long-term view. Mr. Pompejus pointed out that technology in isolation is not a strategy. According to Mr. Pompejus, a strategy involves questions concerning the best ways to produce products, i.e., ways that are

[22] BASF, "BASF now offers bio-based PolyTHF", *BASF*, last updated 3/5/15, https://www.basf.com/en/company/news-and-media/news-releases/2015/03/p-15-103.html.

[23] BASF, "BASF and Genomatica expand license agreement for 1,4-butanediol (BDO) from renewable feedstock", *BASF*, last updated 9/24/15, https://www.basf.com/en/company/news-and-media/news-releases/2015/09/p-15-417.html.

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economically and environmentally optimal, and this involves evaluating barriers and tradeoffs. One of the most important issues in this industry is the lack of ability to predict the decisions that the government will make. Legislation that varies depending on who is in Congress can cause disruptions in long-term strategies. Predictability in legislation is a factor that supports the long-term approach to investments in biobased technology.

BASF is committed to collaborating with universities and small companies to conduct research. Mr. Pompejus emphasized that biobased is not about taking a wait-and-see attitude. He went on to explain that BASF has made a strong R&D commitment to industrial biotech with the full understanding that there is not a premium just because a product is sustainable and that these materials must be produced at the same cost level as non-biobased materials, or, alternatively, provide an extra form of value. Mr. Pompejus observed that there is no chemical that is a "pure" drop-in, as there are always performance differences. A monomer produced by fermentation is not a drop-in for a petroleum-derived material, as there always will be downstream processes that must adapt when the switch is made from a chemical raw material to a fermented chemical. The downstream impacts must always be considered. This is true even for a 99 percent pure chemical produced in two different ways. The minor side effects on the downstream process may cause it to perform in a somewhat different way.

Mr. Pompejus added that sometimes the process has to be changed, and familiarity with the whole supply chain allows BASF to do that internally.

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C3. Case Study: Eastman Chemical Company

Using cellulose from wood pulp or cotton linters, Eastman Kodak developed cellulose nitrate, which was used in the film that launched the movie entertainment industry. An unfortunate property of cellulose nitrate film was that the heat from the projector's lamp often ignited it. This led to the development of cellulose acetate film, also known as "safety film", which became the industry standard by 1948. Because cellulose acetate film degraded over time, polyester film began to replace it in 1970. Polyesters, which are composed of mixed esters, also are used for filter media and coatings, with the latter producing a very clear, mirror-like image. The Eastman Kodak Company was the major producer of film for cameras prior to the digital camera era, when digital cameras virtually eliminated the Kodak film brand. The management of the Company understands how technology and the competitive ecosystem can change an entire industry in a very short period. In 1994, Eastman Chemical split off from the original Eastman Kodak Company.

Today, Eastman Chemical is one of the largest producers of cellulose acetate, which is used in a wide variety of applications, including pharmaceuticals, adhesives, automotive products, coatings, polishes, and food packaging.

Dr. Stewart Witzeman, an organic chemist who has been at Eastman for more than 30 years, noted that, to be successful, biotechnology requires a focus on techno-chemical analyses and on the ability to involve the multiple factors that impact innovation decisions. Eastman has made a specific strategic decision to focus on specialty materials rather than commodities. To support this decision, the Company established a group to develop innovation models that can balance the price of a barrel of oil versus corn and gas prices, capital costs, and feedstock prices. The models also consider the total lifecycle of feedstocks and products in relation to customers' needs.

Because Eastman is the only producer of mixed cellulose esters, the team focuses on how additional investments can drive the right market outcomes. For example, Eastman shut down its butanol facility when it became clear that the Company could not compete with the production of this chemical through petrochemical pathways. Strategically, it also was clear that adding butanol capacity was not consistent with the Company's direction in focusing on specialty materials.

The Company continues to drive innovation related to biobased products around a line of products focused on enzymatic analysis, some of which are biobased. For example, its GEM™ technology is focusing on the ingredients of sustainably manufactured cosmetic products. The Company's web site states "Sustainability… is embedded in everything we do. It's about balance."[24] Guided by the U.S. EPA's "Twelve Principles of Green Chemistry", GEM™ technology uses enzymes and closely

[24] Eastman, "Sustainability: Embedded in everything we do", *Eastman*, accessed May 2016, http://www.eastman.com/Company/About_Eastman/Case_Studies/Pages/Embedding_Sustainability.aspx.

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controlled manufacturing conditions to eliminate high temperatures, strong acids, and unwanted by-products, while using less energy than conventional manufacturing processes.[25] Eastman's adhesives also include many natural products, such as its rosin resins, derived from the sap in tree stumps.

In all of these cases, biobased feedstocks contribute to the improved performance of these products. Dr. Witzeman emphasized that Eastman focuses on superior performance at a competitive price and pointed to chemicals, such as PLA, that have had some performance problems over the years. He noted that many start-ups are able to identify a biobased material, but struggle with articulating the market application. Dr. Witzeman went on to say that having an innovation without a clear value proposition from the outset is a recipe for failure.

To overcome this problem, Dr. Witzeman asserted that companies should not focus on innovations that are an adjacency or a minor adjustment to a current product or material. Rather, to be truly groundbreaking, companies must begin with market analysis at a macro level: understand the competition and the pain points that exist in the market. They can then begin to determine what is required to solve those pain points and explore that with customers. Based on customer feedback, companies can then decide if they have something that is worth pursuing.

[25] Eastman, "Eastman GEM™ technology", *Eastman*, accessed May 2016, http://www.eastman.com/Company/InnoProves/Pages/Overview.aspx?utm_source=GEM%20Technology%20landing%20page&utm_medium=GEM%20technology%20landing%20page&utm_content=GEM%20Technology%20landing%20page.

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C4. Case Study: DuPont™

DuPont has a long history of research and innovation in the biobased products industry and is focusing on the innovative manufacturing of products made from biobased feedstocks. Its most successful product to date, Sorona®, was developed as a polymer and is currently used extensively in the carpet and apparel sectors. The Company also has invested in research on emerging technologies using plant-based feedstocks to produce new products.

A Global Marketing Manager of Biomaterials from DuPont commented on some of the leading challenges facing the biobased products industry: *From my perspective, one of the things that the commercial biobased industry as a whole is challenged with is the idea of getting consumers to recognize and pay for the value that sustainability offers them and society overall. The default for most consumers is to think short-term and buy the product that is the least expensive to do the job without regard to its longer-term impact on the environment. One of the ideas I believe we have to embrace is that sustainability and our need to make conscious consumer choices about living sustainably will become an increasingly bigger part of our daily lives. But to economically compete in a sustainable world, we need to have higher performing products, allowing companies to extract value for that differentiated performance while using renewably-sourced feedstocks to achieve these product attributes. We want to do the right thing, but a higher level of awareness and value recognition is needed in the consumer base.*

Another challenge to the biobased products industry concerns starch-based versus plant-based feedstocks. Plant-based feedstocks, such as agricultural waste or purposefully

grown crops, can be used for biobased products, but because the supply chain and technologies for these feedstocks are still not well developed, the costs are still excessive. Therefore, the industry must continue to build on the success of the grain-based and starch-based agricultural inputs that already provide significant advantages in terms of GHG reductions, economic benefits to rural economies, and reducing our reliance on fossil fuels.

DuPont aims to create sustainable solutions for the masses, not just for those who can afford to pay a green premium. They believe that biobased product technology should be designed to benefit the greatest number of people. DuPont has a strong research program that is focused on developing other value-added polymers based on biotechnology and renewable feedstocks. According to our interview, this means extending the amount of renewable feedstocks that can be produced sustainably by using biomass consisting of the residual, non-food parts of current food crops, as well as other non-food crops. These types of feedstocks also include industrial waste like woodchips and the skins and pulp from fruit

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pressing.[26] This, in turn, will require greater collaboration between entities to co-develop new technologies that are the products of two different complementary capabilities.

A good example is the case of Sorona® (produced from Bio-PDO™ manufactured by DuPont Tate & Lyle). This product is sold primarily for fiber applications, including apparel, residential carpets and rugs, commercial carpets, and automotive carpets, mats, and interiors.[27] The research into Bio-PDO™ began with the realization by Tim Gierke, Research Manager at DuPont Central Research & Development, that 1,3-propanediol (PDO) has three carbons and that three-carbon and six-carbon forms are prolific in nature. A team of DuPont scientists and engineers collaborated with polymer experts to discuss the possibility of producing PDO using biological processes. This led to a research project that lasted over a decade and that eventually resulted in a biological process that could produce the quantities of PDO required for a commercially viable product.

Next, DuPont scientists partnered with scientists from Genencor, an industrial biotech company that later was acquired by DuPont, to develop an organism that could use the glucose from cornstarch to produce PDO. They also developed a proprietary fermentation process that included meticulous cleaning and distillation to produce a pure form of Bio-PDO™.

Then, a commercial scale, $100 million dollar Bio-PDO™ plant was built in Loudon, TN, as a joint venture between DuPont and Tate & Lyle. Today, railcars full of corn arrive at the Tate & Lyle wet mill where glucose is produced from cornstarch and pumped from the wet mill to the Bio-PDO™ production facility, where microorganisms are added to the glucose. Five nine-story-tall fermenters are filled with glucose that contains the organisms. The organisms excrete Bio-PDO™, forming a broth that is separated and distilled, producing 99.97 percent pure Bio-PDO™. The remaining 0.03 percent is primarily water. The Bio-PDO™ is loaded into rail cars and shipped to customers who use it to make a variety of products.

One of these products is Sorona®. Carpeting made with Sorona® offers durability that is equal to or better than nylon carpeting, and it provides crush resistance and resilience. In addition, carpeting made with Sorona® is naturally permanently stain-resistant: the resistance is built into the fibers and does not diminish with time or use as occurs with topical treatments. Apparel made with Sorona® has exceptional softness, strength, quick drying time, and stretch and recovery characteristics. As a result, the sales of this product have increased in the various markets every year since its introduction.

There are several important points that should be emphasized evident in this case study:

- The timeline for product development was about 10 years, which is longer than most. This is clearly indicative of the need for longer-term planning horizons, because biotechnology research often requires multiple iterations to produce compounds with the required characteristics, and then, the required process technology must be developed.
- DuPont found it important to envision and consider the end-to-end

[26] Inderwildi, O.R. and King, D.A, "Quo vadis biofuels?", *Energy & Environmental Science* 2, no. 4, (2009): 343-346, doi: 10.1039/B822951C.

[27] DuPont, "The Manufacturing Process of Bio-PDO™ and Bio-Based Fibers", *DuPont*, accessed 6/2/16, http://www.dupont.com/products-and-services/fabrics-fibers-nonwovens/fibers/brands/sorona/articles/sorona-manufacturing.html.

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supply chain for a new product to be commercialized. Tate & Lyle had a technology that was suitable for the development of Bio-PDO™ that DuPont could use. If it had been necessary for DuPont to initiate the development of a new technology for this purpose, the project would have had a lower probability of success.

- From commercial and marketing perspectives, the performance characteristics of Sorona® carpet and apparel are unique, in that the product outperforms PET or nylon products based on several attributes in these categories. Sorona® continues to gain market share in competition with these products, and it has sustained its performance advantages over them.

These issues form an important set of "lessons learned" that researchers and manufacturers of biobased products should consider. Some of the key questions for executives to consider include the following:

1. From a market standpoint, does the technology serve a specific market need? What volume can be produced? Specialty products are certainly attractive since niche markets tend to have higher margins. However, companies should also consider the broader market and ask 1) whether their technology can address a larger, broader market and 2) what it will take that larger market to use their technology.
2. What complications will be involved in setting up the supply chain for the technology? What does the capital footprint look like for this technology? Is there a drop-in solution that exists within a current asset, and, if so, can a partnership or joint venture be established to utilize this capacity? This can make the difference between a $20 to $30 million capital investment to expand a facility and the $350 million typically required to build a new plant.
3. If the capital assets result in an acquisition, is the acquisition complementary to what the company already has in its portfolio. If so, would it help diversify the company and result in improving what the company already has?
4. Is the sustainable product using truly renewable materials? Often, this issue is overlooked, and it requires an understanding of many complicated issues. For instance, will it fall into the perceived "food versus fuel" issue, is the site itself sustainable, and how does it participate in the renewable materials cycle?

These issues require significant strategic insight and discussion during product development and scientific research targeting processes. A holistic approach is required, and all factors, such as markets, supply chains, and sustainability requirements, that come into play as the scenario for a new biomaterial evolve must be considered.

Recently, DuPont announced an intended merger with Dow with a subsequent plan to split into three separate companies. This activity will result in a large "specialty" company that has a significant interest in the biobased products industry. Future technology platforms include emerging biomaterials for various markets, such as paper and personal care, and fibers to replace existing products with biobased products.

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C5. Case Study: The Coca-Cola Company

When Coca-Cola set out be more sustainable, it recognized from the outset that the entire end-to-end lifecycle of a beverage bottle had to be considered. Biobased feedstocks are used to make the PlantBottle™ packaging, and on the back end, when the consumer is through with it, the bottle can be recycled or repurposed. This can help keep the CO_2 the biobased feedstocks removed from the atmosphere sequestered inside these products, rather than released back into the atmosphere.

Coca-Cola's PlantBottle™ is made from 30 percent plant-based materials and 70 percent traditional, petroleum-based materials. Because the end product is still PET plastic, the PlantBottle™ package delivers the same performance as PET plastic bottles made from fossil fuels (e.g., shelf life, recyclability, weight, chemical composition, appearance), but it reduces potential CO_2 emissions. PET plastic is made up of two components: MEG (mono-ethylene glycol), which makes up 30 percent of the PET by weight and is made from plants, and PTA (purified terephthalic acid), which makes up the other 70 percent.

Coca-Cola is exploring the development of furanic building blocks from plant-based sugars, under the name YXY. These furanics building blocks are the basis of next-generation, plant-based plastics and chemicals. Avantium, the company producing these furanic compounds, is focusing its efforts on using the YXY technology as a catalytic process to convert sugars to 2,5-furandicarboxylic acid (FDCA), a biobased alternative to terephthalic acid (TA). FDCA can be used to produce the polyester polyethylene-furanoate (PEF), a 100 percent biobased material that could replace PET in large markets, such as bottles, fibers, and film. Coca-Cola is working with Avantium, Danone, Gevo, and Virent to support the scale-up of Avantium's plant-based PEF. Virent's chemical allows the remaining 70 percent of the bottle to be plant-based.

PlantBottle™ packaging is available to consumers in more than 40 countries and, to date, the Company has produced over 40 billion bottles. This is a large, critical mass of PET that is used in a number of leading brands, such as Simply Orange, Minute Maid, Gold Peak Tea, Dasani, and SmartWater. Biobased PET is predominantly used for the packaging of carbonated soft drinks, which accounted for more than 75 percent of the market in 2013. The increasing consumption of beverages in the emerging markets of Brazil, Russia, India, China, and South America are expected to drive the growth of the biobased PET market. Coca-Cola has committed to promoting the use of biobased

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PET in packaging, which is expected to have a major impact on market growth in the near future.[28] The feedstock for PlantBottle™ packaging is sugar cane from Brazil, and it is moving toward cost parity with PET derived from crude oil. Coca-Cola sees a pathway for PlantBottle™ technology to emerge as the dominant PET option in the end, especially since oil prices are expected to increase. Coca-Cola's has an on-going effort to take the 70 percent non-renewably-sourced portion of the bottle, and move it towards a 100 percent biobased resin. The Company is slowly making headway towards this goal.

There are three driving forces behind Coca-Cola's decision to create and use the 100 percent PlantBottle™ package.

1. **Sustainability and carbon capture.** The response from consumers was overwhelmingly positive concerning PlantBottle™ packaging. The Company has also made significant strides in better communicating the technology used to create the PlantBottle™ to its consumers, distributors, and partners.
2. **Cost and line-of-sight around competitive elements.** This came about as the cane sugar feedstocks in Brazil proved to be cost- competitive. Coca-Cola also needed to prove that the sugar cane was being grown on arable land, was not competing for land or water with other crops, and that the by-products from sugar extraction were not being wasted.
3. **Top-line growth and brand differentiation.** PlantBottle™ packaging has become a core element differentiating Coca-Cola beverages, especially with consumers' growing focus on sustainability. Coca-Cola has collaborated with the World Wildlife Fund to form a consortium that includes brands, such as Nestle, Danone, Unilever, Ford, P&G, Nike, and others, to set guidelines and industry standards that prevent others from jumping in with green washing claims or creating confusion.

Michael Knutzen, Global Program Director for PlantBottle™, indicated that Coca-Cola is the largest biobased PET buyer. According to Mr. Knutzen, Coca-Cola views itself as a catalyst for the industry to increase use of renewable materials, and it is working with its partners to do so. Mr. Knutzen went on to say that Coca-Cola is sharing their technology with other companies so they can all benefit from the PET supply chain that Coca-Cola is creating.

Mr. Knutzen remarked that one of the benefits Coca-Cola would like to see is for the polymer sector to enjoy the same benefits that the Renewable Fuel Standard (RFS) provides to biofuels. It is easier to incorporate ethanol into biofuels than to make plastic out of ethanol. Furthermore, fuel companies tend to have limited partnerships that provide tax benefits, while buyers of renewable plastics are not eligible for the same benefits.

[28] Grand View Research, "Bio-Based Polyethylene Terephthalate (PET) Market By Application (Packaging (Bottles), Technical, Consumer Goods), And Segment Forecasts To 2020 Is Expected To Reach 5,800 kilo tons By 2020", last updated 12/1/14, https://globenewswire.com/news-release/2014/12/01/687467/10110349/en/Bio-Based-Polyethylene-Terephthalate-PET-Market-By-Application-Packaging-Bottles-Technical-Consumer-Goods-And-Segment-Forecasts-To-2020-Is-Expected-To-Reach-5-800-kilo-tons-By-2020.html

C6. Case Study: POET

POET stared when Jeff Broin and his family bought a foreclosed ethanol plant in Scotland, South Dakota. POET has since grown from a single, small refinery into one of the largest producers of ethanol and other biorefined products in the world. The success of the first enabled POET to operate more than 25 production plants and form a vertically integrated business system with several business entities. In addition to biofuels, POET produces a variety of products, including Dakota Gold distiller's grains, Voila™ corn oil, and INVIZ™ zein. The Company is also focusing on the development of natural, renewable food sources and alternatives to petrochemicals. The Company has "an integrated business model that combines technology development with expertise in construction, operations, risk management, and marketing".[29]

POET is also on the forefront of encouraging the switch to a bioeconomy. The RFS has largely pushed the United States toward blending renewable fuel with transportation fuel. To diversify, the Company has moved into animal feed, which is another emerging market due to the trend towards higher protein diets. POET is also working on developing cellulosic ethanol, with a ramp up of a 25 million gallon cellulosic plant. It is working to use corn to power its cellulosic operations, and feeding an adjacent corn ethanol plant with leftover raw materials.

POET has patented a unique technology using a raw starch hydrolysis process, called BPX, which converts starch to sugar with a proprietary blend of enzymes, whereas other ethanol producers use a jet cooker to break down starch with heat. BPX reduces the energy requirement in the plant by 8 to 15 percent and increases the yield by 0.10 to 0.15 gallon per bushel. After years of development, the process was ramped up to commercial-scale production in 2004, and it is currently used in all of POET's biorefineries. The EPA recognizes BPX as an advanced corn ethanol technology under the second RFS regulations.

