Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 5/21/2018 7:40:32 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: May 21 PRG Energy Update: Racing Toward Summer Environment with Great Energy

Friends,

Well it was rainy, but the Preakness was about as exciting a race as we've seen that had a 2/5 favorite. The sloppy track made for a real mess on the infield, but *Justify* ran through it, taking early pressure from Derby runner-up *Good Magic* and then holding off the late-charging *Bravazo*. And for the second straight race: *winner-winner, chicken dinner* in the bet books, although I did get hurt on my tri- and Superfecta boxes by *Tenfold's* late charge and *Quip's* fade. All-in-all, a fun day…and with the Belmont 19 days away, I truly question whether we will see a Triple Crown winner this year given *Justify's* race inexperience and the grueling grind of three races in 7 weeks. We'll see as the field shapes up, but right now I remain skeptical of his ability to go the full mile and a half at Belmont.

So, tonight is a pivotal game for the Caps as they face elimination for the first time, but how about those Vegas Golden Knights. It is so crazy that in their inaugural year they are headed to the Stanley Cup Finals.

Early in the week, we will be very busy with Congress in session pushing hard on Appropriations bills. Tomorrow is the busiest day with House Energy Committee moving several pieces of nuclear legislation at 10:00 a.m. featuring former NRC Commish and ClearPath advisor Jeff Merrifield, while Senate Energy Approps panel marks up the just-passed House Energy Budget at 2:30 p.m. Also, tomorrow at 10:00 a.m., the Senate Environment Committee will hold a business meeting to move several bills including the USE IT Act, which targets advancing CCS technologies. Then on Thursday, the full Approps Committee will likely move the FY 2019 energy budget bill out to the Senate calendar.

The biggest event off the Hill is Thursday's CSIS-EPIC nuclear summit that focuses on the future of nuclear. Other key events feature an EESI-American Biogas Assn forum on biogas/waste management Wednesday and an EESI, rural coops forum on rural communities investments in energy efficiency featuring our friend Curtis Wynne of the Roanoke (NC) Electric Co-op. Finally, if you are following NAFTA and Mexican trade issues (and you should be given what is currently going on) you will want to head over to the Press Club tomorrow where former Mexican President Vicente Fox will discuss globalism vs nationalism.

We also have heard that Thursday maybe the day that NOAA releases its 2018 hurricane forecast for the season that starts June 1st. Of course, we are covering that issue aggressively with our friends at MIT, who are focused on responding to more intense hurricanes through better building resilience and recovery. They have a full array of research on these topics and are happy to discuss how they affect communities and policymakers response - especially after last year's difficult hurricane season in the Southeast and Caribbean.

Lots of great events out of town this week Including NEI's annual conference in Atlanta, Clean Energy Ministerials in Denmark, Interior Sect. Zlnke and Miss America Cara Mund headlining a North Dakota Oil conference, an Argus NatGas Markets conference in Houston, NOAA's Global monitoring conference in Boulder and ACEEE Finance Forum in NY.

Finally, Memorial Day weekend starts on Friday, which is the unofficial beginning of Summer. Expect those trips to the beach and traffic around Annapolis to get a little nuttier, while we finally bust out those linen pants and Tommy Bahama shirts. As well, this week's signifies the beginning of the summer concert season kicked off by this past weekend's Rock on the Range show in Columbus. The performances were pretty awesome including a killer Tool set, pieces of the new Godsmack album and a wonderful tribute by Alice in Chains to Chris Cornell who passed away 1 year ago on Friday. We are headed Godsmack and Incubus for sure while Stacey is once again headed to Firefly in Delaware in June. It should be a great summer of shows.

No update next Monday as I will be in California all week first at a field hockey tournament and then visiting colleges with Adam. Enjoy the weekend and please be careful on the roads or wherever you're headed.

Best,

Frank Maisano

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FRANKLY SPOKEN

"Currently, we have no reason to change our fundamental outlook for 2018, a 16.1 billion gallons of ethanol production, 14.4 billion gallons to 14.5 billion gallons of domestic lending and 1.6 billion gallons to 1.8 billion gallons of exports. We saw record exports totaling 512 million gallons in the first quarter, there were a number of new players buying U.S. ethanol including Colombia, Saudi Arabia and Switzerland. Brazil first quarter totaled nearly 240 million gallons."

Great Plains CEO Todd Becker on their Q1 2018 Earnings Call, highlighting significant production and exports resulting in more than 16 billion gallons of ethanol and having no reason to change the fundamental outlook despite different claims by USDA Secretary Perdue and ethanol lobbyists about demand

ON THE POD

MIT Experts Weigh in on Hurricane, Building Resiliency – The episode of PRG's podcast *The Lobby Shop* this week features my interview with MIT resiliency expert Jeremy Gregory discussing the 2018 hurricane season and what vulnerable communities and their resident/policymakers can do to withstand and rebuild in more resilient ways. Good stuff with the start of the hurricane season slated for June 1. Check it out In Stitcher, Apple Podcasts, SoundCloud, and Google Play Music.

America Adapts Podcast Archive with Dave Roberts – I found a new podcast last week called America Adapts with Doug Parsons and I really liked it. It was very well done and featured segments with Climate skeptic gadfly Marc Morano, Vox's David Roberts, *Rolling Stone*/climate book author Jeff Goodell and many more great people and topics. Check out Roberts talking about politics, his career as an enviro writer and climate adaptation.

FUN OPINIONS

Murray: Watch out for International Shipping Fuel Regs – Our friend William Murray has a great op-ed on obscure marine regulations may spike U.S. fuel prices just in time for 2020 election cycle. Murray argues rules set by the UN-affiliated International Maritime Organization (IMO) that will limit sulfur content in its heavy fuel oil by 2020 could limit supply in much the same way road diesel was limited in 2008. Yet shippers have not upgraded nearly enough ships with the sulfur scrubbers needed (only 250 out of the 60,000 global merchant fleet of ships were upgraded by the end of last year). So, Murray writes, unless the IMO pushes back on its implementation plans to allow more ships and refiners to upgrade, prices for refined products like gasoline, diesel and home heating oil could start to spike by the winter of 2019 to 2020; just in time for the next presidential election cycle.

IN THE NEWS

President Moves Efficiency Executive Order – President Trump late Thursday issued a new efficiency Executive Order that replaced one signed by former President Obama that sought to reduce federal agencies' energy use and greenhouse gas emissions. The change instructs agencies to set their own goals for efficiency and "prioritize actions that reduce waste, cut costs, enhance the resilience of Federal infrastructure and operations, and enable more effective accomplishment of its mission." The Business Council for Sustainable Energy's President Lisa Jacobson said the new Executive Order focused on Efficient Government Operations is important to continue to achieve annual building energy

and water reductions at federal facilities. She added that the Council strongly supports the Executive Order's recognition of performance contracting, through Energy Savings Performance Contracts and Utility Energy Savings Contracts, in achieving the goals.

House Approps Move Energy Funding – The House Appropriations Committee approved a sweeping set of resources and program direction to the Department of Energy that would spur advanced nuclear, carbon capture, energy storage and other clean energy technologies. The Senate takes up the bill tomorrow.

The bill:

- Builds upon direction in the FY18 spending deal for DOE to map out a "moonshot" goal for demonstrating advanced nuclear technologies with the private sector by the mid to late 2020s
- Directs the energy secretary to launch a department-wide energy storage effort with aggressive performance targets, utilizing the strengths of the agency's electricity, renewable and science offices to drive down costs and improve performance of grid-scale technologies
- Prioritizes R&D of new advanced reactor designs by providing $100 million for advanced small modular nuclear reactor R&D, which helps innovative pending designs -- such as NuScale Power's -- get up and running on schedule; and $155 million for advanced reactor technologies that could help more advanced technologies being worked on by Terrapower, X-energy and others
- Includes $65 million for a versatile test reactor design, building off the initial resources provided in the recently-enacted FY18 omnibus for a national lab facility critical to the development of advanced nuclear by private developers
- Provides up to $20 million for testing of high assay low-enriched uranium (HA-LEU), which will be needed to fuel many advanced nuclear concepts
- Supports scale-up of carbon capture efforts, including new solicitations for advanced fossil fuel system engineering, and specifically projects that generate emissions suitable for utilization or storage
- Advances and fully funds the ongoing five-year R&D effort led by DOE's Energy Innovation Hubs

DOE Rolls out Thermal Solar Opportunity – DOE announced $72 million for new projects to advance high-temperature concentrating solar power (CSP) technologies last week. These projects will extend previous research on high-temperature components, develop them into integrated assemblies, and test these components and systems through a wide range of operational conditions. CSP technologies use mirrors to reflect and concentrate sunlight onto a focused point where it is collected and converted into heat. This thermal energy can be stored and used to produce electricity whenever it is needed. The best commercially available technologies can only reach 565 °C. The high-temperature thermal systems targeted by this program seek to achieve at least 700 °C, which would boost the efficiency and lower the cost of the electricity. If successful, these projects will lower the cost of a CSP system by approximately $0.02 per kilowatt-hour, which is 40 percent of the way to the office's 2030 cost goals of $0.05 per kilowatt-hour (kWh) for baseload CSP plants.

New ClearPath Video Highlights Nuclear – Speaking of Nuclear, a new whiteboard video from the Clearpath Foundation's Rich Powell explains that the virtues of the current nuclear fleet - namely its carbon-free power and 24/7 reliability - must be coupled with ever-changing demands of our global energy industry. That includes new technologies that make it smaller and highly scalable for use in cities and remote areas and allow for high-temperature use to decarbonize heavy industrial processes.

WY CCS Testing Up/Running – Wyoming's Integrated Test Center located at Basin Electric Power Cooperative's Dry Fork Station near Gillette was dedicated last week. The carbon capture research facility is a testing space off the back of the operating coal power plant. Five Carbon XPrize finalists — U.S., Canada, India, China and Scotland — will head to the site to put their concepts to capture CO2 from the power plant and convert it to a marketable product to the test. The project launched in 2015 with the Wyoming State Legislature's approval of $15 million for the design, construction, and operation of the Wyoming ITC. Private partners, including our friends at Tri-State Generation, contributed $5 million. The center is just the second in the country that allows for real-time testing of technology at an active power plant. Senate Environment chairman John Barrasso sent a letter of congratulation to Wyoming Gov. Matt Mead upon the ITC's dedication, calling the facility "the future of energy technology."

National Audubon Joins Carbon Capture Coalition – And speaking of CCS, C2ES said the National Audubon Society will join the Carbon Capture Coalition. Jeff Bobeck, co-director of the Carbon Capture Coalition and director of energy policy engagement at C2ES said Audubon is among the oldest, most recognized, and widely respected voices for conservation, and its unique perspective will be a valuable addition to the coalition. Audubon's commitment to solving climate change is rooted in a devotion to ensuring continued biodiversity, and its support illustrates a growing awareness that carbon capture is an essential and necessary tool to meet mid-century climate targets.

ON THE SCHEDULE THIS WEEK

ACEEE Finance Forum Underway – The American Council for an Energy-Efficient Economy holds its 2018 Energy Efficiency Finance Forum on Tarrytown, NY today and tomorrow. The keynote speaker today is Richard Kauffman, Chairman of Energy and Finance for New York. Kauffman joined the governor's office in 2013 as the state's first Chairman of Energy and Finance for New York and was known as the "Energy Czar." Tomorrow, Matthew Arnold, Managing Director and Global Head of Sustainable Finance at JPMorgan Chase will keynote. Matt leads the firm's client engagement on sustainability across all sectors globally.

NEI holds its 65th Annual Industry Conference and Supplier Expo – the Nuclear Energy Assembly (NEA) – in Atlanta today through Wednesday. The yearly conference of the nuclear technologies industry brings together industry leaders from all levels and this year is joined with the annual meeting of the North American Young Generation in Nuclear (NAYGN), which celebrates the future of nuclear energy. Speaker include Mike Allen, co-founder and executive editor of Axios, on the 2018 midterm elections; Jay Wileman, president and chief executive officer of GE Hitachi Nuclear Energy, will lead a discussion on how the industry is fostering innovation and leading the advance of new nuclear technologies; and former Secretary of Energy Ernest Moniz on the strategic importance of a robust nuclear industry for the country.

Argus Gas Conference Looking at NatGas Demand, Supply Chain – Argus holds its North American Natural Gas Markets Conference today though Wednesday in Houston. Keynote Speaker is Williams CEO Alan Armstrong. The event will look at the future of North American natural gas supply and production outlooks for the Permian, Marcellus and Utica; global LNG market trends; US exports and trading developments; mitigating political hurdles and the future of natural gas in an uncertain regulatory environment, and many other issues.

NAS Hosts Small Business Meetings – The National Academy of Sciences' Board on Science, Technology and Economic Policy will meet today and tomorrow to review the Small Business Innovation Research and Small Business Technology Transfer Programs at the Department of Energy Review.

Clean Energy Ministerial Set for Denmark – Tomorrow through Thursday, the 9th Clean Energy Ministerial will be held in Copenhagen. It is jointly hosted by Denmark, Finland, Norway, Sweden, the Nordic Council of Ministers and the European Commission representing the European Union. The gathering features the world's largest economies discussing deployment of clean energy technologies. Deputy Energy Secretary Dan Brouillette, representatives from Idaho National Lab and Nuclear Energy Agency and ClearPath Executive Director Rich Powell will be participating in an official side event at the ministerial. Deputy Secretary Brouillette and Assistant Secretary for Fossil Energy Steven Winberg will be participating in another official side event at the ministerial launching a new effort to promote and expand carbon capture technologies. Senior officials from Norway, the International Energy Agency, Saudi Arabia, Japan, United Kingdom and Occidental Petroleum are among other participants.

Holdren Addresses NOAA Global Monitoring Conference – The National Oceanic and Atmospheric Admin (NOAA) holds its 46th Global Monitoring Annual Conference tomorrow and Wednesday in Boulder Colorado. The conference is part of NOAA's continuing effort to stay abreast of recent observations concerning trace gases, aerosols, radiation, ozone, and climate forcing and to provide a forum in which these observations can be relayed and discussed. Speakers will be presenting the ESRL monitoring and research results of the past year. The meeting is not limited to ESRL reports and includes observations related to these themes by both independent and cooperative investigators, and other national and international programs.

Columbia Forum to Look at IEA Oil Forecast to 2023 – The Center on Global Energy Policy holds a presentation and discussion at the Princeton Club of NY at 9:30 a.m. tomorrow looking at IEA's report *Oil 2018 – Analysis and Forecasts to 2023*. The event will feature Neil Atkinson, IEA's Head of the Oil Industry & Markets Division. Oil 2018 is the IEA's annual five-year forecast of global oil demand, supply refining, and trade. Oil 2018's analysis of the market examines a wide range of other important issues and uncertainties including the implications for oil demand of the 2020 IMO marine fuel regulations, growth of the global petrochemicals sector, a rising of electrification in China's transport fleet, decline rates in key oil producing countries, crude quality issues arising from the rapid increase in US production, investment needs in North American takeaway capacity, implications for global refining of the looming capacity surplus and more trends in global oil trade.

Zinke, Miss America Headline ND Gas Conference – The Williston Basin Petroleum Conference is set for Bismarck, North Dakota tomorrow through Thursday and will feature a keynote by Interior Secretary Ryan Zinke on Wednesday. Other speakers include ND Gov Doug Burgum, videos from ND Sens. Hoeven and Heitkamp, as well as Rep Kevin Cramer, Harold Hamm, Miss American Cara Mund and many more.

House Energy to Look at Nuclear Legislation – The House Energy and Commerce Subcommittee on Energy will hold a legislative hearing tomorrow on draft bills to propel "micro reactors" at military and national security facilities and expand the availability of advanced nuclear fuels. A draft bill from Rep. Bill Flores (R-Texas) would direct the Energy Department to establish a program supporting availability of HA-LEU via public-private partnerships to address regulatory and market challenges. A second draft bipartisan bill led by from Rep. Joe Wilson (R-S.C.) would require the secretary of energy to report on key components of a pilot program to site, construct and operate "micro reactors" at critical Defense Department or Energy Department national security facilities. The hearing also looks at the NUKE Act (H.R. 1320) from Reps. Adam Kinzinger (R-Ill.) and Mike Doyle (D-Pa.), which would streamline Nuclear Regulatory Commission licensing and update NRC's fee structure by limiting how much NRC can collect for overhead costs tied to running the agency to ensure adequate funding is spent to develop a regulatory framework for advanced reactors without overcharging. Witnesses include NNSA's Brent Park, DOE Office of Nuclear Energy head Ed McGinnis as well as ClearPath adviser and former NRC Commissioner Jeff Merrifield, URENCO USA President Melissa Mann, President, Nick Irvin of Southern Company and UCS's Ed Lyman.

Forum to Look at US-Ukraine Energy Security – The Wilson Center and Kennan Institute will hold a forum tomorrow at 11:30 a.m. featuring a discussion on US-Ukraine energy cooperation. The discussion will focus on strengthening Ukraine's energy security.

Fox to Address Trade, Immigration, Trump – The National Press Club will host a Headliners Luncheon tomorrow featuring former Mexican President Vicente Fox. Fox will deliver an address entitled "Democracy at the Crossroads: Globalization versus Nationalism". Fox, a right-wing populist representing the National Action Party (PAN), was elected as the 55th President of Mexico on December 1, 2000. Winning with 42% of the vote, Fox made history as the first presidential candidate in 71 years to defeat the Institutional Revolutionary Party (PRI). Fox's administration focused chiefly on improving trade relations with the United States and maintaining Mexico's growing economy. Fox left office in 2006, and in a break with his country's cultural norms and traditions has remained in the public eye post-presidency and has not been shy about expressing his views and opinions.

Forum Spotlights Rural Co-Ops – The Partnership for Advancing an Inclusive Rural Energy Economy, a collaboration between the National Cooperative Business Association CLUSA and the Environmental and Energy Study Institute will hold a livecast tomorrow at 1:00 p.m. to look at how rural electric cooperatives are delivering cutting-edge inclusive energy efficiency programs for their members--saving them money while supporting local economic development. This livecast will include information about the **U.S.** Department of Agriculture's Rural Utilities Services (RUS) loan program that co-ops can take advantage of to help deliver these benefits. Livecast speakers include Doug O'Brien of the National Cooperative Business Association CLUSA, Roanoke Electric Cooperative CEO Curtis Wynn and Mike Couick of the Electric Cooperatives of South Carolina. Roanoke Electric's "Upgrade to $ave" program and the "Help My House" program available to South Carolina's co-ops offer on-bill financing to help members afford cost-saving home energy upgrades. With on-bill financing, members repay their co-ops over time as part of their monthly electric bills, and the programs are designed so that members of all income levels can participate.

House Foreign Affairs to Look at Oil, Gas Competitiveness – The House Foreign Affairs Committee will hold a hearing tomorrow at 2:00 p.m. to examine the global implications of increased U.S. oil and gas competitiveness and how it could be utilized to strengthen American foreign policy. Ken Medlock of the Rice University Baker Institute, GTI's David Carroll, CSIS's Sarah Ladislaw and Samantha Gross of the Brookings Institute will testify.

Senate Energy Approps Subpanel – Mark up of the FY 2019 budget at 2:30 p.m. in SD-138

Forum to Look at India Clean Energy Transition – The World Resources Institute holds a forum on Wednesday at 10:00 a.m. looking at India's transition to a low-carbon economy. The event features a keynote by former World Bank, IMF exec Montek Singh Ahluwalia. WRI's Andrew Light and Christina Chan will join a discussion after.

Forum to Look at Waste Energy – The Environmental and Energy Study Institute (EESI) and the American Biogas Council (ABC) hold a briefing on Wednesday looking at the numerous challenges posed by organic wastes-to human health, water and air quality, and to businesses that must manage these wastes-and how anaerobic digestion offers solutions to these pressing issues. Anaerobic digestion is the process of converting organic materials, typically viewed as wastes, into usable products, including biogas, renewable natural gas (RNG), as well as valuable organic fertilizer and compost. These biogas systems turn a waste management issue into a revenue opportunity for America's farms, dairies, food processing, and wastewater treatment industries. Speakers for this forum will discuss the tremendous opportunities for rural and urban communities alike to use anaerobic digestion to foster healthy communities and businesses.

Forum to Look at European Energy Security – The Atlantic Council holds a discussion on Wednesday at 3:00 p.m. in 138 Dirksen looking at European energy security. The forum will feature conversation topics such as the energy transition, Nord Stream 2, and the role of gas in bolstering European energy security and the US-Europe energy relationship. Senate Foreign Relations Chair Ron Johnson and H.E. Prof Zdzisław Krasnodębski, Vice President of the European Parliament, will each provide keynote remarks, followed by a panel discussion featuring speakers from both sides of the Atlantic.

Senate Hosts Pompeo to Discuss State Budget – The Senate Foreign Relations Committee holds a hearing to examine the President's proposed budget request for fiscal year 2019 for the Department of State Thursday at 10:00 a.m. Secretary Pompeo will testify.

Senate Full Approps Committee – Mark up of the FY 2019 budget at 10:30 a.m. in SD-106

CSIS, EPIC to Hold Nuclear Forum – CSIS and the Energy Policy Institute at the University of Chicago (EPIC) will hold a half-day public conference on Thursday afternoon to address pressing questions in an effort to better understand the potential future of U.S. nuclear power. Nuclear energy faces an uncertain future in the United States as the fuel is beset by fierce competition from natural gas and renewable energy in many markets. Coupled with failure to deliver new projects on time and at cost, along with a public sensitive to operational safety, existing and future nuclear power generation is at risk in the United States.

GBC Looks at Positive Energy Buildings – The U.S. Green Building Council will hold its 2018 Building Tech Forum on Thursday at 5:30 p.m. net positive energy buildings. Green technology firms and building product companies will discuss cutting-edge research and products to support net positive energy buildings. Presenters will discuss advances in building technologies during education tracks, including case studies, equipment, products, renewable energy innovations and more.

IN THE FUTURE

MEMORIAL DAY – May 28th

Press Club Hosts Fox News Anchor – Bret Baier, chief political anchor for Fox News Channel and the anchor and executive editor of "Special Report with Bret Baier," will share his latest book, "Three Days in Moscow: Ronald Reagan and the Fall of the Soviet Empire," at a National Press Club Headliners Book Event on Tuesday, May 29th, at 7:30 p.m. in the Club's conference rooms. In "Three Days in Moscow" Baier uses the 1988 Moscow Summit, Reagan's pivotal final meeting with Communist Party Leader Mikhail Gorbachev, to examine the life and legacy of Reagan and his arduous battle with the Soviet Union through a new lens.

Stern, Grumbles to Speak at WRI Paris Look Back – The World Resources Institute holds a forum on Wednesday May 30th at 2:30 p.m. on the one-year anniversary of the US withdrawal from Paris. The WRI event will reflect on the state of climate action in the United States and internationally. The discussion will feature remarks by Todd Stern, former U.S. Special Envoy for Climate Change at the U.S. Department of State, and former EPA official Ben Grumbles will address the topic. This event will be a time to look at what has happened on climate action since the announcement -- both where has there been progress and what more needs to be done at the local, national and international levels.

Atlantic Council Cyber Security Exercise to Look at Vulnerabilities – The increasing complexities of the globalized supply-chain system has introduced myriad new threat vectors for intentional and unintentional compromise of integral components, 'unintended taint', the flaws in software unintentionally built into products, is of particular concern. It is of vital importance that we recognize and understand this very significant and credible threat to the uninterrupted functionality of critical infrastructure within the energy sector. Consequently, the Atlantic Council's Cyber Statecraft Initiative will hold an exercise next Wednesday May 30th at 4:00 p.m. to model a downstream petroleum refinery that will be manipulated in real-time, demonstrating how vulnerabilities in the supply-chain can be affected, followed by a discussion engaging key experts and stakeholders for a progressive and solutions-oriented discussion on how to appropriately identify and mitigate these underappreciated threats to the energy sector.

WVU Research to Look at Coal Drainage for Rare Earths – On Thursday, May 31st at 10:00 a.m., the US Energy Association holds a forum on coal mine drainage as a domestic source of rare earth elements. Rare Earth elements are essential for advanced technologies from smartphones and robots to national defense systems. The rare earth metals have remarkable chemical properties but are so evenly dispersed throughout the earth's crust that economically attractive concentrations are extremely rare. As a result, the U.S. imports nearly all its rare earth elements from China. Fortunately, researchers at West Virginia University, led by Water Research Institute director Paul Ziemkiewicz, have found that acid mine drainage from Appalachian coal mines naturally concentrates rare earth elements and the metal residues contain readily recovered concentrations that match many of the world's best deposits. Current research, supported by USDOE's National Energy Technology Laboratory and industry, is developing extraction technology to set the groundwork for a domestic rare earth industry.

WCEE Hosts Solar Jobs Forum – The Women's Council on Energy and the Environment will hold a lunch and learn on Thursday May 31st looking at solar jobs. The Solar Foundation's National Solar Jobs Census 2017 found that there were over 250,000 Americans employed in the solar industry, a 3.8% decline from the previous year. Despite the decrease, long term trends have been strong. Experts Zoe Ripecky (The Solar Foundation), Kerene Tayloe (Green For All), Emma Rodvien (Solar United Neighbors), and Madison Freeman (Young Professionals in Foreign Policy) will join together for a discussion of solar jobs and their impact on communities around the U.S. This will include an overview of the findings of the Solar Jobs Census, as well as a discussion of best practices for expanding diversity in the industry, economic impacts of solar deployment, and how current policies will impact solar jobs.

FERC Commissioners Headline Western PSC Forum – The Western Conference of Public Service Commissioners holds a conference in Boise, Idaho ion June 3rd through 6th. WCPSC is a regional association within NARUC and the conference takes place at the Boise Centre, located in the heart of downtown Boise. Speakers include Idaho Gov. Butch Otter, FERC Commissioner Cheryl LaFleur and Rich Glick, AGA Richard Myers and Montana PUC Chair Travis Kavulla, among many others.

FERC Chair Headlines EIA Annual Energy Conference – EIA holds Its annual 2018 Energy Conference on June 4th and 5th at the Washington Hilton. FERC Chair Kevin McIntyre will keynote the event.

Hydrogen, Fuel Cell Forum Set for DC – The Fuel Cell and Hydrogen Energy Association will be hosting a full-day forum and exposition on Tuesday, June 12 in Washington, D.C. at the Ronald Reagan Building and International Trade Center with leading executives, experts, and policymakers on fuel cell and hydrogen technology. The forum will bring together key federal and state policymakers, including the Department of Energy and White House, as well as the broader environmental, transportation, and energy communities to raise awareness of the benefits of fuel cell and hydrogen technology. This event will precede the Department of Energy's 2018 Annual Merit Review.

SAFE to Discuss Impact of Self-Driving Technology on Economy, Workforce – Securing America's Future Energy will hold a forum and release a new groundbreaking study with original research on the magnitude of impacts from driverless cars at the Jack Morton Auditorium at the George Washington University. The study done in collaboration with leading transportation and labor economists focuses on impacts from driverless cars and offers case-study analysis on the economic productivity gains. It will also offer context on the history of network-scale innovations and the short and long-term impacts on the workforce. Report author J.D. Vance, former Transportation Secretary Rodney Slater, current legislators and DOT officials who are actively crafting AV Policy will all speak. For further information, contact Leslie Hayward lhayward@secureenergy.org.

GTM to Host Grid Forum – Greentech Media host Grid Edge Innovation Summit on June 20th and 21st in San Francisco. The event is an energy conference that will examine the energy customer of tomorrow and how new innovative business models are quickly emerging. GTM brings together forward thinking and prominent members of the energy ecosystem and as our research team explores the future of the market. Former FERC Chair Jon Wellinghoff will speak along with many others, including our friends Shayle Kann, Julia Pyper and Stephen Lacey.

Young Professional Program for World Gas Forum Set – The Young Professionals Program (YPP) will hold a special forum during the World Gas Conference June 25-29 in Washington, DC. YPP will provide a great opportunity for promising young professionals in the energy sector to learn from top leaders in the natural gas industry and network with their peers throughout the world. More on this as we get closer.

Clean Energy Forum on Schedule – The 2018 Congressional Clean Energy Expo and Policy Forum will be held on July 10th and brings together up to 45-55 businesses, trade associations, and government agencies to showcase renewable energy and energy efficiency technologies.

FRANK MAISANO
Senior Principal
Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 5/14/2018 6:25:16 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: May 14 PRG Eerngy Update: Preakness or Pruitt?

Friends,

While I always love the NHL hockey playoffs, now, I'm really excited after last night's Caps victory. Still six wins to go though and that is a long way to go!

This week is Preakness Week and the Preview is below. You can take your winnings from listening to me before the Derby and double your money. It is hard to see how *Justify* doesn't take this race, especially given the smaller 8-horse field and the fact the favorite wins this race more than 50% of the time. It looks like it will be another wet one though which didn't slow *Justify* at the Derby. Our friend Scott Dance of the *BaltSun* has the forecast. Wow… and only 5 days to the big wedding (and yes, NO CHANCE I am previewing it). I'm just glad it's early enough to not impact Preakness.

So last week was Hurricane Preparedness Week and I just wanted to remind you with the 2018 Hurricane Season fast approaching (June 1), you should remember the experts at MIT have a significant amount of really interesting research pushing the frontier of building materials use, with implications for policymakers, building designers, communities, and the vulnerable residents of hazard-prone areas. They have a cool, MIT-developed Break-Even Mitigation Percent (BEMP) tool which calculates the BEMP for eastern U.S. coastal communities prone to damage from hazards related to hurricanes. Along those lines, the American Institute of Architects hosts a discussion tomorrow at 5:00 p.m. to provide design and recovery insights from architects who served as responders following hurricanes last year.

This week is Infrastructure Week, and the action kicked off this morning at Union Station and carries on each day, while Axios hosts an event tomorrow morning with Sen. Inhofe. In the MIT vein, I am reminding you about a recent study using data from the very same MIT research group that says incorporating a life-cycle cost analysis (LCCA) provision into federal infrastructure legislation could save taxpayers $91 million for every $1 billion spent on projects.

On the Hill, it is Scott Pruitt week again. A second great hearing this week on Wednesday includes EPA Air chief Bill Wehrum, former EPA air office head Jeff Holmstead, NAM's Ross Eisneberg, NRECA's Kirk Johnson and several others to discuss the NSR reforms being suggested by the EPA.

Finally, the Farm bill will likely see a vote this week. The bill reauthorizes various commodity, trade, rural development, agricultural research, and food and nutrition programs and will likely get some attention given the current RFS battles. Stay tuned…

Out on Friday… Going to pick up Hannah at Wellesley as **SHE HAS FINISHED HER 2nd year**. OMG!! Call with questions. Best,

Frank Maisano
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THE PREAKNESS

Now that the Kentucky Derby has come and gone, we have officially entered Triple Crown season. *Justify* put together a powerful showing despite ugly track conditions to win the Derby and emerge as the horse to beat at the 2018 Preakness Stakes.

Justify's run firmly established him as the early/heavy favorite in Baltimore. A field of 8 horses will take to the track on Saturday at Pimlico Race Course in Baltimore. The smaller field will make it a lot easier for Mike Smith to get *Justify* on the lead without traffic/trouble.

Quip and *Sporting Chance* will be new in the field, while Derby runner-up *Good Magic, Bravazo* and *Lone Sailor* return. *Magic* was a strong second but could not close on *Justify* while fresh making it hard to imagine he could be stronger with only two weeks rest. *Bravazo* definitely overachieved with his strong finish at the Derby and could also push, but don't count on it. *Lone Sailor* contended in Louisville but faded down the stretch so he seems to be unlikely to challenge.