POET is working on the branding of their products. The American Petroleum Institute's (API's) press releases beginning in the mid-2000s were initially supportive of the RFS and of biofuels in general. However, as the production of biofuels has increased and has become more of a competitive threat, the petroleum industry has become less supportive. To educate the public and change this perception, POET has focused on three key messages related to biofuels and biobased products: biofuels are clean burning, based on renewable materials, and emit fewer toxic compounds than gasoline. The Company also recognizes that additional work is required to support public views concerning GMOs and to counter false conjectures related to the food-versus-fuel debate. One Company executive noted that the biobased products and biofuels industries have the potential to replace the petroleum industry, and loosely supported conjectures could hamper this potential. Rigor and focus are needed on these issues and the academic

[29] POET, "Company At a Glance", *POET*, accessed August 2016, http://www.poet.com/at-a-glance.

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community can play a big role in this regard. The POET executive believes that rigorous analytical study on this subject will show the actual environmental impacts of both sources of fuel. The API must face the facts that there will be more fuel-efficient vehicles on the roads and that there will be increased competition from renewable fuels. While the Corporate Average Fuel Economy (CAFE) standards cannot be changed, surpassing the competition is always an option. When this option is exercised, there should be strong efforts to ensure that the public receives the right message.

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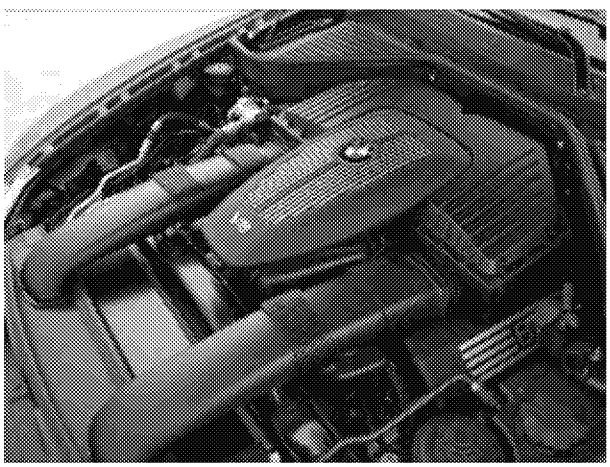
C7. Case Study: Verdezyne

Verdezyne is a global manufacturer of industrial chemicals that has developed technology for producing a range of chemical intermediates via fermentation of renewable feedstocks, primarily by-products of fatty acids. The Company has developed a proprietary platform for engineering yeast to metabolize multiple non-food-based renewable feedstocks and produce a number of widely used, high-value chemicals.

Verdezyne's first commercial plant in southern Malaysia is expected to produce its first commercial product, biobased dodecanedioic acid (DDDA), by the end of 2017. DDDA is a valuable intermediate used to produce high performance nylon 6,12; polyester resins; adhesives; and powder coatings. DDDA is used in many other applications as well, including, polyester polyols, adhesives, corrosion inhibitors, and coatings. Verdezyne uses a yeast platform to produce DDDA from low-cost, plant-oil feedstocks. DDDA is traditionally produced from butadiene using a multi-step petrochemical-based process.

Recently, Verdezyne was awarded the Bloomberg New Energy Pioneer Award as one of the 50 Hottest Companies in the Advanced Bioeconomy. The candidates were assessed using the following three criteria: potential scale, innovation, and momentum. Verdezyne also recently received the 2016 Small Business Award at the Presidential Green Chemistry Challenge Awards.



Jenna Ngian, who joined Verdezyne in January 2015 as Vice President of Global Sales and Supply Chain, has over 25 years of experience in sales, marketing, product management, supply chain management, operations, and business process reengineering for leading chemical companies, including DuPont and INVISTA. Prior to joining Verdezyne, she was leading product management at Genomatica, where she worked to create brand reputation and brought supply chain expertise to the commercialization of the Genomatica's products. Her experience working in the traditional chemical industry was important for moving into the field of biobased products.

Ms. Ngian's perspective is based on her work at both traditional chemical companies and biobased chemical companies. One very important key difference between the two is financing. According to Ms. Ngian, financing is more than just an important issue - it is the biggest issue. The financing options available to a company can differ depending on the company's size. Most large chemical companies self-fund their expansions and other needs from equity or debt since they have relatively good access to financial markets, but smaller biotech companies must depend on funds from their external partners. Because the technology development cycle usually takes a long time, venture capital or development partners often become impatient, and many companies deplete their available resources before they reach the proof of technology or commercialization

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stages. Ms. Ngian believes that the government needs to play a bigger part in developing this industry, as do many other countries in the world except the United States. The implication is that the U.S. government should be more like the governments of other countries who have played bigger roles in developing this sector.

The field of biotechnology is rapidly changing due to many different factors. First, the productivity of sequencing and synthesis has increased at an exponential rate. The cost of genome sequencing in 2001 was $100 million per sequence. By 2007, it was $10 million and in 2016, it is $1,000, which is only 0.01 percent of what it was nine years ago. By 2020, it is expected to decrease to a penny. The cost of synthesis also has decreased to less than 0.6 percent of its base cost 15 years ago.[30] The biotechnology field is very different from other traditional members of the chemical sector, a fact that has made Verdezyne's strategy successful.

The second major change can be observed by studying the history of biotechnology. After the structure of DNA was discovered in 1953, the development of many other genome-related discoveries followed, such as gene expression, sequencing, and cloning. Decades later, these developments provided the basis for significant technologies the biobased industry now uses. Advancements in tools, methodologies, and digital technology have also aided in progressing this field. For example, at the onset of World War II, the United States and its allies lost access to the natural rubber supply from Southeast Asia. To prevent vulnerability due to the loss of this important material, the U.S. government provided support for multiple large rubber companies working together to find a solution. With the sponsorship of the U.S. government, the companies were able to pool their technologies, intelligence, and resources to produce general-purpose synthetic rubber at a commercial scale.[31] This situation shows how biobased technologies emerged from a direct shortage in the market. Today, we are faced with a similar need: support for biobased product manufacturing, which should receive greater investment support from the government; the need, in this case, is driven by climate change and the need for sustainable materials.

The third major change is the environmental movement, which began in the 1970s with the first Earth Day, the Clean Air Act, the Clean Water Act, and others. The movement was further spurred by social and environmental issues, including climate change, food security, and major pollution events. However, business-led sustainability platforms did not gain popularity until the mid-2000s. The launch of the Global Social Compliance Programme in 2006 emphasized that social and environmental sustainability must be a collaborative effort among companies to drive positive change and that business efficiency along the supply chain is essential. More recently, the concept of corporate responsibility is driving a much greater focus on reducing the carbon footprint, using renewable materials, and conducting product LCAs.

The rapid decreases in the cost of biotechnology; the speed of commercially available tools, processes, and technologies that are much more efficient than before; and the increasing awareness of social and environmental concerns indicate the speed at which the biotechnology world is changing. As a result, massive growth in this field is

[30] Timetoast, "History of Biotechnology", *Timetoast*, accessed 7/25/16, https://www.timetoast.com/timelines/history-of-biotechnology-3.

[31] American Chemical Society, "U.S. Synthetic Rubber Program", *American Chemical Society*, accessed 7/25/16, http://www.acs.org/content/acs/en/education/whatischemistry/landmarks/synthetic-rubber.html.

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expected over the next 10 years. However, some short-term barriers are already apparent.

A barrier that stands in the way of progress is the lack of an established supply chain. The petrochemical supply chain is well established, with pipelines, storage facilities, and dedicated refining facilities that were created along with the supporting regulatory and legal infrastructure. Instead, the biobased chemicals sector must deal with the daunting challenge of combining two long-established, separate supply chains: the agriculture and chemical supply chains.

Verdezyne is an excellent example of how a chemical company executive can make a difference in a new biobased chemicals company by addressing the issues associated with the integration of supply chains. The Company targeted many different nylons, such as nylon 6,6 and nylon 6,10, and nylon 6,12, which impart high functionality, stability, and resistance. Premium nylons command a higher price, and are used in coatings, adhesives, and in automotive products, such as fuel hoses.

The decision to build the production facility in Malaysia was based partly on funding sources. In 2005, the Malaysian government established the National Biotechnology Policy (NBP) that sought to turn the biotechnology field into one of the key economic drivers in the nation with the goal of contributing 5 percent of the nation's GDP by 2020. The Malaysian Biotechnology Corporation (BiotechCorp) was given the responsibility for executing the objectives of the NBP. As such, it provided financial assistance and developmental services to facilitate and accelerate the growth of biobased companies. It also sought to create a conducive environment for promoting international investments in the biobased industry in Malaysia. These initiatives offered Verdezyne significant tax incentives, funding as much as the equivalent of $60 million U.S. dollars at favorable interest rates and access to plentiful sources of sugarcane feedstocks. Some individuals feel the U.S. government should provide similar incentives to drive a similar level of support for building the required infrastructure to support the domestic development and application of technology within U.S. borders.

Verdezyne's product is identical to DDDA derived from petrochemicals. It is a "drop in" like many others, but it has been recognized in the industry as having the highest quality and the lowest color, which may or may not generate a small premium in the market price. Ms. Ngian noted that while Verdezyne has identified a niche market where there are not many DDDA players, Verdezyne always strives to be competitive.

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C8. Case Study: Green Biologics

Green Biologics grew out of two different companies that eventually came together to become what it is today. Edward Green, an ethanol fermentation expert, founded Green Biologics in England in 2003 to advance technologies for the production of renewable chemicals and biofuels, such as butanol. In an article for *Chemical & Engineering News,* Green Biologics' Chief Technology Officer, Tim Davies recalled that there was a lot of buzz around biofuels and funding for research at that time. Green Biologics thought higher alcohols might be useful, so they began applying methods of biology, metabolic engineering, biochemistry, fermentation, and process engineering to reinvent the acetone-butanol-ethanol (ABE) fermentation process. [32]

Green Biologics later began working with existing ABE plants in China, allowing the plants to use a strain of a butanol-producing microbe called *Clostridium* from its library of modified microbes to advance their existing processes. Mr. Joel Stone, who is the former president of Green Biologics' U.S. operations, remarked that Green Biologics was able to leverage the capability of the Chinese plants while using their own, more efficient organism. This, coupled with design capability for distillations systems designed in collaboration with the Chinese, resulted in a technology operating at commercial scale and generated sales for Green Biologics.

As Green Biologics grew its presence in Europe and Asia, an Ohio-based company called Butylfuel was formed by David E. Ramey and Thomas Grote. Like Green Biologics, Butylfuel's focus was on creating renewable chemicals and biofuels, and the company built a 40,000 L pilot fermentation plant to do so. In 2012, Green Biologics and Butylfuel merged, extending the company's operational presence to the United States. The newly merged Green Biologics shifted its emphasis to renewable chemicals, which, according to Mr. Stone, was because butanol as a chemical had a sizable market, and Green Biologics anticipated that there would be biobased demand. [33]

With the new company, the executives began efforts to de-risk their processes and eliminate duplication of effort across strain development, technology development, and other areas. As they continued to build the demonstration plant in the United States, it became clear that the economics of the ethanol market were not looking positive, and there were many distressed ethanol plants. This led to the idea that, after the demonstration plant was constructed, it would be best to avoid investing in a new plant, but to invest in and convert a distressed-asset plant instead.

[32] Bomgardner, M. M, "Green Biologics Pursues A Biobased Meeting Of The Minds", *Chemical & Engineering News*, last updated 6/25/15, http://cen.acs.org/articles/93/i26/Green-Biologics-Pursues-Biobased-Meeting.html?it=816950987.

[33] Bomgardner, M. M, "Green Biologics Pursues A Biobased Meeting Of The Minds", *Chemical & Engineering News*, last updated 6/25/15, http://cen.acs.org/articles/93/i26/Green-Biologics-Pursues-Biobased-Meeting.html?it=816950987.

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Thus, Green Biologics found a smaller scale plant in Minnesota that would not work as an ethanol plant – because it did not have the scale of 100 million gallons a year, but it could produce 20 million gallons a year, which was ideally suited for what Green Biologics needed. The capital expense was reasonable, and, from an engineering standpoint, it was scalable to move from a demonstration plant to a commercial plant. A "creative deal" was negotiated, whereby Green Biologics entered into an agreement with a purchase option, using a monthly fee for up to one year, and an exercise option to close on the price of the facility in 12 months. This allowed the Company to "prove out" the technology moving from a demonstration plant. The deal was supported further by a grant from the State of Minnesota's Agricultural Department, which helped with the initial engineering work required for the plant. From a "de-risking" standpoint, this allowed the capital costs to be validated and effectively financed. Green Biologics exercised its option and took possession of the facility in December 2014. This led to additional engineering work, and, despite the incredibly difficult financial investment climate for biobased products in 2015, Green Biologics was able to raise over $76 million in funds in 2015. Squire Pacific was brought in as a new venture capital investor.

Several lessons from this experience are worth noting. Green Biologics started as a butyl fuel company, believing that it could successfully license the technology. It eventually moved to specialty line, butanol, which occurred through close collaboration, a frugal investment strategy, partnering between two companies with a similar set of leadership strategies, and a slow, but steady, scale-up from the bench, pilot, and demonstration phases to a full, commercial plan. This was achieved by spending a lot less than the hundreds of millions of dollars that other companies had spent.

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III. STATE OVERVIEWS

A. State Incentives and Policies

In 2012, the Obama Administration announced The National Bioeconomy Blueprint, which outlined steps that agencies would undertake to drive the advancement of the bioeconomy.[34] The Federal Government sees enormous potential in the nation's abundant natural resources, capacity for emerging and advanced technologies, entrepreneurial spirit.[35] To realize both the immense potential of the bioeconomy and the important role that policy plays in championing the process, one can look to the emergent wood pellet subsector within the southeastern United States.

The success of the wood pellet subsector illustrates the importance of regulatory support. The Renewable Energy and Energy Efficiency Export initiative, supported by President Barack Obama, was created, in part, to improve U.S. export competitiveness in renewable energy. In 2010, the United States exported $128 million worth of wood pellets in response to the demand for a source of renewable energy.[36] In 2014, this figure grew to over $500 million, as growth was facilitated by the USDA Market Access Program's commitment to identifying and growing additional market opportunities for wood pellet exports in the European Union.[37] The same support for the broader biobased products industry must be demonstrated on a state level for the industry to maximize its potential.

A few states have specific policies in place to further the advancement of the bioeconomy and specifically the biobased products industry, as shown in Table 3. While this report does not include economic data on biofuels, we include biofuel incentives as examples of what could be done for biobased products, and to indicate movement by states towards increasing the utilization of biological feedstocks for industrial purposes in the United States.

Table 3. Overview of State Policies and Incentives for Biobased Products Development

	Tax Credit(s)	Tax Exemption	Loans	Production Payment	Grant(s)	Procurement Program
Iowa	X					
Massachusetts						X
Michigan			X			
Minnesota				X		
Oregon	X					
Virginia	X	X			X	
Washington	X					
Wisconsin	X					

[34] White House, "National Bioeconomy Blueprint", *White House*, last updated April 2012, https://www.whitehouse.gov/sites/default/files/microsites/ostp/national_bioeconomy_blueprint_april_2012.pdf.

[35] Biomass Research and Development Board, "Federal Activities Report On The Bioeconomy," *Biomass Research and Development Board*, last updated February 2016, http://biomassboard.gov/pdf/fah_2_15_16.pdf.

[36] White House, "National Bioeconomy Blueprint", *White House*, last updated April 2012, https://www.whitehouse.gov/sites/default/files/microsites/ostp/national_bioeconomy_blueprint_april_2012.pdf.

[37] Lowenthal-Savy, D, "UK's renewable energy targets drive increases in U.S. wood pellet exports", *U.S. EIA*, last updated 4/22/15, http://www.eia.gov/todayinenergy/detail.cfm?id=20912.

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Iowa

In April 2016, the Iowa legislature passed the Biorenewable Chemical Tax Credit Program, a revenue-neutral tax incentive and economic development package that allocates $100 million in tax credits over 10 years to be applied to the manufacturing of 40 key building block chemicals. For each pound of biobased chemicals produced in a given year, a company can receive a $0.05 tax credit. Financial incentives are annually capped at $500,000 for companies five years and older, and $1,000,000 for companies less than five years old. The program, which represents the strongest existing incentive package for the global biobased chemical industry, was designed and implemented to attract national biobased chemical companies and new businesses to the state.[38]

The production of higher-value basic chemical compounds, which can utilize the co-products of existing corn and soybean manufacturing facilities, is a fast growing segment of the biobased products industry, representing a significant change for Iowa to develop a cluster of biobased chemical companies.[39] The hope is that the Iowa Biorenewable Chemical Tax Credit Program will achieve the same success as the tax credits of the Iowa ethanol industry, which produces a quarter of the ethanol in the United States. An analysis of the Iowa ethanol industry indicated that 32 percent of the industry is located in Iowa because of the support given by the state. Furthermore, since 2006, tax credits in excess of $61 Million have been provided in support of the state's 38 ethanol plants. Total capital spending on these plants has been nearly $4.5 billion, meaning that tax support equaled just 1.3 percent of the total capital spending.[40]

Massachusetts

Massachusetts offers an Environmentally Preferable Products (EPP) Procurement Program, which aims to help the Commonwealth use its purchasing power to reduce both the environmental and public health impacts of state government, in addition to stimulating market demand for environmentally preferable products and services.[41] As part of the Procurement Program, the state provides an Environmentally Preferable Products and Services Guide that assists buyers in finding products, services, and vendors. Since its inception in 1995, the program has increased spending on EPPs from roughly $5 million to an estimated $400 million. Furthermore, Massachusetts works to identify locally sourced products that are grown, harvested, and processed within the state. Certified products are provided a "Commonwealth Quality" brand designation by the Massachusetts Department of Agricultural Resources, which works to provide a guarantee that such products are grown and harvested within the state, utilizing production practices that adhere to a set of criteria and environmental standards.[42]

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[38] Cultivation Corridor, "Biorenewable Chemicals: The Iowa Advantage", *Cultivation Corridor*, accessed 6/1/16, http://www.cultivationcorridor.org/biochem/.

[39] Iowa Economic Development, "Renewable Chemical Production Tax Credit Program", *Iowa Economic Development*, accessed 6/1/16, http://www.iowaeconomicdevelopment.com/user-files/documents/Renewable%20Chem%20Tax%20Credit_04%2016.pdf.

[40] Cultivation Corridor, "Biobased Chemicals: The Iowa Opportunity," *Cultivation Corridor*, last updated 1/14/16, http://www.cultivationcorridor.com/assets/Iowa-Biobased-Chemicals-Full-Report.pdf.

[41] E Commonwealth of Massachusetts Executive Office for Administration and Finance, "Environmentally Preferable Products (EPP) Procurement Program," *Mass.Gov*, accessed 6/14/16, http://www.mass.gov/anf/budget-taxes-and-procurement/oversight-departments/procurement-and-administrative-services/epp-procurement-program/.

[42] Massachusetts Department of Agricultural Resources (MDAR), Commonwealth Quality, *MDAR*, accessed 6/14/16, http://mass.gov/mdar/.