The expectation that *Justify* would face a majority field of fresh, rested horses faded some with the small field. Again it seems some are waiting for the longer Belmont to be a fresh spoiler. Even so, *Justify* is a likely to be a heavy favorite (right now he is 1-2).

Justify is 4-0 in his career and just the ninth undefeated Derby winner in history. He also became the first horse since Apollo in 1882 to win the Derby after not competing as a two-year-old, breaking sports' longest existing curse. But even after his stellar performance at Churchill Downs, they still have to run it.

The shorter Preakness will probably still be muddy with rain expected here all week, but *Justify* conquered a very muddy and wet Churchill Downs track. Finally, the last four Baffert horses that have won the Derby, have also won the Preakness.

As for other challengers, *Quip* was the runner up in Arkansas and could hurt *Justify* with his speed, especially on a soggy track, but he is owned by the same group as *Justify*. *Sporting Chance* is a good long shot if you're looking for that. He ran the Pat Day Mile on Derby Day and looked strong despite his 4th–place finish. Other horses in the field will include *Diamond King*, *Tenfold* and *Pony Up.* Each of those will be fresh which makes them potentially dangerous, but a wet track tends to limit sleepers' chance to surprise. *King* is a local winner here in Maryland; *Tenfold* comes from the pedigree of 2007 Preakness Champ *Curlin*, won a couple of minor races earlier this year, but finished a distant 5th to *Magnum Moon* and *Quip* in Arkansas. *Pony Up* is in the *Seattle Slew/AP Indy* lineage and placed 3rd behind *My Boy Jack* at Keeneland in mid-April.

Some Good Preakness Facts

The Race: This is the 143rd Preakness Stakes. The Preakness is older than the Kentucky Derby but rarely gets credit for it. The Preakness was first run in 1873, two years before the first run for the roses. But since the Preakness wasn't run from 1891-1893 this year is the 143rd Preakness and the 144th Derby.

Distance: 1 3/16 mile (the shortest of the Triple Crown Races) or 9½ furlongs.

The Track: The Pimlico Race Course first opened in Baltimore, Maryland on Oct. 25, 1870. It is the second oldest racetrack in the country, behind only Saratoga in Saratoga Springs, New York. Pimlico was originally built so former Maryland Gov. Oden Bowie and his friends, horse racing enthusiasts, could race horses against one another. At a dinner party in 1868, Bowie and his friends agreed to hold a race in two years where the winner would host the losers for dinner. Despite both Saratoga and the America Jockey Club wanting to host the event, Bowie decided to build a brand new racetrack in his home state of Maryland for the occasion.

The Drink: In my Derby Preview, I slept on the Mint Julip and many of you reminded me of that important tradition. Therefore, here is the recipe for the Black-Eyed Susan, the official drink of the Preakness. The official ingredients include:

- 1½ ounce of Effen vodka
- 1 ounce of Makers Mark Bourbon
- 2 ounces of Orange Juice
- 2 ounces of sour mix

- Garnish with an orange and cherry

Post time: 6:18 p.m. EST

Weather: Rain all week with potentially 3 to 4 inches in Central Maryland. Rain on race day.

Purse: $1.5 million with winners taking home 60% ($900,000). Top five get $$$. The Winner also receives a blanket of Black-Eyed Susans 18-inches wide and 90 inches long. It takes 8 hours to make the blanket.

Posts: Positions #5 and #6 have each seen two horses win since 2008. *Curlin* won from the #4 post in '07, but last year's Derby winner *Always Dreaming* bombed from there despite 13 winners in the past 114 years. Somewhere in the middle has been consistently the best spot, but the lowest numbers have been kind of late. *American Pharoah* won from No. 1 on its way to the Triple Crown in '15, following *California Chrome* from No. 3 in '14. Last year *Cloud Computing* shocked everyone out of No. 2. Again, the small size of the field and wet track may make this less important.

Odds:
Justify 1-2
Good Magic 3-1
Quip 12-1
Bravazo 18-1
Tenfold 20-1
Pony Up 25-1
Sporting Chance 28-1
Diamond King 28-1
Lone Sailor 30-1

Picks: Win – *Justify*; Place – *Quip*; Show – *Sporting Chance*

Super Box: Add – *Good Magic*

Sleeper Note: Don't be surprised if *Bravazo* once again sneaks into the mix.

Longshots: Definitely lay the $2 on *Sporting Chance*

FRANKLY SPOKEN

"Terrific final decision from @POTUS meeting: E15, year-round plus RINs for all exports. This is a WIN-WIN for everyone. More corn will be sold (good for farmers), plus lower RINs (saves blue-collar refinery jobs), plus more ethanol exports (good for America)."

Sen. Ted Cruz on Twitter after a meeting at the White House with President Trump, EPA head Pruitt, Ag Sect Perdue and Sens. Toomey, Grassley and Ernst.

ON THE POD

Energy Gang Discussed New Tech Investments with Statoil –On a recent Energy Gang podcast, our friends at GTM talked with the executive in charge of Statoil's new energy investments, Stephen Bull. Statoil is the largest operator of oil and gas rigs around the world. Consequently, the company's biggest low-carbon investments are offshore: floating wind farms and distributed carbon capture and storage. Bull chats with The Energy Gang about the performance of floating wind, the economics of CCS, and whether oil companies are investing enough in their new energy divisions.

FUN OPINIONS

Cruz Talks Iran, NK, Biofuels on Fox – Late last week, Senator Cruz addressed the White House meeting on the RFS on Fox News saying "the President is saving tens of thousands of jobs" by fixing the broken RINs program. See it here: http://video.foxnews.com/v/5783087431001/?#sp=show-clips

IN THE NEWS

Chamber Energy Group Rolls out New Energy Innovation Initiative – The U.S. Chamber of Commerce's Global Energy Institute has launched a new multi-platform initiative to highlight energy innovation efforts by industry. The *EnergyInnovates* tour kicks off with Alabama Power's Smart Neighborhood, a partnership that includes Southern Company and Oak Ridge National Laboratory which employs a microgrid capable of reliably powering a community with solar, batteries or a backup natural gas generator.

Barclays Says Ethanol Exports Will be a Better Policy – Barclays Capital weighed in on ethanol exports saying in a report that the proposal export RINs would be a better solution to fix the Renewable Fuel Standard than year-round E15 gasoline. Barclays note said the drop in ethanol RIN prices by more than 50% year to date was largely due to the series of 2016 and 2017 waivers provided by the EPA, which has functionally reduced RIN demand. However, retroactive waivers, while offering temporary price relief through balancing RIN supply/demand, are not a structural or sustainable solution. They also added the "possibility of ethanol exports being counted toward the RIN requirement could potentially solve the RIN deficit issue and lead to a structurally much lower RIN price."

EPA Looks to Build Economics Into NAAQS Decisions – Last Week, EPA said it will overhaul how it reviews national ozone limits by considering a range of adverse effects including economic and energy-related ones. Administrator Scott Pruitt signed a memorandum kicking off the agency's review of the latest National Ambient Air Quality Standards for ozone, established in 2015 with the aim of finalizing a decision to reconsider, modify or maintain the NAAQS within the five-year window mandated by the Clean Air Act. The current ozone NAAQS stands at 70 parts per billion. The Chamber's Dan Byers said "EPA's NAAQS process has long been in need of improvement. The announcement signals a new approach focused on key statutory duties and regulatory flexibility, which should lead to a better process that won't impede economic growth."

Chamber Blog Highlights Jobs Benefits of HFC Reduction – Remember last week's announcement regarding economic impacts of the Kigali amendment to limit HFCs, the Chamber penned a blog

UTC Members Elect SoCo's Bryant as New Board Chair – Energy and water utility representatives across the U.S. approved a new slate of officers to lead the Utilities Technology Council (UTC). At UTC's Annual Telecom & Technology Meeting today in Palm Springs, Calif., UTC's core members elected Roger Bryant, IT Project Manager, Telecom Services at Southern Company Services, as its new Chairman of the Board. Mr. Bryant succeeds Immediate Past Chair Kathy Nelson of Great River Energy. UTC members also elected Greg Angst, Engineer in the Telecom Design Group at CenterPoint Energy, as its Vice Chair, and Kevin Huff, Telecommunications Operations Manager at Salt River Project, as its Secretary/Treasurer.

GTM Looks at Trends in Solar – A new report from GTM says – In the last five years – the cost of solar has fallen 48% and annual global solar installations are now total 100 gigawatts. In a presentation at Solar Summit earlier this month, GTM Research's Scott Moskowitz highlighted current trends in solar PV technology like the rise of 1,500 volt systems and three-phase inverters overtaking central inverters. He also went on to provide an outlook on PV system prices.

ON THE SCHEDULE THIS WEEK

Forum to Look at China Nuclear – The Carnegie Endowment for International Peace will host a forum and launch of "The Future of Nuclear Power in China" today at 2:30 p.m. The groundbreaking new report, "The Future of Nuclear Power in China," identifies and analyzes the challenges facing Chinese decision makers in developing and deploying nuclear power technology through mid-century. Speakers will include Mark Hibbs and Jane Nakano will discuss. James Acton will moderate.

Citi Energy Conference Set – Today through Wednesday, the Citi Global Energy & Utilities Conference is held in Boston and Cambridge, Mass. Participants include executives from Hess Corp., Devon Energy and other companies

Axios to Host Infrastructure Discussion – Axios' Mike Allen will host conversations on the news of the day and how it relates to Infrastructure Week tomorrow morning at 8:00 a.m. at AJAX. The event will feature Sen. Jim Inhofe, DC House Del. Eleanor Holmes Norton and Austin Mayor Steve Adler, who chairs the U.S. Conference of Mayors Subcommittee on Highways.

ITA Holds Enviro Tech Forum – The International Trade Administration holds a meeting of the Environmental Technologies Trade Advisory Committee tomorrow. The agenda includes optimizing the government's trade promotion programs; identifying market access barriers; discussing pros and cons of existing trade agreements; discussing foreign procurement policy, including issues with financing mechanisms; discussing localization requirements and non-tariff barriers; and making recommendations to the secretary.

Women in Green Power Forum Set – The US Green Business Council- National Capital Region holds its 3rd annual Women in Green Power Breakfast at The Hamilton tomorrow morning. The event celebrates women in local sustainability who are at the top of their game. Get inspired at this critical time for environmentalism and feminism. Through facilitated networking and a panel discussion featuring local Women in Green, the event will explore the complexities of women's leadership and share proven leadership principles practiced by female green leaders at every stage of their career, who are changing the way we think and build in the National Capital Region.

SE Solar Power Forum Set – The Solar Power Southeast is tomorrow and Wednesday in Atlanta. The focus of the event bring together those that are doing business in the region, or would like to conduct more business in the region to discuss strategies, market trends in the southeast, policy updates that impact businesses, and numerous networking opportunities to make more connections. SEIA head Abby Hopper leads the discussion.

Forum to Look at Central American Power Market Design – The US Energy Association will host a forum tomorrow at 10:30 a.m. on using best practices to design power sector programs. Juan Belt will look at case studies in Haiti & Central America Belt will discuss a paper he wrote for the Copenhagen Consensus Center (CCC) that proposes measures to improve the power sector in Haiti and is based on best practices. The CCC "eminent panel", which included a Nobel Prize winner, selected this paper as the best among 85 proposed interventions, and the International Confederation of Energy Regulators (ICER) gave it the "Distinguished Scholar Award for 2018." Belt and UDAID's Silvia Alvarado will also discuss a paper they are writing. Silvia is a former USAID officer and regulator of Guatemala, on possible measures to improve the power sector of the six Central American countries as well as the regional power pool. The paper will highlight the reasons why the reform in Guatemala succeeded, will describe USAID support, and will suggest what lessons could be applicable to other countries in the region and elsewhere.

Forum to Look at Saudi Nuclear Issues – Tomorrow at 12:00 p.m., the Global America Business Institute hosts a forum looking at commercial perspectives on Saudi Enrichment. Speakers will include Andrea Jennetta of Fuel Cycle Week and Melissa Mann of URENCO USA Inc.

Cal Energy Summit Set – The 6th annual California Energy Summit 2018 launches tomorrow in Redondo Beach and will bring policy-makers together with utility, IPP, energy storage and finance executives to provide the latest information on the opportunities and threats in California, and discuss potential strategies for the future. Our friends Dan Skopec off San Diego Gas & Electric and 8MinuteEnergy's Arthur Haubenstock will speak along with CAISO's Neil Millar, First Solar's Mark Fillinger and others.

UDel to Host Biden, Moniz on Prospects for Energy Jobs, Innovation – The University of Delaware hosts former VP Joe Biden and former Secretary of Energy Ernie Moniz for a conversation about the future of energy jobs and innovation in the U.S. tomorrow in Newark, DE. The event is a partnership between the Biden Institute and the Delaware Environmental Institute (DENIN) at the University. The event will also be streamed live. To view the live webcast, visit

sites.udel.edu/udlive. The link will become active 10 minutes before the program begins at 12 p.m. A recording will be posted on the DENIN website following the event.

Wilson Forum Hosts AK LG Mallott – The Woodrow Wilson Center holds a forum tomorrow at 1:30 p.m. will host Alaska Lt. Gov Byron Mallott shaping Alaska's climate policy. Mallott will speak to the State of Alaska's response to climate change through the work of the Climate Action for Alaska Leadership Team, established last October and charged with developing a recommended climate action plan and policy by September 2018. Follow the work of the CALT and preview the draft climate policy here. An Alaska Native and clan leader of the Tlingit Raven Kwaash Kee Kwaan of Yakutat, Lt. Governor Mallott will also highlight work building partnerships with Pacific Island nations to create an indigenous, ocean-focused approach to climate solutions.

Coal Council Hosts Milloy to Discuss CCS – Tomorrow at 2:00 p.m., American Coal Council holds a Q&A webcast on innovative Carbon Capture and Sequestration solution with multiple environmental benefits. The web event will feature Steve Milloy. Interest in accelerating the development and deployment of technologies for CO2 emissions reduction is growing, as is the recognition that the cost of carbon capture and sequestration must be reduced to facilitate meaningful progress. Enhanced oil recovery is one strategy, and there are others such as direct air capture.

Aspen to Discuss Ocean Policy – The Aspen Institute holds a discussion on physical, chemical, and biological oceanography at 2:15 p.m. Panelists include Dr. Sylvia Earle, Co-Chair, Aspen Institute High Seas Initiative; Dr. Fanny Douvere, Coordinator, Marine Program, World Heritage Centre UNESCO; Dr. Francesco Ferretti, Research Associate, Stanford Hopkins Marine Station; and Dr. Barb Block via the White Shark Café. This event is the first for the High Seas Initiative, a program of the Aspen Institute that will ignite global awareness of the need to explore, understand and protect the last unregulated global commons: the remote ocean. The Initiative will work to support the creation, expansion, and enforcement of marine reserves, as well as educating and engaging youth to become future leaders working on behalf of our oceans.

AIA hosts Discussion on Insights for Hurricane Design, Recovery – The American Institute of Architects (AIA) is hosting an educational discussion at 5:00 p.m. tomorrow to provide design and recovery insights from architects who served as responders following hurricanes Maria, Harvey and Irma last year. Architects offer a unique perspective—not only to design communities and buildings to withstand disaster—but to analyze structural performance during post-disaster relief work. The panel will cover crucial information for the Senate to understand, especially as they consider the House passed Disaster Recovery Reform Act. In addition, the National Institute of Building Sciences will present relevant highlights from its Natural Hazard Mitigation Saves: 2017 Interim Report regarding the economic benefit of governments continuing to publicly fund disaster mitigation efforts.

Senate Approps to Host Pruitt – EPA Administrator Scott Pruitt is scheduled to testify on Wednesday at 9:30 a.m. before the Senate appropriations subcommittee that oversees his budget according to Sen. Lisa Murkowski, who chairs the panel.

House Approps Marks up Energy Funding – The House Appropriations Committee will mark up its fiscal 2019 energy and water title on Wednesday at 10:00 a.m.

House Science Look at Tech to Address Climate – The House Science Committee holds a hearing Wednesday at 10:00 a.m. on using technology to address climate change. Witnesses will include Oren Cass of the Manhattan Institute, Ted Nordhaus of the Breakthrough Institute, Phil Duffy of the Woods Hole Research Center and Georgia Tech's Judith Curry.

House Energy to Look at NSR Program Reforms – The House Energy and Commerce Environment panel will hold a hearing on Wednesday at 10:15 a.m. EPA Bill Wehrum, Bracewell's Jeff Holmstead (himself a former EPA Air office head), NAM's Ross Eisenberg and NRECA's Kirk Johnson will be among those testifying.

Moniz to Introduce '18 U.S. Jobs Report – The Energy Futures Initiative (EFI) and the National Association of State Energy Officials (NASEO), will publicly release the 2018 U.S. Energy & Employment Report (USEER) Wednesday at 10:00 a.m. in 212-10 Senate Visitors Center. This is the third installment of the energy jobs survey established by the U.S.

Department of Energy in 2016, which offers data on employment trends in four key energy sectors. Monix will be joined by NASEO head David Terry and author David Foster.

BPC to look at Private-Public Partnerships – The BPC's Executive Council on Infrastructure is holding an event on Wednesday at 10:00 a.m. highlighting the role of public-private partnerships, or P3s, in addressing America's $2 trillion in unmet infrastructure needs. P3s can bring private sector innovation, expertise, and capital to projects, helping communities across the U.S. modernize their transportation, water, and other infrastructure systems. Keynote remarks by Australian Ambassador to US Joe Hockey and a panel featuring Bechtel's Keith Hennessy and Lilliana Ortega of Parsons.

Forum to Look at Manufacturing – On Wednesday at 10:00 a.m., the Information Technology & Innovation Foundation releases a new report that reviews the progress of DOE's Manufacturing USA Institutes and looks ahead to their future. The report's authors, ITIF Senior Fellow David M. Hart and Peter L. Singer, will present their findings and discuss policy options to guide their next stage of evolution with an expert panel.

ELI to Look at Deregulation – The Environmental Law Institute will hold a forum and panel on Wednesday at Noon to discuss obstacles to deregulation, including when, and how, an agency must consider costs and benefits of staying, repealing, and rewriting rules. Speakers will discuss the types of rules and guidelines to which these requirements do and do not apply; comment on current challenges to the Trump Administration's deregulation agenda; and offer insights on the ways that administrative law is developing through interpretation of the APA and other relevant statutes.

Salazar Heads Press Club Dinner – The National Press Club Communicators Team hold its Legends Dinner on Wednesday at 6:00 p.m. in the Winners' Room. The honored guest will be former Interior Secretary and Colorado Sen. Ken Salazar. The dinner conversation will focus on the important communications-based strategies that moved his agenda and built a strong communications team, touching on: due diligence, crisis management, gaining congressional and White House support, building consensus with business leaders and constituents and working with media and reporters. Salazar will share practical lessons and challenges with that can bring value to contemporary communicators.

Forum to Look at PPPs – The Brookings Institution and the National Association of Counties hold a discussion on Thursday morning at 8:00 a.m. looking at modernizing infrastructure policies to advance public-private partnerships. Panelists will include NACo President and Tarrant County Commissioner Roy Charles Brooks and D.C. Office of Public-Private Partnerships Deputy Director Judah Gluckman.

Total CEO Hosted by CSIS – The CSIS Energy & National Security Program will host Patrick Pouyanné, Chairman and CEO of Total on Thursday at 9:00 a.m. for a conversation on Total's global gas, renewables, and power strategies and their implications for the company's activities in the United States. The discussion will encompass Total's position in natural gas markets, the growth and impact of renewables, and Total's investments in the renewables and power sectors.

Forum to Look at MI CCS Project – On Thursday at 10:00 a.m., the U.S. Energy Association will hold a forum focused on the Midwest Regional Carbon Sequestration Partnership (MRCSP), a large-scale demonstration project recently achieved the net CO2 storage of 1,000,000 metric tons in the CO2-EOR fields in Northern Michigan. This briefing will discuss how lessons learned from this successful program can be used to move CCUS towards deployment in appropriate settings. In addition to providing key aspects of the program, the speakers will discuss how the MRCSP research is impacting new projects in the USA and globally to build technical capacity. Speakers include Battelle's Lydia Cumming and Neeraj Gupta.

FERC Open Meeting – Thursday at 10:00 a.m.

Wilson to Host Brazil Bioeconomy Forum – On Thursday at 10:00 a.m., the Woodrow Wilson Center hosts a discussion of the future challenges and opportunities for agricultural value chains in a bioeconomy era with leading experts. Brazil, as one of the leading global agricultural producers and exporters, will play a significant role in building this new bioeconomy era. Led by Embrapa, the Ministry of Agriculture's research arm, Brazilian scientists and policymakers are already engaged in cutting-edge research involving microbes, genetic engineering, and biomolecules: new technologies

based in biology that have the potential to enhance agricultural productivity and the quality of food, while improving environmental sustainability.

Senate Environment to Look at Water Infrastructure – The Senate Committee on Environment and Public Works will hold a legislative hearing on Thursday at 10:00 a.m. on S.2800, America's Water Infrastructure Act of 2018.

ACORE Leads State of Industry Webinar – On Thursday at Noon, the State of the Industry Webinar, a quarterly series produced in partnership between ACORE and Bloomberg New Energy Finance (BNEF), offers the latest intelligence and analysis on renewable energy markets, finance and policy. This quarter's webinar will reflect on the immense growth of community choice aggregation (CCA) in California as well as its emergence in other markets. Speakers will offer insights on the dynamics of CCA deals, and considerations in how to tackle and underwrite such projects.

AEE to Hold Cybersecurity, Grid Webinar – The Advanced Energy Economy will hold a webinar on Thursday at 2:00 p.m. on cybersecurity in a distributed energy future. The webinar will address protecting an evolving grid from digital attack. The panel of experts — all contributors to the AEE Institute white paper on cybersecurity — will discuss ways to make an increasingly complex, interactive, and distributed electricity system more resilient against cyber threats. Panelists include John Berdner of Enphase Energy, NYPA's Ken Carnes, Navigant's Ken Lotterhos and Todd Wiedman, Director, Security and Network, Landis+Gyr. Moderated by Lisa Frantzis, Senior Vice President, 21st Century Energy System, Advanced Energy Economy.

Moniz to Deliver Georgetown School Commencement – Former Energy Secretary Moniz delivers Georgetown University's School of Public Policy commencement ceremony Thursday at 5:30 p.m.

House Panel to Look at Waste Disposal – The House Energy and Commerce's environment panel discusses two reauthorization bills related to waste disposal in a legislative hearing on Friday at 9:00 a.m. The hearing is focused on H.R. 2278, the Responsible Disposal Reauthorization Act of 2017, and H.R. 2389, to reauthorize the West Valley demonstration project and for other purposes."

Forum to Talk Economic Methods –The US Assn of Energy Economists of the National Capital Area will hold its monthly lunch on Friday at the Chinatown Gardens restaurant featuring Powerhouse's David Thompson and focused on collecting and analyzing supply & demand data in the energy sector. Technical analysis (TA) differs from fundamental research as it focuses on price action and how that affects market participants' decision-making. While the two schools start from different perspectives, it's a mischaracterization to suggest they are antagonistic to one another. Many analysts use technical tools in concert with fundamental research as they develop market forecasts.

IN THE FUTURE

NAS Hosts Small Business Meetings – The National Academy of Sciences' Board on Science, Technology and Economic Policy will meet on next Monday and Tuesday to review the Small Business Innovation Research and Small Business Technology Transfer Programs at the Department of Energy Review.

Fox to Address Trade, Immigration, Trump – The National Press Club will host a Headliners Luncheon on Tuesday, May 22nd featuring former Mexican President Vicente Fox. Fox will deliver an address entitled "Democracy at the Crossroads: Globalization versus Nationalism". Fox, a right-wing populist representing the National Action Party (PAN), was elected as the 55th President of Mexico on December 1, 2000. Winning with 42% of the vote, Fox made history as the first presidential candidate in 71 years to defeat the Institutional Revolutionary Party (PRI). Fox's administration focused chiefly on improving trade relations with the United States and maintaining Mexico's growing economy. Fox left office in 2006, and in a break with his country's cultural norms and traditions has remained in the public eye post-presidency and has not been shy about expressing his views and opinions.

Forum Spotlights Rural Co-Ops – The Partnership for Advancing an Inclusive Rural Energy Economy, a collaboration between the National Cooperative Business Association CLUSA and the Environmental and Energy Study Institute will hold a livecast on Tuesday May 22nd at 1:00 p.m. to look at how rural electric cooperatives are delivering cutting-edge

inclusive energy efficiency programs for their members--saving them money while supporting local economic development. This livecast will include information about the **U.S.** Department of Agriculture's Rural Utilities Services (RUS) loan program that co-ops can take advantage of to help deliver these benefits. Livecast speakers include Doug O'Brien of the National Cooperative Business Association CLUSA, Roanoke Electric Cooperative CEO Curtis Wynn and Mike Couick of the Electric Cooperatives of South Carolina. Roanoke Electric's "Upgrade to $ave" program and the "Help My House" program available to South Carolina's co-ops offer on-bill financing to help members afford cost-saving home energy upgrades. With on-bill financing, members repay their co-ops over time as part of their monthly electric bills, and the programs are designed so that members of all income levels can participate.

Forum to Look at Waste Energy – The Environmental and Energy Study Institute (EESI) and the American Biogas Council (ABC) hold a briefing on Wednesday May 23rd looking at the numerous challenges posed by organic wastes-to human health, water and air quality, and to businesses that must manage these wastes-and how anaerobic digestion offers solutions to these pressing issues. Anaerobic digestion is the process of converting organic materials, typically viewed as wastes, into usable products, including biogas, renewable natural gas (RNG), as well as valuable organic fertilizer and compost. These biogas systems turn a waste management issue into a revenue opportunity for America's farms, dairies, food processing, and wastewater treatment industries. Speakers for this forum will discuss the tremendous opportunities for rural and urban communities alike to use anaerobic digestion to foster healthy communities and businesses.

CSIS, EPIC to Hold Nuclear Forum – CSIS and the Energy Policy Institute at the University of Chicago (EPIC) will hold a half-day public conference on Thursday afternoon May 24th to address pressing questions in an effort to better understand the potential future of U.S. nuclear power. Nuclear energy faces an uncertain future in the United States as the fuel is beset by fierce competition from natural gas and renewable energy in many markets. Coupled with failure to deliver new projects on time and at cost, along with a public sensitive to operational safety, existing and future nuclear power generation is at risk in the United States.

Press Club Hosts Fox News Anchor – Bret Baier, chief political anchor for Fox News Channel and the anchor and executive editor of "Special Report with Bret Baier," will share his latest book, "Three Days in Moscow: Ronald Reagan and the Fall of the Soviet Empire," at a National Press Club Headliners Book Event on Tuesday, May 29th, at 7:30 p.m. in the Club's conference rooms. In "Three Days in Moscow" Baier uses the 1988 Moscow Summit, Reagan's pivotal final meeting with Communist Party Leader Mikhail Gorbachev, to examine the life and legacy of Reagan and his arduous battle with the Soviet Union through a new lens.

FERC Chair Headlines EIA Annual Energy Conference – EIA holds Its annual 2018 Energy Conference on June 4th and 5th at the Washington Hilton. FERC Chair Kevin McIntyre will keynote the event.

Hydrogen, Fuel Cell Forum Set for DC – The Fuel Cell and Hydrogen Energy Association will be hosting a full-day forum and exposition on Tuesday, June 12 in Washington, D.C. at the Ronald Reagan Building and International Trade Center with leading executives, experts, and policymakers on fuel cell and hydrogen technology. The forum will bring together key federal and state policymakers, including the Department of Energy and White House, as well as the broader environmental, transportation, and energy communities to raise awareness of the benefits of fuel cell and hydrogen technology. This event will precede the Department of Energy's 2018 Annual Merit Review.

GTM to Host Grid Forum – Greentech Media host Grid Edge Innovation Summit on June 20th and 21st in San Francisco. The event is an energy conference that will examine the energy customer of tomorrow and how new innovative business models are quickly emerging. GTM brings together forward thinking and prominent members of the energy ecosystem and as our research team explores the future of the market. Former FERC Chair Jon Wellinghoff will speak along with many others, including our friends Shayle Kann, Julia Pyper and Stephen Lacey.

Young Professional Program for World Gas Forum Set – The Young Professionals Program (YPP) will hold a special forum during the World Gas Conference June 25-29 in Washington, DC. YPP will provide a great opportunity for promising young professionals in the energy sector to learn from top leaders in the natural gas industry and network with their peers throughout the world. More on this as we get closer.

Clean Energy Forum on Schedule – The 2018 Congressional Clean Energy Expo and Policy Forum will be held on July 10th and brings together up to 45-55 businesses, trade associations, and government agencies to showcase renewable energy and energy efficiency technologies.

FRANK MAISANO
Senior Principal
Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 6/25/2018 5:39:16 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: June 25 PRG Energy Update: World Gas, Nominees, Delta CEO@Press Club

Friends,

It has been a great FIFA World Cup so far. Last week, there was some really great games and some big surprises, including Poland out, Argentina on the brink of elimination and Germany barely surviving with a super late goal to sneak past Sweden. More action this week, including Uruguay-Russia today, a huge games in Groups D (Nigeria/Argentina & Croatia/Iceland) tomorrow, an important Brazil-Serbia game on Wednesday and a heavyweight bout on Thursday featuring both undefeated Belgium and England.

This week should be pretty busy as we run up to the July 4th holiday. We may see the RFS RVOs today and there are several key nominees hitting Capitol Hill tomorrow including Daniel Simmons to head DOE's EERE office. The Senate also expects to vote later today on the FY19 energy-water development legislation and there will be an interesting oil/gas hearing at House Energy tomorrow featuring Dan Yergin, Harold Hamm and Sempra's Dennis Arriola.

Energy Secretary Rick Perry is slated to meet tomorrow with Russian Energy Minister Alexander Novak, just days after Russia joined with OPEC to raise oil exports and he also meets with the Israeli Energy Minister today at an event sponsored by the Chamber's U.S.-Israel Business Initiative. He also headlines at the World Gas conference today and Thursday which Is at the Washington Convention Center all week. Other keynoters include Interior Secretary Ryan Zinke, Sens. Bill Cassidy, Lisa Murkowski and Joe Manchin, AGA's Dave McCurdy, Exxon CEO Darren Woods, Dan Yergin, Canada Energy Minister Jim Carr, Cheniere CEO Jack Fusco and our friend Frank Fannon at State. There are a bunch of WGC events, including the Chamber hosting Algeria's Energy Minister tomorrow at 11:00 a.m. See the full schedule here.

My biggest event his week is the Wednesday National Press Club event that features Delta CEO Ed Bastian on Thursday when he discusses the future of airline travel, and many other issues. You should definitely try to attend.

Forgot to mention this last week in the out of town activities, But the Aspen Ideas Forum launched last Thursday. Most of the energy action is this week though when panels look at AVs and hurricane response with FEMA's Brock Long (hosted by our friend Andy Revkin) today; a natural disaster rebuilding panel focused with SoCo's Chris Womack, our friend Jeff Goodell and PR Gov. Rossello and a cybersecurity discussion with Ash carter and SoCo's Tom Fanning; a Wednesday panel on cities and technology with Audi President Scott Keough and the signature conversation event featuring former Sect Of State John Kerry; a Trade conversation with Trade Rep Bob Lighthizer on Thursday and a Friday afternoon panel with former EPA head Lisa Jackson on the Clean Energy revolution. See the full agenda here.

Finally, drawing your attention to two multi-association letters that will be released today urging support for DOE's Daniel Simmons to head EERE and Jeff Clark to be assistant AG in DOJ's Environmental Division. I will forward later today when they are finalized.

I suspect that we won't have an update next week with July 4th, but will urge you to attend the Wednesday July 4th concert on the National Mall. It is one of the special events that you have to attend in your lifetime. We will report though as necessary.

Call with questions and see you at the Press Club on Wednesday for Delta CEO Ed Bastian…Best,

Frank Maisano
Ex. 6
c. Ex. 6

FRANKLY SPOKEN

"Because of the technological prowess of American manufacturers, U.S. businesses stand to gain from this deal – ratification will open new markets at a time when demand for refrigeration, heating, and air-condition equipment is projected to grow."

A letter from conservative tax group leaders of Americans for Tax Reform, FreedomWorks and the American Council for Capital Formation on moving the Kigali amendment forward in the Senate.

ON THE POD

Bracewell Reloads *Lobby Shop* Podcast – The latest episode of the Bracewell *Lobby Shop* is now live on Stitcher, iTunes, SoundCloud, and Google Play Music. We're debuting a new format this week. We'll cover the latest DC news from three angles: diving into legislation and policy, understanding their context and politics, and the success/failure of the involved parties' communications tactics. Our featured guest interview this week is with PRG's departing intern, Taryn Taylor Brown.

FUN OPINIONS

Regs Take a Hit in SCOTUS – Adam White, research fellow at the Hoover Institution and director of the C. Boyden Gray Center for the Study of the Administrative State at George Mason University's Antonin Scalia Law School, recently wrote in the *Wall Street Journal's* opinion section that regulatory state had a bad Day in court last week. White argued that while Conservatives long have questioned the administrative state, this past week Justices Elena Kagan and Anthony Kennedy each produced an opinion questioning longstanding features of the modern administrative state. Both opinions should encourage further reform and modernization of administrative law. Justice Kagan's majority opinion in *Lucia v. SEC* raised concerns about administrative law judges, while Justice Kennedy joined an 8-1 ruling in *Pereira v. Sessions* but in a lone concurrence, he voiced doubts about " Chevron deference," the 1984 doctrine of judicial deference to agencies' statutory interpretations.

IN THE NEWS

Conservative Tax Groups Urge President to Support HFC Reduction Effort – Last week, 13 Republican Senators urged the White House to send them the Kigali amendment to the Montreal Protocol while 34 HVACR Industry CEOs made the same request. Now, leaders of three conservative tax groups – Americans for Tax Reform, FreedomWorks and the American Council for Capital Formation – are urging the President to submit the Amendment to the Senate for ratification on economic and global competitive grounds. According to a study conducted by JMS Consulting and Inforum, ratifying the Kigali amendment will grow the U.S. share for these products by 25%. Failing to ratify the Kigali amendment will see American market share decline by 14%. The letter adds that "ratifying the Kigali amendment will increase economic output by $12.5 billion, leading to 33,000 more manufacturing jobs over the next decade and 117,000 indirect jobs in manufacturing dependent industries. The amendment also has broad support in the U.S. business and manufacturing community. Finally, the groups detail the risk for US manufacturers if we don't ratify the policy saying the agreement currently has enough support amongst other nations to go into effect on January 1, 2019. However, if the U.S. fails to ratify the agreement, American manufacturers will be restricted in their ability to sell into foreign markets at the cost of jobs and wealth.

ClearPath: Clean Energy Meetings Highlight US, Canada, Japan Alliance – The recent 9th annual Clean Energy Ministerial, a multilateral meeting in Copenhagen of high-level energy officials spanning the globe, launched two significant efforts to better recognize carbon capture and advanced nuclear as clean energy tools. ClearPath's policy triumvirate - Jeremy Harrell, Spencer Nelson and Justin Ong - were there and in a new blog map out why the efforts led by the U.S., Canada, Japan and others shouldn't be overlooked. But despite a good conversation, less than 10 of the 120 events at last month's Nordic Clean Energy Week (of which the ministerial was showcased) were focused on either nuclear or carbon capture. As these technologies will be a significant part of the future of the low-carbon energy mix,

the ClearPath policy trio note there is still much work to do to elevate those issues on the global stage, including at next year's ministerial hosted by Canada.

IRS Sets Beginning of Construction for Tax Credit – In a huge victory for solar developers, the Internal Revue Service (IRS) has established two new tests to guide taxpayers on solar energy property construction requirements for claiming a renewable energy tax incentive. Taxpayers may establish the beginning of construction either by through a "physical work test"—starting physical work of "a significant nature"—or by meeting a safe harbor based on having paid 5% or more of the total cost of the energy property. Solar Energy Industries Association CEO Abigail Ross Hopper said "the IRS has taken an important step forward with this guidance and provided certainty that will help solar project sponsors finance and build more solar. Our members have been working hard to secure financing for projects and keep them on track to meet critical development and construction milestones."

Senate Approves Advanced Nuclear Fuel Spending – The Senate approved an amendment to a FY19 spending bill from Sen. Mike Crapo (R-Idaho) granting $15 million for a demonstration project to ensure domestic supply of high assay low enriched uranium (HA-LEU), which will fuel many advanced nuclear reactors. There is a looming shortage in the domestic supply of HA-LEU, which is commercially produced in countries such as France, Russia and China, but not in the U.S. Former NRC Commissioner Jeffrey Merrifield and Pillsbury Law Firm Senior Associate Anne Leidich laid out 10 recommendations for lawmakers, policymakers and NRC to step up to this supply challenge in a recent white paper sponsored by ClearPath and the U.S. Nuclear Infrastructure Council. A final Senate vote on their broader FY19 energy spending bill is scheduled for today.

DOE Grants $64M for Advanced Nuclear – The Department of Energy will award nearly $64 million in advanced nuclear awards to national labs, industry and 39 U.S. universities in 29 states. The 89 awards are allocated under the Nuclear Energy University Program ($47 million), Nuclear Energy Enabling Technologies program ($5 million) and the Nuclear Science User Facilities program ($6.6 million).

Oil Companies Help to Drive Offshore Wind –As states seek to rapidly escalate offshore wind, our Friend Elizabeth McGowan reports that there has been a ripple effect for logistics companies that are more accustomed to serving the oil and gas industry. Our former Atlantic Wind Connection colleague, now at the University of Delaware, Stephanie McClellan has spent the last four years at guiding offshore wind from pie-in-the-sky blueprints to steel-in-the-water infrastructure that can deliver 8,000 megawatts of power to the Northeast by 2030. McClellan says a linchpin to success has been developing buy-in from businesses 1,500 miles away in the Gulf Coast, where entrepreneurs are reshaping their expertise to meet the siting, construction, installation, and maintenance needs of a nascent, but promising, offshore wind industry. One example of that union is the collaboration of Houston-based Zentech with Renewable Resources International in Virginia. Engineers have designed a marine vessel versatile enough to be used to install wind turbines and also decommission oil and gas rigs. Delivery of the modified ship is scheduled next year.

ON THE SCHEDULE THIS WEEK

World Gas Conference Features Perry, Industry Leaders – The International Gas Union (IGU) hosts the 27th World Gas Conference (WGC 2018) in Washington DC from June this week. The triennial event aims to raise the voice of natural gas while offering timely updates on strategic, commercial and technical issues facing the entire gas value chain and offers the most comprehensive and diverse program to date for the natural gas industry. For the first time ever this includes topics for professionals working in sectors including finance, trading, law, sustainability/renewables, policy/government.

Wehrum, McCabe Speak to Air/Waster Conference – The Air & Waste Management Association holds its annual conference in Hartford, Conn today through Thursday. The event will feature a keynote address by EPA air chief Bill Wehrum and Janet McCabe, who served at the agency during the Obama administration.

Fanning, Audi CEO Address Aspen Ideas Festival – The 2018 Aspen Ideas Festival continues this week after starting last Thursday and will turn its focus to energy. Aspen is the nation's premier, public gathering place for leaders from around the globe and across many disciplines to engage in deep and inquisitive discussion of the ideas and issues that shape our

lives and challenge our times. Panels include an AV panel and a hurricane response panel with FEMA's Brock Long (hosted by our friend Andy Revkin) today; a natural disaster rebuilding panel focused with SoCo's Chris Womack, our friend Jeff Goodell and PR Gov Rossello and a cybersecurity discussion with Ash carter and SoCo's Tom Fanning; a Wednesday panel on cities and technology with Audi President Scott Keough and the signature conversation event featuring former Sect Of State John Kerry; a Trade conversation with Trade Rep Bob Lighthizer on Thursday and a Friday afternoon panel with former EPA head Lisa Jackson on the Clean Energy revolution. See the full agenda here.

Forum to Talk Eastern Europe Energy – The Atlantic Council Global Energy Center and the Hungarian Presidency of the Visegrád Group holds its "Towards 21st Century Energy Systems in Central & Eastern Europe" conference today. The event will feature discussion and debate on the strategic and policy implications of the Trump Administration's energy agenda and its impact on the transatlantic relationship, with special attention paid to the Central and Eastern European region. The expert panels will discuss the impact of the US' energy agenda on Central and Eastern Europe and innovation in Central and Eastern European energy systems.

Brookings Talking Global Markets With Experts – The Cross-Brookings Initiative on Energy & Climate will host Fatih Birol in a discussion today facilitated by Initiative Co-Chair David G. Victor. Both renowned energy experts, they will discuss the latest updates in global energy, including recent evolutions in global markets and prices, and the intersections of climate change and energy policy. Fatih Birol is executive director of the International Energy Agency (IEA), and has been named by Forbes Magazine as one of the most influential people in world energy, and "Energy personality of the year" in 2017 by the Financial Times. He is also chair of the World Economic Forum's (Davos) Energy Advisory Board and serves on the U.N. Secretary-General's Advisory Board on Sustainable Energy for All. After the session, panelists will take audience questions.

ACEEE Forum Set – Tomorrow at the National Press Club, the American Council for and Energy Efficient Economy (ACEEE) will convene a one-day symposium to highlight international energy efficiency best practices, with a particular focus on opportunities for improvement in the United States. Our research has shown that energy efficiency can be a low-cost, powerful tool for countries to meet their energy and environmental goals and to sustainably increase shared prosperity. At this event, ACEEE will release its biennial International Scorecard, which examines the energy efficiency policies and performance of the world's 25 largest energy-consuming countries. The scorecard evaluates countries based on 35 metrics and shows how all can substantially improve their energy efficiency. The symposium will feature four panels that will explore: (1) scorecard findings, (2) lessons learned from high-performing countries, (3) opportunities for the United States, and (4) notable efforts and opportunities for global companies.

CSIS Hosts Climate Investments Head – Tomorrow at 9:00 a.m., the CSIS Energy & National Security Program will host Pratima Rangarajan, CEO of Oil and Gas Climate Initiative (OGCI) Climate Investments, for a conversation on OGCI Climate Investments within the context of the OGCI, why the fund was founded last year, and how and why Climate Investments differentiates itself from other funds. OGCI Climate Investments intends to invest $1 billion over the next ten years to develop and demonstrate innovative technologies which could significantly curb global greenhouse gas emissions.

Senate Energy Hosts DOE Nominees – The Senate Energy and Natural Resources Committee holds a hearing tomorrow at 10:00 a.m. on pending DOE nominations, including Daniel Simmons to head the Renewable Energy office; Karen Evans to be an assistant secretary of Energy for Cybersecurity, Energy Security and Emergency Response; Teri Donaldson to be Energy General Counsel and Dr. Chris Fall to head the DOE Science office.

House Resources Panel to Look at Offshore Wind – The House Natural Resources panel on Energy will hold a legislative hearing on three bipartisan offshore wind energy proposals tomorrow at 10:00 a.m. The hearing will cover H.R. 5291, would create a new federal grant program to educate and train offshore wind workers as they transition from other industries. It would give priority to community colleges and organizations that aid minority populations. The second bill would require the federal government to devise a schedule and plan for offshore leases, while the third bill would amend the Outer Continental Shelf Lands Act to apply to U.S. territories such as Guam. BOEM's James Bennett and NOIA's Randall Luthi testify.

Opponents of Gas Compressor Hold Event – Opponents of a gas compressor station in Maryland will hold an event at George Washington's Mount Vernon tomorrow at noon to outline a new campaign to oppose the construction. I doubt Dominion will take the opposition sitting down given this has been underway for more than two years and there has been no opposition until now.

House Energy Panel Looks at Oil, Gas Geopolitics – The House Energy and Commerce Energy Subcommittee holds a hearing tomorrow at 1:00 p.m. on the shifting geopolitics of oil and gas. Witnesses include Daniel Yergin, Harold Hamm and Sempra's Dennis Arriola.

House Oversight Panel Looks at Forest Service Roads – The House Oversight and Government Reform Interior, Energy and Environment Subcommittee holds a hearing tomorrow at 2:00 p.m. on access to public lands and the effects of forest service road closures.

Indonesian Energy Minster to Address CSIS – The CSIS Southeast Asia Program and CSIS-Pertamina Banyan Tree Leadership Forum will host a forum tomorrow at 2:00 p.m. featuring Ignasius Jonan, Minister for Energy and Mineral Resources of the Republic of Indonesia. Minister Jonan's speech will be preceded by opening remarks from Ms. Nicke Widyawati, acting Chief Executive Officer of PT Pertamina. Jonan spoke to the US Chamber of Commerce today at WGC.

Forum to Look at Iran Enviro Challenges – The Atlantic Council Global Energy Center holds a discussion tomorrow at 3:00 p.m. on Iran's Environmental Challenges. Environmental degradation has become a major issue in Iran and is a source of economic hardship, ill health, social disruption and recent political protests. The Atlantic Council's Future of Iran Initiative will launch a new paper, Environmental and Wildlife Degradation in Iran, by David Laylin, an ecologist with extensive personal ties and experience in rural Iran.

Hydro Conference Set – HydroVision International will be held in Charlotte, NC tomorrow through Thursday at the Charlotte Convention Center. HydroVision is the largest gathering of hydro professionals worldwide. The event highlights perspectives on the role of hydropower, explores issues affecting hydro resources, and helps participants develop a vision to meet challenges and ensure the future sustainability of hydro.

FERC Holds Grid Conference – The Federal Energy Regulatory Commission holds technical conference tomorrow through Thursday on boosting grid resilience through improved software.

PLAYBOOK Breakfast to Feature McConnell – POLITICO Playbook holds a Breakfast interview with Senate Majority Leader Mitch McConnell on Wednesday morning at 8:00 a.m. at Ajax. POLITICO Playbook Co-Authors Anna Palmer and Jake Sherman hold the in-depth conversation to provide intelligence and insight on the Republican congressional agenda, along with policy, politics and news of the day.

Hearing to Look at Re-Org Plan – The House Oversight Committee holds a hearing at 10:00 a.m. on Wednesday examining the Administration's Government-wide Reorganization Plan.

Forum to Look at National Lab Ideas – The Information Technology and Innovation Foundation holds a forum on Wednesday at noon in 2325 Rayburn to look at new ideas for strengthening partnerships at DOE's National Labs. Two promising ideas for providing such connections are the proposed Impact for Energy Foundation and the pilot small business voucher program. The former would make it easier for companies and philanthropists to work collaboratively with intramural teams at DOE labs. The latter provides small businesses that need sophisticated insights with no-cost access to lab experts who can accelerate their innovations. Speakers will include Reps. Randy Hultgren and Ben Ray Luján, as well as Rita Baranwal, Director of (GAIN) Gateway for Accelerated Innovation in Nuclear at the Idaho National Laboratory.

Forum to Look at Russian NatGas Issues – The American Foreign Policy Council discussion on Wednesday at Noon in 902 Hart on Russian Revanchism and Nord Stream II pipeline Project. The event features a discussion with the heads of parliaments of Ukraine, Georgia, Moldova, and Lithuania. Representing countries that are in the zone of direct military

threat from revanchist Russia, the speakers will discuss the complex security situation in Central and Eastern Europe as a result of the Russian Federation's long-term aggressive policies.

Senate Hearing to Look at Infrastructure Permitting – The Senate Homeland and Governmental Affairs Committee holds a hearing Wednesday at 2:30 p.m. to look at ways of streamlining the permitting process for large infrastructure projects. Witnesses will include CEQ's Alex Herrgott, former Senate Energy Chair Mary Landrieu, acting executive director of the Federal Permitting Improvement Steering Council Angela Colamaria, Joseph Johnson of the U.S. Chamber of Commerce; Christy Goldfuss of the Center for American Progress, North America's Building Trades Unions head Sean McGarvey and Jolene Thompson, executive vice president of member services and external affairs at American Municipal Power.

Forum to Look at Energy Policy In Brazil – On Thursday at 9:00 a.m., the Inter-American Dialogue will hold a forum to look at energy policy in Brazil. The event features a panel discussion on the recent oil licensing rounds, opportunities for private investment in the oil, gas and power sectors, and the outlook for energy policy next year.

Forum to Look at Fossil Fuels in Sustain Energy Future – The U.S. Energy Association holds a forum on Thursday at 10:00 a.m. to look access to affordable, reliable, sustainable, and modern energy services while reducing greenhouse gas emissions and the carbon footprint of the energy sector. This briefing seeks to discuss the following within the context of the 2030 Agenda including recommendations on Carbon Capture Use and Storage; financing investment in fossil energy; transformation of the Energy System, among other things. The speaker will be Scott Foster, the Director of the Sustainable Energy Division with the United Nations Economic Commission for Europe.

Chatterjee Headlines Grid Forum – Icons of Infrastructure hold a forum at the National Press Club on June 28th afternoon looking at the transformation of the energy grid. The forum will look at how needed research and development efforts gets funded and what are the stakes for consumers, the energy sector and policymakers. In one packed day of headline speakers, panel debates, creative networking opportunities, open discussions, and an in-depth analysis, you'll learn about exciting developments in domestic energy markets, and hear insider perspective on the challenges we face. Speakers include FERC Commissioner Neil Chatterjee, NREL's Peter Green, DOE's Eric Lightner and many more.

Forum to Look at Climate Risk – At the June Adaptation Community Meeting, the US Agency for International Development (USAID), the World Bank, the International Finance Corporation, and the Inter-American Development Bank will come together on Thursday at 4:00 p.m. At the World Bank to discuss each organization's current and emerging approaches to climate risk management. The discussion will highlight each organization's approach, initiatives to track and assess the effectiveness of climate risk management, lessons learned, and ideas for the future.

Mulvaney Headlines Annual CEI Dinner – On Thursday June 28th, the Competitive Enterprise Institute holds its annual dinner and reception at the Marriott Marquis. National Review's Jonah Goldberg will be master of ceremonies and keynoter is OMB chief Mick Mulvaney.

Wilson Forum to Look at Arctic – The Wilson Center holds forum on Friday focused on how the National Guard is contributing to the advancement of Arctic and cold weather capabilities within U.S. defense institutions. Senior leaders representing the National Guard Arctic Interest Council will discuss how the National Guard is contributing to the advancement of Arctic and cold weather capabilities within U.S. defense institutions.

IN THE FUTURE

JULY 4th HOLIDAY

Event to Honor Tesla Birthday – On Friday evening July 6th, the International Club of DC and the Embassy of Croatia host a dinner reception and delightful evening of Croatian culture, music, wine, and cuisine on the occasion of the 162nd anniversary of the birth of Croatian-born scientist Nikola Tesla. During the event, Tesla will have a Model S and Model X

on display. Tesla product experts will be on hand to answer questions and show you how electric vehicles can fit seamlessly into your lifestyle. Test rides will be offered on a first come, first serve basis.

Clean Energy Forum on Schedule – The 2018 Congressional Clean Energy Expo and Policy Forum will be held on July 10th and brings together up to 45-55 businesses, trade associations, and government agencies to showcase renewable energy and energy efficiency technologies.

BPC Forum to Examine Oil, Gas Issues – On Thursday July 12th at 10:30 a.m., the Bipartisan Policy Center (BPC) convenes a panel of experts to examine the current state of the Environmental Social Governance (ESG) movement in the oil and gas sector and explore what's coming next. This movement continues to gain traction in a time when the regulatory agenda has changed significantly under the Trump Administration. ESG is particularly significant for the energy sector, specifically as shareholder resolutions surrounding climate change continue to take center stage in the media and in the boardroom.

Duke CEO, CARB Chair, Others Headline POLITICO Summit – POLITICO is hosting its second Pro Summit on July 17th at the Renaissance Hotel. The Pro Summit brings together Pro subscribers, expert reporters, key decision-makers, and others who are shaping the policy landscape for a full day of incisive conversations. Summit speakers include Rep. Joe Crowley, Duke CEO Lynn Good, FERC Chair Kevin McIntyre, Amy Myers Jaffe of the Council on Foreign Relations, Coal CEO Bob Murray, California Air Resources Board Chair Mary Nichols and many others. Duke Energy is the main event sponsor.

Grid Forum Set for Iowa – The TransGrid-X 2030 Symposium will be held on July 26th in Ames, Iowa. The event will showcase the long-awaited NREL Seam Study—a concept featuring bi-directional high-voltage transmission; 600 GW of wind, solar and gas-fired generation; and a trillion-dollar economic event, if fully built. Our friends Rob Gramlich and former FERC Chair Jim Hoecker will be among the speakers.

EPRI Hosts Electrification Conference – The Electric Power Research Institute (EPRI) hosts the inaugural Electrification 2018 International Conference and Exposition on August 20th to 23rd in Long Beach CA. Hosted by the and sponsored by more than 20 major utilities and organizations, this annual conference will bring together utility leaders, regulators, researchers, academia, vendors, economic development groups, and energy users from diverse manufacturing, transportation, industrial, and agriculture sectors around the globe. SoCo CEO Tom Fanning is among the many speakers.

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 7/2/2018 6:49:22 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: July 4th Week PRG Energy Update:Kigali, OPEC, Better Pavement Can Reduce Emissions

Friends,

Wasn't going to do an update today but decided to do a short one because of the crazy World Cup Games, the news about LeBron and – even more interesting – some policy news around the July 4th travel season, the Kigali amendment to the Montreal Protocol on HFC reductions and Trump tweets over OPEC.

How could you not like those FIFA World Cup games yesterday. Two games to Penalty Kicks where host Russia's Cinderella continued with a win over Spain after some brilliant saves by goalie Igor Akinfeev, who clinched the victory by stopping a shot with his foot. The brilliant goalie play continued in the second game when Croatia outlasted Denmark in shootout, Croatia now faces Russia in the quarterfinals. Brazil-Mexico now and Belgium-Japan this afternoon.

And apparently, LeBron James is headed to the Lakers for over $150M. Now, the question is who may join him? And don't forget the MLB All-Star game is here at Nationals Park on Tuesday, July 17th. Our friend, former AP reporter and baseball author/historian Fred Frommer will be all over the run up to the game. Frommer, author of You Gotta Have Heart, a history of DC baseball history, starts this Sunday at noon at *The Farm*, a rooftop building outside Nats Park, where former Washington Senators PA announcer Phil Hochberg chats about the four All-Star Games DC hosted in the 20th Century. Then next Tuesday July 11th at 6:45 p.m., Fred will be at the Smithsonian's S. Dillon Ripley Center with Hochberg and Gregory McCarthy of the Nats, for a night of baseball history. Finally, the night before the All-Star Game July 16th, Fred will join fellow author David Rapp and documentary filmmaker Aviva Kempner at East City Book Shop on Capitol Hill for an All-Star panel at 6:00 p.m. just before the Home Run Contest.

As we continue the July 4th travel season this week, I wanted to remind you of a note I sent on Friday highlighting the great work and important research of our friends at the MIT Concrete Sustainability Hub on Pavement-Vehicle Interactions – research that can lower fuel consumption and vehicle emissions. It is a perfect add-in to any stories you or your colleagues may be considering on the heavy travel week. While this will be the busiest July 4th travel week ever, much of the traffic is likely to be spread out with the heaviest day to launch being tomorrow afternoon.

There is a new letter today from CEI and several other groups opposing the Kigali amendment to the Montreal Protocol. The letter says the amendment would do "far more economic harm than environmental good," adding that the environmental benefits are minimal. But that is just not right. A recent economic analysis for the White House showed significant jobs gains, 13 Republican Senators (mostly conservatives) urged the President to submit it to the Senate, 34 HVACR Manufacturing CEOs urged support and 3 conservative taxpayers groups (ACCF, Americans for Tax Reform and FreedomWorks) suggested Trump support Kigali because of global competitiveness advantages. And all of this occurs after last week's lawsuit by 11 states against EPA over implementing over HFC reductions.

If you are following recent tweets and comments from President Donald Trump about OPEC oil market manipulation, SAFE President/CEO Robbie Diamond weighed in saying Trump is right to point to OPEC as manipulating the market, but urged him to also turn his sights to "**solutions that end oil dependence and the cartel that manipulates the market rather than having the U.S. come hat in hand to these foreign powers. Asking the cartel to increase output is like trying to put a Band-Aid on a broken system that shouldn't even exist in the first place.**"

Finally, the most grueling test of strength and endurance – *the Tour de France* – cycling's crown jewel, starts on Saturday. With one more *Tour* victory, Chris Froome can match the record of five shared by Jacques Anquetil, Eddy Merckx, Bernard Hinault and Miguel Indurain. The start of the 105th edition will be at *Noirmoutier-en-l'île*. The 2018 *Tour* route will include a total of 26 mountain climbs or hills, including 12 in the Alps, 4 in the Massif central and 10 in the Pyrenees. Ouch!!! Riders arrive in Paris on July 29th.

Enjoy the holiday week...Stacey and kids headed to *Imagine Dragons* tonight. I bet that's a fun show. Call with questions ...Best,

Frank Maisano
Ex. 6
c Ex. 6

FRANKLY SPOKEN

"Kigali gets us everything we want and everything we've been advocating for for a long time—a unified, negotiated decision on phasedowns [of HFCs] instead of prohibitions. U.S. ratification of the global deal offers the greatest level of certainty for the market writ large. That process, rather than litigation, is where our industry will be focusing its efforts in the coming months.""

Caroline Davidson-Hood, general counsel for the Air-Conditioning, Heating, and Refrigeration Institute regarding the lawsuit filed by 11 states challenging implementation of EPA HFC reductions

"Because of the technological prowess of American manufacturers, U.S. businesses stand to gain from this deal – ratification will open new markets at a time when demand for refrigeration, heating, and air-condition equipment is projected to grow."

A letter from conservative tax group leaders of Americans for Tax Reform, FreedomWorks and the American Council for Capital Formation on moving the Kigali amendment forward in the Senate.

FUN OPINIONS

CEOs Say Kigali Essential for Global Competitiveness – ICYMI, following the letter from 13 Senators urging the White House to send them the Kigali amendment to the Montreal Protocol, 34 HVACR Industry CEOs wrote a letter to President Trump urging his support for Kigali. These are major manufacturers that include Honeywell, Lennox, Fujitsu, Johnson Controls, Rheem, Dow Chemical and many more. The CEOs, who speak for more than 589,000 Americans currently employed in the industries, urged the President to send the Kigali Amendment to the Senate to secure a position of strength for American companies in a highly competitive global market for next generation air conditioning, refrigeration, thermal insulation, aerosols, medical uses, fire suppression, semiconductors and other technologies that utilize fluorocarbons.

IN THE NEWS

AGs Suit Spurs New Twist in Kigali Discussion – CEI will release a letter today opposing the Kigali amendment to the Montreal Protocol but a legal challenge to EPA's current regulations on HFC reductions by 11 states. In its guidance, the EPA said revoking the rules would "dispel confusion and provide regulatory certainty" after a federal appellate court in July 2017 struck down large portions of the Obama-era regulation. NRDC filed a similar suit earlier this week. Another legal fight over the EPA guidance raises concerns about avenues for regulations to change, even as the industry continues to advocate for U.S. participation in a 2016 global deal to phase down HFCs called the Kigali Amendment to the Montreal Protocol.

Better Pavement Mean Better Fuel Econ, Less Emissions – As we begin the July 4th travel season, you or your colleagues should check out the important research by MIT's Concrete Sustainability Hub on Pavement-Vehicle Interactions – studies about how we can lower fuel consumption and vehicle emissions by taking a new approach to building and maintaining our roadways. It is a perfect add-in to any stories you or your colleagues may be considering on the heavy travel week this July 4th.

Wasted Energy in Travel – All vehicles, whether gasoline, diesel, or electric, use energy to move—but some of that energy is wasted. The quality of the roads we drive on every day impacts the amount of fuel we use, as well as the associated greenhouse gas emissions. On roads with poor surface conditions or inadequate structural properties (like many in our favorite District) vehicles consume additional fuel beyond what's needed to move. This wasted fuel is known as excess fuel consumption, and it has a significant impact on fuel economy and vehicle emissions.

Pavement Improvements Help Reduce Fuel Consumption – MIT's Concrete Sustainability Hub (CSHub) researchers study pavement-vehicle interaction (PVI) in an effort to understand and quantify the impacts of excess fuel consumption. MIT's research focuses on three key factors:

1. ROUGHNESS: whether the road is bumpy or smooth. Roughness, commonly seen and felt as the presence of cracks and potholes, has a significant impact on passenger vehicles.
2. TEXTURE: the abrasiveness of the road surface, which can be seen and heard when driving.
3. DEFLECTION: the bending of a pavement under the weight of a vehicle. Deflection is present from the initial construction, and depends on pavement design. Think of the difference between walking or riding on sand versus a paved surface.

Road Solutions Can Improve Fuel Efficiency, Reduce Emissions – CSHub studies suggest that excess fuel consumption can be significantly reduced by building stiffer roads and maintaining smoother pavements—benefiting states and municipalities alike through reductions in emissions and fuel costs to drivers. And it reduces road ware costs on vehicles and tires, while improving driving comfort. There are two case studies that quantify fuel waste on US roadways. The impacts of excess fuel consumption depend on a variety of factors, including location, traffic levels, pavement designs, and maintenance schedules. MIT has done case studies examining real roadway networks, including in California and Virginia:

- California: Using data collected by the California Department of Transportation (Caltrans) through the use of GPS and ground-penetrating radar, MIT conducted an analysis of the state's entire 50,000 lane-mile system and found excess fuel consumption of 1 billion gallons over a 5-year period. The collaboration showed that PVI, including roughness and deflection, accounts for 1 percent of overall fuel consumption on California highways.

- Virginia: A study of the Commonwealth's interstate highway system—some 5,000 lane miles in total—identified 1 million tons of CO2 associated with EFC emissions over a 7-year period. Researchers also determined that only 1.3 percent of the interstate network is responsible for 10 percent of its total greenhouse gas emissions, meaning rehabilitation of those few lane miles could result in significant environmental improvements.