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Michigan
In Michigan, the Department of Agriculture & Rural Development, in conjunction with the Michigan Economic Development Corporation, offers a variety of programs intended to help support the financing and growth of agricultural processing and support industries within the state.[43]

Minnesota
In 2015, the Minnesota legislature established the Bioincentive Program, which is intended to make Minnesota an excellent destination for commercial-scale advanced biofuel and biobased chemical plants. The program provides production payments to encourage commercial-scale production of advanced biofuels, biobased chemicals, and thermal energy production from agricultural, forestry, or solid waste sources.[44]

For companies to take advantage of the Renewable Chemical Production Incentive Program, chemicals must be at least 51 percent biobased. Manufacturing facilities must also (a) be located within Minnesota, (b) source 80 percent of their raw materials from Minnesota, and (c) produce a minimum of 750,000 pounds of chemicals per quarter to enter the program and for each quarter in which a reimbursement claim is made. Production payments range from $0.03 per pound of chemical produced from sugar, cellulosic sugar, or starch, to $0.06 per pound of chemical produced from cellulosic biomass.[45]

The producer payment incentive program, in addition to volumetric fuel blending requirements, was previously championed by Minnesota to build a strong first-generation ethanol industry.[46] Over the course of a decade, the State of Minnesota provided over $450 million dollars to help construct 21 corn ethanol plants within the state, which jointly contribute over $5 billion annually to the Minnesota economy.[47] As opposed to alternative financial programs, the inherent advantage of a producer payment program is that payments are only made for actual production of eligible products, thereby negating the risks inherent in grants or loans.

Oregon
Oregon provides tax credits for the production, collection, and transportation of biomass resources that are utilized for energy production.[48] To be eligible for the tax credits, the biomass material must be (a) sourced from within the state and (b) utilized as biofuel, or used in the production of biofuel in Oregon.

Virginia
Virginia offers incentives, such as tax incentives, grants, and investment programs, for emerging life science technologies and companies within the state.[49]

Washington
Washington has passed a House Bill that restored preferential timber industry

[43] Michigan Economic Development Corporation, "Agribusiness Financing Programs," *Michigan Economic Development Corporation*, accessed 6/1/16, http://www.michiganbusiness.org/files/Agri-Business/Financing-programs.pdf?md=1464387[illegible].
[44] Minnesota Department of Agriculture, "Bioincentive Program", *Minnesota Department of Agriculture*, accessed 6/1/16, http://www.mda.state.mn.us/grants/bioincentive.aspx.
[45] Minnesota Department of Agriculture, "Bioincentive Program", *Minnesota Department of Agriculture*, accessed 6/1/16, http://www.mda.state.mn.us/grants/bioincentive.aspx.
[46] Bioeconomy Coalition of Minnesota, "Bioeconomy Production Incentive Program Created in Minnesota", *Bioeconomy Coalition of Minnesota*, accessed 6/1/16, http://mnbioeconomy.org.
[47] Bilek, A. and Jordan, B. "2015 Minnesota Legislative Session Recap: Bioeconomy Edition", *Great Plains Institute*, last updated 7/6/15, http://www.betterenergy.org/blog/2015-minnesota-legislative-session-recap-bioeconomy-edition.
[48] Business Oregon, "Renewable Energy", *Business Oregon*, accessed 6/1/16, http://www.oregonbiz.com/Oregon-business/tax-incentives/renewable-energy.
[49] Virginia Biotechnology Association, "Incentives for Bioscience Research, Commercialization and Investment in the Commonwealth", *Virginia Biotechnology Association*, accessed 6/1/16, http://www.vabio.org/bioincentives.

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business and occupation tax rates for manufacturers of biocomposite surface products, in addition to existing incentives for timber harvesting and manufacturing/processing activities. Washington also offers a reduced tax rate for manufacturing wood biomass fuel.[50]

Wisconsin

Wisconsin creates a competitive advantage within its state by offering a "Manufacturing and Agriculture Credit", which serves to virtually eliminate the tax on income for both manufacturing and agricultural activities occurring within the state.[51]

B. State Statistics

Figure 8 shows the number of biobased products industry jobs per 1,000 people in each state in 2013. Table 4 shows the direct jobs contributed at the state level for the top 10 states. Similarly, Figure 9 shows the value added by the biobased products industry in each state, and Table 5 shows the top 10 states by value added contribution in the biobased products industry.

[50] Washington State Department of Revenue, "Incentive Programs: Deferrals, Exemptions, and Credits," *Washington State Department of Revenue*, accessed 6/1/16, http://dor.wa.gov/content/findtaxesandrates/taxincentives/incentiveprograms.aspx/.

[51] Wisconsin Department of Revenue, "Wisconsin Manufacturing and Agriculture Credit", *Wisconsin Department of Revenue Retrieved*, last updated 9/8/15, https://www.revenue.wi.gov/taxpro/fact/manufandagr.pdf.

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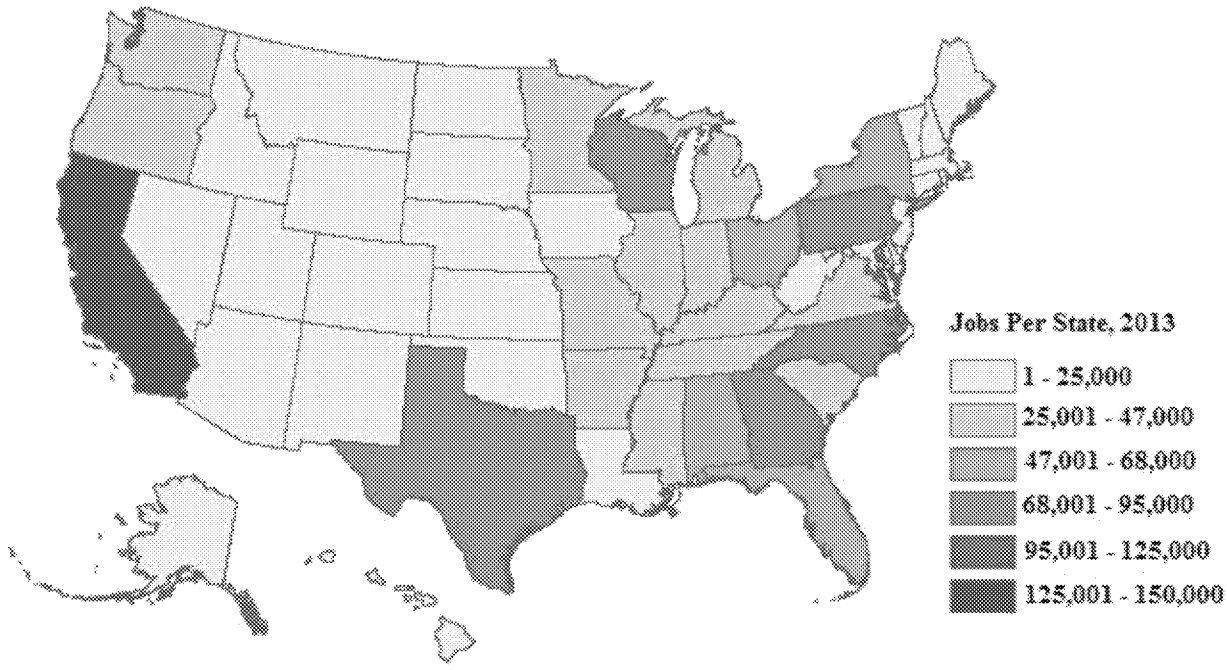

Figure 8: Direct Jobs Contributed by the Biobased Products Industry in Each State and the District of Columbia in 2013[52]

Table 4. Top 10 States for Direct Jobs in the Biobased Products Industry in 2013

Rank	State	Direct Jobs
1	California	145,080
2	North Carolina	90,040
3	Texas	88,680
4	Georgia	80,520
5	Pennsylvania	71,360
6	Wisconsin	68,250
7	Ohio	52,930
8	New York	52,300
9	Alabama	49,650
10	Florida	47,690

[52] Esri, TomTom, Department of Commerce, Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). "USA States" Basemap. *ArcGIS Online*, accessed 3/3/16, http://www.arcgis.com/home/item.html?id=1adcac723af14f0cac228b133ecbcd2b.

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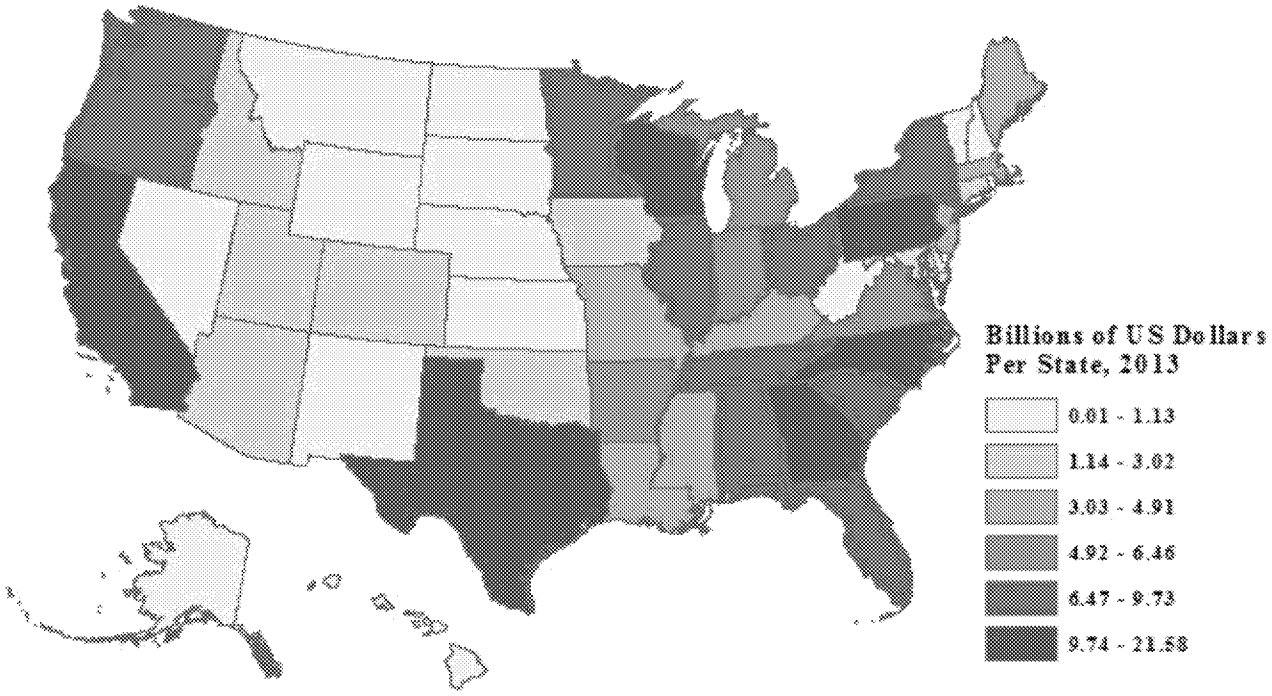

Figure 9: Direct Value Added Contribution in Each State by the Biobased Products Industry in 2013[53]

Table 5. Top 10 States for Direct Value Added to the Biobased Products Industry in 2013

Rank	State	Direct Value Added
1	California	$9,862,930,000
2	Georgia	$8,237,608,000
3	Texas	$6,828,425,000
4	Pennsylvania	$6,522,151,000
5	North Carolina	$6,437,140,000
6	Wisconsin	$6,252,403,000
7	Alabama	$4,977,941,000
8	Tennessee	$4,429,804,000
9	Ohio	$4,276,668,000
10	South Carolina	$4,227,162,000

[53] Esri, TomTom, Department of Commerce, Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). "USA States" Basemap. *ArcGIS Online*, accessed 3/3/16, http://www.arcgis.com/home/item.html?id=1b6cae723nf14f9cae228b133aebc620.

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C. National and State Facts Sheets

A major addition in this report from the 2015 report is a detailed analysis of all 50 states and the District of Columbia. This report contains a single page for each state. Each fact sheet offers a snapshot of companies and associations that are active in the biobased products industry overall within the state, and information about the USDA's Rural Development office in that state. They also include the direct and total economic contributions of the biobased products industry in terms of value added contribution and jobs supported. Each of the biobased products industry's seven major sectors' direct jobs and value added are also provided. The numbers presented for each sector are limited to direct jobs for comparison of the biobased products industry size between states.

The national ranking by direct jobs and direct value added for each state are also provided in Appendix C (direct jobs) and Appendix D (direct value added). An alphabetical listing of the states with the number of direct jobs and value added are in Appendix E.

This section closes with two case studies of organizations supporting the growth of the biobased products industry at the state level and beyond.

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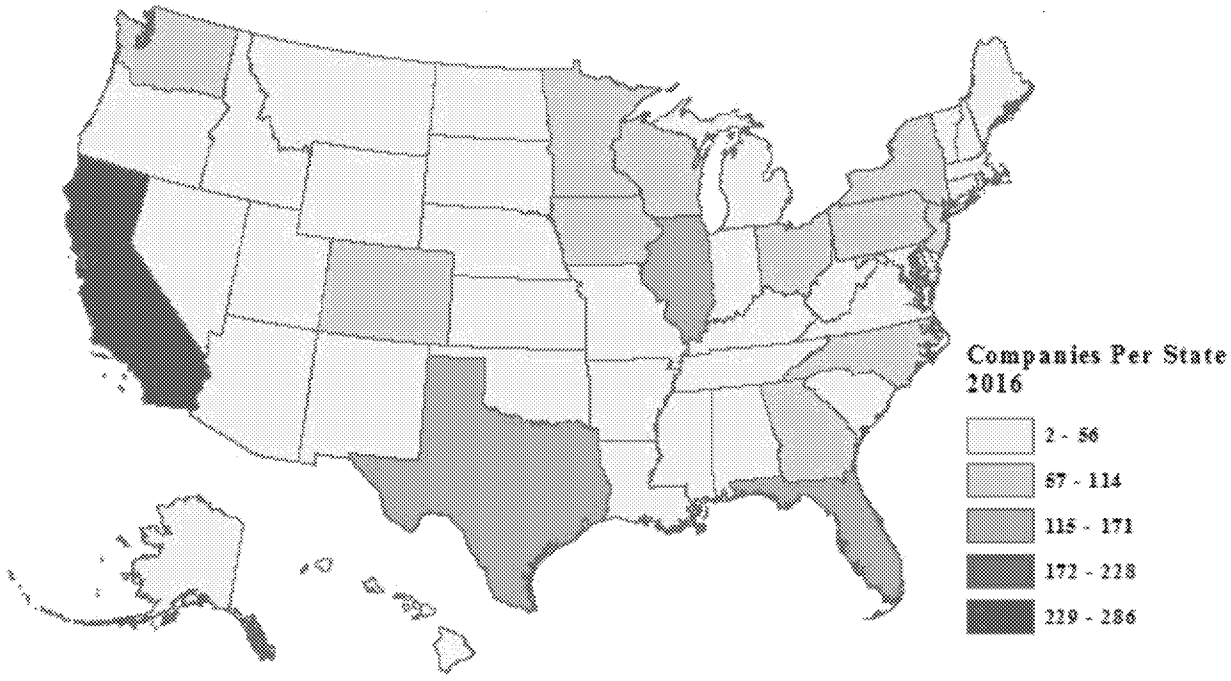
United States



Number of Companies participating in the BioPreferred Program (June 2016).[54]

The Number of Jobs Contributed to the U.S. Economy by the U.S. Biobased Products Industry in 2014
4.2 Million

Value added Contribution to the U.S. Economy from the U.S. Biobased Products Industry in 2014
$393 Billion

The Jobs Multiplier
2.76
For every 1,000 Biobased Products jobs, 1,760 more jobs are supported in the United States

Agriculture and Forestry
Direct Jobs: 263,500
Direct Value Added: $15.8 B

Biobased Chemicals
Direct Jobs: 17,690
Direct Value Added: $5.0 B

Biorefining
Direct Jobs: 570
Direct Value Added: $155.0 M

Enzymes
Direct Jobs: 3,000
Direct Value Added: $873.8 M

Forest Products
Direct Jobs: 1,059,660
Direct Value Added: $93.3 B

Textiles
Direct Jobs: 164,370
Direct Value Added: $9.6 B

Packaging
Direct Jobs: 1,200
Direct Value Added: $11.4 M Direct Value Added: $11.4 M

[54] Esri, TomTom, Department of Commerce, Census Bureau, U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS). "USA States" Basemap. *ArcGIS Online*, accessed 3/3/16, http://www.arcgis.com/home/item.html?id=1adcac723af14f0cac228b133ebed2b.

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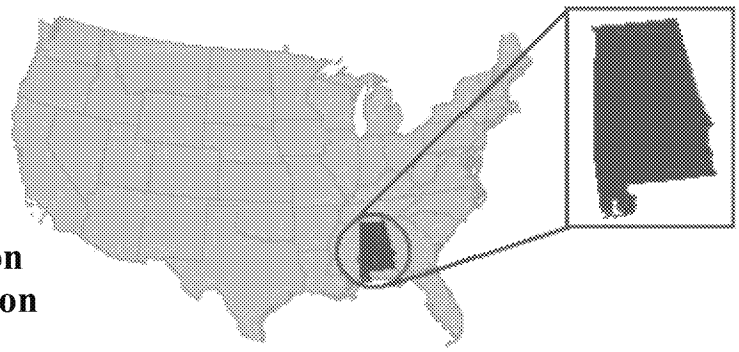
Alabama



Total Jobs: 102,850
Direct Jobs: 49,650

Total Value Added: $9.010 Billion
Direct Value Added: $4.978 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	10,740	$776.5M
Biobased Chemicals	260	$82.6M
Biorefining	< 50	< $5M
Enzymes	50	$14.2M
Forest Products	33,420	$3.9B
Textiles	5,840	$266.0M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

14 Alabama companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry

Jasper Lumber Company (Jasper, AL; jasperlumber.com): Jasper Lumber Company has manufactured quality southern pine lumber for more than 25 years, offering a wide range of wood products. The company is the only lumber manufacturer in the southeast U.S. to hold certifications from both the Forest Stewardship Council and the Sustainable Forestry Initiative.

Biobased Chemicals

Alpha CLP (Winfield, AL; alphaclp.com): Alpha CLP manufactures a biobased, non-gumming firearm cleaner, lubricant, and protectant. The finished product is 99 percent biobased, utilizing vegetable oils during the production process.

Renewable Oil International, LLC (Florence, AL; renewableoil.com): Renewable Oil International is dedicated to developing and commercializing an advanced biomass distillation process based on fast pyrolysis technology. The objective is to cost effectively fractionate wood and other types of biomass into high-value products.

USDA Rural Development Alabama Office

Ronald Davis, State Director (www.rd.usda.gov/al)
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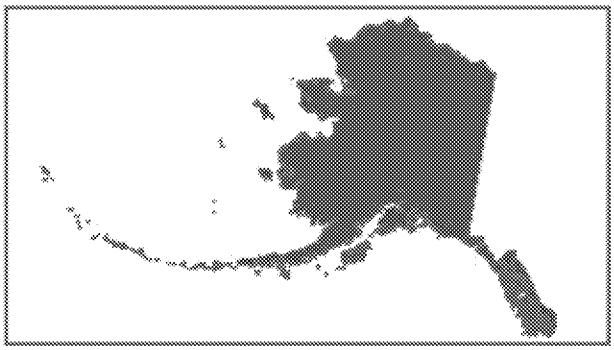
Alaska



Total Jobs: 1,980
Direct Jobs: 1,420

Total Value Added: $120 Million
Direct Value Added: $67 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	640	$46.8M
Biobased Chemicals	< 50	< $5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	670	$17.8M
Textiles	110	< $5M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

5 Alaska companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Denali Organics, LLC (Chugiak, AK; denaliorganics.com): Denali Organics provides organic liquid fertilizer products, made with catfish by-products and proprietary digestive enzymes. These fertilizers can be blended to meet a customer's specific requirements.