Who Can Help – If you're looking for a resource to discuss the impact of pavement interaction on fuel economy and emissions, MIT's Jeremy Gregory (jgregory@mit.edu) is available to address the key issues, impacts and examples surrounding improved pavements and infrastructure … and how this affects American communities and drivers. MIT's Concrete Sustainability Hub [cshub.mit.edu] is pushing the frontier of academic research into building materials, with implications for policymakers, communities, the transportation industry, fleets and the millions of American drivers hitting the roads over July 4th and all summer. For more info, drop me a note, reach out to Jeremey or connect with MIT communications person Anne Wilson Yu. You can reach her at awwilson@mit.edu

ACCF: Proxy Advisory Have Minimal Oversight – The American Council for Capital Formation released a new report that says proxy advisory firms are operating with minimal oversight. The firms, which advise shareholders on how to assess and vote on company plans, are moving toward an increasingly activist stance on issues relating to the environment, as well as social and political issues. The report, titled "The Conflicted Role of Proxy Advisors," examines the impact such proxy firms have on major policies at most publicly traded companies. Our friend Dave Banks is leading an effort at ACCF on this issue.

ON THE SCHEDULE THIS WEEK

JULY 4th HOLIDAY

Stanford to Look at Behavior, Enviro Change – Stanford holds an event on Thursday evening featuring PhD Candidate Jen Wang, who will discuss an even more fundamental condition and challenge to positive environmental change – getting humans to change their behaviors. From the everyday choices we make to our combined organizational behaviors, human behavior is at the core of the environmental issues we care about.

Event to Honor Tesla Birthday – On Friday evening, the International Club of DC and the Embassy of Croatia host a dinner reception of Croatian culture, music, wine, and cuisine on the occasion of the 162nd anniversary of the birth of Croatian-born scientist Nikola Tesla. During the event, Tesla will have a Model S and Model X on display. Tesla product experts will be on hand to answer questions and show you how electric vehicles can fit seamlessly into your lifestyle. Test rides will be offered on a first come, first serve basis.

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Duke CEO, CARB Chair, Others Headline POLITICO Summit – POLITICO is hosting its second Pro Summit on July 17th at the Renaissance Hotel. The Pro Summit brings together Pro subscribers, expert reporters, key decision-makers, and others who are shaping the policy landscape for a full day of incisive conversations. Summit speakers include Rep. Joe Crowley, Duke CEO Lynn Good, FERC Chair Kevin McIntyre, Amy Myers Jaffe of the Council on Foreign Relations, Coal CEO Bob Murray, California Air Resources Board Chair Mary Nichols and many others. Duke Energy is the main event sponsor.

Grid Forum Set for Iowa – The TransGrid-X 2030 Symposium will be held on July 26th in Ames, Iowa. The event will showcase the long-awaited NREL Seam Study—a concept featuring bi-directional high-voltage transmission; 600 GW of wind, solar and gas-fired generation; and a trillion-dollar economic event, if fully built. Our friends Rob Gramlich and former FERC Chair Jim Hoecker will be among the speakers.

EPRI Hosts Electrification Conference – The Electric Power Research Institute (EPRI) hosts the inaugural Electrification 2018 International Conference and Exposition on August 20th to 23rd in Long Beach CA. Hosted by the and sponsored by more than 20 major utilities and organizations, this annual conference will bring together utility leaders, regulators, researchers, academia, vendors, economic development groups, and energy users from diverse manufacturing, transportation, industrial, and agriculture sectors around the globe. SoCo CEO Tom Fanning is among the many speakers.

FRANK MAISANO
Senior Principal
Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 6/29/2018 8:52:46 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: PRG FRIDAY FOCUS:: July 4th Travel Week -MIT Experts Say Better Pavement Means Better Fuel Econ/Less Emissions

As we begin the July 4th travel season today, I wanted to remind you of the great work and important research our friends at the MIT Concrete Sustainability Hub are conducting on Pavement-Vehicle Interactions – studies about how we can lower fuel consumption and vehicle emissions by taking a new approach to building and maintaining our roadways. It is a perfect add-in to any stories you or your colleagues may be considering on the heavy travel week this July 4th. If you are currently on the Chesapeake Bay Bridge right now – like my kids – you know EXACTLY what I mean… Slow, Slow, slow….

Wasted Energy

All vehicles, whether gasoline, diesel, or electric, use energy to move—but some of that energy is wasted. The quality of the roads we drive on every day impacts the amount of fuel we use, as well as the associated greenhouse gas emissions. On roads with poor surface conditions or inadequate structural properties (like many in our favorite District) vehicles consume additional fuel beyond what's needed to move.

This wasted fuel is known as excess fuel consumption, and it has a significant impact on fuel economy and vehicle emissions.

Pavement Improvements Help Reduce Fuel Consumption

MIT Concrete Sustainability Hub (CSHub) researchers study pavement-vehicle interaction (PVI) in an effort to understand and quantify the impacts of excess fuel consumption. MIT's research focuses on three key factors:

1. ROUGHNESS: whether the road is bumpy or smooth. Roughness, commonly seen and felt as the presence of cracks and potholes, has a significant impact on passenger vehicles.
2. TEXTURE: the abrasiveness of the road surface, which can be seen and heard when driving.
3. DEFLECTION: the bending of a pavement under the weight of a vehicle. Deflection is present from the initial construction, and depends on pavement design. Think of the difference between walking or riding on sand versus a paved surface.

Solutions Mean Better Fuel Efficiency, Less Emissions

CSHub studies suggest that excess fuel consumption can be significantly reduced by building stiffer roads and maintaining smoother pavements—benefiting states and municipalities alike through reductions in emissions and fuel costs to drivers. And it reduces road ware costs on vehicles and tires, while improving driving comfort.

Pavement Improvement Case Study

QUANTIFYING FUEL WASTE ON U.S. ROADWAYS: The impacts of excess fuel consumption depend on a variety of factors, including location, traffic levels, pavement designs, and maintenance schedules. MIT has done case studies examining real roadway networks, including in California and Virginia:

- **California:** Using data collected by the California Department of Transportation (Caltrans) through the use of GPS and ground-penetrating radar, MIT conducted an analysis of the state's entire 50,000 lane-mile system and found excess fuel consumption of 1 billion gallons over a 5-year period. The collaboration showed that PVI, including roughness and deflection, accounts for 1 percent of overall fuel consumption on California highways.

- **Virginia:** A study of the Commonwealth's interstate highway system—some 5,000 lane miles in total—identified 1 million tons of CO2 associated with EFC emissions over a 7-year period. Researchers also determined that only 1.3 percent of the interstate network is responsible for 10 percent of its total greenhouse gas emissions, meaning rehabilitation of those few lane miles could result in significant environmental improvements.

Who Can Help

If you're looking for a resource to discuss the impact of pavement interaction on fuel economy and emissions, MIT's Jeremy Gregory (jgregory@mit.edu) is available to address the key issues, impacts and examples surrounding improved pavements and infrastructure … and how this affects American communities and drivers.

MIT's Concrete Sustainability Hub [cshub.mit.edu] is pushing the frontier of academic research into building materials, with implications for policymakers, communities, the transportation industry, fleets and the millions of American drivers hitting the roads over July 4th and all summer.

For more info, drop me a note, reach out to Jeremey or connect with MIT communications person Anne Wilson Yu. You can reach her at awwilson@mit.edu

Where to Look

https://cshub.mit.edu/pavements/pvi

https://cshub.mit.edu/

—

If you or any of your colleagues are covering this crazy, upcoming July 4th travel week and looking for good fuel economy/emissions sidebar, please let us know and we can help.

Frank Maisano
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c. Ex. 6

FRANK MAISANO
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Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 7/9/2018 7:09:01 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: July 9 PRG Energy Update: Wheeler's Steal, Boyz (& Girls of Congress) Back in Town

Friends,

While we were all celebrating the lighter traffic during July 4th week, EPA head Scott Pruitt resigned and Andy Wheeler has taken his place as acting head. So much to say… Tryin' to make some sense of it all, I feel like I'm *Stuck In the Middle With You* …but my friends in the press have already said most of it. I will only add Jeff Holmstead in Utility Dive, Scott Segal on *All Things Considered* and me on NPR Saturday all added a few things about the new Administrator and the direction we expect him to take the agency. Happy discuss more… And our friend Dino Grandoni in this morning's *WaPo Energy 202* highlights who emboldened enviro activists may have in their sights next.

What Wheeler's appointment is most likely to do is reduce the focus on environmental issues. I can't remember the last time the environment got 30 inches each in the *Post*, the *Times*, the *Journal*, etc…and this move will likely return it to its sleepy place in the public opinion's eye because we are no longer talking about *Chik-fil-a*, hand lotion or sirens. I know a few of my reporter friends – who have all done pretty good work even though I might disagree with some story judgements – are quietly breathing a sigh of relief that they might get some of their free time back. Finally, I mentioned this on Thursday, but don't count on this sidelining Pruitt's political career.

Congress returns this week to some significant action. It starts tomorrow morning with the Congressional Clean Energy Expo and Policy Forum on Capitol Hill in the Rayburn Foyer. On Wednesday, Senate Environment looks at the long-term value of low-cost federal infrastructure loans, House Resources marks up water facilities and other legislation and Senate Energy looks at legislation seeking to address the nearly $12 billion backlog of repairs and maintenance at the Park Service. Then Thursday, the Senate Energy Committee discusses issues facing interstate delivery networks for natural gas and electricity.

Off the Hill, EPA holds public hearing on air quality standard for sulfur dioxide tomorrow, Ipsun Power holds a Wednesday lunch on the solar industry; the Bipartisan Policy Center holds Thursday forum on oil and gas sector social enviro governance movement; and Friday energy economists host a luncheon on global oil and natural gas issues featuring former EIA head Guy Caruso. And don't forget to mark your calendar for next Wednesday's EPA RFS RVO public hearing in Ann Arbor. Also on Thursday, the International Energy Agency will release its closely watched monthly oil market report, the first since OPEC and Russia agreed to boost output.

The World Cup rolls on with very exciting games. With four teams remaining, we know the winner will come from Europe as the France-Belgium semi-final is tomorrow while Croatia takes on England on Wednesday. Wimbledon heads to the finals this weekend with the stars still playing. Finally, the baseball world is continues to prep for the MLB All-Star game next Tuesday at Nationals Park.

On Wednesday, our friend Monica Trauzzi is launching a new NEI video series called *Off the Menu with Monica*. It serves as the intersection of energy policy and DC's thriving food scene. *Off the Menu* is an innovative video series that will give viewers a seat at the table of DC's power lunches and beyond. The conversations – which start with ClearView analyst Kevin Book – are thoughtful and dynamic and dive in to the key energy policy issues of the day.

Finally, I close on a very sad note today hearing that my long-time friend and former McGraw-Hill oil/climate reporter Gerald Karey passed away last weekend in an accidental drowning in Pennsylvania. While he retired a couple of years ago, Gerry stayed active In DC and our energy reporter circles. He was an old-school reporter, funny author of books like *Unhinged* and great person. It is a sad day that we have lost him too early.

Call with questions…Best,

Frank Maisano
Ex. 6
c. Ex. 6

FRANKLY SPOKEN

"I hate to take a credit for a man losing his job, but I guess I'd have to say that I take the credit."

A very classy move by Kevin Chmielewski, former EPA deputy chief of staff for operations, who told The Hill on Friday that he was critical to the eventual departure of the former administrator. (MY NOTE: I guess he just doesn't get it. Who in Washington really does that?)

ON THE POD

Columbia Podcasts Sits Down with OK Sect of Energy/Environment Teague – On a new episode of Columbia Energy Exchange, host Jason Bordoff sits down with Mike Teague, Oklahoma's Secretary of Energy and Environment. Mike, who was appointed to this role in 2013, is responsible for coordinating over 30 state agencies, boards, compacts, and commissions in advancing policies that encourage energy production and environmental stewardship throughout Oklahoma. Prior to his appointment, Mike served in the US Army for 30 years.

FUN OPINIONS

Oil, Gas Industry Ready for Hurricane Season – Todd Staples, president of the Texas Oil & Gas Association and former Texas agriculture commissioner, said the men and women in the Texas oil and natural gas industry and its public and private sector partners are ready for the 2018 hurricane season in the *San Antonio Express-News* on Sunday. Staples said after Hurricane Rita in 2005, Texas created the Task Force on Evacuation, Transportation and Logistics, which developed a comprehensive slate of recommendations to fortify hurricane preparedness, response and recovery plans. Since then, Texas has become nationally renowned for our "lessons learned" approach of revisiting and strengthening hurricane plans and procedures as technology and best practices evolve. As part of ongoing work to innovate and improve, the energy sector is part of a collaborative effort among private and public sector entities such as the Department of Public Safety, Texas CEQ, the Railroad Commission, TDOT, Texas ports, FEMA, health care facilities and local emergency management officials. The oil and natural gas industry is part of the Fuel Team, which works with the Emergency Management Council to ensure Texans have sufficient access to the gasoline and diesel they need before, during and after a natural disaster.

IN THE NEWS

What other news is there besides Pruitt…

Houston Chronicle: Where Rubber Meets Road Could Kill Gas Mileage – The Houston Chronicle reports that scientists at the Massachusetts Institute of Technology think they have found ways of stretching more miles out of a gallon by addressing what type of pavement a vehicle drives on. Researchers are studying what they describe as "Pavement-Vehicle Interactions," namely how road quality or the lack thereof effects vehicle efficiency.

DOE Invests in Techs to Innovate Power Systems – The DOE has selected 15 projects to receive nearly $8.8 million in federal funding for cost-shared research and development (R&D) projects to develop innovative technologies that enhance fossil energy power systems. The newly selected projects fall under DOE's Office of Fossil Energy's Crosscutting Technology Research Program, which advances technologies that have a broad range of fossil energy applications. Specifically, the program fosters innovative R&D in sensors and controls, modeling and simulation, high-performance materials, and water management. DOE's National Energy Technology Laboratory (NETL) will manage the selected projects.

ON THE SCHEDULE THIS WEEK

Brown to Speak at Solar Conference – Intersolar North America will be held in San Francisco today through Wednesday. The event's exhibition and conference both focus on the areas of photovoltaics, PV production technologies, smart renewable energy and solar thermal technologies.

Forum to Look at States on Climate Action – Tomorrow morning, Route Fifty will hold a forum to explore state and local governments' climate goals--and making changes locally, regionally, and internationally to achieve them. From the future of vehicle emissions to regional partnerships, we'll delve into the policy issues at play--and the stakes. The event will cover States rights in setting emission standards, State and local governments' work to set their own climate goals--and work internationally, regional cap & trade agreements between states and health equity - emissions impact on the least able citizens.

Clean Energy Forum on Schedule – The 2018 Congressional Clean Energy Expo and Policy Forum will be held tomorrow and brings together up to 45-55 businesses, trade associations, and government agencies to showcase renewable energy and energy efficiency technologies. Speakers include Sen. Dean Heller (NV), Sen. Chris Van Hollen (MD), Sen. Jack F. Reed (RI), Rep. Paul D. Tonko (NY), Rep. Matt Cartwright (PA), and Rep. Peter Welch (VT).

Senate Environment to Look at Infrastructure Loans – The Senate Environment Committee will hold a hearing on Wednesday at 10:00 a.m. on the long-term value to U.S. Taxpayers of low-cost Federal infrastructure loans.

Forum to Look at State of Solar – On Wednesday at 12:30 p.m. Ipsun Solar holds a summer forum on passive design, solar design and the current state of the Solar Industry.

WCEE Forum Talks To Women Entrepreneurs – The WCEE Career Building Section holds a discussion to gain ideas and inspiration from some of the daring women who stepped outside their comfort zones and challenged themselves to pursue their dreams. Hear what inspired them to get started, what challenges and obstacles they overcame, and their thoughts on helping you launch your own enterprise. Panelists include Véronique Bugnion, co-founder and CEO of ClearlyEnergy, which provider of innovative search solutions to simplify energy decisions; Amy Konigsburg, the founder of She Wolf, is steeped in the energy industry with over a decade experience providing communications services to private sector and government clients and Molly Seltzer is the founder & chief storyteller of Electric America, a photojournalistic series and affiliated media outlet dedicated to highlighting stories of the American energy sector.

Forum to Look at Mexico Election Impacts – The Atlantic Council hosts a discussion on Thursday at 9:00 a.m. on the Mexican election results and its impacts on energy and trade. President-Elect Andrés Manuel López Obrador won with almost 54 percent of the vote on July 1. This historic election comes at a critical moment for Mexico's future. López Obrador campaigned on a transformative vision and will face several immediate tasks upon taking the office on December 1, including: establishing new mechanisms to combat corruption; reducing crime in the short term while tackling its root causes in the long term; creating new economic opportunities while finalizing NAFTA talks; and navigating the shifting nature of US-Mexico relations. As the transition of power begins, we will discuss the priorities he laid out on the campaign trail and the resulting road ahead.

Senate Energy Tackles Energy Delivery – The Senate Energy Committee will convene a hearing Thursday at 10:00 a.m. to consider the policy issues facing interstate delivery networks for natural gas and electricity. The hearing will address primary challenges and opportunities for energy delivery networks and their customers today, as well as investment in building or upgrading pipelines, electric transmission lines, and other infrastructure keep pace with energy needs and how federal regulators are responding.

BPC Forum to Examine Oil, Gas Issues – On Thursday at 10:30 a.m., the Bipartisan Policy Center (BPC) convenes a panel of experts to examine the current state of the Environmental Social Governance (ESG) movement in the oil and gas sector and explore what's coming next. This movement continues to gain traction in a time when the regulatory agenda has changed significantly under the Trump Administration. ESG is particularly significant for the energy sector,

specifically as shareholder resolutions surrounding climate change continue to take center stage in the media and in the boardroom.

Wilson Forum to Look at China Environment – The Wilson Center's China Environment Forum (CEF) holds a discussion on Thursday at 2:00 p.m. to look at sweeping reforms to streamline environmental governance in order to more rapidly mitigate China's crushing air, water, and soil pollution. CEF has invited three speakers to unpack the drivers and impacts of this major reform in China. Liu Zhuoshi (Environmental Law Institute) will detail how legal and regulatory authorities around pollution and climate issues are changing. He will also reflect on hurdles Chinese government faces to expand these reforms at the subnational level. Hu Tao (WWF - U.S.) will explore how the new MEE could act more holistically to manage complex pollution issues, like a better coordination on the joint management of air pollution and carbon emission regulations. Liu Shuang (Energy Foundation China) will reflect on the implication of China's recent governance reforms on efforts to create a national carbon emissions trading systems and what other policies and institutional changes are needed to make it succeed.

Schools as Resilience Infrastructure – On Thursday at 3:00 p.m., the Congressional Green Schools Caucus will hold a briefing on Schools as Resilience Infrastructure, looking for new opportunities to strengthen disaster preparedness. The event will look at the role that public school buildings play in strengthening community resilience through strategic investment. Rep. Alan Lowenthal speaks.

GWU to Look at Protecting Energy Infrastructure – On Friday morning at 9:00 a.m., George Washington University's Elliott School of International Affairs holds a discussion with senior security representatives from the utility industry and government on securing critical energy infrastructure. The panel will discuss physical and cybersecurity for the North American power grid, infrastructure resilience, and how industry and government partner to mitigate threats. Center for Cyber & Homeland Security Director Frank Cilluffo will moderate the session. Speakers include DOE Pat Hoffman, DHS's Jeanette Manfra, EEI's Scott Aaronson, PG &E's Bernie Cowens, Duke Energy's Brian Harrell and Entergy's Chris Peters.

Energy Economists Look at Oil, Gas View – The US Energy Economists in the National Capital Area holds its monthly luncheon on Friday at Chinatown Gardens to offer a view Of US Oil and gas issues with former EIA head Guy Caruso, now at CSIS and CRS policy expert Michael Ratner.

IN THE FUTURE

NAS to Hold Truck Fuel Economy Meeting – The National Academies of Science's Division on Engineering and Physical Sciences is hosting an event next Monday in the afternoon assessing technologies for improving fuel economy of light-duty vehicles. Speakers include NHTSA, EPA DOE, Motor and Equipment Manufacturers Association and many others.

Forum to Look at Nuke Decommissioning – The Environmental and Energy Study Institute (EESI) holds a briefing next Monday at 2:00 p.m. on the urgent need to safely decommission nuclear power plants, which are increasingly shutting down. Leading scientists, policy experts, NGO advocates, and local elected officials with experience of decommissioning will speak at the briefing. It will cover the impacts of decommissioning, current decommissioning options, waste storage vs. transport, thorny unsolved problems and best practices, financing and liability, a just transition for communities and workers, how communities and states can and can't weigh in on these issues, and how they should inform the fast-changing legislative and regulatory landscape. Speakers for this forum are Zion Illinois Mayor Al Hill (home of the decommissioned Zion Nuclear Power Station), former Department of Energy Senior Policy Advisor Robert Alvarez, NRDC's Geoffrey Fettus and Kevin Kamps, of Beyond Nuclear.

Forum to Look at Nuke Energy Trends – Next Monday at 4:00 p.m., the Institute of World Politics hosts a lecture on the topic of "Energy Trends: Nuclear and Non-Nuclear" with Professor Henry D. Sokolski. With the Trump administration's proposed financial relief of the coal and nuclear industries in the name of national security, energy economics has re-emerged as a topic for national debate. So far, much of this discussion has been cast as a contest between market economics and national security.

Duke CEO, CARB Chair, Others Headline POLITICO Summit – POLITICO is hosting its second Pro Summit on July 17th at the Renaissance Hotel. The Pro Summit brings together Pro subscribers, expert reporters, key decision-makers, and

others who are shaping the policy landscape for a full day of incisive conversations. Summit speakers include Rep. Joe Crowley, Duke CEO Lynn Good, FERC Chair Kevin McIntyre, Amy Myers Jaffe of the Council on Foreign Relations, Coal CEO Bob Murray, California Air Resources Board Chair Mary Nichols and many others. Duke Energy is the main event sponsor.

EPA to Hold RVO Hearing – EPA is announcing a public hearing in Ypsilanti, MI on July 18th at the Ann Arbor Marriott Ypsilanti to look at the proposed rule "Renewable Fuel Standard Program Standards for 2019 and Biomass-Based Diesel Volume for 2020.

Forum to Look at Digitalization in Energy – The CSIS Energy & National Security Program and the Technology Policy Program host a discussion on Wednesday July 18th at 10:30 a.m. featuring Timothy Lieuwen (Georgia Institute of Technology) and Barbara Humpton (Siemens USA) about the new services and opportunities created for companies and regions as the energy industry continues its trend toward digitalization. The session will begin with a presentation by Dr. Lieuwen, who will explain the findings of Georgia Tech's recent study, Industrial Data in Power Generation. The study is the first phase of an ongoing study of industrial data and regional economic development. Following the presentation, Barbara Humpton will join Dr. Lieuwen to provide perspective on the ecosystem emerging around the digitalization of the energy industry, examining digitalization's potential to simultaneously help increase reliability, decrease cost, and reduce environmental impacts. Speakers will also explain the behavioral standards for those firms handling data from the industrial sector, the role policy plays in the regulation of data transparency/ownership, and which actors have the most influence to establish and define values in this emerging sector.

Forum to Look at Iran Oil Issues – The Atlantic Council hosts a panel discussion on Wednesday July 18th at 1:00 p.m. focused on a goal of drastically reduce Iran's oil exports is realistic and the impact the US campaign is having on global production and prices as well as on Iran. This event is jointly sponsored by the South Asia Center's Future of Iran Initiative, the Global Energy Center and the Global Business & Economics Center.

Health in Buildings Forum Set – The Department of Environment at the National Institutes of Health will gather government leaders and experts on Friday, July 20th across the health and buildings sectors to discuss new developments in research about health in buildings in our HiBR 2018, Health in Building for Today and Tomorrow conference. Speakers and attendees will examine the many developments in this sector through lively conversations about buildings including innovation, energy, policies, building practices, community solutions and emerging technologies.

Grid Forum Set for Iowa – The TransGrid-X 2030 Symposium will be held on July 26th in Ames, Iowa. The event will showcase the long-awaited NREL Seam Study—a concept featuring bi-directional high-voltage transmission; 600 GW of wind, solar and gas-fired generation; and a trillion-dollar economic event, if fully built. Our friends Rob Gramlich and former FERC Chair Jim Hoecker will be among the speakers.

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Senior Principal
Ex. 6
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Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 6/11/2018 6:13:35 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: June 11 PRG Energy Update: Energy for Cup Extravaganza

Friends,

What a sports weekend…. C-A-P-S, Caps, Caps, Caps. As you know, I am a Detroit guy but kudos to my second hometown who won their first Stanley Cup ever on Thursday and it was a thrilling ride for DC. The *WaPo* has the *Day-In-The-Life* and the Caps after-party details with Cup. And the party has continued since… The Parade will be tomorrow morning starting at 11:00 a.m. running up Constitution Avenue between 17th Street and ending at 7th Street. The action then moves to the National Mall.

Then Friday, the Golden State Warriors finished off LeBron James and his Cleveland Cavs for an NBA Finals sweep. On Saturday, *Justify* rolled to the second triple crown in four years leading wire-to-wire in the Belmont Stakes boldly holding off a late run from long-shot *Gronkowski*. While I didn't think he would do it, I was impressed by his run and give a lot of credit to Baffert's move to run stable mate *Restoring Hope*, who ran the first mile on *Justify's* shoulder and prevented the field from pressuring *Justify* like *Good Magic* did in the Preakness. While *Justify* didn't pay out, I was a big fat winner on a trifecta box with *Hofburg* and *Gronk*. Finally, on Sunday, Rafa Nadel again proved he is "King of Clay" winning his 11th French Open Title.

And while the sports were nuts, the Tonys were also awarded in NYC last night and featured some colorful language from Robert DeNiro. The biggest winner was a great play Stacey and I saw earlier this year called *The Band's Visit* with Tony Shalhoub. The musical took home 10 Tonys including Best Musical. And for you Harry Potter fans, the *Cursed Child* won Best Play, among its six awards. All the winners are here.

And looking forward, I know I usually adopt the Champ Kind sports philosophy of "No Soccer," but it is hard to not pay attention to the FIFA World Cup which starts on Thursday with host Russia taking on Saudi Arabia. Here are the teams from Fox, who is televising the event, and a guide from Yahoo! Soccer for those watching. Finally, the US Open launches on Thursday in NY at Shinnecock Hills with World #1 Dustin Johnson at the top pf his game after holing out on 18 at the FedEx St. Jude Classic yesterday.

Between the Caps tomorrow and Thursday's events, I suspect their won't be much work done in DC this week but here we go: The Senate Appropriations Committee marks up its fiscal 2019 Interior-Environment bill this week, the Farm bill emerges in both the House and Senate and all five FERC Commissioners visit Senate Energy tomorrow.

The biggest event this week is Wednesday morning's SAFE forum that releases a new groundbreaking study with original research on the magnitude of impacts from driverless cars at the Jack Morton Auditorium at the George Washington University.

Stacey heads to her annual trek to Delaware's Firefly Festival, the 4-day music celebration at Dover Downs that this year features *Foster The People, Jimmy Eat World, Eminem, The Killers, Portugal The Man*, and many more. Finally, Thursday night at Nationals Park will be an emotional Congressional Baseball game with the return of Steve Scalise after last year's shooting. You can get tickets here.

Call with questions…Best,

Frank Maisano
Ex. 6
c. Ex. 6

FRANKLY SPOKEN

"As the puck drops, the words that D.C. fans have been waiting to hear since 1974: The Washington Capitals are the 2018 Stanley Cup champions! It's not a dream! It's not a desert mirage, it's Lord Stanley and he is coming to Washington!"

Washington Capitals Radio broadcaster John Walton in the final moments of Game 5 of the Stanley Cup Finals.

ON THE POD

Lobby Shop Hits Recess Cancellation, Caps – Bracewell's latest episode of our podcast, The Lobby Shop, is now live on Stitcher, iTunes, SoundCloud, and Google Play Music. Josh and Liam reunite for a look at the cancellation of Congress's August recess by Senate Majority Leader McConnell, the outlook of the Midterm elections, DC's Capitals in the Stanley Cup Final, and more.

FUN OPINIONS

Murkowski, Faison on CNN: Nuclear Power Important for Rural Communities – In a column on CNN's website, Senate Lisa Murkowski and ClearPath's Jay Faison argued that small reactors could be a huge success for rural communities. They urged policymakers to develop policies that will unleash entrepreneurs to rebuild America's nuclear industry. While efforts to mitigate climate change are heating up, China is rushing to grab the strongest foothold in the clean energy race. China is already constructing and operating advanced reactors while we have none. The US -- once the pioneer and undisputed champion of nuclear power and other breakthroughs -- is falling behind. Murkowski and Faison argue leadership in nuclear technology development allows leadership in nuclear regulation and safeguard regimes. A robust and healthy American nuclear sector is a prerequisite for national security in today's world. S

NEW MIDTERM WEBSITE

Morning Consult Mid-Term Election Tracker in Place – Speaking of midterms, with less than 150 days to go, Morning Consult has introduced *The Midterm Wave Watcher*. It is a new interactive feature showcasing a range of survey research insights related to the 2018 midterm elections. MC interviews registered voters across the country every day to gauge their opinions on their elected officials as well as whom they're planning to vote for in the upcoming 2018 midterm elections for House and Senate. This data, based on hundreds of thousands of surveys conducted in all 50 states, will be released on a monthly basis heading into November. See the full methodology here, and explore the full results here.

IN THE NEWS

Faison Joins DOE Nuclear Advisors – ClearPath Founder Jay Faison was named to the Department of Energy's Nuclear Energy Advisory Committee, which offers advice and recommendations from a range of experts to the assistant secretary for nuclear energy. Energy Secretary Rick Perry has appointed Jay to the Committee through December 2019. NEAC was established in 1998 and provides advice and recommendation on scientific, commercial, technical and programmatic issues relating to DOE's Office of Nuclear Energy. Jay joins NuScale Power Chairman and CEO John Hopkins, Oklo Co-founder and COO Caroline Cochran, Nuclear Industry Council President and CEO David Blee, Nuclear Energy Institute President and CEO Maria Korsnick and others on the committee.

Jay's Take on NuclearVision – Now that he is on the DOE board, Faison outlined a number of opportunities that he will focus on. Faison's new blog out highlights what he calls NuclearVision, including (1) setting aggressive technology goals, in coordination with the private sector, that balance the pace of scientific innovation with commercial needs; (2) proactively encouraging thinking that challenges the status quo and pushes the limit of innovation and (3) empowering technical staff, including program managers that should come from the cutting edge of industry. Following those and other guiding principles could result in proper investments in DOE's research programs, facilitating advanced fuels

development, constructing a versatile fast test reactor by 2026 and competitive cost sharing for our most promising advanced reactor designs.

FirstSolar Launches Ohio Facility – FirstSolar has broken ground on new $400-million, 1-million-square-foot solar plant in Toledo, OH that will triple the company's manufacturing capacity in the U.S. The plant, which is set to reach full capacity in late 2019, will bring 500 jobs to the region, compensating for the 350 jobs First Solar cut to upgrade its Perrysburg Township plant, located less than two miles away, from Series 4 to Series 6 panel production last year. When the new plant is complete, the two factories will produce enough panels to generate a combined 1.8 gigawatts of power annually, three times the Perrysburg site's current output.

More States Granted Delay in WOTUS Case – Late Friday a federal judge granted a preliminary injunction on against the Waters of the U.S. rule to 11 states, including Georgia, Alabama, Florida, Indiana, Kansas, North Carolina, South Carolina, Utah, West Virginia, Wisconsin and Kentucky. Federal Judge Lisa Godbey Wood for U.S. District Court for the Southern District of Georgia ruled that the states have a substantial likelihood of winning at least some of their claims against the 2015 rule. POLITICO reports the judge singled out two of the states' claims as particularly strong: that the Obama rule violated the Clean Water Act with its sweeping coverage of wetlands and streams high up in the tributary network, and that it violated the Administrative Procedures Act by making significant changes between the proposed and final versions of the rule. With this ruling and North Dakota's previous ruling which granted preliminary injunction to 13 states in 2015, the rule is on hold in nearly half the country.