Biobased Chemicals
Polyseal Insulation (Palmer, AK; polysealinsulation.com): Polyseal Insulation offers a range of services including insulation, spray foam, roofing foam, and advanced coatings. Their Green Cellulose Insulation product is non-toxic and manufactured from at least 80 percent recovered, post-consumer paper fiber.

Forest Products
Tongass Forest Enterprises (Ketchikan, AK; akforestenterprises.com): Tongass Forest Enterprises specializes in producing custom wood building products. The company uses the by-product from these products to produce wood pellets, as well.

USDA Rural Development Alaska Office

Jim Nordlund, State Director (www.rd.usda.gov/ak)
800 West Evergreen, Suite 201, Palmer, AK 99645-6539
Phone: (907) 761-7705

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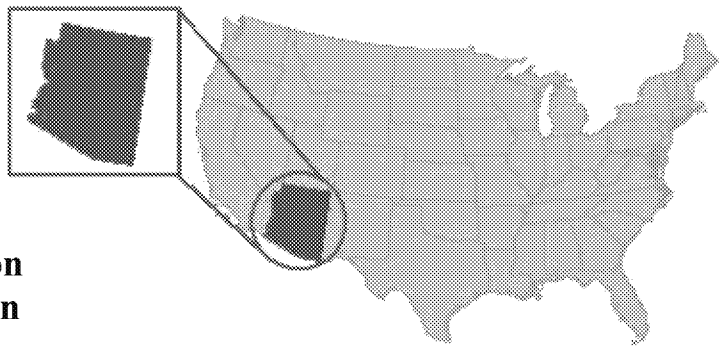
Arizona



Total Jobs: 27,730
Direct Jobs: 14,790

Total Value Added: $1.968 Billion
Direct Value Added: $912 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	3,510	$268.6M
Biobased Chemicals	120	$33.2M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	10,360	$582.8M
Textiles	830	$29.5M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

30 Arizona companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Yulex (Phoenix, Arizona; yulex.com): Yulex manufactures 100 percent plant-based rubber. As the first commercial enterprise to produce biobased natural rubber latex in North America, Yulex, now collaborates with consumer, industrial, and medical market leaders to co-develop a variety of products.

Biobased Chemicals
GEMTEK (Phoenix, AZ; gemtek.com/): GEMTEK is dedicated to providing high performance cleaners, lubricants, solvents, and specialty chemicals derived from renewable plant-based resources.

Eco Safety Products, LLC (Phoenix, AZ; ecosafetyproducts.com): Eco Safety Products manufactures high-performance paints, stains, finishes, and chemicals that utilize sustainable biobased technology.

USDA Rural Development Arizona Office

Ernie Wetherbee, Acting State Director (www.rd.usda.gov/az)
230 North First Avenue, Suite 206, Phoenix, AZ 85003-1706
Phone: (602) 280-8701

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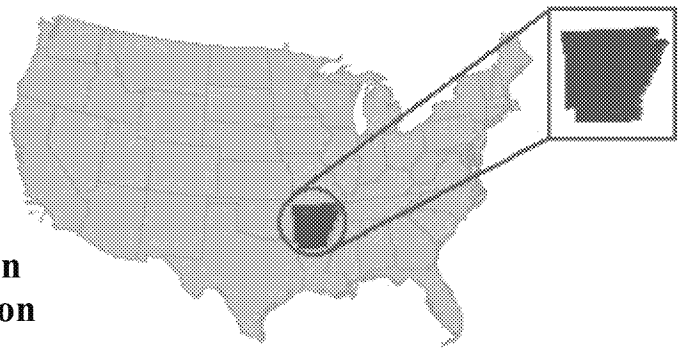
Arkansas



Total Jobs: 64,590
Direct Jobs: 31,400

Total Value Added: $5.903 Billion
Direct Value Added: $3.165 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	7,330	$512.9M
Biobased Chemicals	190	$58.0M
Biorefining	< 50	< $5M
Enzymes	50	$8.2M
Forest Products	23,330	$2.6B
Textiles	860	$40.6M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

12 Arkansas companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Anthony Forest Products Company (El Dorado, AR; Urbana AR; anthonyforest.com): Anthony Forest Products operates a southern pine lumber producing mill in Urbana, and an engineered wood laminating plant in El Dorado. Some of the company's fastest growth has been in the engineered wood products sector.

Biobased Chemicals
AgSeal LLC (Harrison, AR; agseal.com): AgSeal services the growing needs of poultry and agriculture markets for energy saving retrofitting of facilities and structures. The company's foam sealants and insulation are biobased and made especially for poultry and agricultural applications.

Biobased Technologies (Springdale, AR; biobased.net): Biobased Technologies manufactures a high bio-carbon soy polyol, Agrol, which can replace some petroleum polyols. Agrol is used in a variety of products, including lubricants, furniture, adhesives, inks, and agricultural products.

USDA Rural Development Arkansas Office

Lawrence McCullough, State Director (www.rd.usda.gov/ar)
700 West Capitol Avenue, Room 3416, Little Rock, AR 72201-3225
Phone: (501) 301-3200

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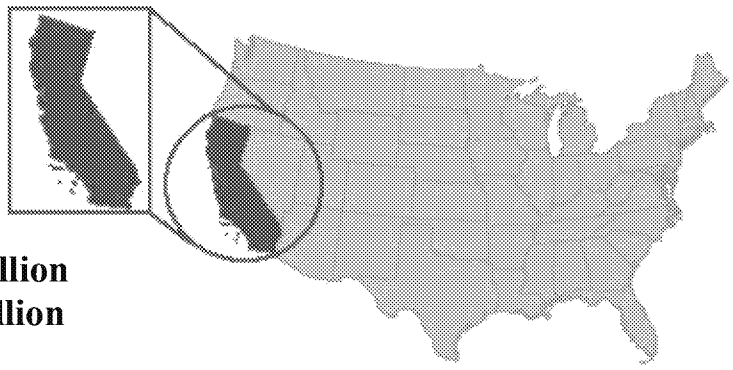
California



Total Jobs: 265,530
Direct Jobs: 145,080

Total Value Added: $21.577 Billion
Direct Value Added: $9.863 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	42,310	$2.4B
Biobased Chemicals	1,250	$324.4M
Biorefining	<50	$7.3M
Enzymes	170	$42.9M
Forest Products	71,340	$5.7B
Textiles	31,090	$1.5B
Bioplastic Bottles & Packaging	90	$7.5M

BioPreferred®

262 California companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

TerraVia (San Francisco, CA; solazyme.com): TerraVia, formerly Solazyme, has refined its efforts to focus on manufacturing algae oil for the food and personal care industries for use in products that include cooking oils, protein powders, and face lotions.

Verdezyne (Carlsbad, CA; verdezyne.com): Verdezyne leverages the power of biology to produce chemicals from renewable, non-food sources. Verdezyne's feedstocks are derived from the by-products of vegetable oil production.

Bioplastic Bottles & Packaging

BeGreen Packaging LLC (Santa Barbara, CA; begreenpackaging.com): Be Green Packaging designs, manufactures, and distributes the only non-GMO Product Verified, tree-free, and compostable packaging for the food and consumer packaging industries. Renewable plant fibers are utilized to produce both consumer and food packaging products.

USDA Rural Development California Office

Janice Waddell, State Director (www.rd.usda.gov/ca)
430 G Street, #4169, Davis, CA 95616-4169
Phone: (530) 792-5800

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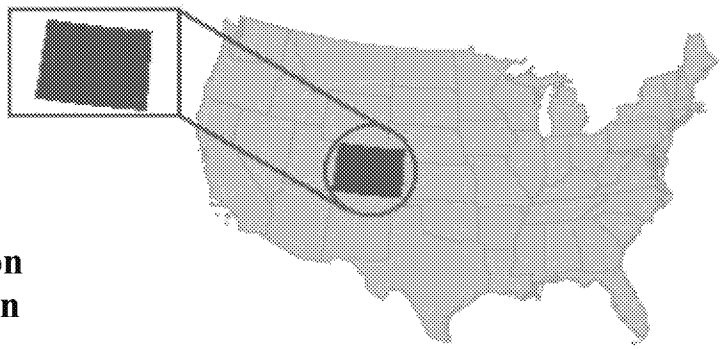
Colorado



Total Jobs: 21,840
Direct Jobs: 11,500

Total Value Added: $1.526 Billion
Direct Value Added: $635 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,710	$54.9M
Biobased Chemicals	110	$31.9M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	8,510	$476.6M
Textiles	1,200	$72.4M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

60 Colorado companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Natracare LLC (Greeley, CO; natracare.com): Natracare LLC manufactures feminine hygiene products using responsibly sourced, biobased materials. Natracare's products are compostable and made to limit the user's exposure to chemicals such as chlorine, plastic, pesticides, and petroleum derivatives.

Forest Products
Sustainable Flooring (Boulder, CO; sustainableflooring.com): Sustainable Flooring offers various flooring and walls products, designed for both residential and commercial applications. In addition to wood, the company utilizes bamboo and cork in the manufacturing process.

Bioplastic Bottles & Packaging
Eco-Products (Boulder, CO; ecoproducts.com): Eco-Products offers a full selection of disposable products, including plates, cups, containers, and silverware. All products are produced from recycled content or renewable resources (e.g. corn, sugarcane, plant starch).

USDA Rural Development Colorado Office

Trudy Kareus, State Director (www.rd.usda.gov/co)
Denver Federal Center, Building 56, Room 2300, PO Box 25426, Denver, CO 80225-0426
Phone: (720) 544-2904

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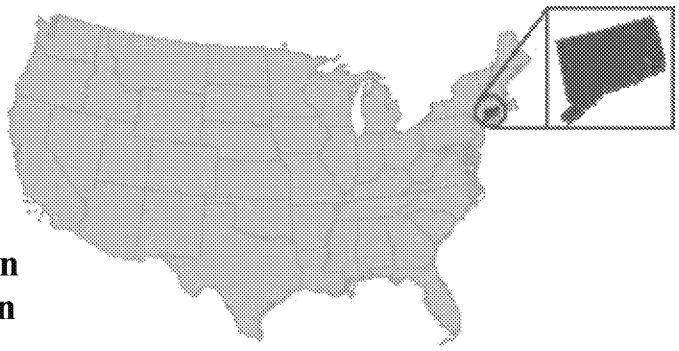
Connecticut



Total Jobs: 18,750
Direct Jobs: 8,970

Total Value Added: $1.905 Billion
Direct Value Added: $846 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	680	$19.2M
Biobased Chemicals	190	$47.0M
Biorefining	< 50	< $5M
Enzymes	< 50	$5.4M
Forest Products	7,200	$670.0M
Textiles	910	$109.5M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

24 Connecticut companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Citrasolv (Ridgefield, CT; citrasolv.com): Citrasolv produces a line of earth-and-people-friendly cleaning supplies that are derived from renewable resources. Citra Solv Concentrate, a multipurpose cleaning product, is 95 percent biobased.

New Polymer Systems INC (New Canaan, CT; newpolymersystems.com): New Polymer Systems has patents pending on processes that yield lightweight, hydrophobic lignocellulosic fillers, the core component of their NeroPlast branded products. NeroPlast can be utilized in a host of applications, including car parts, decking, pallets, and roofing and is a USDA Certified Biobased Product with 100 percent biobased content.

Bioplastic Bottles & Packaging
Green Valley Packaging (Danielson, CT; vegware.us): Green Valley Packaging is a key distributor of the Vegware brand of eco-packaging products in the food service sector. Feedstock inputs include sugarcane bagasse and corn starch.

USDA Rural Development Connecticut Office

Scott Soares, State Director (www.rd.usda.gov/ct)
451 West Street, Amherst, MA 01002-2999
Phone: (413) 253-4300

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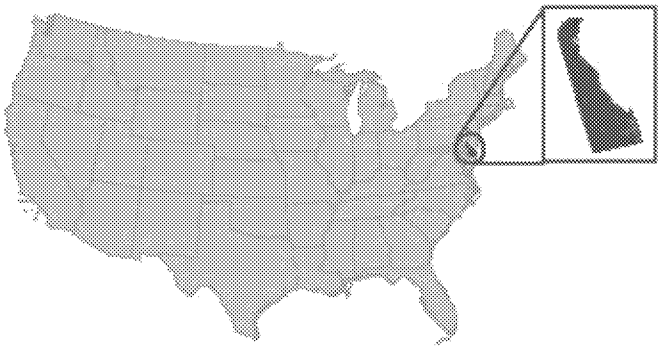
Delaware



Total Jobs: 4,170
Direct Jobs: 2,140

Total Value Added: $5501 Million
Direct Value Added: $347 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	160	< $5M
Biobased Chemicals	60	$32.1M
Biorefining	< 50	< $5M
Enzymes	< 50	$8.9M
Forest Products	1,580	$290.7M
Textiles	330	$17.9M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred

5 Delaware companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

DuPont Industrial Biosciences (Wilmington, DE; dupont.com): DuPont is a global leader in the development of renewably sourced biobased materials. By utilizing glucose as the basis for Bio-PDO, a biobased monomer, DuPont created an ingredient a biobased fiber, Sorona, which is used in a variety of everyday products.

Ensyn Corporation (Wilmington, DE; ensyn.com): Ensyn is a producer of advanced, drop-in cellulosic biofuel, produced from wood biomass and agricultural residues. Much of their biofuel production has been dedicated to the production of renewable chemicals and heating fuels for the specialty chemicals industry.

The Chemours Company (Wilmington, DE; chemours.com): Teflon, a brand of The Chemours Company, manufactures EcoElite, the first renewably sourced, non-fluorinated fabric treatment designed for durable water repellency. The product contains 60 percent renewable content.

USDA Rural Development Delaware Office

Bill McGowan, State Director (www.rd.usda.gov/de)
1221 College Park Drive, Suite 200, Dover, DE 19904
Phone: (302) 857-3580

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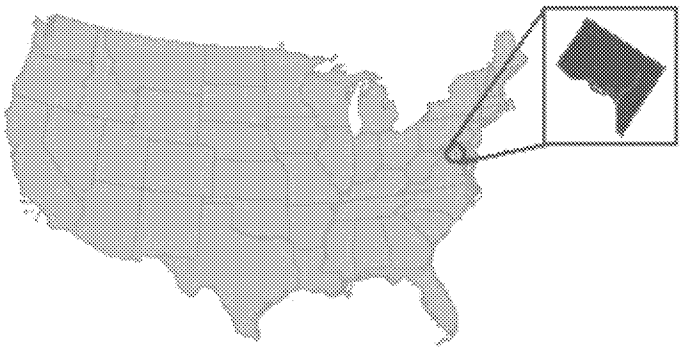
Washington, D.C.



Total Jobs: 280
Direct Jobs: 220

Total Value Added: $26 Million
Direct Value Added: $18 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	< 50	< $5M
Biobased Chemicals	< 50	< $5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	180	$16.7M
Textiles	< 50	< $5M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

3 Washington, DC companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Forest Products
Kwai (Washington, DC; kwaihome.com): Kwai produces handcrafted materials utilizing fronds from areca palm trees. Finished materials are 100 percent biobased, and fully biodegradable.

Bioplastic Bottles & Packaging
TemperPack Technologies (Washington, DC; temperpack.com): TemperPack seeks to replace petrochemical-based packaging with more sustainable forms of packaging, utilizing renewable jute fiber as a feedstock. Additional feedstocks include post-consumer recycled plastic and paper.

USDA Rural Development Washington, DC Office

U.S. Department of Agriculture (usda.gov/)
1400 Independence Ave., S.W.
Washington, DC 20250
Information Hotline: (202) 720-2791

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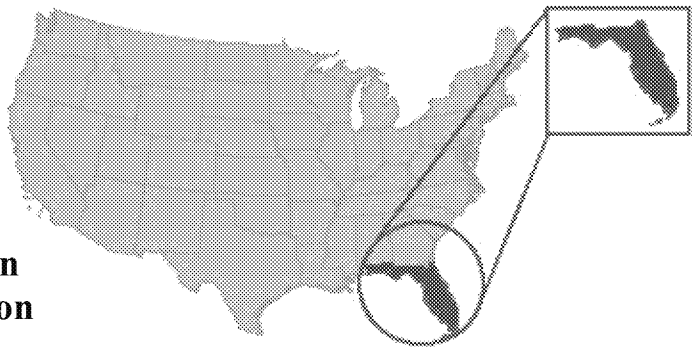
Florida



Total Jobs: 98,460
Direct Jobs: 47,690

Total Value Added: $7.805 Billion
Direct Value Added: $3.738 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	14,800	$721.0M
Biobased Chemicals	410	$79.2M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	28,850	$2.8B
Textiles	3,950	$170.9M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred

118 Florida companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Arizona Chemical (Panama City, FL; Pensacola, FL; arizonachemical.com): Arizona Chemical is the world's leading producer and biorefiner of pine chemicals. The company provides innovative, biobased chemical solutions to multiple industry sectors, including adhesives, roads and construction, tires, and coatings. Approximately 85 percent of the company's raw materials are made from renewable sources.

BioBag Americas, Inc. (Palm Harbor, FL; biobagusa.com): BioBag produces bags and plastic films derived from renewable agriculture feedstocks, including cornstarch and vegetable oils. Compostable products span both retail and commercial applications.

Naturally Green Products LLC (Seminole, FL; naturally-greenproducts.com): Naturally Green offers the most comprehensive line of USDA BioPreferred cleaning and floor care products. Product offerings include bathroom cleaners, dishwashing products, disinfectants, floor and carpet clearness, laundry products, and hand soaps and sanitizers.

USDA Rural Development Florida Office

Richard Machek, State Director (www.rd.usda.gov/fl)
Post Office Box 147010, 4440 NW 25th Place, Gainesville, FL 32614-7010
Phone: (352) 338-3402

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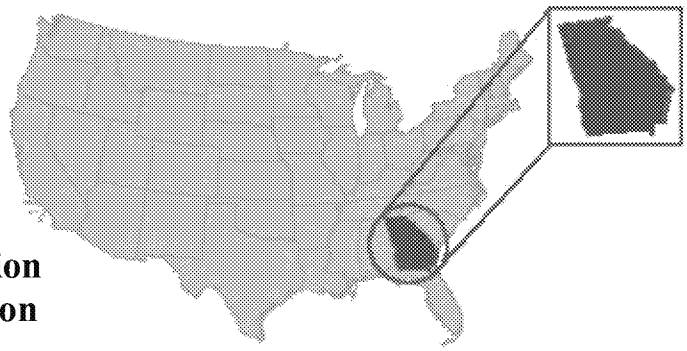
Georgia



Total Jobs: 178,110
Direct Jobs: 80,520

Total Value Added: $16.365 Billion
Direct Value Added: $8.238 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	17,940	$1.5B
Biobased Chemicals	620	$168.9M
Biorefining	< 50	< $5M
Enzymes	70	$14.9M
Forest Products	41,970	$5.1B
Textiles	21,020	$1.6B
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

71 Georgia companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Arizona Chemical (Savannah, GA; arizonachemical.com): Arizona Chemical is the world's leading producer and biorefiner of pine chemicals. The company provides innovative, biobased chemical solutions to multiple industry sectors, including adhesives, roads and construction, tires, and coatings.

Forest Products
US Floors (Dalton, GA; usfloorsllc.com): US Floors is the leading producer of sustainable, biobased flooring, produced from cork, bamboo, and FSC Certified hardwood. US Floors is currently the only producer of cork and bamboo flooring with manufacturing facilities in the US.

Bioplastic Bottles & Packaging
The Coca-Cola Company (Atlanta, GA; coca-colacompany.com): In 2009, the Coca-Cola Company unveiled the first-ever fully recyclable PET plastic beverage bottle made from plants. In 2012, the Company announced the formation of the Plant PET Technology Collaborative, a strategic initiative aimed at developing 100 percent biobased PET.

USDA Rural Development Georgia Office

Jill Stuckey, State Director (www.rd.usda.gov/ga)
Stephens Federal Building, 355 E. Hancock Avenue, Stop 300, Athens, GA 30601-2768
Phone: (706) 546-2162

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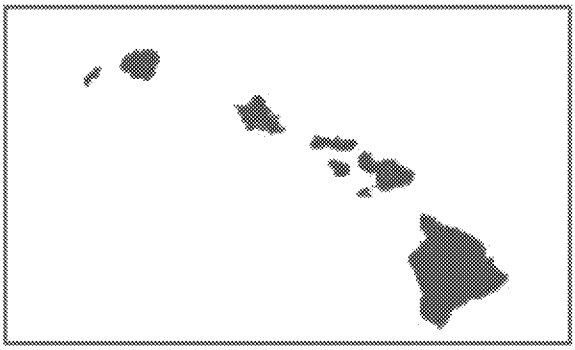
Hawaii

Total Jobs: 2,840
Direct Jobs: 1,930

Total Value Added: $138 Million
Direct Value Added: $66 Million



The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	420	$9.4M
Biobased Chemicals	< 50	< $5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	1,040	$40.1M
Textiles	460	$15.1M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

8 Hawaii companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Hawaiian Earth Products, Ltd. (Kapolei, HI; menehunemagichawaii.com): Hawaiian Earth Products makes products that use waste from yard trimmings, such as compost and potting mix. After being collected as waste from several cities in Hawaii, these trimmings are converted into useful products, rather than being sent to a landfill.

Biobased Chemicals
Malie Organics (Kalaheo, HI; malie.com): Malie offers a range of personal care and beauty products, all produced from natural and organic feedstocks. Product ingredients are all sustainably grown and harvested.

Forest Products
Honsador Lumber LLC (Kapolei, HI; honsador.com): Honsador is Hawaii's largest lumber supplier. In addition to lumber and plywood, the company offers an array of finished products, including cabinetry, doors, and windows.

USDA Rural Development Hawaii Office

Chris Kanazawa, State Director (www.rd.usda.gov/hi)
Federal Building, Room 311, 154 Waianuenue Avenue, Hilo, HI 96720
Phone: (808) 933-8380

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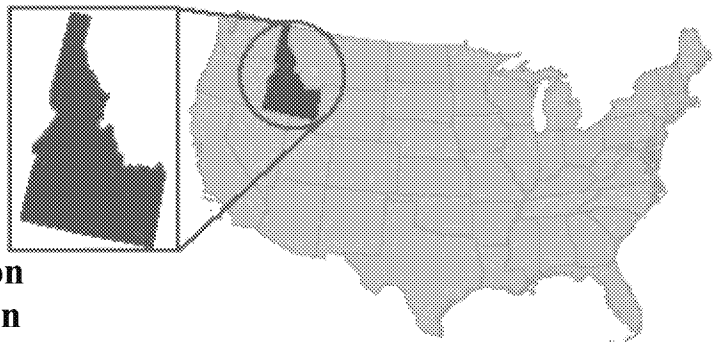
Idaho



Total Jobs: 25,660
Direct Jobs: 12,250

Total Value Added: $1.724 Billion
Direct Value Added: $886 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	3,350	$213.3
Biobased Chemicals	60	$9.1M
Biorefining	< 50	$5.7M
Enzymes	< 50	< $5M
Forest Products	9,440	$647.8M
Textiles	390	$11.3M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

13 Idaho companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Eagle Forest Products (Eagle, ID; eaglefp.net): Eagle Forest Products offers a wide variety of lumber and wood products. The company provides lumber to a number of industries, including flooring, construction, music, and landscaping.

Idaho Forest Group, LLC (Coeur d'Alene, ID; idahoforestgroup.com): The Idaho Forest Group, one of America's largest lumber producers, grows, harvests, manufactures, and distributes sustainable wood. In addition to lumber, available products include oriented strand board, paper and packaging materials, wood pellets, wood chips, and bark for power production.

Biobased Chemicals
Pro-Tek Chemicals (Glenns Ferry, ID; protekchemical.com): Pro-Tek manufactures more than 10 biobased cleaning products that are readily biodegradable. Product offerings include cleaners, scrubs, polishes, and enzymes.

USDA Rural Development Idaho Office

Wallace Hedrick, State Director (www.rd.usda.gov/id)
9713 West Barnes Drive, Suite A1, Boise, ID 83709
Phone: (208) 378-5600

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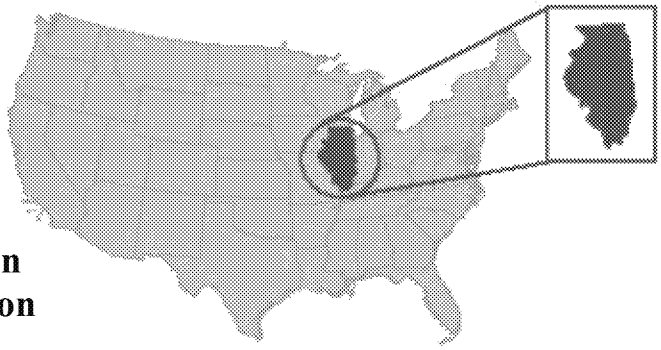
Illinois



Total Jobs: 90,930
Direct Jobs: 39,940

Total Value Added: $8.385 Billion
Direct Value Added: $3.543 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,950	$63.0M
Biobased Chemicals	1,000	$235.0M
Biorefining	130	$48.2M
Enzymes	130	$222.2M
Forest Products	34,380	$3.1B
Textiles	3,100	$157.6M
Bioplastic Bottles & Packaging	80	$9.2M

BioPreferred®

123 Illinois companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

ADM (Chicago, IL; adm.com): ADM is one of the world's largest agricultural processors, manufacturing a variety of food, animal feed, energy, and industrial products, which include those for construction, packaging, personal care, pulp and paper, and plastic. Oilseeds and corn are the company's primary feedstocks.

Elevance Renewable Sciences, Inc. (Woodridge, IL; elevance.com): Elevance Renewable Sciences is a specialty chemical company that creates chemicals from renewable feedstocks. Market uses include personal care products, detergents and cleaners, engineered polymers, lubricants, and other specialty chemical markets.

LanzaTech (Skokie, IL; lanzatech.com): LanzaTech's bioprocessing platform provides an economically robust route to carbon capture and re-use. The company's novel gas-to-liquid technology is the only process that converts waste gases (carbon monoxide and carbon dioxide) to fuels and chemicals.

USDA Rural Development Illinois Office

Colleen Callahan, State Director (www.rd.usda.gov/il)
2118 West Park Court, Suite A, Champaign, IL 61821
Phone: 217-403-6200

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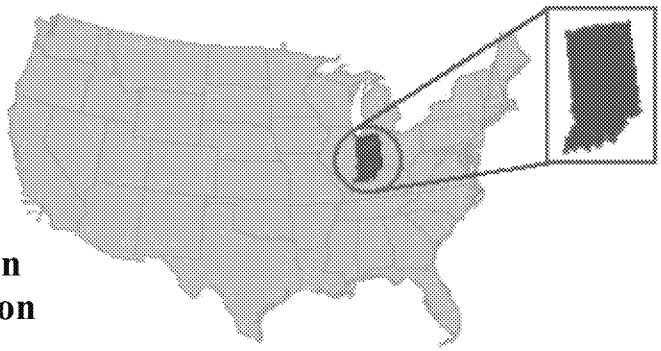
Indiana



Total Jobs: 85,530
Direct Jobs: 46,050

Total Value Added: $5.820 Billion
Direct Value Added: $2.843 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,850	$63.9M
Biobased Chemicals	490	$157.5M
Biorefining	< 50	$11.4M
Enzymes	60	$12.8M
Forest Products	41,740	$2.5B
Textiles	1,980	$95.2M
Bioplastic Bottles & Packaging	70	$5.4M

BioPreferred

28 Indiana companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Toni Natural Products Co. LLC (Sunman, IN; toninatural.com): Toni Natural offers an assortment of products that contain 100 percent natural plant- and mineral-based compounds. These products include cleaning products, laundry detergents, fabric softeners, dishwashing liquid, soaps, shampoos, and lotions.

Trellis Bioplastics (Seymour, IN; trellisbioplastic.com): Trellis Bioplastics creates a wide range of bioplastic resins and consumer products, replacing upwards of 95 percent of the petroleum content used in traditional plastics. Starch-based feedstocks are currently used in manufacturing processes, with plans to expand feedstock use to include algae, distillery by-products, wheat chaff, and rice hulls.

Enzymes

Enzyme Solutions Inc. (Garrett, IN; enzymesolutions.com): Enzyme Solutions is a leader in "green" cleaning technology, manufacturing both enzymes and enzyme products. Manufacturing, testing, formulation, and bottling are all conducted in Indiana.

USDA Rural Development Indiana Office

Philip Lehmkuhler, State Director (www.rd.usda.gov/in)
5975 Lakeside Boulevard, Indianapolis, IN 46278
Phone: (317) 290-3100 ext.4

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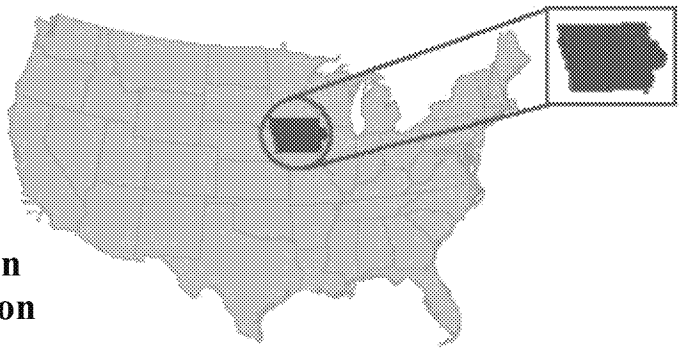
Iowa



Total Jobs: 37,430
Direct Jobs: 20,110

Total Value Added: $3.022 Billion
Direct Value Added: $1.735 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,400	$51.7M
Biobased Chemicals	230	$123.1M
Biorefining	80	$22.3M
Enzymes	140	$65.3M
Forest Products	17,620	$1.5B
Textiles	750	$45.1M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

79 Iowa companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Avello Bioenergy (Ames, IA; avellobioenergy.com): In collaborating with Iowa State University, Avello is commercializing proprietary technology that provides quality, low-cost, profitable feedstocks for producing bulk chemicals, specialty chemicals, lignin based chemicals, adhesives, and flavors and fragrances.

Corn Oil ONE (Pleasant Hill, IA; cornoilone.com): Corn Oil ONE refines crude corn oil, thereby eliminating free fatty acids, moisture, and waxes. The refined corn oil product delivers the same advantages as soybean oil, making it available as an alternative feedstock for oleochemical and biobased industries.

Renewable Energy Group, Inc. (Ames, IA; regfuel.com): Renewable Energy Group is a leading North American advanced biofuels producer and developer of renewable chemicals. The company's growing industrial biotechnology business manufactures sustainable chemical products using renewable feedstocks such as corn, sugarcane, and cellulosic sugars.

USDA Rural Development Iowa Office

William Joseph Menner, State Director (www.rd.usda.gov/ia)
Federal Building, Room 873, 210 Walnut Street, Des Moines, IA 50309
Phone: (515) 284-4663

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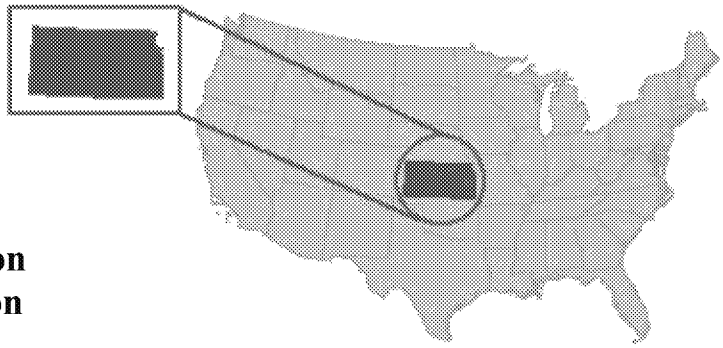
Kansas



Total Jobs: 17,070
Direct Jobs: 9,080

Total Value Added: $1.129 Billion
Direct Value Added: $504 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	910	$44.2M
Biobased Chemicals	140	$56.5M
Biorefining	< 50	< $5M
Enzymes	60	$13.4M
Forest Products	6,890	$367.3M
Textiles	1,070	$35.9M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

27 Kansas companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Corbion (Lenexa, KS; corbion.com): Corbion is the global market leader in lactic acid, lactic acid derivatives, and lactides. Product offerings include bioplastics, biochemical, and biomedical products.

Nowa Technology, Inc. (Prairie Village, KS; nowatechnology.com): Nowa Technology, Inc. uses solids extracted from wastewater treatment sludge to create useful products, including fertilizer. The Nowa Technology process efficiently creates useful products from a source that would otherwise be undesirable waste.

LC Bioplastics (Wichita, KS; lcbioplastics.com): LC Bioplastics manufactures a range of bioplastic resins and additives, including a line of ready-to-use finished goods such as custom film and bag products. Biohybrid resins, which are a blend of renewable thermoplastic materials and traditional polyolefins, increase the renewable content of a product by up to 50 percent in comparison to traditional packaging.

USDA Rural Development Kansas Office

Patricia Clark, State Director (www.rd.usda.gov/ks)
1303 SW First American Place, Suite 100, Topeka, KS 66604-4040
Phone: (785) 271-2700

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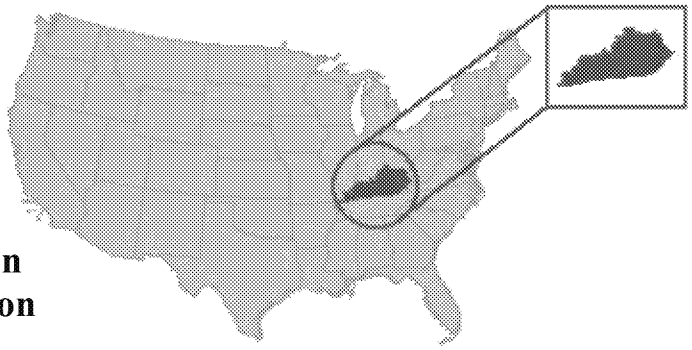
Kentucky



Total Jobs: 53,190
Direct Jobs: 27,290

Total Value Added: $4.037 Billion
Direct Value Added: $2.128 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	3,110	$98.3M
Biobased Chemicals	450	$11.9M
Biorefining	< 50	< $5M
Enzymes	50	$11.3M
Forest Products	21,960	$1.8B
Textiles	1,780	$76.5M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

12 Kentucky companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Owensboro Grain Company (Owensboro, KY; owensborograin.com): Owensboro Grain Company manufacturers an array of products from soybeans, including protein meal and hull pellets for animal feeds, crude and degummed oil, lecithin, and various blends of refined vegetable oils for human consumption, biodiesel, and glycerin.

RyDol Lubricants (Shelbyville, KY; rydol.com): RyDol manufactures and distributes specialty high-performance, biodegradable lubricants, solvents, and degreasers. Products contain soybean oil, grease, and methyl esters as base fluids.

Soy Technologies, LLC (Nicholasville, KY; soytek.com): Soy Technologies is a specialty chemical manufacturer that develops renewable, biobased chemicals. Available products include biobased solvents and emulsions, personal care products, paint thinners, and additional specialty products.

USDA Rural Development Kentucky Office

Thomas G. Fern, State Director (www.rd.usda.gov/ky)
771 Corporate Drive, Suite 200, Lexington, KY 40503
Phone: (859) 224-7300

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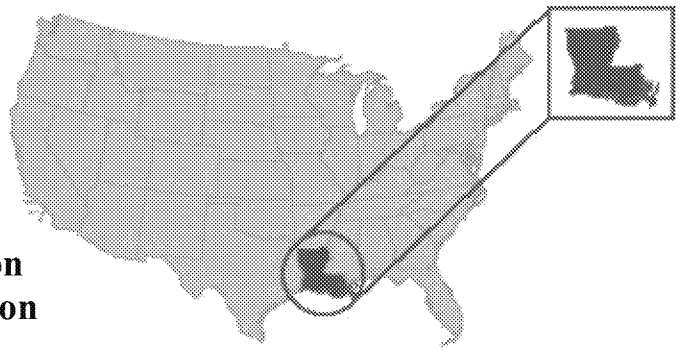
Louisiana



Total Jobs: 49,070
Direct Jobs: 22,440

Total Value Added: $4.906 Billion
Direct Value Added: $2.649 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	6,670	$451.0M
Biobased Chemicals	330	$151.8M
Biorefining	< 50	$8.1M
Enzymes	70	$27.9M
Forest Products	14,810	$2.0B
Textiles	780	$26.7M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred

7 Louisiana companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Biosynthetic Technologies (Baton Rouge, LA; biosynthetic.com): Biosynthetic Technologies manufactures biobased synthetic molecules produced from organic fatty acids found in plant oils. Biosynthetic oils have numerous applications in the lubricant, chemical, and cosmetics industries. In conjunction with Albemarle, a specialty chemical company, the company operates a demonstration plant in Louisiana.

Myriant (Lake Providence, LA; myriant.com): Myriant developed a proprietary platform for the production of biobased chemical intermediates, which can be seamlessly integrated into existing chemical production processes in order to provide a wide range of consumer applications. A variety of feedstocks is utilized in the production process.

Giant Cleaning Systems, Inc. (Duson, LA; giantcleaningproducts.com): Giant Cleaning Systems manufactures a variety of industrial cleaners, including drill rigs, printing industry, and aircraft cleaners. Many of these products contain biobased materials.