Report Finds Offshore Wind Could Add Jobs – A new report by the American Jobs Project said Maine is well-positioned to capture hundreds of jobs when offshore wind takes off. It says the state should adopt policy positions to improve its opportunities thanks to advances in floating platforms developed by the University of Maine's Advanced Structures and Composites Center. It suggests that Maine could see 2,100 jobs if the state adopts "forward-thinking policies." The report includes recommendations that include restoring an office that fast-tracked wind power projects during the administration of Democratic Gov. John Baldacci. Other recommendations include establishing offshore wind certificate or degree programs to support a skilled workforce and establishing a Northeast Offshore Wind Innovation Center.

Pope Meets with Oil CEOs – Pope Francis urged leaders in the financial, oil and gas industries at a conference at the Vatican to work on transitioning to energy sources that are "highly efficient while producing low levels of pollution," saying that "there is no time to lose." Francis told the group, which included the chairman of Exxon Mobil Corp., the chief executive of the Italian energy giant Eni SPA and the chief executive of BP PLC, that the entire world is affected by climate change, though the poor would "suffer the most from the ravages of global warming."

ON THE SCHEDULE THIS WEEK

A**WWA Holds Annual Conference** – The American Water Works Association Annual Conference and Exposition today through Thursday at the Mandalay Bay in Las Vegas.

Merrifield Headlines Nuclear Export Forum – Several groups are hosting forum in 2322 Rayburn this morning at 11:00 a.m. to discuss the importance of nuclear experts to the U.S. Speakers will include former NRC Commissioner and ClearPath advisor Jeff Merrifield on industry/government collaboration, Westinghouse's Graham Cable on understanding the export market, Nuclear Industry Council CEO David Blee on the export potential for Small Modular Reactors (SMRs) and several more.

Interior Official to Address Energy Policy – The Atlantic Council hosts a conversation on today at Noon with Vincent DeVito, counselor to the secretary for energy policy at Interior. DeVito will focus on the advanced energy aspects of the Trump administration's "energy dominance" agenda.

House Resources Holds MI Field Hearing on Fishery, Bird Controversy – The House Natural Resources Committee holds a field hearing today at 2:00 p.m. that examines the effects of mismanagement of the cormorant in the Great Lakes region at Alpena Community College in Michigan. The boom in population of the cormorant has created controversy regarding its impact on fisheries quality and quantity nationwide. In Michigan, recreational and commercial fishing is an

economically significant industry valued between $4 billion and $7 billion annually. Speakers will discuss including Randall Claramunt of MI DNR and Tom Cooper, who is chief of the U.S. Fish and Wildlife Service's Migratory Bird Program in the Midwest Region.

Wilson to Host Brazilian Biofuels Experts – The Woodrow Wilson Center hosts a forum today at 4:00 p.m. featuring a delegation from the Brazil's Ministry of Mines and Energy, charged with the new biofuels program implementation, and Brazil's National Agency of Oil, Natural Gas and Biofuels (ANP). The group comes to the Wilson Center for a public conversation on RenovaBio. The delegation will be in Washington for meetings with the U.S. government and the private sector to discuss lessons learned from the implementation of the RFS and the LCFS, in order to improve the development and implementation of the new policy in Brazil. RFA's Geoff Cooper and UC-Davis Institute of Transportation Studies Director Dan Sperling will also speak.

Marine Fuel Conference Set – Platts hosts its 15th annual Bunker and Residual Fuel Conference in Houston at the St. Regis Hotel tomorrow and Wednesday. The event features the Latest on Bunker and Marine Fuels, and the Impact of the IMO Low-Sulfur Deadline of 2020 including strategies for ship owners and bunker fuel suppliers, shipping economics in a complex new environment and enforcement challenges and policies.

Hydrogen, Fuel Cell Forum Set for DC – The Fuel Cell and Hydrogen Energy Association will be hosting a full-day forum and showcase tomorrow in Washington, D.C. at the Ronald Reagan Building and International Trade Center with leading executives, experts, and policymakers on fuel cell and hydrogen technology. The forum will bring together key federal and state policymakers, including the Department of Energy and White House, as well as the broader environmental, transportation, and energy communities to raise awareness of the benefits of fuel cell and hydrogen technology. This event will precede the Department of Energy's 2018 Annual Merit Review.

Ethanol Conference Set – The International Fuel Ethanol Workshop and Expo takes place tomorrow and Wednesday at CenturyLink Center in Omaha. The event features programming that maintains a strong focus on commercial-scale ethanol production, new technology, and near-term research and development. Growth Energy's Emily Skor is keynoting.

Playbook to Feature Scalise – On the eve of his return to the Congressional baseball game, POLITICO Playbook holds breakfast interview with House Majority Whip Steve Scalise on Republican priorities and the leadership agenda tomorrow morning at 8:00 a.m.

Sen Energy Hosts FERC Commissioners – The Senate Energy and Natural Resources holds an oversight hearing tomorrow at 10:00 a.m. on FERC. All five FERC Commissioners will testify.

Forum to Look at Buildings of the Future – As a part of High Performance Building Week 2018, there will be a Congressional briefing tomorrow at Noon in 2322 Rayburn seeking recommendation for future buildings. The National Institute of Building Sciences Consultative Council serves a unique role in the building industry, bringing together representatives from leading organizations that represent all aspects of design, construction, operation and regulation to examine important issues before the industry. The forum will look at ways to explore how the building industry can and should evolve to meet the changing needs of society and how new technologies and practices can attract a 21st century workforce. Speakers include Reps. David McKinley and Peter Welch who are Co-Chairs of the High Performance Building Congressional Caucus, as well as our friend Ryan Colker of the National Institute of Building Sciences and several others. On Thursday in 2226 Rayburn, this same group will also hold an expert discussion focusing on how codes and standards play a significant role in supporting strong, practicable and resilient 21st century infrastructure solutions. These solutions include not only incorporating new technologies – such as 3D printing - into codes and standards, but also recognizing the value of hazard mitigation strategies in assuring that infrastructure and buildings are built to withstand future events.

DC Bar Hosts Enforcement Meeting – The D.C. Bar sponsors forum tomorrow at noon on environmental enforcement in the Trump administration. Speakers include Deborah Harris, chief of the Justice Department's environmental crimes section.

USEA Forum to Look at *USE IT* Act – Tomorrow at 1:00 p.m., the U.S. Energy Association hosts a forum on the *USE IT* Act. In March, Sens. Barrasso, Capito, Whitehouse, and Heitkamp introduced the "USE IT" Act, which would support R&D for innovative carbon capture and use technologies. This workshop will explore the environmental and economic opportunities for innovative carbon technologies -- including direct air capture and carbon utilization in building materials and fuels. The conversation will include a discussion of the policy landscape for these solutions, as well as the emerging industry and investment trends in the space. Speakers will include USDA's David Babson, C2ES's Jeffrey Bobeck and Erin Burns of Third Way.

SAFE to Discuss Impact of Self-Driving Technology on Economy, Workforce – On Wednesday at 8:30 a.m., Securing America's Future Energy will hold a forum and release a new groundbreaking study with original research on the magnitude of impacts from driverless cars at the Jack Morton Auditorium at the George Washington University. The study done in collaboration with leading transportation and labor economists focuses on impacts from driverless cars and offers case-study analysis on the economic productivity gains. It will also offer context on the history of network-scale innovations and the short and long-term impacts on the workforce. Speakers include Report author J.D. Vance, former Transportation Secretary Rodney Slater, ep. Debbie Dingell, DOT's Loren Smith ITIF's Rob Atkinson and CBPP's Jared Bernstein, all who are actively crafting AV Policy. For further information, contact Leslie Hayward lhayward@secureenergy.org.

Senate Energy to Look at Hydro Legislation – Senate Water and Power Subcommittee holds a hearing at 10:00 a.m. on Wednesday looking at a hydropower bill and other legislation.

Senate Enviro Looks at Infrastructure – The Senate Environment Committee will hold a hearing on Wednesday at 10:00 a.m. on innovation and America's infrastructure. The hearing will examine the effects of emerging autonomous technologies on America's roads and bridges.

Harvard's Stavins to Speak at Webinar – Harvard hosts a free live webcast with Professor Robert Stavins at 10:00 a.m. Wednesday. During this 45-minute webcast, Professor Stavins will review the past year's development on the economics, policy, and politics of climate change, including ongoing work on the implementation of the Paris Agreement. Stavins will also address the types of policies that countries have put in place and may launch in the future. He will conclude with reflections on the path ahead for the Paris Agreement. Register Here.

Forum to Look at Grid for E-Mobility – At 1:00 p.m. on Wednesday at the National Press Club, the Electric Drive Transportation Association holds a discussion on building the modern Grid for E-Mobility.

Senate Enviro Looks at Crops Water Issues – The Senate Environment Superfund and Waste Management Subcommittee holds a hearing on Wednesday at 2:30 p.m. Army Corps' regulation of surplus water and the role of states' rights.

Drillers to Host Seminar – The International Association of Drilling Contractors hosts its "IADC Onshore and Offshore Drilling Rigs 101" event on Wednesday at 2:30 p.m. IADC members representing both onshore and offshore companies will talk about the latest drilling rig technology and discuss the role of the drilling contractor in the well construction process, along with a presentation of industry safety data.

House Energy Panel to Look at Chemical Facilities – The House Energy & Commerce's Environment Panel hosts a hearing Oat 10:00 a.m. Thursday to get a progress report on the chemical facilities anti-terrorism standards.

Forum to Look at Political; Interference in Climate Data – The Center for American Progress holds a discussion on Thursday at 1:00 p.m. on the large amount of high-quality data and analysis needed to understanding climate change and its potential remedies and responses. Speakers will include former DOE Secretary Ernie Moniz, Rep Paul Tonko and MIT's Bina Venkataraman, among others.

Forum to Look at Boosting Climate Resilience – On Thursday at 3:00 p.m., the Woodrow Wilson Center holds a discussion with representatives from USAID projects in East Africa on how to build resiliency when facing uncertain future scenarios. Panelists will share tools, technologies, good practices and approaches that are applicable and relevant to ongoing and future USAID bilateral and regional programming.

Congressional Baseball Game – Thursday 7:05 p.m.

DOE Science Heads to CSIS for Forum – The CSIS Energy & National Security Program is hosting a discussion with Paul Dabbar, DOE's Under Secretary for Science on Friday at 11:00 a.m. Dabbar will discuss DOE's priorities and the role of innovation in DOE's mission and the U.S. energy sector broadly.

Forum to Look at Spent Fuel in Sweden – The Global America Business Institute will host a discussion on Friday at 12:00 p.m. on the current status of spent fuel management in Sweden. This forum will discuss progress and lessons learned.

IN THE FUTURE

University Coalition Heads to CSIS – On Monday June 18th at 2:30 p.m., the CSIS Energy & National Security Program will host Janet Napolitano (President, University of California), Kristina M. Johnson (Chancellor, The State University of New York) and Timothy Carter (President, Second Nature) for a discussion on the recent launch of the University Climate Change Coalition (UC3), the role of research universities in the development of climate action plans, and their own imperatives for a more sustainable energy system. This spring, UC3 was launched by 13 research university systems in the United States, Canada, and Mexico to mobilize their resources and expertise to inform and facilitate climate solutions in partnership with businesses, local communities, cities, and states. The coalition will utilize its research base and multidisciplinary approaches to craft innovative climate action plans, develop new energy technologies, and advance climate science. UC3 will work in partnership with Second Nature's Climate Leadership Network, a group of hundreds of colleges and universities that have committed to take action on climate change and sustainability actions. Climate Change and the National and Corporate Interest is a high-level speaker series showcasing a variety of country and corporate perspectives on plausible pathways for pursuing a climate change strategy and why those actions are in their national or commercial interest.

REFF Wall Street Forum Set – The Renewable Energy Finance Forum (REFF) New York City will be held next Tuesday and Wednesday in NYC. For 15 years, REFF-Wall Street has brought together the biggest investors and developers to drive investment in the renewable energy sector. This year features a special line-up of dynamic speakers, high-level networking opportunities, and the most active players in the renewable energy industry.

RFF Webinar Set to Discuss Electricity Resilience – Resources for the Future (RFF) hold a webinar next Tuesday at 3:00 p.m. focused on the economics of electricity system resilience. Researchers at Resources for the Future have published previously on decisionmaking on this topic, and on May 30, they co-hosted a workshop with the R Street Institute on economic approaches to identifying and addressing resilience in the bulk power system. This webinar will highlight the timely lessons from that workshop, including definitions of resilience and how it relates to reliability, what's wrong and what's right about existing markets and institutions, the role of consumers, and how to decide what to do next.
A careful analysis suggests that current institutions to support system reliability go a long way toward supporting system resilience—and that real threats to reliable electricity supply and quick recovery from outages may lie in other parts of the system, and therefore call for differently targeted measures.
Register to attend the webinar. Speakers include former AWEA policy chief Robert Gramlich, R Street's Devin Hartman, RFF's Karen Palmer and former DOE official Susan Tierney.

CSIS to Host BNEF Energy Outlook – The CSIS Energy & National Security Program is hosting the launch of Bloomberg New Energy Finance's (BNEF) New Energy Outlook 2018 on Wednesday, June 20th at 10:00 a.m. NEO 2018 is BNEF's annual economic forecast for the world's power sector. Built over nine months, it is the result of international collaboration between 65 market and technical experts from BNEF's 11 offices. For the first time, NEO projects out to 2050, offering 10 more years of data and new insights about the energy transition in the long-term. Seb Henbest (NEO Lead Author and Head of Europe, Middle East & Africa; BNEF) will present the findings of the NEO 2018, followed by

Q&A and discussion led by MIT's Francis O'Sullivan.

GTM to Host Grid Forum – Greentech Media host Grid Edge Innovation Summit on June 20th and 21st in San Francisco. The event is an energy conference that will examine the energy customer of tomorrow and how new innovative business models are quickly emerging. GTM brings together forward thinking and prominent members of the energy ecosystem and as our research team explores the future of the market. Former FERC Chair Jon Wellinghoff will speak along with many others, including our friends Shayle Kann, Julia Pyper and Stephen Lacey.

Duke's Good to Speak at Women Conference – The Center for Strategic and International Studies is hosting a Smart Women, Smart Power conversation with Duke Energy CEO Lynn Good on Thursday, June 21st at 6:00 p.m. She will discuss trends impacting the energy industry, the challenges it faces, and the efforts being made to create a cleaner, smarter energy future. The conversation will be moderated by Fortune's Nina Easton.

NERO to Honor Scalise, Heitkamp – The National Energy Resources Organization will hold its 2018 Awards dinner on Thursday, June 21st at the Capitol Hill Hyatt. Awardees will be Majority Whip Steve Scalise and Sen. Heidi Heitkamp. NERO is a non-partisan organization whose mission is to engage in dialogue on energy issues, recognize outstanding achievements, and promote public awareness.

Chamber to Release Security Index – The U.S. Chamber of Commerce's Global Energy Institute (GEI) hold a forum to release its 2018 International Index of Energy Security Risk on Thursday July 21st at 3:30 p.m. GEI President and CEO Karen Harbert will offer remarks followed by a presentation and panel discussion on international energy security challenges moderated by GEI Vice President Steve Eule. The *Index of U.S. Energy Security Risk: Assessing America's Vulnerabilities in a Global Energy Market* is an annual energy risk indicator, which uses quantifiable data, historical trend information, and government projections to identify the policies and other factors that contribute positively or negatively to U.S. energy security. The Index provides a look at energy security retrospectively from 1970 to 2013 and prospectively from 2014-2040. From this data, policymakers and energy professionals can use the Index to track shifts in U.S. energy security over time and assess potential impacts of new policies.

Forum to Look at Climate Finance – On June 22nd at 10:00 a.m., Brookings hosts a panel of experts will provide an update on innovations in multilateral climate finance. John Roome, senior director for climate change at the World Bank, will discuss innovative approaches for supporting clean infrastructure in developing countries, since too often climate effects hit poor people the hardest. Kruskaia Sierra-Escalante, manager of the International Finance Corporation (IFC)'s Blended Finance Unit, will discuss blended concessional finance for the private sector. Brookings Senior Fellow Joshua Meltzer will discuss his latest research on the topic.

World Gas Conference Features Perry, Industry Leaders – The International Gas Union (IGU) hosts the 27th World Gas Conference (WGC 2018) in Washington DC from June 25-29. The triennial event aims to raise the voice of natural gas while offering timely updates on strategic, commercial and technical issues facing the entire gas value chain and offers the most comprehensive and diverse program to date for the natural gas industry. For the first time ever this includes topics for professionals working in sectors including finance, trading, law, sustainability/renewables, policy/government. Energy Secretary Rick Perry headlines.

Young Professional Program for World Gas Forum Set – The Young Professionals Program (YPP) will hold a special forum during the World Gas Conference June 25-29 in Washington, DC. YPP will provide a great opportunity for promising young professionals in the energy sector to learn from top leaders in the natural gas industry and network with their peers throughout the world. More on this as we get closer.

CSIS Hosts Climate Investments Head – On Tuesday June 26th at 9:00 a.m., the CSIS Energy & National Security Program will host Pratima Rangarajan, CEO of Oil and Gas Climate Initiative (OGCI) Climate Investments, for a conversation on OGCI Climate Investments within the context of the OGCI, why the fund was founded last year, and how and why Climate Investments differentiates itself from other funds. OGCI Climate Investments intends to invest $1 billion over the next ten years to develop and demonstrate innovative technologies which could significantly curb global greenhouse gas emissions.

Mulvaney Headlines Annual CEI Dinner – On Thursday June 28th, the Competitive Enterprise Institute holds its annual dinner and reception at the Marriott Marquis. National Review's Jonah Goldberg will be master of ceremonies and keynoter is OMB chief Mick Mulvaney.

JULY 4th HOLIDAY

Clean Energy Forum on Schedule – The 2018 Congressional Clean Energy Expo and Policy Forum will be held on July 10th and brings together up to 45-55 businesses, trade associations, and government agencies to showcase renewable energy and energy efficiency technologies.

Duke CEO, CARB Chair, Others Headline POLITICO Summit – POLITICO is hosting its second Pro Summit on July 17th at the Renaissance Hotel. The Pro Summit brings together Pro subscribers, expert reporters, key decision-makers, and others who are shaping the policy landscape for a full day of incisive conversations. Summit speakers include Rep. Joe Crowley, Duke CEO Lynn Good, FERC Chair Kevin McIntyre, Amy Myers Jaffe of the Council on Foreign Relations, Coal CEO Bob Murray, California Air Resources Board Chair Mary Nichols and many others. Duke Energy is the main event sponsor.

FRANK MAISANO
Senior Principal
Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 6/4/2018 8:10:48 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: June 4 PRG Energy Update: Rolling Into Energy Summer

Friends,

After a fun trip through SoCal (yes, my kids always love that we drive right past things like the San Onofre nuclear plant, San Gorgonio Wind Park and Andeavor's LA Refineries), we are ready to get back to the action. Before that though, it is exciting to see the energy in DC and Vegas around the Stanley Cup Finals. Game 4 tonight... Don't think it is quite as exciting in Cleveland and Oakland for the NBA finals, but we should have winners in both NHL and NBA sometime next week. Finally, get ready for the Belmont on June 16th where *Justify* will go for the Triple Crown. Full breakdown next week.

Starting on a sad note today with the news of the passing of our friend Doug Goudie, who was Director of International Government Relations for Pfizer. Doug passed away last night after a courageous battle with cancer. Doug was a friend and colleague of many in the trade community. Doug, who also worked at NAM and the Auto Trade Policy Council, leaves behind his wife, Ann McCulloch, and his two young children, Will and Maggie. If you would like to help Doug's family, a website has been set up to support the education of Doug's kids: https://www.gofundme.com/goudie-education-fund, and please keep them in your thoughts and prayers.

The energy narrative this week will be impacted by Friday's move by the Administration on using national security issues to preserve coal and nuclear plants. Also, we have also heard the White House may be moving as soon as today on the biofuels agreement to resolve long-standing RFS issues. More on each of these as necessary. As you know, we are covering them closely. To that end, Platt's hosts Joni Ernst tomorrow at 10:00 a.m. for its Energy Podium roundtable.

Outside DC, tomorrow is a big primary day in several states including California, New Jersey and Iowa. And just flipping on the TV while eating *In 'n Out* burgers last week in Cali, you could definitely tell the primary was right around the corner given the commercials. Also, at the Vatican later this week, Pope Francis convenes a meeting with oil company CEOs, energy investors and former Energy Secretary Ernie Moniz. Amy Harder had her take on it in Axios. Finally, tomorrow is the UN's World Environment Day.

The full House will consider the Water Resources Development Act this week. Look for potential Congressional moves on last week's action on coal/nukes. The House is also expected to take up its first "minibus" package of fiscal 2019 spending bills. A measure that funds the Energy Department and Army Corps of Engineers is being bundled with bills funding military construction, veterans affairs, and the legislative branch. On Wednesday, NM Gov. Susana Martinez appears at House Resources on oil/gas legislation. Finally on Thursday, a House Energy panel examines ways to improve the hydropower licensing process. While in the afternoon House Science's energy panel looks at the electric grid of the future in a hearing that features our friend Rob Gramlich,

The biggest event in town this week is today and tomorrow's EIA Energy Forum on the many changes going on in the electric power and petroleum sectors. The program will discuss natgas drilling, Appalachian energy industry development and exports of oil and LNG. There also will be talk about electric power system transitions and reliability issues which will lead into discussions around nuclear and coal-fired power plants. Among the speakers ids will be FERC Chair Kevin McIntyre, NERC reliability chief Mark Lauby and ISO New England CEO Gordon van Welie.

Remember to mark your calendars for NEXT WEDNESDAY when SAFE hold a forum to release a new groundbreaking study with original research on the magnitude of impacts from driverless cars at the Jack Morton Auditorium at the George Washington University.

Finally, while the hurricane season kicked off on Friday, many of you have focused on on-going recoveries in Texas, Florida and Puerto Rico. Let me remind you that our friends at MIT, who are focused on responding to more intense hurricanes through better building resilience and recovery, have a full array of research on these topics and are happy to discuss how they affect communities and policymakers response - especially after last year's difficult hurricane season in the Southeast and Caribbean.

Best,

Frank Maisano
Ex. 6
c. Ex. 6

FRANKLY SPOKEN

""I eagerly await the administration's regulations protecting pagers, fax machines, and Blockbuster."

Ex-California Gov. Arnold Schwarzenegger, reacting via tweet to the Trump administration's plans to order grid operators to buy electricity from struggling coal and nuclear plants.

ON THE POD

MIT Experts Weigh in on Hurricane, Building Resiliency – The episode of PRG's podcast *The Lobby Shop* this week features my interview with MIT resiliency expert Jeremy Gregory discussing the 2018 hurricane season and what vulnerable communities and their resident/policymakers can do to withstand and rebuild in more resilient ways. Good stuff with the start of the hurricane season slated for June 1. Check it out In Stitcher, Apple Podcasts, SoundCloud, and Google Play Music.

FUN OPINIONS

API: Tariffs Hinder Energy Growth –API's Mark Green argued in an opinion piece in RealClearEnergy that Steel tariffs will create three huge problems for the energy industry that will hinder its growth. Green said the tariffs will cause higher costs and project delays, questions whether steel manufacturers will increase production and says if steel shipments are delayed, then energy projects will be delayed.

IN THE NEWS

Administration Imposes Tariffs – Secretary of Commerce Wilbur Ross announced on a conference call last week Section 232 tariffs on imports of steel (25% tariff) and aluminum (10% tariff) will be applicable to imports from Canada, Mexico, and the EU. The White House followed shortly by posting new proclamations formally adjusting the tariffs for steel and aluminum. In addition to removing the exceptions for Canada, Mexico and the EU, the proclamations also formalize the "hard" export quotas that Australia, Argentina, and Brazil have agreed to accept in lieu of 232 tariffs. My trade expert colleague Josh Zive said this is a significant decision and the economic and diplomatic consequences of it are likely to be significant and complex. EU and Canada have already promised retaliation against US exports—minutes after Ross's announcement the EU released a statement outlining $3.3 billion in new tariffs on US products ranging from Harley-Davidson motorcycles to Kentucky Bourbon, and Mexico announced new tariffs on US pork, fruit, and flat steel products. This retaliation will likely get worse before it gets better as diplomacy moves from bilateral discussions to WTO dispute resolution. Additionally, it is likely that the prices and lead times for steel and aluminum, already climbing in the wake of the 232 tariffs, will increase at an accelerated pace. Finally, the Department of Commerce will likely see thousands of new exclusion requests filed, adding to the thousands waiting for action from the agency. Zive says the actions should be "viewed as a disappointment, but not a surprise." He adds the many details surrounding the tariffs require further elaboration, and it is essential that companies harmed by these policies redouble their efforts to educate policymakers and thought leaders about the consequences of this protectionism.

CCS Project hits Key Milestone – NET Power said last week that it has successfully achieved "first fire" of its landmark demonstration plant in La Porte, TX, that is intended to capture all of the carbon from new power plants that can use both coal and natural gas. The milestone included the firing of a 50MW Toshiba commercial-scale combustor, which involved the integrated operation of the full NET Power process. The combustor will be integrated with the turbine and power will be generated after further testing, with the goal of global deployment of 300MW commercial-scale plants beginning as early as 2021. First fire is a critical milestone for the demonstration plant, as it validates the fundamental operability and technical foundation of NET Power's new power system.

ClearPath's Powell Praises NET – If successful, NET Power will greatly simplify the process and equipment needed to produce not just cleaner power, but emission-free power from coal and natural gas. It would emit no carbon and use no water. ClearPath Executive Director Rich Powell explained the Allam Cycle in a recent video, the process used by NET Power, and how it could revolutionize clean energy in the U.S. and globally.

RINs Awarded to Small Refiners after Winning Case – After winning a case to force EPA to grant it a waiver from the RFS, last week EPA said it would grant Sinclair and Holly-Frontier, two refineries that sued over the waivers. HollyFrontier will receive credits for this year to reverse a denial for a waiver for one of its Wyoming plants dating back to 2015, while Sinclair will receive them for two of its facilities in for 2014 and 2015. Both companies had challenged EPA's denials in a federal appellate court in Colorado in 2016. That court in August 2017 ruled EPA had erred in denying Sinclair's applications for exemptions by being too strict in its definition of disproportionate economic hardship and remanded the case back to EPA to come up with a remedy.

REN21 Report Says Despite New Renewables, Emissions Increased – The latest edition of the Renewables Global Status Report says even as new power installations were dominated by renewables, energy-related carbon emissions rose in 2017. REN21, a network of governments, nonprofits and academics focused on renewable energy released its annual report and said that renewable power made up 70% of net additions to global power generating capacity in 2017, but energy demand and energy-related CO2 emissions increased substantially for the first time in four years, mainly due to economic growth in emerging economies and population growth.

ON THE SCHEDULE THIS WEEK

FERC Chair Headlines EIA Annual Energy Conference – EIA holds its annual 2018 Energy Conference today and tomorrow at the Washington Hilton. The program will discuss natgas drilling, Appalachian energy industry development and exports of oil and LNG. There also will be talk about electric power system transitions and reliability issues which will lead into discussions around nuclear and coal-fired power plants. Among the speakers ids will be FERC Chair Kevin McIntyre, NERC reliability chief Mark Lauby and ISO New England CEO Gordon van Welie.

FERC Commissioners Headline Western PSC Forum – The Western Conference of Public Service Commissioners holds a conference in Boise, Idaho today through Wednesday. WCPSC is a regional association within NARUC and the conference takes place at the Boise Centre, located in the heart of downtown Boise. Speakers include Idaho Gov. Butch Otter, FERC Commissioner Cheryl LaFleur and Rich Glick, AGA Richard Myers and Montana PUC Chair Travis Kavulla, among many others.

TX Solar Conference Set – Solar Power Texas 2018 will be held today and tomorrow in Cedar Creek, TX at the Hyatt Regency Lost Pines Resort & Spa. The event looks policy drivers and leading businesses in the region.

New England Energy Conference Set – The New England Energy Conference runs today and tomorrow in N. Falmouth, Mass at the Sea Crest Beach Hotel. The event brings together industry professionals including generation and transmission companies, project developers and operators, utility representatives, load aggregators and end-users, equipment suppliers, finance and legal experts, risk managers, environmental and engineering professionals, commodity traders and wholesalers, as well as government officials and industry regulators.

Perry Headlines DOE Cyber Conference – Today through Thursday, the Energy Department holds its annual Cyber Conference in Austin at the Renaissance. The event features keynote speech today from Energy Secretary Rick Perry, a

speech from Undersecretary Dan Brouillette tomorrow and many more Panels featuring DOE and industry security experts.

NAS to Look at Nuke Waste, Seismic Activity – Tomorrow at 8:30 a.m., the National Academies host forum on seismic hazards in storing nuclear waste.

EEI Conference Set for SD – The Edison Electric Institute holds its annual convention in San Diego tomorrow through Thursday at the Manchester Grand Hyatt. Speakers will include Tony Byers of Starbucks, ABC *Shark Tank* panelist Robert Herjavec and a panel of CEOs including Duke's Lynn Good, Exelon's Chris Crane and Berkshire-Hathaway Energy Chair Greg Abel.

Platts to Host Conversation With Ernst – Platts Energy Podium will host a conversation with Sen. Joni Ernst and the future of the US biofuel mandate tomorrow at 10:00 a.m. The Trump administration is preparing to make changes to the RFS that could have big impacts in the oil, biofuel and agriculture sectors. Ethanol credits have plunged 60% since the start of the year. Refinery workers have protested at the US Capitol. Ernst has been at the negotiating table for several rounds of White House talks on the issue. She is one of Congress' strongest advocates for farmers and biofuel makers. Ernst will share the latest on the White House deal that would expand sales of ethanol while allowing traders to get renewable fuel credits for ethanol exports.

ITIF to Host Forum on European Innovation Policy – Tomorrow at 10:00 a.m., the Information Technology & Innovation Foundation hosts a panel of experts from Germany, the Netherlands, Sweden, and the United Kingdom as they discuss how their countries are approaching innovation policy and regulation. Europe has introduced new innovation policies or strategies, many tailored to boost competitiveness in advanced and emerging industries such as clean energy, AI, autonomous driving, advanced manufacturing, and innovative life sciences. Policymakers also are grappling with how to establish enabling regulatory environments to meet social needs such as safety or privacy while encouraging innovators to experiment and allowing new technologies to flourish.

Senate Energy to Look at Fire Outlook, Programs – The Senate Energy Committee holds a hearing tomorrow at 10:00 a.m. on the 2018 Wildland Fire Outlook and Wildland Fire Management programs. Interim Forest Service Chief Vicki Christiansen and Jeff Rupert, director, Office of Wildland Fire, Department of the Interior testify. On Thursday, Christiansen heads to House Resources on the same topic at 2:00 p.m.

Forum to Look at Nuclear Cooperation with Korea – The Global America Business Institute will host a presentation tomorrow at Noon on U.S.-Korea cooperation in new nuclear markets, looking at opportunities, challenges and imperatives."

Forum to Look at Transatlantic Energy – The German Marshall Fund of the United States and the Polish Institute of International Affairs host a discussion on Transatlantic energy cooperation tomorrow. The one-day conference at GMF's Washington, DC office brings together a group of political leaders, government officials, and experts and will provide a platform for debates on key policy issues.

Forum Tackles Iran Policy – The Washington Institute for Near East Policy holds a discussion tomorrow at 12:30 p.m. on the Gulf's view on Washington's Plan B for Iran. The expert conversation and live webcast will look at Washington and its Arab partners' favorable rhetoric on the new Iran policy, and what concrete actions will curb Tehran's regional adventurism.

FERC Hosts Quarterly Users Report – The staff of the Federal Energy Regulatory Commission will hold the 5th bi-annual Electric Quarterly Report Users Group meeting tomorrow afternoon starting at 1:00 p.m. This meeting provides a forum for dialogue between Commission staff and EQR users to discuss potential improvements to the EQR program and the EQR filing process. Recent meetings have focused on issues pertaining primarily to EQR filers. However, in the upcoming meeting, staff will also include sessions for those accessing and using EQR data.

Forum to Look at Plastics Crisis – National Geographic hosts a Hill briefing tomorrow at 4:30 p.m. in 485 Russell to discuss its multiyear campaign to raise awareness of the "global plastic crisis." The event will feature remarks from Sens. Sheldon Whitehouse (D-R.I.), Dan Sullivan (R-Alaska) and NG CEO Gary Knell.

KPMG Energy Conference Set – KPMG's 16th Annual Global Energy Conference will be held Wednesday and Thursday at the Royal Sonesta Hotel in Houston, Texas. The event features senior energy executives and luminaries to share ideas and gain insights on the current issues and emerging challenges that are shaping the next generation of energy. Speakers include broadcaster Soledad O'Brien and former Senate Leader George Mitchell, as well as our friends WSJ's Erin Ailworth, Bloomberg's Joe Carroll and Reuters' Ernest Scheyder.

Wilson Forum Talk Transatlantic Energy Cooperation – The Woodrow Wilson Center's Science and Technology Innovation Program holds a forum on Wednesday at 10:00 a.m. on Transatlantic research Cooperation to protect the Atlantic Ocean. This event will include a visit of the Ocean Plastics Lab which will be in Washington DC

House Resources Looks at Interior Legislation – The House Natural Resources Committee marks up six bills, including four dealing with Utah focused on Department of Interior issues. They also will tackle four other bills in the afternoon hearing will that are focused on oil and gas issues. New Mexico Gov. Susan Martinez and Interior's deputy assistant secretary for Land and Minerals Management Katharine MacGregor will testify.

FERC, NRC Hold Joint Meeting – The Federal Energy Regulatory Commission (FERC) and the Nuclear Regulatory Commission (NRC) will hold a joint meeting on Thursday at 9:00 a.m. that will consist of discussions between the two sets of Commissioners following presentations by their respective staffs.

Forum, Report to Discuss Renewables – ACORE and the Atlantic Council's Global Energy Center will host a special event around the U.S. launch of the 2018 REN21 Renewables Global Status Report (GSR) on Thursday at 9:00 a.m. The event will feature a highlight presentation of the GSR, the most comprehensive annual overview of the global state of renewable energy, followed by a panel discussion on the role of renewable energy, energy storage, and electric vehicles in modernizing the U.S. electric grid. Speakers include REN21 Executive Secretary Rana Adib, EDTA President Genevieve Cullen, AWEA's Tom Kiernan and our friend Dan Whitten of SEIA.

House Transpo Looks at Arctic Maritime Action – The House Transportation and Infrastructure's maritime transportation panel looks at the U.S. role in maritime transportation in the Arctic in a hearing at 11:00 a.m. Thursday.

House Energy Looks at Hydro Licensing – The House Energy and Commerce's energy panel on Thursday at 11:00 a.m. examines ways to improve the hydropower licensing process.

Speakes-Backman to address Women in Energy Leadership – Women of Renewable Industries and Sustainable Energy will host a WRISE DC lunch and learn with Kelly Speakes-Backman, CEO of the Energy Storage Association on Thursday at AWEA at 12:30 p.m. Kelly is a former Commissioner of the Maryland Public Service Commission, who has spent more than 20 years working on energy and environmental issues in the public, NGO and private sectors.

House Science Panel Looks at Future Grid – On Thursday at 1:00 p.m., the House Science Committee's energy panel looks at the electric grid of the future in a hearing that features our friend Rob Gramlich, a former AWEA policy chief. DOE's Bruce Walker, John Sarro of the Los Alamos Nat Lab and Texas Tech's Joe Heppert also testify.

Mexico Gas Forum Set for San Antonio – The 4th Mexico Gas Summit will be held in San Antonio, Texas on Thursday and Friday. The event that brings together internationally recognized industry speakers, investors, government officials, and executives from the energy, infrastructure, and transportation industries. The geographic scope for the event will cover Mexico as a region with a strong focus on Gulf Coast onshore exploration and production, midstream infrastructure and development, natural gas commercialization and the evolving refined fuels market.

Offshore Wind Conference Features Interior, DOE, Industry Officials – New Energy Update holds a conference on U.S. offshore wind development on Thursday and Friday in Boston. Speakers include Interior's Walter Cruickshank, DOE's

Dan Simmons, Equinor (formerly Statoil)'s Mike Olsen, Deepwater's Bryan Martin, Mass Energy/Enviro Affairs Sect Matt Beaton and many more.

USEA Hosts Kenyan Energy Official – On Friday at 9:00 a.m., the U.S. Energy Association hosts Charles Keter, Cabinet Secretary for the Ministry of Energy and Mrs. Rebecca Miano, Managing Director/CEO of KenGen as they discuss the state of the Kenyan energy market and opportunities for expansion and international partnerships. They will also share some of the lessons learned earlier in the week while visiting The Geysers Geothermal Field and Coso Geothermal Field in California.

Forum to Look at Cyber Security – The Lexington Institute holds a forum on Friday at Noon looking at cybersecurity of the electric grid on Capitol Hill in CVC-201. This forum will be a series of ten-minute back-to-back presentations delivered by subject matter experts. Here is a link to a similar event they held last year.

Forum to Discuss European Clean Energy – The Environmental and Energy Study Institute (EESI) and the Embassy of Germany host a forum on Friday at Noon in G50 Dirksen showcasing how Germany has been successfully integrating clean energy into its electrical grid. Representatives from the public and private sectors on both sides of the Atlantic will discuss parallels between the German and American economies and how the United States may benefit from energy development policies Germany has developed and implemented over the course of its nearly 20 year-long national Energiewende ("energy transition") program. Speakers include Thorsten Herdan, Director-General of Energy Policy with the German Federal Ministry for Economic Affairs and Energy, plus representatives of the energy and manufacturing sectors.

Energy Economists to Host Discussion of Bay Runoff – The NCAC of the US Energy Economists hosts its June luncheon on Friday to explore that reality of just how difficult finding a solution to a significant environmental problem might be. And this solution relates to nothing less than fouling Chesapeake Bay by run-off from chicken farms on the DELMARVA. The run-off comes from chicken waste – called "litter" in publications suitable for family reading. CleanBay Renewables (CBR) was established in 2013 to find alternative uses for chicken litter. And there are lots of them, including jet fuel, facial creams and electricity. There are lots of problems too. The speaker is Jason Levine, Chief Business Development Officer of CleanBay Renewables. Jason has lived through all of these problems and is ready to break ground on CBR's first digester, located near Princess Anne, Maryland.

IN THE FUTURE

Forum to Look at Carbon Removal in Climate Efforts – Next Monday at 10:00 a.m., Stanford Woods Institute for the Environment hosts a forum on new research about the range of carbon removal options; especially ecosystem stewardship and approaches that combine bioenergy with carbon capture and storage (CCS). Stanford experts will discuss carbon removal technologies and opportunities for the United States and beyond. Panelists will evaluate near-term opportunities for deployment across the US. Policy levers include tax credits just revised by Congress in the 2018 Budget Act. These incentives support sequestration of CO2 in geologic storage and make carbon capture from ethanol production facilities profitable. Overall, the discussion will right-size expectations for carbon removal in ambitious climate responses, spanning from constraints at large-scale through to opportunities that exist now. Keynote Speaker for the event is Bob Perciasepe, former EPA deputy and current President of the Center for Climate and Energy Solutions.

Merrifield Headlines Nuclear Export Forum – Several groups are hosting forum in 2322 Rayburn next Monday, June 11th at 11:00 a.m. to discuss the importance of nuclear experts to the U.S. Speakers will include former NRC Commissioner and ClearPath advisor Jeff Merrifield on industry/government collaboration, Westinghouse's Graham Cable on understanding the export market, Nuclear Industry Council CEO David Blee on the export potential for Small Modular Reactors (SMRs) and several more.

Interior Official to Address Energy Policy – The Atlantic Council hosts a conversation on next Monday at Noon with Vincent DeVito, counselor to the secretary for energy policy at Interior. DeVito will focus on the advanced energy aspects of the Trump administration's "energy dominance" agenda.

Wilson to Host Brazilian Biofuels Experts – Next Monday, the Woodrow Wilson Center hosts a forum at 4:00 p.m. featuring a delegation from the Brazil's Ministry of Mines and Energy, charged with the new biofuels program implementation, and Brazil's National Agency of Oil, Natural Gas and Biofuels (ANP). The group comes to the Wilson Center for a public conversation on RenovaBio. The delegation will be in Washington for meetings with the U.S. government and the private sector to discuss lessons learned from the implementation of the RFS and the LCFS, in order to improve the development and implementation of the new policy in Brazil. RFA's Geoff Cooper and UC-Davis Institute of Transportation Studies Director Dan Sperling will also speak.

Hydrogen, Fuel Cell Forum Set for DC – The Fuel Cell and Hydrogen Energy Association will be hosting a full-day forum and showcase next Tuesday, June 12 in Washington, D.C. at the Ronald Reagan Building and International Trade Center with leading executives, experts, and policymakers on fuel cell and hydrogen technology. The forum will bring together key federal and state policymakers, including the Department of Energy and White House, as well as the broader environmental, transportation, and energy communities to raise awareness of the benefits of fuel cell and hydrogen technology. This event will precede the Department of Energy's 2018 Annual Merit Review.

Forum to Look at Buildings of the Future – As a part of High Performance Building Week 2018, there will be a Congressional briefing on Tuesday June 12th at Noon in 2322 Rayburn seeking recommendation for future buildings. The National Institute of Building Sciences Consultative Council serves a unique role in the building industry, bringing together representatives from leading organizations that represent all aspects of design, construction, operation and regulation to examine important issues before the industry. The forum will look at ways to explore how the building industry can and should evolve to meet the changing needs of society and how new technologies and practices can attract a 21st century workforce. Speakers include Reps. David McKinley and Peter Welch who are Co-Chairs of the High Performance Building Congressional Caucus, as well as our friend Ryan Colker of the National Institute of Building Sciences and several others. On Thursday in 2226 Rayburn, this same group will also hold an expert discussion focusing on how codes and standards play a significant role in supporting strong, practicable and resilient 21st century infrastructure solutions. These solutions include not only incorporating new technologies – such as 3D printing - into codes and standards, but also recognizing the value of hazard mitigation strategies in assuring that infrastructure and buildings are built to withstand future events.

USEA Forum to Look at *USE IT* Act – Next Tuesday, June 12th at 1:00 p.m., the U.S. Energy Association hosts a forum on the *USE IT* Act. In March, Sens. Barrasso, Capito, Whitehouse, and Heitkamp introduced the "USE IT" Act, which would support R&D for innovative carbon capture and use technologies. This workshop will explore the environmental and economic opportunities for innovative carbon technologies -- including direct air capture and carbon utilization in building materials and fuels. The conversation will include a discussion of the policy landscape for these solutions, as well as the emerging industry and investment trends in the space. Speakers will include USDA's David Babson, C2ES's Jeffrey Bobeck and Erin Burns of Third Way.

SAFE to Discuss Impact of Self-Driving Technology on Economy, Workforce – On Wednesday June 13th at 8:30 a.m., Securing America's Future Energy will hold a forum and release a new groundbreaking study with original research on the magnitude of impacts from driverless cars at the Jack Morton Auditorium at the George Washington University. The study done in collaboration with leading transportation and labor economists focuses on impacts from driverless cars and offers case-study analysis on the economic productivity gains. It will also offer context on the history of network-scale innovations and the short and long-term impacts on the workforce. Speakers include Report author J.D. Vance, former Transportation Secretary Rodney Slater, ep. Debbie Dingell, DOT's Loren Smith ITIF's Rob Atkinson and CBPP's Jared Bernstein, all who are actively crafting AV Policy. For further information, contact Leslie Hayward lhayward@secureenergy.org.

Forum to Look at Boosting Climate Resilience – On Thursday, June 14th at 3:00 p.m., the Woodrow Wilson Center holds a discussion with representatives from USAID projects in East Africa on how to build resiliency when facing uncertain future scenarios. Panelists will share tools, technologies, good practices and approaches that are applicable and relevant to ongoing and future USAID bilateral and regional programming.

Congressional Baseball Game – Thursday June 14th 7:05 p.m.

Forum to Look at Spent Fuel in Sweden – The Global America Business Institute will host a discussion on Friday, June 15th at 12:00 p.m. on the current status of spent fuel management in Sweden. This forum will discuss progress and lessons learned.

DOE Science Heads to CSIS for Forum – The CSIS Energy & National Security Program is hosting a discussion with Paul Dabbar, DOE's Under Secretary for Science on Friday June 15th at 11:00 a.m. Dabbar will discuss DOE's priorities and the role of innovation in DOE's mission and the U.S. energy sector broadly.

University Coalition Heads to CSIS – On Monday June 18th at 2:30 p.m., the CSIS Energy & National Security Program will host Janet Napolitano (President, University of California), Kristina M. Johnson (Chancellor, The State University of New York) and Timothy Carter (President, Second Nature) for a discussion on the recent launch of the University Climate Change Coalition (UC3), the role of research universities in the development of climate action plans, and their own imperatives for a more sustainable energy system. This spring, UC3 was launched by 13 research university systems in the United States, Canada, and Mexico to mobilize their resources and expertise to inform and facilitate climate solutions in partnership with businesses, local communities, cities, and states. The coalition will utilize its research base and multidisciplinary approaches to craft innovative climate action plans, develop new energy technologies, and advance climate science. UC3 will work in partnership with Second Nature's Climate Leadership Network, a group of hundreds of colleges and universities that have committed to take action on climate change and sustainability actions. Climate Change and the National and Corporate Interest is a high-level speaker series showcasing a variety of country and corporate perspectives on plausible pathways for pursuing a climate change strategy and why those actions are in their national or commercial interest.

CSIS to Host BNEF Energy Outlook – The CSIS Energy & National Security Program is hosting the launch of Bloomberg New Energy Finance's (BNEF) New Energy Outlook 2018 on Wednesday, June 20th at 10:00 a.m. NEO 2018 is BNEF's annual economic forecast for the world's power sector. Built over nine months, it is the result of international collaboration between 65 market and technical experts from BNEF's 11 offices. For the first time, NEO projects out to 2050, offering 10 more years of data and new insights about the energy transition in the long-term. Seb Henbest (NEO Lead Author and Head of Europe, Middle East & Africa; BNEF) will present the findings of the NEO 2018, followed by Q&A and discussion led by MIT's Francis O'Sullivan.

GTM to Host Grid Forum – Greentech Media host Grid Edge Innovation Summit on June 20th and 21st in San Francisco. The event is an energy conference that will examine the energy customer of tomorrow and how new innovative business models are quickly emerging. GTM brings together forward thinking and prominent members of the energy ecosystem and as our research team explores the future of the market. Former FERC Chair Jon Wellinghoff will speak along with many others, including our friends Shayle Kann, Julia Pyper and Stephen Lacey.

Duke's Good to Speak at Women Conference – The Center for Strategic and International Studies is hosting a Smart Women, Smart Power conversation with Duke Energy CEO Lynn Good on Thursday, June 21st at 6:00 p.m. She will discuss trends impacting the energy industry, the challenges it faces, and the efforts being made to create a cleaner, smarter energy future. The conversation will be moderated by Fortune's Nina Easton.

NERO to Honor Scalise, Heitkamp – The National Energy Resources Organization will hold its 2018 Awards dinner on Thursday, June 21st at the Capitol Hill Hyatt. Awardees will be Majority Whip Steve Scalise and Sen. Heidi Heitkamp. NERO is a non-partisan organization whose mission is to engage in dialogue on energy issues, recognize outstanding achievements, and promote public awareness.

World Gas Conference Features Perry, Industry Leaders – The International Gas Union (IGU) hosts the 27th World Gas Conference (WGC 2018) in Washington DC from June 25-29. The triennial event aims to raise the voice of natural gas while offering timely updates on strategic, commercial and technical issues facing the entire gas value chain and offers the most comprehensive and diverse program to date for the natural gas industry. For the first time ever this includes

topics for professionals working in sectors including finance, trading, law, sustainability/renewables, policy/government. Energy Secretary Rick Perry headlines.

Young Professional Program for World Gas Forum Set – The Young Professionals Program (YPP) will hold a special forum during the World Gas Conference June 25-29 in Washington, DC. YPP will provide a great opportunity for promising young professionals in the energy sector to learn from top leaders in the natural gas industry and network with their peers throughout the world. More on this as we get closer.

Clean Energy Forum on Schedule – The 2018 Congressional Clean Energy Expo and Policy Forum will be held on July 10th and brings together up to 45-55 businesses, trade associations, and government agencies to showcase renewable energy and energy efficiency technologies.

FRANK MAISANO
Senior Principal
Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 5/31/2018 4:24:26 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: Bracewell Trade Experts Offers Insight on Tariff Announcement

Friends,

Given today's action on tariffs for steel and aluminum, I thought you would find the perspective of my trade expert colleague Josh Zive valuable for you or your colleagues' coverage of the issue.

FROM ZIVE (On the Record):

This morning, Secretary of Commerce Wilbur Ross announced on a conference call that the Section 232 tariffs on imports of steel (25% tariff) and aluminum (10% tariff) will be applicable to imports from Canada, Mexico, and the EU when their exceptions from the tariffs expire at midnight tonight. The White House followed shortly by posting new proclamations formally adjusting the tariffs for steel and aluminum. In addition to removing the exceptions for Canada, Mexico and the EU, the proclamations also formalize the "hard" export quotas that Australia, Argentina, and Brazil have agreed to accept in lieu of 232 tariffs.

This is a significant decision from the Trump Administration, and the economic and diplomatic consequences of this move are likely to be significant and complex. EU and Canada have already promised retaliation against US exports—minutes after Ross's announcement the EU released a statement outlining $3.3 billion in new tariffs on US products ranging from Harley-Davidson motorcycles to Kentucky Bourbon, and Mexico announced new tariffs on US pork, fruit, and flat steel products. This retaliation will likely get worse before it gets better as diplomacy moves from bilateral discussions to WTO dispute resolution. Additionally, it is likely that the prices and lead times for steel and aluminum, already climbing in the wake of the 232 tariffs, will increase at an accelerated pace. Finally, the Department of Commerce will likely see thousands of new exclusion requests filed, adding to the thousands waiting for action from the agency.

Today's actions should be viewed as a disappointment, but not a surprise. We will be watching closely for additional details because many details surrounding the tariffs require further elaboration, and it is essential that companies harmed by these policies redouble their efforts to educate policymakers and thought leaders about the consequences of this protectionism.

We will keep you updated as events unfold,

Josh Zive

You can reach Zive at josh.zive@bracewell.com should you have additional questions. You can also Connect with me and I will get them to him. Finally, my colleague Paul Nathanson (paul.nathanson@bracewell.com) is also working on these trade issues and can help as well. More information on the issues is available at www.tariffsaretaxes.org.

Feel free to send questions,

Frank Maisano

Ex. 6

FRANK MAISANO
Senior Principal
Ext. 5864
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 6/18/2018 7:16:05 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: June 18 PRG Energy Update: Summer Solstice Energy

Friends,

The winner of the 2018 US Open for golf this year was Shinnecock Hills. Yes, Brooks Koepka took home the trophy for the second straight year – which is amazing and rare – but the course really was the overall winner, proving tougher than even many of the greatest players in the world could even imagine. This was exemplified by the controversy when Phil Mickelson struck his own still moving ball on the 13th green on Saturday. The crazy things a tough course does to these guys.

And talking about crazy. How about Argentina/Iceland playing to a 1-1 tie? And forget about natgas drilling or global warming, apparently, a World Cup victory over Germany can cause an earthquake in Mexico. Colombia/Japan kick off tomorrow's FIFA World Cup action as Group Play continues. See the full schedule here.

Trade talk is buzzing across town and it will likely get more heated this week when Commerce Secretary Wilbur Ross appears Wednesday before the Senate Finance Committee to discuss tariffs. On the international trade front things are staying very busy: new tariffs on China, the future of NAFTA in question, and the ongoing dispute over the steel and aluminum tariffs. Secretary Ross will have to be prepared to answer questions on all of these topics and more. Our team here has been in the trenches in this policy debates and has been watching all of these issues closely. If you want to get a perspective on the ongoing trade disputes and what they may mean for the manufacturing and energy sectors feel free to contact Paul Nathanson (paul.nathanson@bracewell.com, 202-828-1714) or Josh Zive (josh.zive@bracewell.com, 202-828-5838).

Meanwhile, Energy Secretary Rick Perry will deliver remarks Friday at the Commerce Department's SelectUSA 2018 Investment Summit, discussing energy investment and innovation technology.

Ahead of this week's meeting of members and nonmembers of the Organization of the Petroleum Exporting Countries, OPEC members are considering a compromise agreement to increase oil production by 300,000 - 600,000 barrels per day in the next few months, according to people briefed on the discussions. Action starts Wednesday and our friends from SAFE can give you the full brief if you call Bridget Bartol (bbartol@secureenergy.org).

In Congress, the House takes up a number of funding bills (including the Energy/Water funding legislation) on the House Floor. Expect amendments and votes on all sorts of topics. A House Energy panel meets Wednesday to explore the effects of the recent tax overhaul. On Thursday, the House Science Environment Subcommittee holds a hearing on state perspectives regulating background ozone. Then Friday, another House Energy panel gathers for a hearing on advanced biofuels.

Outside DC, CO2NNECT 2018 launches today in Jackson Hole today to look at progress on carbon capture and features remarks from Sen. EPW Chair John Barrasso, Democratic Gov. Steve Bullock of Montana and GOP Gov. Matthew Mead of Wyoming. And starting tomorrow Renewable Energy Finance Forum (REFF) NYC brings together the biggest investors and developers to drive investment in the renewable energy sector. Finally, on Thursday, our friend Matt Letourneau from the Chamber's Global Energy Institute (GEI) speaks to a group of utility communicators in Louisville, Kentucky at UCI's 2018 annual conference.

Speaking of the Chamber's GEI and Thursday, they will host a global energy security forum at 3:30 p.m. that will release the 2018 International Index of Energy Security Risk. GEI President and CEO Karen Harbert and White House Energy Advisor Wells Griffith will offer remarks, while GEI international expert Steve Eule hosts a panel that Includes Embassy Energy officials from Canada, Mexico and the UK.

Summer Solstice on Thursday... Longest daylight of the year and first official day of Summer!!! Call with questions...Best,

Frank Maisano
Ex. 6
C. Ex. 6

FRANKLY SPOKEN

"Self-driving technologies will have an enormously positive impact on our country, our economy, and our society. This is an opportunity too great to ignore and now is the time to prepare and implement policies that will unlock these myriad benefits and mitigate any negative impacts of this technological shift. There is a balance we must strike to realize the billions in economic savings from increased travel access and productivity, to reduced congestion and fewer accidents. The more we maximize the economic and productivity benefits while minimizing any potential impacts on job holders, the better off our country and workforce will be."

Robbie Diamond, President and CEO of SAFE on the release of its latest policy brief: America's Workforce and the Self-Driving Future: Realizing Productivity Gains and Spurring Economic Growth.

ON THE POD

Cap Crude: US Casts Big Shadow Over OPEC Meeting – As OPEC meets again in Vienna this week, the last US official to attend an OPEC meeting, Ken Hance tells Capitol Crude that the Trump administration should work closer with the producer group for price stability.

FUN OPINIONS

EIA: Adoption of AVs could increase U.S. transportation energy consumption – EIA release a great fact in its "Today in Energy series on autonomous vehicles. EIA says AVs are one of the main sources of uncertainty in the future of U.S. transportation energy consumption, as autonomous vehicle technology has the potential to change travel behavior, vehicle design, energy efficiency, and vehicle ownership. Analysis in EIA's *Annual Energy Outlook 2018* (AEO2018) shows that the widespread adoption of autonomous vehicles could increase overall light-duty vehicle travel and, depending on how those vehicles are powered, lead to slightly higher transportation energy consumption.
See graph and read more...

IN THE NEWS

ClearPath Continues Help for Heller – ClearPath Action Fund is planning to spend $500,000 to help re-elect Nevada Sen. Dean Heller. ClearPath Action Fund Founder Jay Faison said Heller has long been a leader among Republicans in expanding clean energy deployment and innovation. The Heller effort includes a new set of digital ads that recognize his clean energy leadership in Congress. "Senator Dean Heller has worked across the aisle in Washington, taking bipartisan action for clean energy technologies that create good jobs in Nevada," the 30-second ad states. That includes helping lead efforts to streamline clean energy project permitting on public lands and offer tax incentives for both clean energy production and storage. ClearPath will also run 15-second and 60-second ads showcasing Heller's record.

Simmons Named to Head DOE Renewable Office – President Trump intends to make Dan Simmons the permanent head of DOE's energy efficiency and renewable energy office, after more than a year as its top official. Simmons became EERE's principal deputy assistant secretary on May 1, 2017, after working on Trump's DOE transition and beachhead teams. Simmons has been well-received by both renewable advocates and Congress who have appreciated openness. Before joining the administration, Simmons was the vice president for policy at the libertarian-leaning Institute for Energy Research, which regularly attacked the Obama administration's renewable energy programs. He also directed the Natural Resources Task Force at the American Legislative Exchange Council.

Report Provides Comprehensive View on Cost, Benefits of Self-Driving Tech – Securing America's Future Energy (SAFE) today releases its latest policy brief: *America's Workforce and the Self-Driving Future: Realizing Productivity Gains and Spurring Economic Growth.* The study is an examination and in-depth economic analysis of the effects self-driving technologies could have on the American economy and its workforce. The report is based on research and individual reports led by three economists: former Bureau of Labor Statistics Commissioner Erica Groshen, former Senior Fellow at Resources for the Future W. David Montgomery and Compass Transportation CEO Richard Mudge. The report found that by 2050, AVs will add between $3 to $6 trillion in cumulative consumer and societal benefits to the U.S. economy. Annually, $800 billion in economic and societal benefits could be realized when AVs are fully deployed. Nearly every American will benefit from improved safety, enhanced access to transportation for senior citizens, people with disabilities and the disadvantaged, increased productivity, and the ability to gain productive time for work or errands.

Electrification Coalition Releases Inaugural Zero Emissions Vehicle (ZEV) Scorecard – The Electrification Coalition (EC) released the ZEV Scorecard, a ranking system and informational tool for policymakers, advocates, and the public to use as a guide to improve the effectiveness of state-level actions to increase adoption of plug-in electric vehicles (PEV). The ZEV states, which are already the country's leaders of supportive PEV policies and adoption, were analyzed and placed into three tiers with California, Maryland and Connecticut placing in the top tier. The ZEV Scorecard was developed by the EC to provide a single, comprehensive and data-driven ranking of the ZEV MOU states. By tracking policy changes over time it can help to determine effectiveness of certain strategies and can underscore the importance for states and other regulators to continue to create policies that support PEV adoption. States can analyze the steps taken to date in order to determine if they should implement or add to financial and non-financial incentives, develop EV infrastructure and, or create public awareness campaigns. The 2018 ZEV Scorecard Tiered Rankings include Tier 1: California, Maryland, Connecticut; Tier 2: Massachusetts, New York, New Jersey and Tier 3: Vermont, Rhode Island, Oregon, Maine. To determine the scorecard rankings, the EC used a weighted ranking system and appraised state-level policy actions for three categories: 1. State-provided incentives to consumers; 2. Availability and support of public refueling infrastructure; 3. Outreach campaigns to educate the public. The EC plans to update its analysis and the rankings of the participating ZEV states annually. The full report can be found here.

DOE Announces Prize Competition Winners to Bolster Onshore Manufacturing – The Department of Energy announced the winners of the American Inventions Made Onshore (AIM Onshore) Prize Competition at the 2018 MForesight National Summit in Washington, D.C. AIM Onshore is part of a DOE initiative to close the gap between American innovators who develop new energy technologies and domestic manufacturers who produce them. The four winning organizations listed below will receive $150,000 to deliver DOE's Build4Scale training to energy hardware innovators and help them forge partnerships with domestic manufacturers. DOE's Build4Scale training, released earlier this year, equips American scientists and engineers with knowledge of basic manufacturing processes, an understanding of product design for manufacturing, and the know-how to make and evaluate manufacturing-related decisions. By requiring winners to demonstrate a sustainable revenue stream to continue providing the training, DOE is leveraging a small initial federal investment in an initiative that will ultimately be sustained by the private sector. Winners include **Innovation Works – Pittsburgh, Pennsylvania;**
mHUB – Chicago, Illinois; FuzeHub – Albany, New York and **ADL Ventures – San Francisco, California**
DOE's Build4Scale training - developed by Lawrence Livermore National Laboratory in collaboration with industry, academia, and government and other resources - is available to the public for use and dissemination at Build4Scale.org.

Report Says Clean Energy Moon Shot Needed – The University of Virginia Darden School of Business' Batten Institute for Entrepreneurship and Innovation released a new policy playbook last week saying a national moonshot goal should be launched to spur more public and private investments in clean energy technologies. The playbook lists five other actions that should be taken, including national clean-tech bank and lending models and a "New Deal" strategy for helping communities bring in clean tech industries and jobs. The purpose of the playbook is to present new and innovative ideas for more rapidly moving the needle on addressing climate change. The policy actions presented here are motivated by a need to catalyze clean technology innovation. Recognizing that leadership by the federal government is unlikely in the current politicized environment, the playbook suggests a bottom-up approach to influencing change. Innovating for climate change will require solutions that address both mitigation and adaptation. See the recommendations here.

ON THE SCHEDULE THIS WEEK

Carbon Capture forum Features Barrasso, Govs – The Great Plains Institute holds CO2NNECT 2018 today in Jackson Hole today to look at progress on carbon capture. event includes lawmakers such as Wyoming GOP Sen. John Barrasso, who heads the Senate environment committee; state leaders such as Democratic Gov. Steve Bullock of Montana and GOP Gov. Matthew Mead of Wyoming; and executives from companies such as NRG Energy Inc., NET Power LLC, Occidental Petroleum Corp., and Peabody Energy Corp. The event is designed to increase understanding and harness leadership support for carbon capture among governors; members of Congress; industry executives; labor, philanthropic and NGO leaders; and journalists and media influencers.

DOE, NEI, Westinghouse Address Nuclear Meeting – The American Nuclear Society's annual meeting is today through Thursday in Philadelphia at the Marriott. The event will feature business and government leaders delving into the global expansion of nuclear energy and revitalizing the struggling industry. Speakers include Westinghouse President and CEO Jose Gutierrez; Ed McGinnis of the Energy Department's nuclear energy office; and Nuclear Energy Institute President and CEO Maria Korsnick.