USDA Rural Development Louisiana Office

Clarence Hawkins, State Director (www.rd.usda.gov/la)
3727 Government Street, Alexandria, LA 71302
Phone: (318) 473-7920

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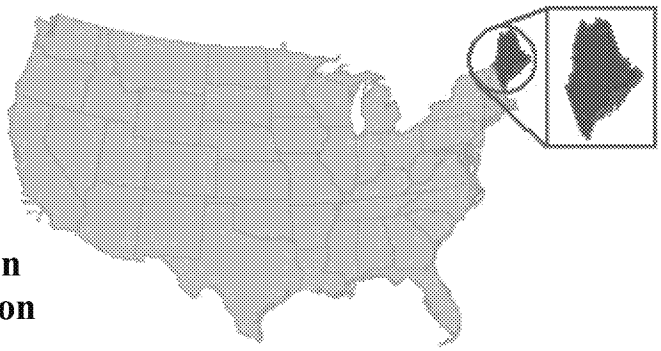
Maine



Total Jobs: 46,950
Direct Jobs: 20,500

Total Value Added: $3.574 Billion
Direct Value Added: $1.600 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	6,020	$268.7M
Biobased Chemicals	< 50	< $5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	13,390	$1.3B
Textiles	1,040	$47.1M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

14 Maine companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Genesan LLC (Gorham, ME; cleaneasier.com): Genesan is a leading source of high-performance, ecological, and biotechnological cleaning products in the US. Collaborating with Pollet, a world leader in developing and manufacturing biobased cleaning solutions, over 54 percent of Genesan SKUs are classified as biobased and derived from natural sources.

Textiles

Biovation II, LLC (Boothbay, ME; biovation.com): Biovation manufactures non-woven material consisting of natural, or naturally derived, fibers. The material is manufactured using a sustainable biopolymer, polylactic acid.

Grow-Tech, LLC (South Portland, ME; grow-tech.com): Grow-Tech manufactures BioStrate, a biobased non-woven textile used by aquaponics and hydroponics farms to grow lettuce, microgreens, and tomatoes.

USDA Rural Development Maine Office

Virginia Manuel, State Director (www.rd.usda.gov/me)
967 Illinois Avenue Suite 4, Bangor, ME 04401-2767
Phone: (207) 990-9160

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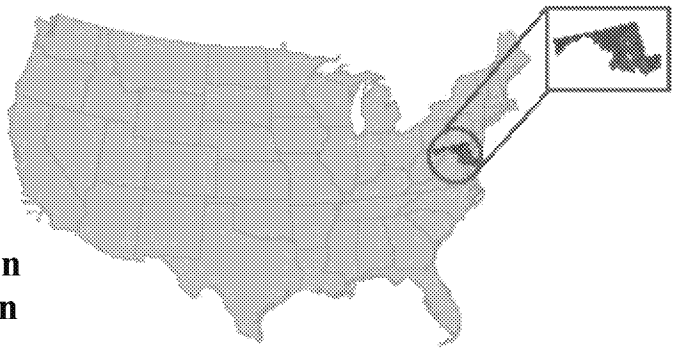
Maryland



Total Jobs: 18,150
Direct Jobs: 9,570

Total Value Added: $1.613 Billion
Direct Value Added: $801 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,050	$40.7M
Biobased Chemicals	170	$73.0M
Biorefining	< 50	< $5M
Enzymes	60	$52.8
Forest Products	7,030	$546.8M
Textiles	1,310	$85.7
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

24 Maryland companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Forest Products

American Wood Fibers (Columbia, MD; awf.com): American Wood Fibers is a leader in the field of specialty forestry products. The company offers an array of products for people, pets, and livestock, all produced from wood shavings and wood flour. Industrial fiber applications include adhesives, absorbents, papers, and plastics.

Enviva Partners, LP (Bethesda, MD; envivabiomass.com): Enviva is the world's largest producer of wood pellets, owning and operating six plants within the southeastern US. Pellets are produced using sustainable practices that protect Southern forests.

Wicanders (Hanover, MD; wicanders.com/us): Wicanders developed Corktech, a technology that provides exclusive properties for floors and wall coverings made from cork.

USDA Rural Development Maryland Office

Bill McGowan, State Director (www.rd.usda.gov/md)
1221 College Park Drive, Suite 200, Dover, DE 19904
Phone: (302) 857-3580

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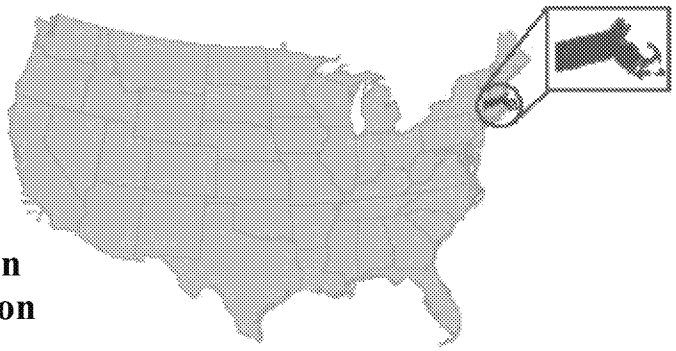
Massachusetts



Total Jobs: 40,350
Direct Jobs: 19,140

Total Value Added: $3.613 Billion
Direct Value Added: $1.417 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,460	$43.7M
Biobased Chemicals	340	$79.8M
Biorefining	< 50	< $5M
Enzymes	< 50	$14.7M
Forest Products	14,160	$1.1B
Textiles	3,280	$184.3M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

49 Massachusetts companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Bum Boosa Bamboo Products (Mashpee, MA; bumboosa.com): Bum Boosa produces biodegradable, eco-friendly bamboo products, which can be adopted as an alternative to products produced from tree-pulp and many types of plastic used in fiber production.

Biobased Chemicals
Metabolix, Inc. (Cambridge, MA; metabolix.com): Metabolix is an advanced biomaterials company, focused on delivering sustainable solutions to the plastics industry. Metabolix produces biobased polymers utilizing renewable carbon-based feedstock.

Myriant (Quincy, MA; myriant.com): Myriant manufactures a broad pipeline of biobased chemicals, including bio-succinic acid and its derivatives, in addition to other biobased chemical intermediates that perform equal to, or better than, petroleum-based chemicals. Grain sorghum and other cellulosic feedstocks are used in the production processes.

USDA Rural Development Massachusetts Office

Scott Soares, State Director (www.rd.usda.gov/ma)
451 West Street, Amherst, MA 01002-2999
Phone: (413) 253-4300

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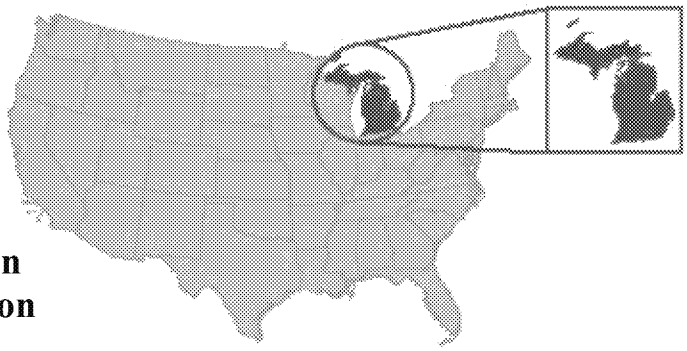
Michigan



Total Jobs: 81,820
Direct Jobs: 37,790

Total Value Added: $6.426 Billion
Direct Value Added: $2.882 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	5,210	$243.2M
Biobased Chemicals	950	$169.8M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	30,090	$2.4B
Textiles	1,880	$117.1M
Bioplastic Bottles & Packaging	70	$5.5M

BioPreferred®

52 Michigan companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Lear Corporation (Southfield, MI; lear.com): Lear Corporation produces SoyFoam, derived from soybean oil, for automotive interior applications on North American Ford and other customer vehicles.

KTM Industries, Inc. (Lansing, MI; ktmindustries.com/products.html): KTM Industries develops, manufactures, and markets new technologies that incorporate bioplastics. One of the company's products is Green Cell, a starch-based biodegradable foam.

Biorefining
Hydro Safe, Inc. (Dewitt, MI; hydrosafe.com): Hydro Safe products use vegetable-based oils as base fluids for a number of market products, including hydraulic oils, cleaners, and lubricants.

Bioplastic Bottles & Packaging
Green Cell Foam (Lansing, MI; greencellfoam.com): Green Cell Foam produces a unique natural packaging material, produced from high-grade, non-GMO cornstarch.

USDA Rural Development Michigan Office

James Turner, State Director (www.rd.usda.gov/mi)
3001 Coolidge Road, Suite 200, East Lansing, MI 48823
Phone: (517) 324-5190

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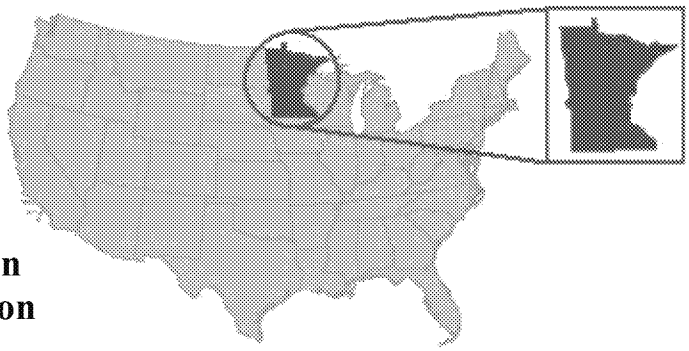
Minnesota



Total Jobs: 81,670
Direct Jobs: 35,850

Total Value Added: $7.371 Billion
Direct Value Added: $3.392 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	3,280	$146.9M
Biobased Chemicals	270	$74.1M
Biorefining	< 50	$6.3M
Enzymes	50	$10.5M
Forest Products	28,880	$3.1B
Textiles	1,730	$81.6M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

92 Minnesota companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

BioAmber (Plymouth, MN; bio-amber.com): BioAmber manufactures succinic acid, which can be used to create of a number of consumer products, including polyurethanes, artificial leathers, cosmetics and personal care products, plastics, and dyes and pigments.

Cargill (Minneapolis, MN; cargill.com): Cargill offers a variety of biobased products, suitable for a number of industrial applications and markets.

NatureWorks, LLC (Minnetonka, MN; natureworksllc.com): NatureWorks is dedicated to driving environmental progress through developing the global market for biobased plastics and fibers. Industry partnerships include service ware, home textiles, food packaging, and apparel.

StarchTech, Inc. (Minneapolis, MN; starchtech.com): StarchTech is a global manufacturer of cornstarch-based loose fill packaging material produced from ReNew Resin.

USDA Rural Development Minnesota Office

Mary Colleen Landkamer, State Director (www.rd.usda.gov/mn)
375 Jackson Street, Suite 410, St. Paul, MN 55101-1853
Phone: (651) 602-7800

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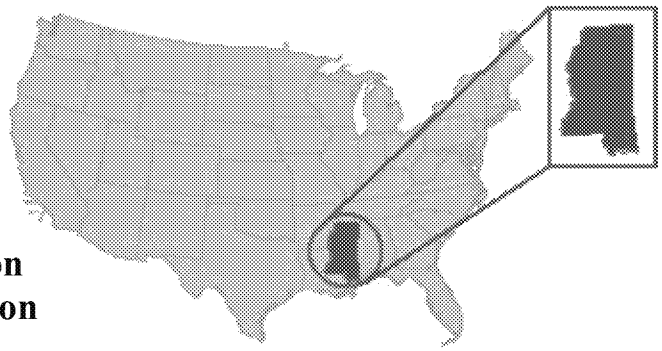
Mississippi



Total Jobs: 68,760
Direct Jobs: 40,350

Total Value Added: $4.730 Billion
Direct Value Added: $2.692 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	9,330	$610.9M
Biobased Chemicals	170	$44.9M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	29,400	$1.9B
Textiles	1,470	$84.0M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred

16 Mississippi companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
SpillEater (Flora, MS; spilleater.com): SpillEater manufactures natural, biobased spill absorbents, produced from cotton plants. Absorbents are available for a number of classifications, including all-purpose, oil, acid, and bodily fluid. Market segments include retail, transportation, manufacturing, and government.

Biobased Chemicals
ALGIX (Meridian, MS; algix.com): A subsidiary of ALGIX, Solaplast harnesses the potential of algae to produce biobased plastics for the replacement of traditional, petroleum-based plastics. Algae is sourced from areas that have historically had algae problems, enhancing the waterway.

Forest Products
Magnolia Forest Products, Inc. (Terry, MS; magnoliaforest.com): Founded in 1976, Magnolia Forest Products is a national supplier of quality, low-cost wood products, including wooden pallet parts, plywood, particleboard, oriented strand board, and furniture parts.

USDA Rural Development Mississippi Office

Trina George, State Director (www.rd.usda.gov/ms)
Federal Building, Suite 831, 100 West Capitol Street, Jackson, MS 39269
Phone: (601) 965-4316

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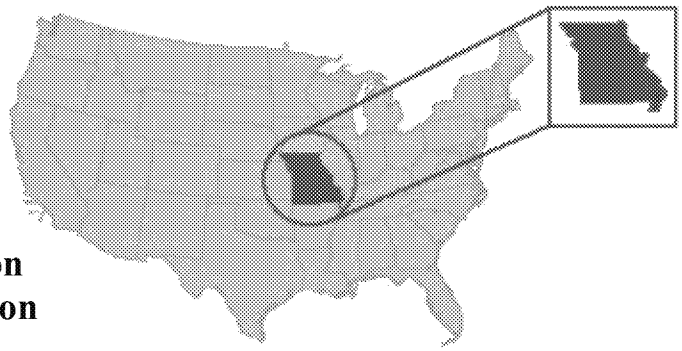
Missouri



Total Jobs: 54,760
Direct Jobs: 27,290

Total Value Added: $4.693 Billion
Direct Value Added: $2.506 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	4,460	$266.5M
Biobased Chemicals	450	$127.7M
Biorefining	< 50	< $5M
Enzymes	130	$28.6M
Forest Products	20,850	$2.1B
Textiles	1,780	$75.3M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

50 Missouri companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Gateway Foam Insulators (Warrenton, MO; gatewayfoam.com): Gateway Foam Insulators produces a soy-based spray foam insulation, BioBased 501, which exhibits the same air sealing capabilities as low-density polyurethanes, and is produced using soybean oil.

Soya Systems (Saint Louis, MO; soya.com): Soya Systems Products are the first shampoos and conditions in the world to contain hydrolyzed soya protein.

Bioplastic Bottles & Packaging
Biodegradable Food Service LLC (Richland, MO; earth-to-go.com): Biodegradable Food Service produces over 82 biobased, single-use food service products, in addition to eco-friendly lid options. Feedstock inputs include bamboo fibers, cornstarch, potato starch, as well as additional vegetable starches.

USDA Rural Development Missouri Office

Anita "Janie" Dunning, State Director (www.rd.usda.gov/mo)
601 Business Loop 70 West, Parkade Center, Suite 235, Columbia, MO 65203
Phone: (573) 876-0976

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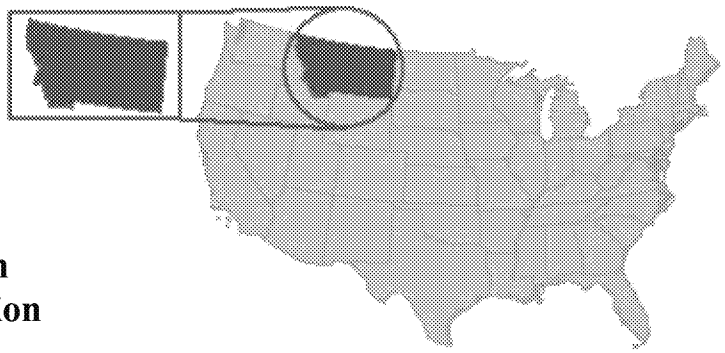
Montana



Total Jobs: 11,350
Direct Jobs: 6,340

Total Value Added: $674 Million
Direct Value Added: $3334 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,860	$75.0M
Biobased Chemicals	< 50	< $5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	4,280	$250.8M
Textiles	190	$5.6M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred

10 Montana companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Blue Marble Biomaterials (Missoula, MT; bluemarblebio.com): Blue Marble Biomaterials manufactures complex chemical compounds using refined green chemistry processes. Organic biomass material, including food co-products, spent brewery grain, and wood chips, is utilized in the production of chemical products.

Botanie Soap Inc. (Missoula, MT; botaniesoap.com): Botanie Soap manufactures all-natural soap, utilizing basic organic ingredients. The company's base oil blend includes combinations of certified organic coconut, palm fruit, sunflower, and safflower oils.

Forest Products
Bitteroot Valley Forest Products (Missoula, MT; bvfpmontana.com): Bitteroot Valley Forest Products provides a large range of specialty wood products, including logs, timber, siding, and wood shavings. The company works to incorporate beetle-kill and standing dead wood in some of their product lines.

USDA Rural Development Montana Office

John Walsh, State Director (www.rd.usda.gov/mt)
2229 Boot Hill Court, Bozeman, MT 59715
Phone: (406) 585-2580

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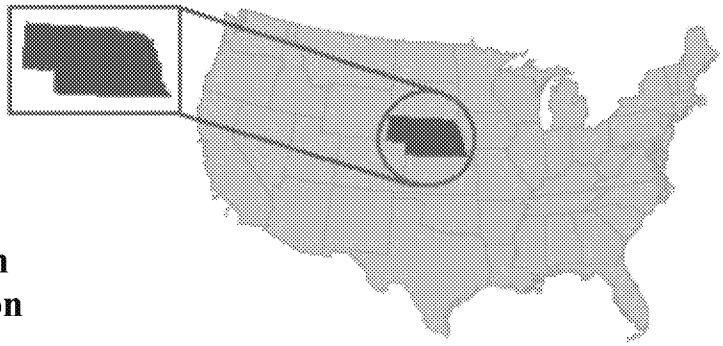
Nebraska



Total Jobs: 11,890
Direct Jobs: 6,020

Total Value Added: $895 Million
Direct Value Added: $426 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	830	$30.5M
Biobased Chemicals	130	$56.8
Biorefining	< 50	< $5M
Enzymes	120	$46.3M
Forest Products	4,650	$307.8M
Textiles	< 50	< $5M
Bioplastic Bottles & Packaging	360	$18.8M

BioPreferred®

23 Nebraska companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

The Clean Environment Company (Laurel, NE; cleanenvironmentco.com): The Clean Environment Company manufactures a variety of cleaning products produced from naturally derived, renewable ingredients. Product offerings include cleaners, solvents, and detergents.

Laurel BioComposite, LLC (Laurel, NE; laurelbiocomposite.com): Laurel BioComposite manufactures Bio-Res powder and pellets using distiller's grain. The powder and pellets can be blended with thermoplastics and thermosets in a variety of manufacturing applications, replacing petroleum-based resins at inclusion rates up to 40 percent in final products.

NatureWorks, LLC (Blair, NE; natureworksllc.com): NatureWorks is dedicated to driving environmental progress through developing the global market for biobased plastics and fibers. NatureWorks's manufacturing facility is located in Blair, Nebraska.

USDA Rural Development Nebraska Office

Maxine B. Moul, State Director (www.rd.usda.gov/ne)
Federal Building, Suite 308, 100 Centennial Mall North, Lincoln, NE 68508-3859
Phone: (402) 437-5551

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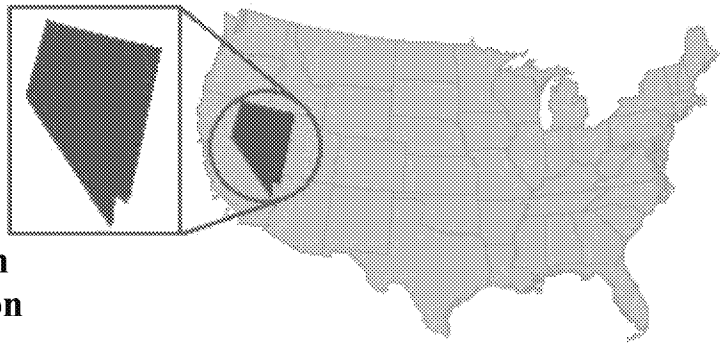
Nevada



Total Jobs: 7,130
Direct Jobs: 3,840

Total Value Added: $515 Million
Direct Value Added: $229 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	300	$6.3M
Biobased Chemicals	< 50	$5.5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	3,110	$193.9M
Textiles	390	$22.4M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

14 Nevada companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Aervoe Industries Inc. (Gardnerville, NV; aervoe.com): Aervoe Industries manufactures paints, cleaners, lubricants, and other industrial products and aims to meet strict environmental requirements and specifications. Several products made by Aervoe Industries contain biobased materials.

Bio Pac Inc. (Incline Village, NV; bio-pac.com): Bio Pac produces an assortment of biodegradable cleaning products. Available offerings include dishwashing products, laundry products, household cleaning supplies, and hand and body wash. All products are void of petroleum distillates, dyes, perfumes, and chlorine.

Enzymes

Bio-Pure Products Inc. (Minden, NV; biopureproducts.com): Bio-Pure Products provides microbiology-based on-site organic waste management solutions for many industries. All products intend to replace dangerous chemicals with a unique combination of living microbes and enzymes, which together act to break down and digest organic waste.

USDA Rural Development Nevada Office

Sarah Jose Mersereau-Adler, State Director (www.rd.usda.gov/nv)
1390 South Curry Street, Carson City, NV 89703-9910
Phone: (775) 887-1222

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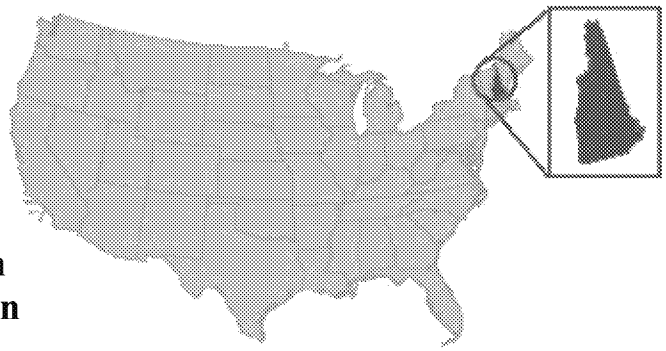
New Hampshire



Total Jobs: 13,480
Direct Jobs: 7,090

Total Value Added: $939 Million
Direct Value Added: $404 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,840	$81.4M
Biobased Chemicals	< 50	$7.6M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	4,110	$240.3M
Textiles	1,080	$71.7M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

18 New Hampshire companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Ink Mill (Sanbornton, NH; inkmillcorp.com): Ink Mill manufactures premium quality digital inks, including a line of inks produced with natural materials called, BTW BioSolvent Ink.

Forest Products
WE Cork, Inc. (Exeter, NH; wecork.com): For more than 100 years, WE Cork has offered an array of all-natural products derived from the bark of cork trees. Product offerings include flooring, expansion joints, insulation corkboard, and composition cork.

Bioplastic Bottles & Packaging
Stonyfield Farms, Inc. (Londonderry, NH; stonyfield.com): Stonyfield Farms, the world's largest organic yogurt producer, uses biobased plastic for its multipack yogurt cups. As a result, the company lowered its carbon emissions from packaging by 48 percent.

USDA Rural Development New Hampshire Office

Ted Brady, State Director (www.rd.usda.gov/nh)
87 State Street Suite 324, P.O. Box 249, Montpelier, VT 05601
Phone: (802) 828-6000

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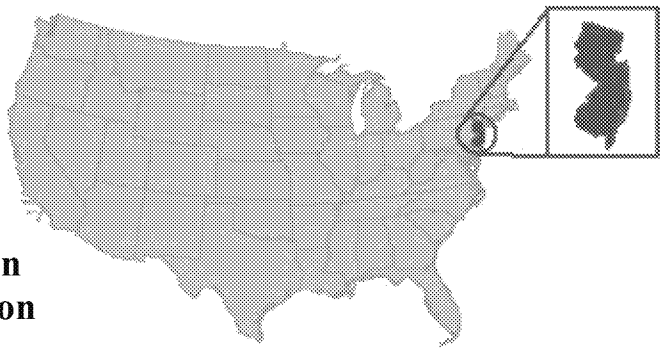
New Jersey



Total Jobs: 47,390
Direct Jobs: 21,950

Total Value Added: $4.541 Billion
Direct Value Added: $1.878 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,280	$38.8M
Biobased Chemicals	770	$215.1M
Biorefining	< 50	< $5M
Enzymes	150	$35.3M
Forest Products	16,660	$1.4B
Textiles	3,560	$205.7M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

60 New Jersey companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

AVEENO Active Naturals (Skillman, NJ; aveeno.com): Aveeno's Active Naturals brand uses a number of renewable, natural ingredients, including oat, soy, blackberry, and wheat. The company offers several skin, beauty, and hair care products.

Ingredion Incorporated (Bridgewater, NJ; ingredion.com): Ingredion has been a recognized leader in biomaterial innovation and application development since 1895. Biobased ingredients derived from feedstocks such as corn, tapioca, and potatoes, are used in a number of industry sectors, including personal care, household and fabric care, and biobased plastics.

National Bio+GreenSciences (Branchburg, NJ; biogreencrystals.com): National Bio+GreenSciences offers the world's first nutraceutical grade, zero waste, earth friendly product line of cleaning supplies, formulated with plant- and mineral-based ingredients.

USDA Rural Development New Jersey Office

Howard Henderson, State Director (www.rd.usda.gov/nj)
5th Floor North, Suite 500, 8000 Midlantic Drive, Mt. Laurel, NJ 08054
Phone: (856) 787-7700

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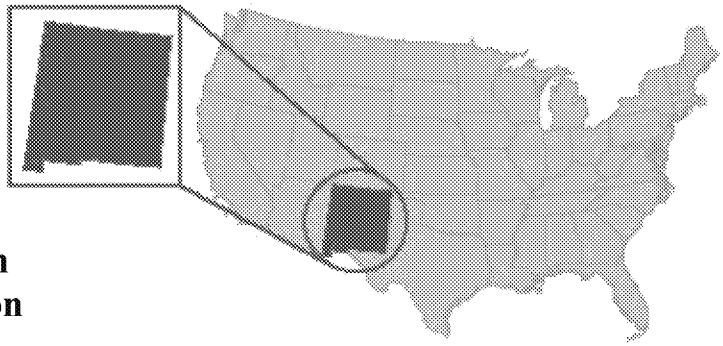
New Mexico



Total Jobs: 6,630
Direct Jobs: 4,210

Total Value Added: $389 Million
Direct Value Added: $208 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,120	$53.1M
Biobased Chemicals	< 50	< $5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	2,740	$140.5M
Textiles	310	$12.0M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

8 New Mexico companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

BioShield Paint Company (Santa Fe, NM; bioshieldpaint.com): BioShield Paint Company manufactures a variety of paints, stains, thinners, and waxes, all of which are primarily produced from naturally derived raw materials such as citrus peel extracts, essential oils, seed oils, tree resins, and natural pigments.

Private Label Select (Ranchos de Taos, NM; privatelabelselect.com): Private Label Select manufactures lip balms, lip tints, glosses, and other high-quality personal care and cosmetics products. A pioneer in the natural and organic cosmetics industry, its manufacturing facilities were some of the first USDA certified organic.

Forest Products

Albuquerque Hardwood Lumber Company (Albuquerque, NM; abqhardwoods.com): Albuquerque Hardwood Lumber Company is the premier supplier of quality hardwood products in the southwestern US. In addition to lumber options, the company also offers wood panel products.

USDA Rural Development New Jersey Office

Terrence Brunner, State Director (www.rd.usda.gov/nm)
6200 Jefferson Street, Room 255, Albuquerque, NM 87109
Phone: (505) 761-4950

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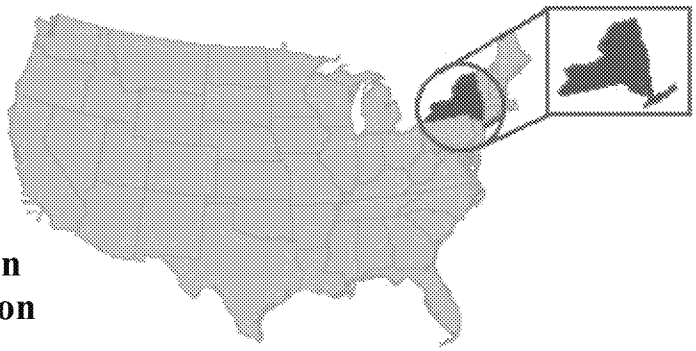
New York



Total Jobs: 100,630
Direct Jobs: 52,300

Total Value Added: $9.236 Billion
Direct Value Added: $3.848 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	4,450	$170.0M
Biobased Chemicals	720	$237.7M
Biorefining	< 50	< $5M
Enzymes	120	$33.6M
Forest Products	36,130	$2.6B
Textiles	11,260	$828.9M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

83 New York companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
AnelloTech (Pearl River, NY; anellotech.com): AnelloTech produces cost-competitive renewable chemicals form non-food biomass feedstocks. These chemicals can be used in a number of consumer goods, including beverage bottles, automotive and electronic components, clothing, footwear, and carpeting.

Forest Products
Ecovative (Green Island, NY; ecovativedesign.com): Ecovative is a leading biobased materials company, with products that span a range of applications, from furniture to packaging and insulation. Myco Board, one product offering, is a certified sustainable, engineered wood, which can be molded into desired shapes and designs.

Textiles
Carnegie Fabrics (Rockville, NY; carnegiefabrics.com): In 2013, Carnegie Fabrics introduced Xorel, the world's first and only biobased high performance interior textile. This line of fabrics is sourced from sugarcane plants and has a biobased content range from 60 to 85 percent.

USDA Rural Development New York Office

Scott Collins, Acting State Director (www.rd.usda.gov/ny)
The Galleries of Syracuse, 441 South Salina Street, Suite 357, Syracuse, NY 13202-2541
Phone: (315) 477-6400

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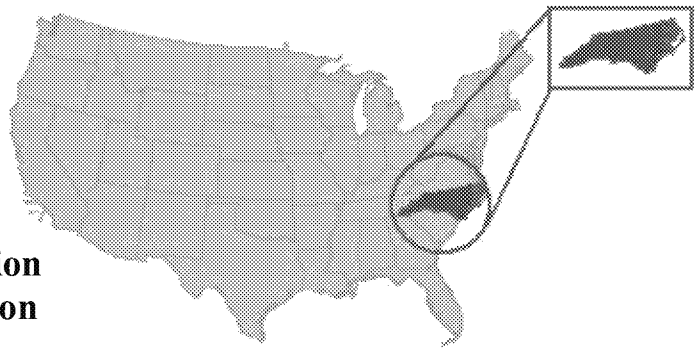
North Carolina



Total Jobs: 179,380
Direct Jobs: 90,040

Total Value Added: $13.631 Billion
Direct Value Added: $6.437 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	9,410	$625.9M
Biobased Chemicals	860	$349.8M
Biorefining	< 50	< $5M
Enzymes	210	$103.6M
Forest Products	61,930	$4.3B
Textiles	17,870	$1.1B
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

61 North Carolina companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Enzymes
Novozymes North America (Franklinton, NC; novozymes.com): Novozymes is the world leader in biobased innovation, advancing both the biofuel and renewable chemical industries. Manufactured products include industrial enzymes, microorganisms, and biopharmaceutical ingredients.

Textiles
Cotton Incorporated (Cary, NC; cottoninc.com): Cotton Incorporated is the research and marketing company representing upland cotton. The company focuses its efforts in three key areas: fiber processing, product development and trend analysis, and dyeing and finishing.

Bioplastic Bottles & Packaging
Earth Renewable Technologies, Inc. (Brevard, NC; earthrenewable.com): Earth Renewable Technologies uses various plant-based resins, in conjunction with their patent pending, biobased microfiber-additive packaging, to produce superior plant-based alternatives to traditional plastic packaging. Feedstock sources include sugarcane and sugar beets.

USDA Rural Development North Carolina Office

Randall A. Gore, State Director (www.rd.usda.gov/nc)
4405 Bland Road, Suite 260, Raleigh, NC 27609
Phone: (919) 873-2000

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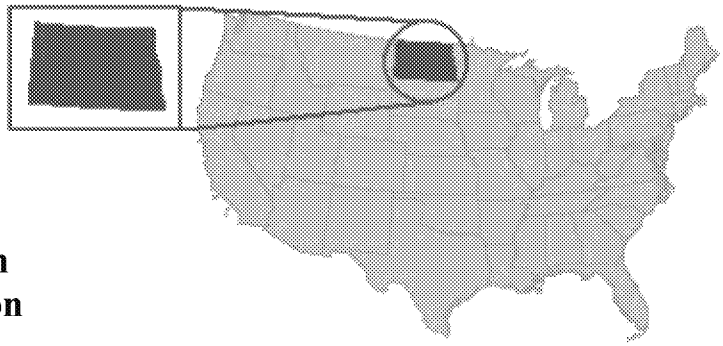
North Dakota



Total Jobs: 5,600
Direct Jobs: 3,360

Total Value Added: $429 Million
Direct Value Added: $238 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	470	$21.1M
Biobased Chemicals	< 50	$5.1M
Biorefining	< 50	$5.8M
Enzymes	< 50	< $5M
Forest Products	2,740	$200.8M
Textiles	120	$6.1M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

5 North Dakota companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Bison Forest Products LLC (Fargo, ND; bisonforestproducts.com): Bison Forest Products is a wholesale lumber supplier. In addition to its lumber offerings, the company provides quality wheat and barley straw.

Forest Products
Weekes Forest Products, Inc. (Fargo, ND; weekesforest.com): Weekes is the leading distributor of specialty building materials, commodity lumber, engineered wood components, and industrial materials. Among its specialty product offerings, Eco-Side is a 100 percent recycled, ecologically friendly siding option.

USDA Rural Development North Dakota Office

Ryan Taylor, State Director (www.rd.usda.gov/nd)
Federal Building, Room 208, P.O. Box 1737, 220 East Rosser, Bismarck, ND 58502-1737
Phone: (701) 530-2037

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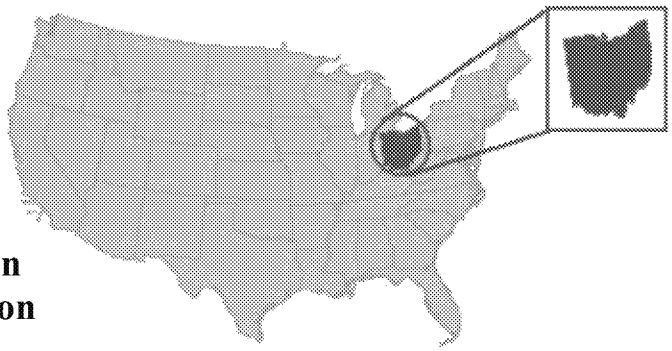
Ohio



Total Jobs: 117,370
Direct Jobs: 52,930

Total Value Added: $9.730 Billion
Direct Value Added: $4.277 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	3,500	$165.5M
Biobased Chemicals	1,310	$443.6M
Biorefining	< 50	< $5M
Enzymes	180	$4.4M
Forest Products	45,260	$3.5B
Textiles	3,070	$192.0M
Bioplastic Bottles & Packaging	100	$8.5M

BioPreferred®

92 Ohio companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Arizona Chemical (Dover, OH; arizonachemical.com): Arizona Chemical is the world's leading producer and biorefiner of pine chemicals. The company provides innovative, biobased chemical solutions to multiple industry sectors, including adhesives, roads and construction, tires, and coatings. Approximately 85 percent of the company's raw materials are from renewable sources.

Procter & Gamble (Cincinnati, OH; us.pg.com): Tide, a Procter & Gamble brand, recently launched the first biobased detergent, Tide purclean. The detergent is comprised of 65 percent biobased ingredients and aims to set the performance standard for natural detergents.

Renewable Lubricants (Hartville, OH; renewablelube.com): Renewable Lubricants is the world's leading developer and manufacturer of high-performance, biobased lubricants, producing utilizing soy, corn, canola, sunflower, and other biomaterials. The company offers more than 250 biobased and biodegradable products.

USDA Rural Development Ohio Office

Tony Logan, State Director (www.rd.usda.gov/oh)
Federal Building, Room 507, 200 North High Street, Columbus, OH 43215-2418
Phone: (614) 255-2400

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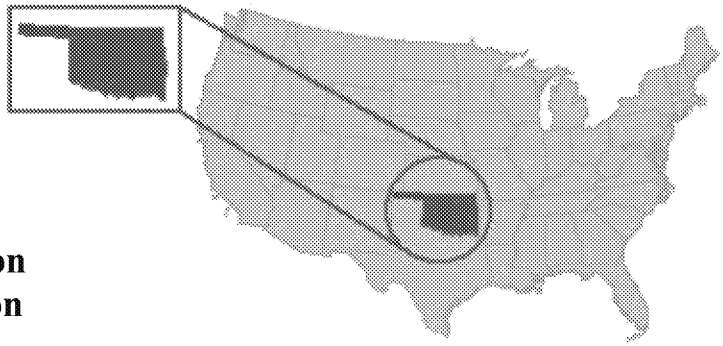
Oklahoma



Total Jobs: 21,550
Direct Jobs: 10,320

Total Value Added: $1.960 Billion
Direct Value Added: $995 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	2,790	$138.1M
Biobased Chemicals	100	$40.5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	7,000	$773.2M
Textiles	730	$63.6M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

8 Oklahoma companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Envia Energy (Oklahoma City, OK; enviaenergy.com): Envia Energy uses the latest developments in gas processing and Fischer-Tropsch technology to create high purity synthetic fuels and chemicals. Methane captured from landfills is used as a feedstock.

Forest Products
Forest Products Supply Co. (Oklahoma City, OK; fp-supply.com): Forest Products Supply is a leading wholesale distributor of lumber and building materials in the Midwest. Product offerings consist of over 2,500 products, ranging from general commodities to specialty products.

TO MARKET (Oklahoma City, OK; tomkt.com): TO MARKET prides itself on bringing alternative materials for interior paces to the commercial marketplace, designing and selling commercial flooring. Flooring products are manufactured utilizing recycled and sustainable content, including rubber and cork.