University Coalition Heads to CSIS – Today at 2:30 p.m., the CSIS Energy & National Security Program will host Janet Napolitano (President, University of California), Kristina M. Johnson (Chancellor, The State University of New York) and Timothy Carter (President, Second Nature) for a discussion on the recent launch of the University Climate Change Coalition (UC3), the role of research universities in the development of climate action plans, and their own imperatives for a more sustainable energy system. This spring, UC3 was launched by 13 research university systems in the United States, Canada, and Mexico to mobilize their resources and expertise to inform and facilitate climate solutions in partnership with businesses, local communities, cities, and states. The coalition will utilize its research base and multidisciplinary approaches to craft innovative climate action plans, develop new energy technologies, and advance climate science. UC3 will work in partnership with Second Nature's Climate Leadership Network, a group of hundreds of colleges and universities that have committed to take action on climate change and sustainability actions. Climate Change and the National and Corporate Interest is a high-level speaker series showcasing a variety of country and corporate perspectives on plausible pathways for pursuing a climate change strategy and why those actions are in their national or commercial interest.

RFF Webinar Set to Discuss Electricity Resilience – Resources for the Future (RFF) hold a webinar today at 3:00 p.m. focused on the economics of electricity system resilience. Researchers at Resources for the Future have published previously on decisionmaking on this topic, and on May 30, they co-hosted a workshop with the R Street Institute on economic approaches to identifying and addressing resilience in the bulk power system. This webinar will highlight the timely lessons from that workshop, including definitions of resilience and how it relates to reliability, what's wrong and what's right about existing markets and institutions, the role of consumers, and how to decide what to do next.
A careful analysis suggests that current institutions to support system reliability go a long way toward supporting system resilience—and that real threats to reliable electricity supply and quick recovery from outages may lie in other parts of the system, and therefore call for differently targeted measures.
Register to attend the webinar. Speakers include former AWEA policy chief Robert Gramlich, R Street's Devin Hartman, RFF's Karen Palmer and former DOE official Susan Tierney.

Forum to Look at Ukraine Energy – The Commission on Security and Cooperation in Europe hold a briefing today at 3:30 p.m. in Dirksen G-11 on curbing corruption in Ukraine's energy sector. This briefing will review the challenges facing Ukraine's energy sector with a focus on corruption's role in preventing necessary reforms. Speakers will provide expertise and insight as to how Ukraine's energy sector fits into the larger picture of Ukraine's fight against corruption. They will also examine Russia's malign influence in the country. Finally, the briefing will offer policy responses to these issues. Former Ambassador Bill Courtney and CSIS expert Ed Chow will speak.

REFF Wall Street Forum Set – The Renewable Energy Finance Forum (REFF) New York City will be held tomorrow and Wednesday in NYC. For 15 years, REFF-Wall Street has brought together the biggest investors and developers to drive investment in the renewable energy sector. This year features a special line-up of dynamic speakers, high-level

networking opportunities, and the most active players in the renewable energy industry. FERC Commissioner Neil Chatterjee and ACORE's Greg Wetstone are among the speakers.

FERC Chair to Address NatGas Roundtable – The Natural Gas Roundtable will host its monthly meeting at the University Club tomorrow at Noon. FERC Chairman Kevin J. McIntyre, will be the guest speaker.

Stimson Center to Discuss China, Arctic – The Stimson Center's East Asia Program discussion tomorrow at 12:30 p.m. on regional perspectives of Chinese activities in the Arctic.

Landscape Architects Discuss Climate – The American Society of Landscape Architects holds a discussion tomorrow at 6:30 p.m. on smart policies for a changing climate. The event is a candid discussion with ASLA CEO Nancy Somerville and Diane Jones Allen of the College of Architecture Planning and Public Affairs at the University of Texas at Arlington. They will discuss a recent Blue Ribbon panel's findings and ASLA's ambitious efforts to align landscape design approaches through the adoption of effective public policies.

Senate Finance Talks Trade with Ross – Commerce Secretary Wilbur Ross will appear Wednesday at 9:00 a.m. before the Senate Finance Committee to discuss tariffs.

House Energy Panel to Look at Energy Tax Issues – The House Energy and Commerce Committee hold a hearing on Wednesday at 10:00 a.m. on the benefits of tax reform on the energy sector and consumers.

Senate to Host EPA Nominees – The Senate Environment Committee holds a hearing on the nominations of William McIntosh and Peter Wright to be assistant administrators of EPA on Wednesday at 10:00 a.m.

CSIS to Host BNEF Energy Outlook – The CSIS Energy & National Security Program is hosting the launch of Bloomberg New Energy Finance's (BNEF) New Energy Outlook 2018 on Wednesday at 10:00 a.m. NEO 2018 is BNEF's annual economic forecast for the world's power sector. Built over nine months, it is the result of international collaboration between 65 market and technical experts from BNEF's 11 offices. For the first time, NEO projects out to 2050, offering 10 more years of data and new insights about the energy transition in the long-term. Seb Henbest (NEO Lead Author and Head of Europe, Middle East & Africa; BNEF) will present the findings of the NEO 2018, followed by Q&A and discussion led by MIT's Francis O'Sullivan.

Book Event Looks at Chernobyl – The Woodrow Wilson Center Kennan Institute for Advanced Russian Studies holds a book discussion on Wednesday at 11:00 a.m. looking at a new book on Chernobyl and the history of the nuclear catastrophe. In his new book, *Chernobyl: The History of a Nuclear Catastrophe*, Serhii Plokhii draws on new sources to lay bare the flaws of the Soviet nuclear industry, tracing the disaster to the authoritarian character of Communist party rule, the regime's control of scientific information, and its emphasis on economic development over all else. Today, the risk of another Chernobyl, claims Plokhii, looms in the mismanagement of nuclear power in the developing world.

Atlantic Council Hosts BP Stat Review – On Wednesday at 12:30 p.m., Atlantic Council is hosting the US launch of the 2018 BP Statistical Review of Energy with BP Group Chief Economist Spencer Dale. As the energy landscape continues to undergo profound change, it is more important now than ever to understand the trends and developments driving this change. The 2018 BP Statistical Review of World Energy examines issues like who is winning the tug-of-war between OPEC oil and tight oil, why natural gas grew so fast in 2017, and if there is enough cobalt and lithium to fuel battery demand going forward. BP's Statistical Review provides an objective overview of what happened to energy markets in 2017 and a guide to future trends. Perhaps more importantly, it helps us better understand the complex world in which we operate. Dale will present the findings of BP's 2018 report, one of the most widely respected and highly anticipated global energy publications, followed by a moderated discussion.

GTM to Host Grid Forum – Greentech Media host Grid Edge Innovation Summit on Wednesday and Thursday in San Francisco. The event is an energy conference that will examine the energy customer of tomorrow and how new innovative business models are quickly emerging. GTM brings together forward thinking and prominent members of the

energy ecosystem and as our research team explores the future of the market. Former FERC Chair Jon Wellinghoff will speak along with many others, including our friends Shayle Kann, Julia Pyper and Stephen Lacey.

Forum to Discuss Roof Top Solar – Bernstein Management Corporation, Carr Properties, WC Smith, New Partners Community Solar and Sol Systems host a forum on Thursday at 8:00 a.m. at the Greater Washington Board of Trade to discuss different ways each took advantage of available incentives and successfully "went solar" in DC. Each will share the benefits, the challenges, and the lessons learned.

AAAS Hold Science/Tech Forum – The American Association for the Advancement of Science holds the 2018 Science and Technology Policy Forum. Former Rep. Rush Holt and other will speak on the agenda.

OPEC Meeting Set for Vienna – OPEC hosts its 7th International Seminar in Vienna with the theme Petroleum—cooperation for a sustainable future. Our friends at SAFE can discuss. Lots of big names speaking that you can see here.

S&P Hosts Transmission Forum – S&P Global Platts holds 2018 Transmission Planning and Development Conference on Thursday at the Hilton in Arlington, Va. The event will address key growth drivers impacting the US electric transmission grid. FERC Commissioner Neil Chatterjee, analyst Christi Tezak, hydro expert Jeff Leahy, ITC's Nina Plaushin and many more.

Forum to Look at Water Infrastructure – On Thursday at 9:00 a.m., the Brookings Metropolitan Policy Program will host utility, workforce, and community leaders to discuss the economic and infrastructure opportunity offered in the water sector. The event follows the release of a new report, Renewing the water workforce: Improving water infrastructure and creating a pipeline to opportunity, which provides clearer metrics and actionable strategies on this front. Louisiana Rep. Garrett Graves will keynote followed by a panel.

House Science Tackles Ozone Science – The House Science Environment Subcommittee holds a hearing on Thursday at 10:00 a.m. looking at state perspectives on regulating background ozone. Witnesses include Diana Rath of Alamo Area Council of Governments, AZ DEQ air quality official Tim Franquist, EDF's Elena Craft and scientist Gregory Stella of Alpine Geophysics.

House Transpo Looks at Pipeline Legislation – The House Transportation and Infrastructure Subcommittee on Railroads, Pipelines and Hazardous Materials will host an oversight hearing Thursday at 10:00 a.m. to examine the *Protecting our Infrastructure of Pipelines and Enhancing Safety (PIPES) Act*, enacted in June 2016 in the wake of a 100,000-metric-ton gas leak from the Aliso Canyon underground storage facility managed by Southern California Gas Co. directed the nation's top pipeline regulator, the Pipeline and Hazardous Materials Safety Administration, to set baseline safety standards for underground gas storage facilities, prioritize work on unfinished congressional mandates and study the potential for a centralized pipeline incident database, among other steps.

House Small Biz Committee Looks at Ag Regs – The House Small Business agriculture and energy subcommittee looks at how federal regulations affect small farmers. Witnesses include Craig Martins on behalf of the National Council of Farmer Cooperatives and GROWMARK, John Weber of the National Pork Producers Council and Glenn Brunkow on behalf of the American Farm Bureau.

Wilson Forum Looks at Arctic Communities, Energy – The Woodrow Wilson Center's Canada Institute and Polar Initiative hold a conference call briefing on Thursday at 11:00 to discuss energy innovation in remote Arctic communities. The webinar features a spotlight on the energy approaches of these remote Arctic communities and how innovations are contributing to economic development and community resilience.

Forum to Look at Air Quality Issues –The World Resources Institute holds forum on Thursday at Noon looking at open air quality data to fight unequal access to breathable clean air. This presentation shares stories of communities from Delhi to Ulaanbaatar to Sarajevo and from scientists to journalists, using open air quality data from the platform to

advance their fight against air inequality. The subsequent open-source tools, the OpenAQ community has developed and the entire data-sharing platform may be of interest to other open data communities.

Chamber to Release Security Index – The U.S. Chamber of Commerce's Global Energy Institute (GEI) hold a forum to release its 2018 International Index of Energy Security Risk on Thursday at 3:30 p.m. GEI President and CEO Karen Harbert will offer remarks followed by a presentation and panel discussion on international energy security challenges moderated by GEI Vice President Steve Eule. The *Index of U.S. Energy Security Risk: Assessing America's Vulnerabilities in a Global Energy Market* is an annual energy risk indicator, which uses quantifiable data, historical trend information, and government projections to identify the policies and other factors that contribute positively or negatively to U.S. energy security. The Index provides a look at energy security retrospectively from 1970 to 2013 and prospectively from 2014-2040. From this data, policymakers and energy professionals can use the Index to track shifts in U.S. energy security over time and assess potential impacts of new policies.

Duke's Good to Speak at Women Conference – The Center for Strategic and International Studies is hosting a Smart Women, Smart Power conversation with Duke Energy CEO Lynn Good on Thursday at 6:00 p.m. She will discuss trends impacting the energy industry, the challenges it faces, and the efforts being made to create a cleaner, smarter energy future. The conversation will be moderated by Fortune's Nina Easton.

NERO to Honor Scalise, Heitkamp – The National Energy Resources Organization will hold its 2018 Awards dinner on Thursday at the Capitol Hill Hyatt. Awardees will be Majority Whip Steve Scalise and Sen. Heidi Heitkamp. NERO is a non-partisan organization whose mission is to engage in dialogue on energy issues, recognize outstanding achievements, and promote public awareness.

House Energy Loos at Advanced Biofuels in RFS – The House Energy and Commerce hearing on Friday at 9:15 a.m. in 2322 Rayburn on advanced biofuels Under the RFS. The hearing will look at current status and future prospects.

Forum to Look at Climate Finance – On Friday at 10:00 a.m., Brookings hosts a panel of experts will provide an update on innovations in multilateral climate finance. John Roome, senior director for climate change at the World Bank, will discuss innovative approaches for supporting clean infrastructure in developing countries, since too often climate effects hit poor people the hardest. Kruskaia Sierra-Escalante, manager of the International Finance Corporation (IFC)'s Blended Finance Unit, will discuss blended concessional finance for the private sector. Brookings Senior Fellow Joshua Meltzer will discuss his latest research on the topic.

IN THE FUTURE

World Gas Conference Features Perry, Industry Leaders – The International Gas Union (IGU) hosts the 27th World Gas Conference (WGC 2018) in Washington DC from June 25-29. The triennial event aims to raise the voice of natural gas while offering timely updates on strategic, commercial and technical issues facing the entire gas value chain and offers the most comprehensive and diverse program to date for the natural gas industry. For the first time ever this includes topics for professionals working in sectors including finance, trading, law, sustainability/renewables, policy/government. Energy Secretary Rick Perry headlines.

Young Professional Program for World Gas Forum Set – The Young Professionals Program (YPP) will hold a special forum during the World Gas Conference June 25-29 in Washington, DC. YPP will provide a great opportunity for promising young professionals in the energy sector to learn from top leaders in the natural gas industry and network with their peers throughout the world. More on this as we get closer.

Forum to Talk Eastern Europe Energy – The Atlantic Council Global Energy Center and the Hungarian Presidency of the Visegrád Group holds its "Towards 21st Century Energy Systems in Central & Eastern Europe" conference next Monday. The event will feature discussion and debate on the strategic and policy implications of the Trump Administration's energy agenda and its impact on the transatlantic relationship, with special attention paid to the Central and Eastern European region. The expert panels will discuss the impact of the US' energy agenda on Central and Eastern Europe and innovation in Central and Eastern European energy systems.

Brookings Talking Global Markets With Experts – The Cross-Brookings Initiative on Energy & Climate will host Fatih Birol in a discussion facilitated by Initiative Co-Chair David G. Victor. Both renowned energy experts, they will discuss the latest updates in global energy, including recent evolutions in global markets and prices, and the intersections of climate change and energy policy. Fatih Birol is executive director of the International Energy Agency (IEA), and has been named by Forbes Magazine as one of the most influential people in world energy, and "Energy personality of the year" in 2017 by the Financial Times. He is also chair of the World Economic Forum's (Davos) Energy Advisory Board and serves on the U.N. Secretary-General's Advisory Board on Sustainable Energy for All. After the session, panelists will take audience questions.

ACEEE Forum Set – On Tuesday at the National Press Club, the American Council for and Energy Efficient Economy (ACEEE) will convene a one-day symposium to highlight international energy efficiency best practices, with a particular focus on opportunities for improvement in the United States. Our research has shown that energy efficiency can be a low-cost, powerful tool for countries to meet their energy and environmental goals and to sustainably increase shared prosperity. At this event, ACEEE will release its biennial International Scorecard, which examines the energy efficiency policies and performance of the world's 25 largest energy-consuming countries. The scorecard evaluates countries based on 35 metrics and shows how all can substantially improve their energy efficiency. The symposium will feature four panels that will explore: (1) scorecard findings, (2) lessons learned from high-performing countries, (3) opportunities for the United States, and (4) notable efforts and opportunities for global companies.

CSIS Hosts Climate Investments Head – On Tuesday June 26th at 9:00 a.m., the CSIS Energy & National Security Program will host Pratima Rangarajan, CEO of Oil and Gas Climate Initiative (OGCI) Climate Investments, for a conversation on OGCI Climate Investments within the context of the OGCI, why the fund was founded last year, and how and why Climate Investments differentiates itself from other funds. OGCI Climate Investments intends to invest $1 billion over the next ten years to develop and demonstrate innovative technologies which could significantly curb global greenhouse gas emissions.

Hydro Conference Set – HydroVision International will be held in Charlotte, NC on June 26-28th at the Charlotte Convention Center. HydroVision is the largest gathering of hydro professionals worldwide. The event highlights perspectives on the role of hydropower, explores issues affecting hydro resources, and helps participants develop a vision to meet challenges and ensure the future sustainability of hydro.

Forum to Look at National Lab Ideas – The Information Technology and Innovation Foundation holds a forum on Wednesday, June 27th at noon in 2325 Rayburn to look at new ideas for strengthening partnerships at DOE's National Labs. Two promising ideas for providing such connections are the proposed Impact for Energy Foundation and the pilot small business voucher program. The former would make it easier for companies and philanthropists to work collaboratively with intramural teams at DOE labs. The latter provides small businesses that need sophisticated insights with no-cost access to lab experts who can accelerate their innovations. Speakers will include Reps. Randy Hultgren Ben Ray Luján, as well as Rita Baranwal, Director of (GAIN) Gateway for Accelerated Innovation in Nuclear at the Idaho National Laboratory.

Forum to Look at Energy Policy In Brazil – On Thursday, June 28th at 9:00 a.m., the Inter-American Dialogue will hold a forum to look at energy policy in Brazil. The event features a panel discussion on the recent oil licensing rounds, opportunities for private investment in the oil, gas and power sectors, and the outlook for energy policy next year.

Forum to Look at Fossil Fuels in Sustain Energy Future – The U.S. Energy Association holds a forum on Thursday, June 28th at 10:00 a.m. to look access to affordable, reliable, sustainable, and modern energy services while reducing greenhouse gas emissions and the carbon footprint of the energy sector. This briefing seeks to discuss the following within the context of the 2030 Agenda including recommendations on Carbon Capture Use and Storage; financing investment in fossil energy; transformation of the Energy System, among other things. The speaker will be Scott Foster, the Director of the Sustainable Energy Division with the United Nations Economic Commission for Europe.

Chatterjee Headlines Grid Forum – Icons of Infrastructure hold a forum at the National Press Club on Thursday, June 28th afternoon looking at the transformation of the energy grid. The forum will look at how needed research and development efforts gets funded and what are the stakes for consumers, the energy sector and policymakers. In one packed day of headline speakers, panel debates, creative networking opportunities, open discussions, and an in-depth analysis, you'll learn about exciting developments in domestic energy markets, and hear insider perspective on the challenges we face. Speakers include FERC Commissioner Neil Chatterjee, NREL's Peter Green, DOE's Eric Lightner and many more.

Forum to Look at Climate Risk – At the June Adaptation Community Meeting, the US Agency for International Development (USAID), the World Bank, the International Finance Corporation, and the Inter-American Development Bank will come together on Thursday June 28th at 4:00 p.m. At the World Bank to discuss each organization's current and emerging approaches to climate risk management. The discussion will highlight each organization's approach, initiatives to track and assess the effectiveness of climate risk management, lessons learned, and ideas for the future.

Mulvaney Headlines Annual CEI Dinner – On Thursday June 28th, the Competitive Enterprise Institute holds its annual dinner and reception at the Marriott Marquis. National Review's Jonah Goldberg will be master of ceremonies and keynoter is OMB chief Mick Mulvaney.

JULY 4th HOLIDAY

Clean Energy Forum on Schedule – The 2018 Congressional Clean Energy Expo and Policy Forum will be held on July 10th and brings together up to 45-55 businesses, trade associations, and government agencies to showcase renewable energy and energy efficiency technologies.

BPC Forum to Examine Oil, Gas Issues – On Thursday July 12th at 10:30 a.m., the Bipartisan Policy Center (BPC) convenes a panel of experts to examine the current state of the Environmental Social Governance (ESG) movement in the oil and gas sector and explore what's coming next. This movement continues to gain traction in a time when the regulatory agenda has changed significantly under the Trump Administration. ESG is particularly significant for the energy sector, specifically as shareholder resolutions surrounding climate change continue to take center stage in the media and in the boardroom.

Duke CEO, CARB Chair, Others Headline POLITICO Summit – POLITICO is hosting its second Pro Summit on July 17th at the Renaissance Hotel. The Pro Summit brings together Pro subscribers, expert reporters, key decision-makers, and others who are shaping the policy landscape for a full day of incisive conversations. Summit speakers include Rep. Joe Crowley, Duke CEO Lynn Good, FERC Chair Kevin McIntyre, Amy Myers Jaffe of the Council on Foreign Relations, Coal CEO Bob Murray, California Air Resources Board Chair Mary Nichols and many others. Duke Energy is the main event sponsor.

FRANK MAISANO
Senior Principal
Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 8/2/2018 3:57:38 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: SPECIAL UPDATE: Resources on CAFE Standards Change

Friends,

The Trump administration said this morning it wants to freeze fuel efficiency standards for vehicles made from 2022 to 2025 at current levels and revoke a Clean Air Act waiver that allows California to set its own GHG specifications.

Here is the release and a link to the draft rule.

This morning EPA's Bill Wehrum and NHTSA's Heidi King hosted a pen and pad conference call to discuss proposed national fuel economy standards for MY 2021-2026 vehicles.

SOME HISTORICAL PERSPECTIVE

Remember, many experts knew and suggested as far back as 2012 that the Phase II rules were always going to be a stretch. And the 11th hour 2017 Obama EPA review really didn't credibly change the fact that technology challenges still remain a problem.

As well, on the waiver, again many experts have suggested that since California itself has focused its attention on GHGs for its waiver now rather than the smog-forming pollution that make its circumstances unique to California, that there is no longer grounds to grant a specific, special waiver.

WHAT TO DO ON WAIVER QUESTIONS

Many of you have already spoken with my colleague Jeff Holmstead, a former EPA air office head, on the waiver issue. He reminds that in 2007, EPA made a similar argument that was subject to litigation – just as this one will be – but it never played out to its end because the Obama Administration came into office in 2008 and re-granted the waiver. Jeff can be reached at jeff.holmstead@bracell.com or 202-294-8700 should you have questions. You can also forward questions to me.

OTHER EXPERTS

Our friends at Securing America's Future Energy (SAFE) also weighed in on several topics. SAFE President and CEO Robbie Diamond:

"The release of this proposal now enables the federal government and California to engage in the serious conversation that is needed between both parties. President Trump called for a deal when he convened the auto industry in May to discuss fuel economy standards—we look forward to sharing solutions and continuing a dialogue with all parties as this process moves forward."

"Oil prices are at the highest point since 2014 thanks to the continued market manipulation of OPEC and rising geopolitical risk. Fuel economy standards, coupled with domestic production, are one of the best policies available to maintain momentum on reducing our oil dependence—these rules improve our national security, unleash innovation, save consumers money and help insulate our economy from oil price volatility."

"The U.S. Department of Transportation (DOT) and the Environmental Protection Agency (EPA) have a unique opportunity to modernize the fuel economy standards by incorporating new technologies that create a win-win situation

for all stakeholders. A long, litigious road is the worst possible outcome for the auto industry and its consumers, the administration and our national security."

Diamond also offered specific additional on-the-record comment about the NPRM language on several topics"

On safety argument:
"The federal government's own data shows that when managed properly for vehicle footprints, lightweighting and fuel economy rules don't undermine highway safety. Saving lives while saving fuel can be accomplished simultaneously—especially while integrating new technologies such as advanced driver assist and other semi-autonomous features, which can result in 18-25 percent reductions in fuel demand system-wide, and save approximately 10,000 lives per year."

On vehicle prices:
"Thanks to the incredible innovation of the automotive industry, the impressive gains in fuel efficiency that have been achieved since 2012 have come at a price that consumers can afford—vehicle purchase prices have fallen by 3% since 2013 even as the total Consumer Price Index has risen by 8%. By contrast, housing prices have increased by 15% and food prices have increased by 7%. We need a regulatory framework that supports continued technological innovation that will strengthen the industry, boost our economy, and help consumers deal with the rising price of oil."

On assumption oil prices will stay low through 2050:
"Trying to predict oil prices is a fool's game. Just 6 months ago, we were told oil prices wouldn't rise above $75 per barrel in the near future. The only safe assumption about oil prices is that they are unpredictable, and subject to manipulation by foreign actors. Let's remember that every modern recession has been preceded or occurred concurrently to an oil price spike."

AFPM Also Weighs In: The American Fuel & Petrochemical Manufacturers (AFPM) President/CEO Chet Thompson:

"The return to national, unified emissions targets set at reasonable levels would be a positive step toward ensuring that the vehicle fleet contains affordable options with features that meet the needs of American drivers. Today, vehicles with internal combustion engines are cleaner and more efficient than ever, and fuel, petrochemical and automobile manufacturers are innovating continuously to help Americans get more out of their cars. We applaud the administration, EPA and NHTSA for offering this practical proposal and look forward to a final rule that reflects market realities, industry progress and consumer preferences."

ANOTHER INTERESTING SIDEBAR

Given today's fuel economy announcement, one issue that can improve fuel economy that states ACTUALLY have control over is how rough roads are and how they are maintained. MIT's Concrete Sustainability Hub has done significant research on Pavement-Vehicle Interactions – studies about how we can lower fuel consumption and vehicle emissions by taking a new approach to building and maintaining our roadways. This is significant for how states determine their transportation budgets and the kind road maintenance projects they might undertake.

This is a good add-in to any stories you or your colleagues may be considering on the States AGs response, the actual CAFE policy impacts and how you can deal with fuel economy/GHGs outside of the rule.

MIT experts posted a new White Board Video that explains how texture, roughness, and structural properties of the road all play a role in vehicle fuel efficiency and greenhouse gas emissions (it can be as high as 4%, which is pretty big when you think about how many drivers are out there).

In addition to Holmstead, my colleagues Scott Segal and Anna Burhop are also digging into the draft rule so please call/email with questions.

Frank Maisano

Ex. 6

FRANK MAISANO
Senior Principal
Ext. 5864
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 7/30/2018 5:42:58 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: Jul 30 PRG Energy Update: Wheeler Testifies, Sens: No RFS Reallocation, HVACR Cos Ask SCOTUS to Take HFC Case

Friends,

Starting today with sports since August is close and over the weekend, Geraint Thomas survived the Pyrenees to win his first Tour de France title, concluding his transformation from a support rider into a champion of cycling's biggest race. The Welsh rider with Team Sky won over Tom Dumoulin and teammate/defending champ Chris Froome. Also, former Tiger greats Alan Trammell and Jack Morris were both inducted into Baseball's Hall of Fame in Cooperstown alongside Chipper Jones, Jim Thome, Vlad Guerrero and Trevor Hoffman.

But August really means that Fall Sports are right around the corner. NFL training camps are underway with the Hall of Fame game Thursday and HoF induction (Saturday's induction class includes Bobby Beathard, linebacker Robert Brazile, safety Brian Dawkins, guard Jerry Kramer, linebacker Ray Lewis, wide receiver Randy Moss, wide receiver Terrell Owens, and linebacker Brian Urlacher); NCAA College Football kickoffs Saturday August 25th; Hannah reports for Junior year at Wellesley (WOW, already) for field hockey on August 16th and my first college FH game is at Syracuse that weekend. Here in DC, the Citi Open – DC's long-standing professional tennis tour stop at the Rock Creek Park Tennis Center – is underway and runs to Sunday. Players include Andy Murray, world #3 Alexander Zverev, #5 Kevin Anderson (who just made a great Wimbledon run), #9 John Isner and many more.

Well, we have kind of made it to August recess. With the House out until Labor Day, the big show is Wednesday in the Senate at the Environment Committee where Andy Wheeler heads to testify for the first time since being named Acting Administrator. Before the Wheeler show, the Committee will vote on CEQ nominee Mary Neumayr (and others). And most think – after some speculation last week – that the fuel economy Phase II standards will be announced sometime this week. Our friends at the *NYT* detailed a draft of the plan on Friday. As well, my friend Bridget Bartol (bbartol@secureenergy.org) at SAFE can also help you with the inside details. And with the fuel economy debate seeing heightened importance, MIT experts have a new White Board Video that explains how texture, roughness, and structural properties of the road all play a role in vehicle fuel efficiency and greenhouse gas emissions (it can be as high as 4%, which is pretty big when you think about how many drivers are out there). 17 State AGs also made a similar request.

The other interesting thing that happened Friday was the bipartisan group of 21 Senators that told EPA Administrator Andy Wheeler that they are strongly opposed any proposal to reallocate RFS compliance obligations from exempted small refineries to other refiners and importers. The senators wrote that "regardless of one's views on the merits of SRE decisions, there is little doubt that reallocating obligations would only compound the problems with the RFS and are illegal." Pretty clear.

Also Friday, Five major HVACR companies (**Lennox, Carrier, Nortek, Rheem & Ingersoll Rand**) are asking the Supreme Court to review the lower court decision that blocked EPA implementation of HFC reductions using its SNAP program, saying the decision creates a regulatory mess that EPA has been unable to fix almost a year after the decision was handed down. (More below or in link)

Finally, our Bracewell PRG podcast – *The Lobby Shop* – is now on social media. It is a regular mix of politics, policy and fun. Please follow it on Twitter at @TheLobbyShopPod and like it on Facebook at @lobbyshop to get all the details and regular updates. It will be well worth the follow.

No updates over the next few weeks unless necessary. (Maybe updates on the Incubus or Godsmack shows we are attending). Call with questions…Best,

Frank Maisano
Ex. 6
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FRANKLY SPOKEN

"I have worked in the HVAC&R industry for 15 years and have seen many changes to our industry. I support the Kigali Amendment and I stand with President Trump on holding China accountable and creating good paying jobs right here in the United States of America. Our country is currently in desperate need of skilled labor and the Kigali Amendment will help to grow those skilled labor needs right here in the United States."

Jason Lacey, Executive Vice President, Local 4501, Communications Workers of America (CWA), Columbus, Ohio

ON THE POD

Bracewell Podcasts Looks at Trade, New EPA Head – The latest episode of the Bracewell Podcast, *The Lobby Shop* is now live on Stitcher, iTunes, SoundCloud, and Google Play Music. This week, we're joined by Scott Lincicome, trade attorney and adjunct professor at The Cato Institute and Duke Law. We cover Scott's viral t-shirt design, the latest in retaliatory tariff news, and many other updates in the global Trade War.

GTM Energy Gang Podcast: A Conversation With Vox's Roberts – On this week's Energy Gang, our friend Stephen Lacey holds a wide-ranging conversation with Vox's David Roberts. Roberts is known for his deep explainers and strong opinions and they discuss some of the most pressing energy/environment topics, including carbon taxes, nuclear bail outs, renewables and politics.

FUN OPINIONS

MIT Whiteboard Report: Pavement Can Impact Emissions – With the fuel economy debate seeing heightened importance, we highlight that road quality impacts vehicle fuel efficiency and greenhouse gas emissions. In a new White Board Video, MIT CSHub researcher Dr. Mehdi Akbarian explains how texture, roughness, and structural properties of the road all play a role. See it here.

EIA: Energy Expenditures Lowest Since 1970 – EIA says U.S. energy expenditures declined for the 5th consecutive year, reaching $1.0 trillion in 2016, a 9% decrease in real terms from 2015. Adjusted for inflation, total energy expenditures in 2016 were the lowest since 2003. Expressed as a percent of gross domestic product (GDP), total energy expenditures were 5.6% in 2016, the lowest since at least 1970. See more info and graphs here.