USDA Rural Development Oklahoma Office

David Ryan McMullen, State Director (www.rd.usda.gov/ok)
100 USDA, Suite 108, Stillwater, OK 74074-2654
Phone: (405) 742-1000

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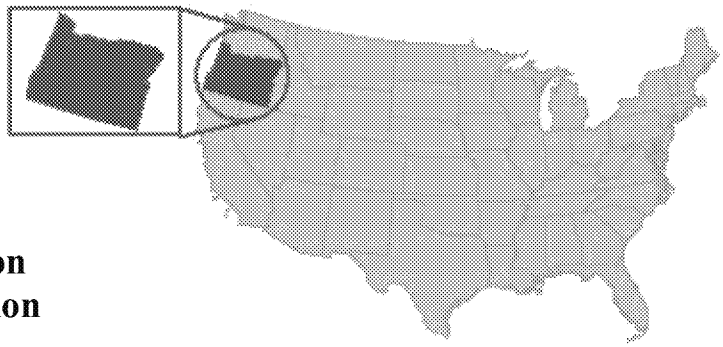
Oregon



Total Jobs: 92,520
Direct Jobs: 46,480

Total Value Added: $7.798 Billion
Direct Value Added: $4.159 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	13,460	$1.1B
Biobased Chemicals	90	$17.5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	31,700	$3.0B
Textiles	1,230	$50.8M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

49 Oregon companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Trellis Earth Products (Wilsonville, OR; trellisbioplastic.com): Trellis Bioplastics creates a range of biobased plastic resins and consumer products in efforts to replace traditional plastics. Trellis Earth branded food service disposables are currently the leading industry solution for "greening" the take-out food service sector.

Forest Products
DR Johnson Lumber (Riddle, OR; drjlumber.com): DR Johnson is the first APA/ANSI certified manufacturer for cross-laminated timber (CLT) in the U.S.

SierraPine (Medford, OR; sierrapine.com): SierraPine is North America's leading manufacturer of medium density fiberboard (MDF) and particleboard, which are used in a variety of applications including furniture, cabinetry, wall panels, shelving, and doors. SierraPine produces MDF and particleboard from recycled or recovered wood fiber and adhesives.

USDA Rural Development Oregon Office

Vicki L. Walker, State Director (www.rd.usda.gov/or)
1220 SW 3rd Avenue, Suite 1801, Portland, OR 97204
Phone: (503) 414-3300

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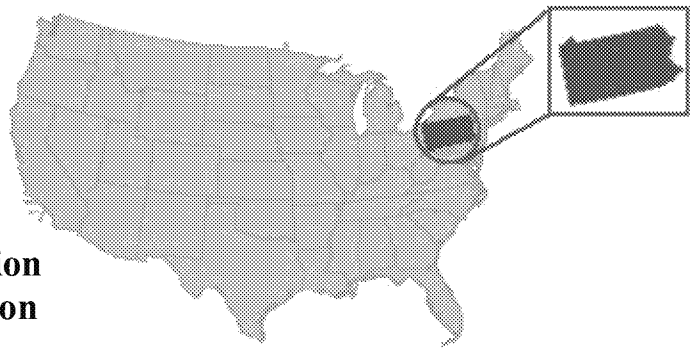
Pennsylvania



Total Jobs: 151,090
Direct Jobs: 71,360

Total Value Added: $13.667 Billion
Direct Value Added: $6.522 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	6,860	$309.2M
Biobased Chemicals	820	$170.5M
Biorefining	< 50	< $5M
Enzymes	170	$52.7M
Forest Products	58,790	$5.8B
Textiles	5,370	$267.3M
Bioplastic Bottles & Packaging	70	$6.6M

BioPreferred

79 Pennsylvania companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Armstrong World Industries (Lancaster, PA; armstrong.com): In response to increased market demand for non-PVC flooring products, Armstrong Flooring created a bio-flooring line that is made with 85 percent limestone and BioStride, a patented biobased polyester binder that is partly comprised of domestically produced corn.

Houghton International, Inc. (Norristown, PA; houghtonintl.com): Houghton International produces a variety of specialty chemicals, oils, and lubricants. The company has two hydraulic fluids that are USDA Certified Biobased Products and are derived from vegetable oil-based feedstocks.

Sun and Earth, Inc. (King of Prussia, PA; sunandearth.com): Sun and Earth has been producing non-toxic, all-natural cleaning supplies since 1988. In lieu of petroleum-based materials, the company produces products via plant-based, naturally derived ingredients.

USDA Rural Development Pennsylvania Office

Thomas P. Williams, State Director (www.rd.usda.gov/pa)
359 East Park Drive, Suite 4, Harrisburg, PA 17111-2747
Phone: (717) 237-2299

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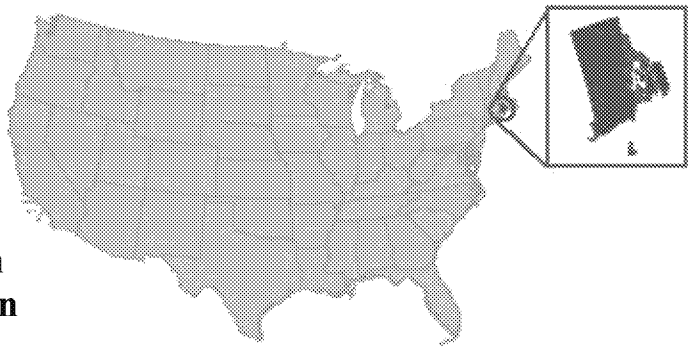
Rhode Island



Total Jobs: 6,670
Direct Jobs: 3,500

Total Value Added: $522 Million
Direct Value Added: $228 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	150	< $5M
Biobased Chemicals	70	$9.6M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	2,190	$158.5M
Textiles	1,100	$56.0M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

5 Rhode Island companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals

Spectral Chemical Co., Inc. (Warwick, RI; spectralchemical.com): Spectral Chemical Company offers a range of chemical and cleaning products, some of which are biobased products produced from soy-based feedstocks.

Toray Plastics, Inc. (North Kingston, RI; toraytpa.com): Toray Plastics is the only U.S. manufacturer of polypropylene, polyester, metallized, and biobased films. The company developed a biobased bio-axially oriented polyester film that is utilized in the manufacturing process of solar control window films for commercial and residential applications.

USDA Rural Development Rhode Island Office

Scott Soares, State Director (www.rd.usda.gov/ct)
451 West Street, Amherst, MA 01002-2999
Phone: (413) 253-4300

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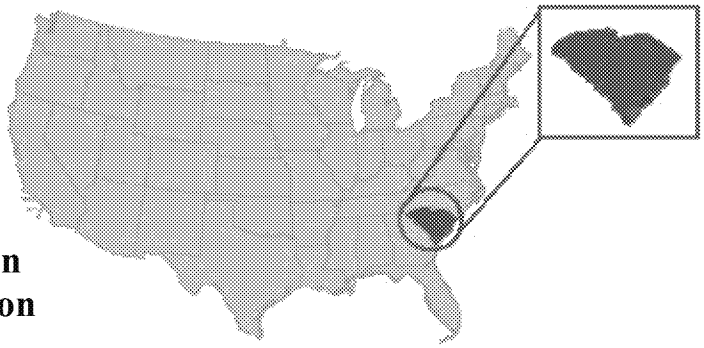
South Carolina



Total Jobs: 82,670
Direct Jobs: 38,430

Total Value Added: $7.448 Billion
Direct Value Added: $4.227 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	6,870	$449.0M
Biobased Chemicals	560	$152.1M
Biorefining	< 50	< $5M
Enzymes	< 50	$5.1M
Forest Products	22,930	$3.0B
Textiles	8,370	$640.9M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

15 South Carolina companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Ingevity (North Charleston, SC; ingevity.com): Ingevity manufactures specialty chemicals and high-performance carbon materials. Ingevity's biobased product offerings create value for many industries, including wood coatings, plastic stabilizers, mining, and specialty additives.

Sorbent Green LLC (Aiken, SC; greensorb.com): Sorbent Green develops, manufactures, and distributes biobased products for industrial and commercial applications. The biobased solvents offered are readily biodegradable, with zero volatile organic compounds.

Forest Products
Domtar (Fort Mill, SC; domtar.com): In addition to being a global leader in pulp production, Domtar is also North America's largest producer of uncoated freesheet paper. Domtar is committed to using fiber from responsibly managed sources, and was an early supporter of the Forest Stewardship Council.

USDA Rural Development South Carolina Office

Michele Cardwell, State Director (www.rd.usda.gov/sc)
Strom Thurmond Federal Building, 1835 Assembly Street, Room 1007, Columbia, SC 29201
Phone: (803) 765-5163

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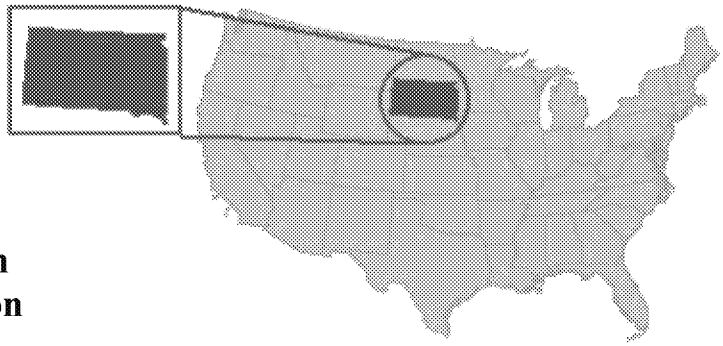
South Dakota



Total Jobs: 10,790
Direct Jobs: 6,160

Total Value Added: $677 Million
Direct Value Added: $332 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	670	$35.2M
Biobased Chemicals	< 50	$13.3M
Biorefining	< 50	< $5M
Enzymes	< 50	$9.7M
Forest Products	5,230	$274.7M
Textiles	240	$11.1M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred

11 South Dakota companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Ultra Green Floor Sweep (Platte, SD; ultragreenfloorsweep.com): Ultra Green Floor Sweep produces an all-natural sweeping compound, which can be used to shine floors without the need for any water.

Biorefining
POET Biorefining (Chancellor, SD; poet.com): The POET Biorefining facility in Chancellor, the largest of the POET plants, processes 110 million gallons of ethanol each year. POET INVIZ zein, a natural, non-toxic edible protein product is extracted from the ethanol fermentation process and used as a biobased alternative for a number of industrial applications.

Forest Products
Pure Pulp Products (Plankinton, SD; purepulpproducts.com): Pure Pulp Products utilizes biomass waste as a sustainable substrate for packaging. Post-industrial waste from corrugated box manufacturing is re-purposed to create fiber that can be turned into an array of products, including food service plates and bowls, trays, and clamshells.

USDA Rural Development South Dakota Office

Bruce Jones, Acting State Director (www.rd.usda.gov/sd)
Federal Building, Room 210, 200 Fourth Street, SW, Huron, SD 57350
Phone: (605) 352-1100

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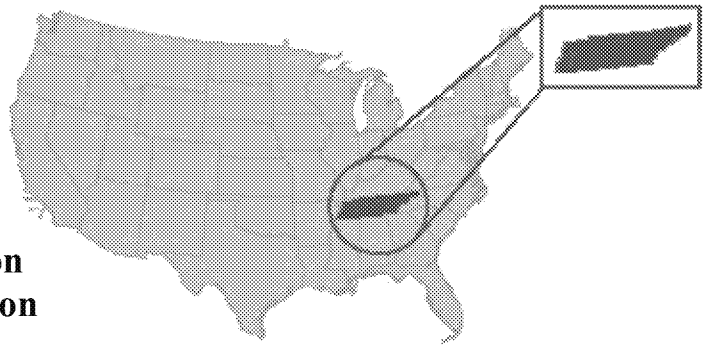
Tennessee



Total Jobs: 100,980
Direct Jobs: 44,850

Total Value Added: $8.981 Billion
Direct Value Added: $4.430 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	5,890	$322.2M
Biobased Chemicals	720	$174.9M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	33,990	$3.7B
Textiles	4,320	$223.1M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred

27 Tennessee companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Colonial Chemical (Pittsburg, TN; colonialchem.com): Colonial Chemical is an industry forerunner in the development and manufacture of products that are derived from renewable ingredients. Products include cosmetic and industrial surfactants, performance additives, and key building-block ingredients for use in personal care, household, industrial, lubrication, and oilfield applications.

DuPont Tate & Lyle (Loudon, TN; tateandlyle.com): DuPont's facility in Loudon was the first to produce commercial shipments of Bio-PDO, thereby creating a renewably sourced ingredient for biobased fibers. Bio-PDO can be used in cosmetics, apparel, and industrial applications.

Forest Products
International Paper (Memphis, TN; internationalpaper.com): International Paper is a global leader in packaging and paper. Ecotainer packaging is a compostable solution for single-use packaging that is produced entirely from renewable resources.

USDA Rural Development Tennessee Office

Bobby Mack Goode, State Director (www.rd.usda.gov/tn)
3322 West End Avenue, Suite 300, Nashville, TN 37203-1071
Phone: (615) 783-1300

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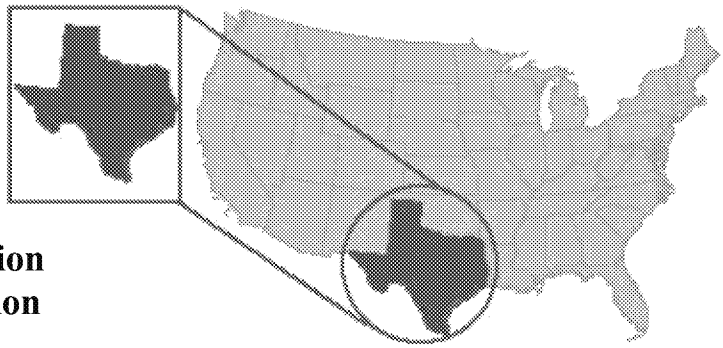
Texas



Total Jobs: 178,480
Direct Jobs: 88,680

Total Value Added: $15.228 Billion
Direct Value Added: $6.828 Billion

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	24,440	$1.7B
Biobased Chemicals	1,680	$471.3M
Biorefining	< 50	$5.4M
Enzymes	350	$101.2M
Forest Products	57,020	$4.4B
Textiles	6,750	$253.1M
Bioplastic Bottles & Packaging	60	$5.6M

BioPreferred®

136 Texas companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
DSI Ventures, Inc. (Tyler, TX; dsiventures.com): DSI offers a comprehensive line of eco-friendly, biodegradable lubricant solutions. Feedstocks for the biobased lubricants include vegetable and citrus oils.

Samsill Corporation (Fort Worth, TX; samsill.com): Samsill Corporation manufactures business accessories and office supplies. The company's Earth's Choice™ Biobased binders are made using a biobased intermediate, and the binders are USDA Certified Biobased Products.

Bioplastic Bottles & Packaging
Accredo Packaging, Inc. (Sugar Land, TX; accredopackaging.com): Using renewably sourced resin from sugarcane feedstock, Accredo successfully pioneered sustainably produced packaging with a renewable content. The renewable packaging is predominantly used for the pre-packaged foods and consumer products markets.

USDA Rural Development Texas Office

Paco Valentin, State Director (www.rd.usda.gov/tx)
Federal Building, Suite 102, 101 South Main Street, Temple, TX 76501
Phone: (254) 742-9700

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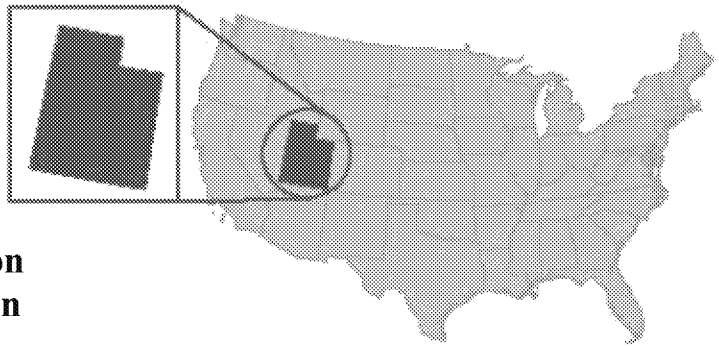
Utah



Total Jobs: 21,980
Direct Jobs: 10,770

Total Value Added: $1.825 Billion
Direct Value Added: $963 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	610	$12.9M
Biobased Chemicals	90	$32.4M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	9,140	$896.6M
Textiles	980	$28.7M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred®

11 Utah companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Biobased Chemicals
Prolix (West Jordan, UT; prolixlubricant.com): Prolix offers a biodegradable, non-petroleum based solvent/lubricant for firearms. The product can also be used to clean clocks, bike chain, knives, vehicle locks, lawn and garden equipment, and musical instruments.

Forest Products
Intermountain Wood Products (St. George, UT; Salt Lake City, UT; intermountainwood.com): Intermountain Wood Products offers a complete selection of wood products, including cabinet, casework, millwork, and flooring. In addition to using reclaimed wood, the company is also certified by the Forest Stewardship Council.

National Wood Products, Inc. (Salt Lake City, UT; nationalwood.com): National Wood Products is a multi-product, multi-location building products distributor. The company offers a range of lumber, plywood, and flooring products.

USDA Rural Development Utah Office

Wilson "David" Conine, State Director (www.rd.usda.gov/ut)
Wallace F. Bennett Federal Building, 125 South State Street, Room 4311, Salt Lake City, UT 84138
Phone: (801) 524-4321

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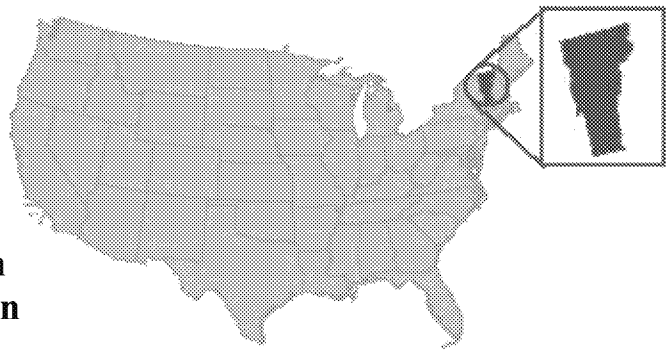
Vermont



Total Jobs: 11,420
Direct Jobs: 6,500

Total Value Added: $630 Million
Direct Value Added: $278 Million

The total jobs or value added is the sum of the direct, indirect, and induced effects.

Sector	Direct Jobs	Direct Value Added
Agriculture & Forestry	1,820	$53.9M
Biobased Chemicals	< 50	< $5M
Biorefining	< 50	< $5M
Enzymes	< 50	< $5M
Forest Products	4,390	$213.9M
Textiles	280	$7.6M
Bioplastic Bottles & Packaging	< 50	< $5M

BioPreferred

9 Vermont companies currently participate in the BioPreferred Program.

Example Biobased Product Firms

Agriculture & Forestry
Currier Forest Products (Danville, VT; currierforestproducts.com): Currier Forest Products is a Forest Stewardship Council certified Chain of Custody supplier of custom sawn forest products, including an array of flooring, timber, and lumber products.

The A. Johnson Co. (Bristol, VT; vermontlumber.com): The A. Johnson Co. produces an array of flooring, paneling, and lumber products. Timber is harvested in accordance with the guidelines of the Sustainable Forestry Initiative.

Biobased Chemicals
Seventh Generation (Burlington, VT; seventhgeneration.com): Seventh Generation was one of the first recipients of the USDA BioPreferred Program's certification label. The company boasts a number of plant-based offerings, including disinfectants, hand soaps, laundry supplies, and surface cleaners.

USDA Rural Development Vermont Office

Ted Brady, State Director (www.rd.usda.gov/vt)
87 State Street Suite 324, P.O. Box 249, Montpelier, VT 05601
Phone: (802) 828-6080|

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