IN THE NEWS

Major HVACR Companies Ask SCOTUS to Take HFC Case – Five major HVACR companies are asking the Supreme Court to review the lower court decision that blocked EPA implementation of HFC reductions using its SNAP program, saying the decision creates a regulatory mess that EPA has been unable to fix almost a year after the decision was handed down. Unless the Supreme Court steps in, the result will be an extended period of regulatory uncertainty, almost certainly including years of litigation challenging the new rule that EPA ultimately develops to implement a confusing D.C. Circuit decision that was wrongly decided. The companies (Rheem, Lennox, Ingersoll Rand, Carrier and Nortek) are the leading U.S. manufacturers of HVACR equipment. Together with another manufacturer filing its own amicus brief, they account for well over 75% of the residential and commercial air conditioning and commercial refrigeration equipment that is manufactured and sold in North America.

21 Senators Weigh in Against Illegal Reallocation of Small Refiner Waiver – A bipartisan group of Senators told EPA Administrator Andy Wheeler that they are strongly opposed any proposal to reallocate the Renewable Fuels Standard (RFS) compliance obligations from exempted small refineries to other non-exempted transportation fuel refiners and importers. The senator s wrote that "regardless of one's views on the merits of SRE decisions, there is little doubt that

reallocating obligations would only compound the problems with the RFS. Simply put, a retroactive reallocation of small refinery obligations onto non-exempt obligated parties is illegal and inconsistent with the objectives of sound energy policy." The 20 signers include Sens. Inhofe, Barrasso, Boozman, Capito, Cassidy, Cotton, Cruz, Daines, Enzi, Flake, Hatch, Hyde-Smith, Isakson, Kennedy, Lankford, Lee, Manchin, Perdue, Risch, Toomey and Wicker. The Fueling American Jobs Coalition says "reallocating exemptions simply amounts to a penalty on U.S. refineries that may not qualify for a small refiner exemption, but otherwise comply with the RFS. Reallocations would inject even greater uncertainty into the already volatile and opaque market for tradeable ethanol credits, threatening a return to surging prices for these credits that are would negatively impacting refineries across the U.S. and jeopardizing good-paying industrial jobs that sustain hard-working American communities."

ClearPath Study: Aggressive Carbon Capture RD&D Can Spur Massive Economic Benefits – ClearPath Foundation and Carbon Utilization Research Council released a new study that says accelerating research, development and deployment of advanced power cycles and carbon capture technologies for use in fossil power generation would dramatically drive domestic oil production, jobs and provide a significant boost to GDP while trapping significant amounts of heat-trapping carbon emissions. The International Brotherhood of Boilermakers, Iron Ship, Builders, Blacksmiths, Forgers & Helpers; the International Brotherhood of Electrical, Workers and the United Mine Workers of America also contributed to the effort. Under the scenarios evaluated, the study's modeling provided by NERA Economic Consulting and Advanced Resources International forecasts market-driven deployment of up to 87 gigawatts with carbon capture technologies over the next two decades. Some of these include a 40% increase in domestic coal production for power from 2020 to 2040; 100 million to 923 million barrels of additional domestic oil produced annually by 2040; 270,000 to 780,000 new jobs and an increase of $70 billion to $190 billion in annual gross domestic product (GDP) associated with enhanced oil recovery field operations by 2040; Aggressive RD&D reduced the national retail cost of electricity 1.1% to 2.0% by 2040, which on its own is forecasted to increase annual GDP by an additional $30 billion to 55 billion and create 210,000 to 380,000 more jobs over a baseline RD&D case.

Chamber, NAM, Industry Groups Push for HFC Reduction – The Let America Lead coalition formed last week to work with conservative leaders at the local, state and national level, manufacturers and businesses, and working Americans across the country to demonstrate to President Trump why support for the Kigali Amendment is a win for American workers and urge him to send it to the U.S. Senate for ratification. The announcement follows a recent series of public statements of support for Kigali amendment ratification. In May, the Air-Conditioning, Heating, and Refrigeration Institute and the Alliance for Responsible Atmospheric Policy released a new economic study conducted by Inforum and JBS Consulting. The study demonstrates the job creation and economic growth benefits of ratification, including the creation of 33,000 manufacturing jobs and 117,000 indirect jobs by 2027. It will also increase manufacturing exports by $5 billion while reducing imports by nearly $7 billion to improve the balance of trade. In June, 13 Republican Senators sent a joint letter of support to President Trump urging him to send the Amendment to the Senate for its advice and consent. They wrote: "The Kigali Amendment will protect American workers, grow our economy, and improve our trade balance all while encouraging further innovation to strengthen America's leadership role." Also in June, three leading conservative groups, Americans for Tax Reform, FreedomWorks and the American Council for Capital Foundation stated their support for the amendment, writing to the president that, "This agreement has our support because it will ensure that U.S. manufacturers are able to thrive in the global economy and create more wealth and jobs in America." Let America Lead is proud to announce that the National Association of Manufacturers, the U.S. Chamber of Commerce, the American Chemistry Council and the American Council for Capital Formation are founding members of the coalition, and looks forward to announcing additional members.

Cooper Nominated to Energy GC – Former House Resources staff director and energy specialist Bill Cooper has been nominated to be General Counsel of the Department of Energy.

Solar Report: 42 States, DC Took Action on Solar Policy During Q2 – The N.C. Clean Energy Technology Center (NCCETC) released its Q2 2018 edition of The 50 States of Solar. The quarterly series provides insights on state regulatory and legislative discussions and actions on distributed solar policy, with a focus on net metering, distributed solar valuation, community solar, residential fixed charges, residential demand and solar charges, third-party ownership, and utility-led rooftop solar programs. The report finds that 42 states and the District of Columbia took some type of distributed solar policy action during Q2 2018 (see figure below), with the greatest number of actions relating to residential fixed charge

or minimum bill increases, net metering policies and community solar policies. A total of 148 distributed solar policy actions were taken during Q2 2018, with the greatest number of actions taken in California, Arizona, New York, Virginia and Massachusetts.

ON THE SCHEDULE THIS WEEK

August Congressional Recess – While the Senate will remain in session, the House will not return until after Labor Day.

Women in Nuclear Conference Starts -- The U.S. Women in Nuclear National Conference is underway through Wednesday in Huntsville, Alabama. The 2018 national conference is sponsored by the Tennessee Valley Authority and gathers individuals working in any aspect of nuclear energy, science and technology in the United States. The conference provides perspectives from national authorities on key issues and professional development opportunities to grow your career.

Conference to Look at Sustainability – The National Association for Environmental Management holds a sustainability management conference today through Wednesday at the Omni in Providence, Rhode Island. The conference offers insights to improve company performance while more effectively managing sustainability data at both ends of the supply chain.

Conference Looks a Renewable, Storage – EUCI hosts a conference today and tomorrow in Philadelphia on the interconnection process for renewables and storage. The conference will discuss the process for interconnection utilized by different entities across the country, identify technical requirements from start to finish, evaluate potential regulatory and policy directions, and evaluate how best to update the interconnection process to accommodate the evolving electricity grid.

Perry, Pompeo to Address Chamber Indo-Pacific Business Forum – The U.S. Chamber of Commerce hosts an Indo-Pacific Business Forum today. The event will , feature Secretary of State Mike Pompeo, Energy Secretary Rick Perry, Commerce Secretary Wilbur Ross and many more.

FERC to Hold Grid Reliability Conference – The Federal Energy Regulatory Commission will hold a day-long meeting tomorrow to discuss grid reliability policies and issues. Topics include regulatory priorities for the North American Electric Reliability Corporation; challenges arising in the Western Interconnection; an update on the cooperation agreement between NERC and Mexico; how grid resiliency can be tracked with data; and how industry and regulators need to respond to higher supplies of distributed generation and energy storage.

EESI Forum to Look at Energy Efficient Housing – The Energy Efficiency for All and the Environmental and Energy Study Institute host a breakfast briefing tomorrow at 9:00 a.m. on Federal programs for energy and housing, focusing on low-income families. Speakers include Ellen Lurie Hoffman of the National Housing Trust, ACEEE's Ariel Drehobl, Carmen Bingham of Virginia Poverty Law Center, Action Housing's Sarah Ralich and former DOE Weatherization Assistance Program Director Dave Rinebolt.

Forum to Look at Natural Disasters, Climate – Results for Development (R4D) holds a forum tomorrow at 11:00 a.m. on climate change and natural disasters. In this discussion, Vinod Thomas, former Director General of Independent Evaluation at the World Bank and at Asian Development Bank, will present findings from his recently published book on this subject. Masood Ahmed, President of the Center for Global Development and Annette Dixon, Vice President for Human Development at the World Bank Group, will respond with comments.

Forum to Look at Russian Energy Sanction Impacts – Tomorrow at noon, the Atlantic Council holds for a conversation about proposed Russia sanctions legislation. The ongoing discussions within the US Congress provide an opportunity to take stock of existing sanctions policy and the proposed legislation and assess the implications for oil markets, energy projects, and companies. The expert panel will discuss proposed legislation such as the DETER (Defending Elections from Threats by Establishing Redlines) and ESCAPE (Energy Security Cooperation with Allied Partners in Europe) Acts. Speakers include former State official David Goldwyn and Other Council experts.

ELI to Host ESA Webinar – Tomorrow at 2:00 p.m., the Environmental Law Institute hosts a webinar on proposed USFWS Endangered Species Act regulations. This panel will provide an advanced look into potential benefits and repercussions of utilizing the ESA under this regulatory proposal. Each panelist will highlight his or her top areas of interest in the proposals and describe improvements that could be made in the process to finalize the regulations.

Senate Environment to Host Wheeler – The Senate Environment Committee will host new acting EPA head Andy Wheeler on Wednesday August 1st at 10:30 a.m. It will also hold a Business Meeting to vote on CEQ head Mary Neumayr and other nominations immediately prior at 9:45 a.m.

WCEE Monthly Happy Hour – The Women's Council on Energy and Environment hosts its August Happy Hour on Wednesday, August 1st at 5:30 p.m. at MASA 14 (1825 14th Street, NW)

TX Enviro Superconference Set – The 30th Texas Environmental Superconference is being held on Thursday and Friday in Austin at the Four Seasons Hotel. This year's conference will have speakers from across the spectrum including Andy Wheeler fresh off his Senate testimony, Air office head Bill Wehrum and a number of others from EPA leadership. Also on the agenda are TCEQ's Brian Shaw, my Bracewell colleague Tim Wilkins and our friends Allison Wood of Hunton and Jon Cruden of Beveridge. The Superconference will cover an array of cutting-edge topics with timely presentations from federal, state and local governmental officials and leading private practitioners. A copy of the current draft program can be found here.

Tesla Book Discussion Set – Politics and Prose Bookstore hosts Author Richard Munson on Wednesday at 7:00 p.m. to discuss and sign copies of "Tesla: Inventor of the Modern". Drawing on his new book, Richard Munson shines a light on the man behind the legend and how his unique way of doing things meant some of his most advanced ideas would go unrecognized for decades. Tesla felt inventing required the linking of science and the humanities. Unlike his better-known rival, Thomas Edison, he was not motivated by profit and preferred working in isolation.

Science-Policy Discussion Set – On Thursday, August 2nd, the Women's Council on Energy and the Environment hosts a conversation at Honeywell at Noon featuring two scientists working to shape policy at the federal level. They will discuss the role of science in shaping public policy and offer solutions for a more collaborative relationship between the scientific and policy realms.

IN THE FUTURE

New Rule for New Power Plants Likely in August – EPA plans to send revised carbon dioxide emissions standards for new fossil fuel-fired electric generators to OMB in August. The budget/reg agency is already reviewing the new version of the Clean Power Plan. The new source performance standards, established under the Obama administration in 2015, currently require the installation of prohibitively expensive carbon capture systems on new coal plants to meet the emissions limits, effectively banning the generators. The Trump administration has sought to roll back a number of environmental and energy rules in a bid to revive the nation's ailing coal industry.

Forum to Look at Innovative CO2 Tech – Next Tuesday, August 7th at 1:00 p.m., the U.S. Energy Association hosts a discussion of Global Thermostat's patented breakthrough technology removes CO2 from ambient air or other sources utilizing readily available, low-cost process heat. That CO2 is then used profitably in multiple industrial processes, meeting the needs of a > $1 Trillion annual market. With its great flexibility and scalable implementations, GT plants can be of any size, and can standalone, or be integrated with: legacy power plants; renewable energy plants; and manufacturing facilities. This briefing will highlight this revolutionary technology, with a discussion on viable CO2 markets as well as the status of the two existing plants in Silicon Valley, and a third commercial plant on the way at Huntsville, Alabama.

Forum to Look at Climate Adaption Policy – On Thursday, August 9th at 8:30 a.m. at the ASU Barrett & O'Connor Washington Center, the Consortium for Science, Policy, and Outcomes holds a forum to Look at how to best adapt to a warmer future. Bruce Guile, president and cofounder of the New Advisory Group, and Raj Pandya, the founding director of the Thriving Earth Exchange at the American Geophysical Union, will address exactly that question to mark the

publication of the Summer 2018 Issues in Science and Technology. They will discuss "Adapting to Global Warming: Four National Priorities," their clear-eyed assessment of the policy steps needed to use human ingenuity to confront climate change.

EPRI Hosts Electrification Conference – The Electric Power Research Institute (EPRI) hosts the inaugural Electrification 2018 International Conference and Exposition on August 20th to 23rd in Long Beach CA. Hosted by the and sponsored by more than 20 major utilities and organizations, this annual conference will bring together utility leaders, regulators, researchers, academia, vendors, economic development groups, and energy users from diverse manufacturing, transportation, industrial, and agriculture sectors around the globe. SoCo CEO Tom Fanning is among the many speakers.

Oil/Gas Conference Set for Denver – EnerCom's Oil & Gas Conference will be held on August 20-23 at The Westin Denver Downtown. The conference offers investment professionals the opportunity to listen to the world's key senior management teams present their growth plans. Our friends at Wolfe Research will host a full day of management meetings with execs on Tuesday August 21st at the Palm Restaurant.

FRANK MAISANO
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Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 7/16/2018 5:23:52 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: July 16 PRG Energy Update: CEQ Hearing, RFS in Ann Arbor

Friends,

I hope you had a chance to catch either/both the World Cup Final or Wimbledon. The Friday semifinal between Jason Isner and Kevin Anderson was epic. And then the Djokovic-Nadal Semi was just as crazy. And Anderson knocked out Federer in similar fashion ibn the quarters. In the end, all the extra play couldn't get him past Djokovic who wins his 4th Wimbledon title. On the Women's side, Serena's return to tennis' top tier is slightly delayed because Angelique Kerber straight-setted her 6-3, 6-3. And France capped an exciting FIFA World Cup by dominating Croatia, 4-2 in yesterday's final game.

It's All-Star week in DC with the Home Run Contest today and the game tomorrow. There are lots of great Facebook/Instagram posts of people enjoying the MLB Fan Fest Weekend. Check out WTOP's list of events, road closures and deals, plus everything you need to know about the game itself. Read more.

This will be a busy week on Capitol Hill. In addition to real work on energy Issues, the House Rules Committee will meet tomorrow move consideration of a resolution arguing a carbon tax would be "detrimental" to the U.S. economy and "not in the best interest" of the country. On the hearing scene, House Science Energy and Enviro panels are hosting a joint hearing tomorrow on CCS Techs that will feature a discussion of the USA IT Act. There is also a NSR reform hearing to discuss legislation. On Wednesday, House Energy looks at energy storage and Mary Neumayr heads to Senate Environment on Thursday while Senate Energy looks at the proposed Energy and Interior reorganizations. House Transpo also looks at hurricane response, resilience and preparedness so remember – if you are covering – our experts at MIT are happy to answer many of your key concerns about it.

Finally, on Wednesday in Ann Arbor, EPA holds a hearing on the 2019 RVOs for ethanol and biofuels. Expect of full court press from both the ethanol activists and oil interests that think the program is in major need of reform. We will be on guard so let me know if you need any insight. We will have statements starting tomorrow. Call with questions…Best,

Frank Maisano
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FRANKLY SPOKEN

"Both of these bills address critical lapses in the ability of the U.S. to stay on pace with China and Russia in the potentially trillion-dollar global advanced nuclear energy market."

ClearPath executive Director Rich Powell commenting on two bipartisan bills passed in the House Energy Committee that would spur advanced nuclear development.

ON THE POD

Bracewell Podcasts Looks at Trade, New EPA Head – The latest episode of the Bracewell Podcast, The Lobby Shop is now live on Stitcher, iTunes, SoundCloud, and Google Play Music. We discuss the on-air discovery of Justice Kennedy's retirement from SCOTUS in episode 55 and what has happened in the time since. We also dive into the way the President talks about tariff news to a lay-person audience vs. how that message is interpreted by the industries impacted by tariffs. Our special guests this week are Scott Segal and Anna Burhop, PRG team members who have worked with and for the new Acting Administrator of the EPA, Andrew Wheeler.

FUN OPINIONS

Adler Weighs In On Kavanaugh on Regs – Supreme Court watcher and former EPA official Jonathan Adler writes an op-ed in the *New York Times* that argues given President Trump's concerns about the federal administrative state, his nomination of Judge Brett Kavanaugh to the Supreme Court is entirely fitting. For years, Judge Kavanaugh has toiled in the vineyards of administrative law, writing highly influential opinions on regulatory matters and demonstrating a willingness to discipline federal agencies when they go astray. For the past 12 years, Judge Kavanaugh has sat on the United States Court of Appeals for the District of Columbia Circuit. That court (where I once clerked) hears many legal challenges to major federal regulations. As a consequence, it is the arguably the most influential court on matters of administrative law, and judges there are fed a steady diet of these often complex and demanding cases. Of Judge Kavanaugh's nearly 300 opinions as a federal judge, over one-third concern administrative law — and they are quite revealing.

Climate Polls Show Both Parties Doubt Action – According to our friend Jackie Toth at Morning Energy writes despite differing over the impacts of climate change, Democrats and Republicans are in agreement on one thing: They don't place much trust in governments to tackle the issue. According to a new Bloomberg Global Business Forum survey conducted by Morning Consult, 63 percent of Democrats and 59 percent of Republicans say they have little or no trust in governments to combat climate change. See the full breakdown here.

IN THE NEWS

ClearPath Endorses Upton – ClearPath Action Fund is endorsing Michigan Rep. Fred Upton for his re-election bid. They will begin running digital ads backing the Michigan Republican as part of a six-figure effort. CPA founder Jay Faison says Upton has an accomplished record of shepherding many bills hitting every facet of clean energy innovation.

House Energy Committee Advances Legislation to Spur Advanced Nuclear – The House Energy Committee advanced two bills that would spur deployment of advanced nuclear technologies. One bipartisan bill led by Reps. Bill Flores (R-Texas) and Jerry McNerney (D-Calif.) to direct DOE to establish a program supporting availability of high assay low enriched uranium (HA-LEU) via public-private partnerships to address regulatory and market challenges. The other, the bipartisan NUKE Act (H.R. 1320) from Reps. Adam Kinzinger (R-Ill.) and Mike Doyle (D-Pa.) , is a commonsense step to making further improvements at rightsizing NRC's workforce and budget. It does this by establishing reasonable deadlines for major applications and other efforts to streamline licensing, and authorizes studies to reconsider outdated regulations of the Atomic Energy Act. ClearPath Action advisor and former NRC Commissioner Jeffrey Merrifield co-authored a recent white paper sponsored by ClearPath and USNIC that urged lawmakers, policymakers and the NRC to take prompt steps to ensure adequate supply of HA-LEU or risk continued progress in deploying the next generation of U.S. nuclear power. Merrifield and URENCO USA President Melissa Mann testified in support of the House Committee measure on behalf of ClearPath and USNIC at a May 22 hearing.

Trump Consider SPR Release – The Trump administration is considering tapping the nation's Strategic Petroleum Reserve as a means of combating rising gas prices, with options under consideration including test sales of 5 million barrels or a release of as much as 30 million barrels, according to two people familiar with the matter. A release from the oil reserve closer to November could lower prices ahead of midterm elections, though analysts disagree on whether and how much a release would impact the market.

OPEC Letter Says it will Stop Monitoring Quotas – The Organization of the Petroleum Exporting Countries' (OPEC) Joint Ministerial Monitoring Committee will stop tracking countries' compliance with quotas following OPEC's June 23 deal to transition to a collective production cap, according to a recent letter to OPEC members. The individual country data has never been publicly disclosed, and the letter adds that the committee will still track and report on OPEC's compliance with the cap. Our friends at SAFE are monitoring closely and can help discuss the subject. Connect with Bridget Bartol ay 202-461-2361 or bbartol@secureenergy.org

ON THE SCHEDULE THIS WEEK

NAS to Hold Truck Fuel Economy Meeting – The National Academies of Science's Division on Engineering and Physical Sciences is hosting an event today in the afternoon assessing technologies for improving fuel economy of light-duty vehicles. Speakers include NHTSA, EPA DOE, Motor and Equipment Manufacturers Association and many others.

Forum to Look at Nuke Decommissioning – The Environmental and Energy Study Institute (EESI) holds a briefing today at 2:00 p.m. on the urgent need to safely decommission nuclear power plants, which are increasingly shutting down. Leading scientists, policy experts, NGO advocates, and local elected officials with experience of decommissioning will speak at the briefing. It will cover the impacts of decommissioning, current decommissioning options, waste storage vs. transport, thorny unsolved problems and best practices, financing and liability, a just transition for communities and workers, how communities and states can and can't weigh in on these issues, and how they should inform the fast-changing legislative and regulatory landscape. Speakers for this forum are Zion Illinois Mayor Al Hill (home of the decommissioned Zion Nuclear Power Station), former Department of Energy Senior Policy Advisor Robert Alvarez, NRDC's Geoffrey Fettus and Kevin Kamps, of Beyond Nuclear.

Forum to Look at Nuke Energy Trends – Today at 4:00 p.m., the Institute of World Politics hosts a lecture on the topic of "Energy Trends: Nuclear and Non-Nuclear" with Professor Henry D. Sokolski. With the Trump administration's proposed financial relief of the coal and nuclear industries in the name of national security, energy economics has re-emerged as a topic for national debate. So far, much of this discussion has been cast as a contest between market economics and national security.

Duke CEO, CARB Chair, Others Headline POLITICO Summit – POLITICO is hosting its second Pro Summit tomorrow at the Renaissance Hotel. The Pro Summit brings together Pro subscribers, expert reporters, key decision-makers, and others who are shaping the policy landscape for a full day of incisive conversations. Summit speakers include Rep. Joe Crowley, Duke CEO Lynn Good, FERC Chair Kevin McIntyre, Amy Myers Jaffe of the Council on Foreign Relations, Coal CEO Bob Murray, California Air Resources Board Chair Mary Nichols and many others. Duke Energy is the main event sponsor.

Senate Enviro Looks at ESA – The Senate Environment Committee holds a hearing tomorrow at 9:45 a.m. on the Endangered Species Act Amendments of 2018. The

House Science to Look at CCS – The House Science Committee panels on Energy and Environment are hosting a joint hearing tomorrow at 10:00 a.m. Witnesses for this hearing include Wyoming Infrastructure Authority executive director Jason Begger, Carbon Utilization Research Council executive director Shannon Angielski and LLNL senior scientist Roger Aines. With the USE IT Act moving forward in the Senate and the Fossil Energy Research & Development Act gaining support in the House, this hearing should provide an excellent opportunity to examine these and other vital policies that will help advance carbon capture technologies.

Forum to Look at Disaster Prep, Resilience – The Atlantic Council holds a discussion tomorrow at 10:00 a.m. focusing on disaster preparedness. FEMA Deputy Administrator for Resilience Dr. Daniel Kaniewski discusses FEMA's effort to engage communities and individuals in preparing for and bouncing back from catastrophes.

Senate Energy Looks at Critical Minerals – The Senate Energy Committee holds a hearing tomorrow at 10:00 a.m. on the Interior Department's final list of critical minerals. Witnesses will include USGS National Minerals Information Center Director Dr. Steven Fortier, Dr. Roderick Eggert of the Colorado School of Mines, Greg Gregory of Materion Natural Resources, Aaron Mintzes of Earthworks, Laurel Sayer of Midas Gold Idaho, and our friend Jim Sims of NioCorp.

EPA to Hold RVO Hearing – EPA is announcing a public hearing in Ypsilanti, MI on Wednesday at the Ann Arbor Marriott Ypsilanti to look at the proposed rule "Renewable Fuel Standard Program Standards for 2019 and Biomass-Based Diesel Volume for 2020.

House Energy Looks at Storage – The House Energy and Commerce Energy Subcommittee holds a hearing on Wednesday at 9:00 a.m. looking at the role of energy storage in the nation's electricity system.

House Transpo Looks at Disaster Recovery, Prep – The House Transportation Economic Development, Public Buildings and Emergency Management Subcommittee holds a hearing on Wednesday at 10:00 a.m. on recovering from 2017 disasters and Preparing for the 2018 hurricane season.

Forum to Look at Digitalization in Energy – The CSIS Energy & National Security Program and the Technology Policy Program host a discussion on Wednesday at 10:30 a.m. featuring Timothy Lieuwen (Georgia Institute of Technology) and Barbara Humpton (Siemens USA) about the new services and opportunities created for companies and regions as the energy industry continues its trend toward digitalization. The session will begin with a presentation by Dr. Lieuwen, who will explain the findings of Georgia Tech's recent study, Industrial Data in Power Generation. The study is the first phase of an ongoing study of industrial data and regional economic development. Following the presentation, Barbara Humpton will join Dr. Lieuwen to provide perspective on the ecosystem emerging around the digitalization of the energy industry, examining digitalization's potential to simultaneously help increase reliability, decrease cost, and reduce environmental impacts. Speakers will also explain the behavioral standards for those firms handling data from the industrial sector, the role policy plays in the regulation of data transparency/ownership, and which actors have the most influence to establish and define values in this emerging sector.

Forum to Look at Iran Oil Issues – The Atlantic Council hosts a panel discussion on Wednesday at 1:00 p.m. focused on a goal of drastically reduce Iran's oil exports is realistic and the impact the US campaign is having on global production and prices as well as on Iran. This event is jointly sponsored by the South Asia Center's Future of Iran Initiative, the Global Energy Center and the Global Business & Economics Center.

Forum Looks European Energy Security – The Atlantic Council holds a discussion on Thursday at 9:00 a.m. looking at Finnish perspectives on energy security in Europe. Finland's Minister of the Environment, Energy, and Housing, Kimmo Tiilikainen. Europe has been at the forefront of people's minds lately, will discuss the NATO Summit, Nord Stream 2, and the upcoming meeting between Donald Trump and Vladimir Putin in Helsinki dominating the news cycle. In his remarks and a moderated discussion with Atlantic Council Global Energy Center's David Livingston, Mr. Tiilikainen will touch on topics such as how renewables factor into the conversation about energy security, the role of gas and nuclear power, relations with Russia and Nord Stream 2, and activities in the Arctic. He will also discuss the agenda for US-European cooperation.

Senate Enviro Hosts CEQ Nominee – The Senate Environment Committee holds a hearing Thursday at 10:00 a.m. on nomination of Mary Neumayr to be a head of the Council on Environmental Quality.

Senate Energy Looks at Energy, Interior Re-Org – The Senate Energy Committee will hold a hearing on Thursday at 10:00 a.m. to conduct oversight of the administration's proposals to reorganize and modernize the Department of Energy and the Department of the Interior.

Forum to Look at China Low Carbon Issues – The Wilson Center's China Environmental Forum holds a panel discussion Thursday at 1:00 p.m. looking at tools that could help guide urban low-carbon initiatives and other sustainability actions. Hu Min from the Beijing-based energy policy incubator Innovative Green Development Program (iGDP) will introduce the recently launched China's Low-carbon and Green Index for Cities (LOGIC). This index, created together with LBNL and Energy Foundation China, will track low-carbon and green development in 115 Chinese cities to inform future green development models. Roger Platt will talk about US-Green Building Council's LEED for Cities rating system that empowers global cities and communities to assess, verify, and improve urban sustainability performance and quality of life, including low-carbon developments. A speaker from ACEEE will discuss how their city energy efficiency scorecard has spurred building, utility, and transportation policies to decrease energy use in major U.S. cities.

Health in Buildings Forum Set – The Department of Environment at the National Institutes of Health will gather government leaders and experts on Friday across the health and buildings sectors to discuss new developments in research about health in buildings in our HiBR 2018, Health in Building for Today and Tomorrow conference. Speakers and attendees will examine the many developments in this sector through lively conversations about buildings including innovation, energy, policies, building practices, community solutions and emerging technologies.

IN THE FUTURE

CSIS To Host EIA Outlook – The CSIS Energy & National Security Program is hosting EIA Administrator Linda Capuano on Tuesday July 24th for a presentation and discussion of the EIA's International Energy Outlook 2018 (IEO2018). The IEO2018 builds on the IEO2017 reference case, which presented long-term projections of world energy demand by region and primary energy source; electricity generation by energy source; and energy-related carbon dioxide emissions. In particular, this year's outlook offers a macroeconomic perspective regarding the uncertainty in economic growth in India, China, and Africa.

USEA To Discuss Africa Energy – The US Energy Assn will host a forum on Tuesday July 24th at 10:00 a.m. discuss specific generation and transmission projects currently underway and in the pipeline for development within the region. Please join us in a discussion regarding investment opportunities in various hydropower and wind power projects, as well as a transmission line and interconnection project. N Representatives of West African Power Pool (WAPP) and the Economic Community of West African States (ECOWAS) Regional Electricity Regulatory Authority (ERERA) will speak.

Forum to Look at Taiwan Energy – The Global Taiwan Institute and co-sponsor, The Sigur Center for Asian Studies at George Washington University, will hold a forum on Tuesday July 24th at 12:30 p.m. to explore the future of Taiwan's energy. This event is the third installment of the Civil Society and Democracy Series, which is partially funded by the Taiwan Foundation for Democracy. The panelists will discuss Taiwan's policy and opportunities in sustainable energy, how it will impact the Asia-Pacific region, and what it means for US interests.

Forum to Look at NET CCS Plant – The US Energy Assn Hosts a discussion on Thursday, July 26th at 10:00 a.m. to look at NET Power's 50-MW demonstration emissions-free natural gas power plant. NET Power is commercializing a novel power system that produces emissions-free electricity from natural gas for the same cost as conventional power plants. The system, which uses the supercritical CO2 Allam Cycle, is currently being demonstrated at a 50MWth power plant in La Porte, Texas, that is now in operation. A review of the technology will be provided, and an update will be given on the status of demonstration plant testing and operations, as well as commercial facility development.

Grid Forum Set for Iowa – The TransGrid-X 2030 Symposium will be held on July 26th in Ames, Iowa. The event will showcase the long-awaited NREL Seam Study—a concept featuring bi-directional high-voltage transmission; 600 GW of wind, solar and gas-fired generation; and a trillion-dollar economic event, if fully built. Our friends Rob Gramlich and former FERC Chair Jim Hoecker will be among the speakers.

EPRI Hosts Electrification Conference – The Electric Power Research Institute (EPRI) hosts the inaugural Electrification 2018 International Conference and Exposition on August 20th to 23rd in Long Beach CA. Hosted by the and sponsored by more than 20 major utilities and organizations, this annual conference will bring together utility leaders, regulators, researchers, academia, vendors, economic development groups, and energy users from diverse manufacturing, transportation, industrial, and agriculture sectors around the globe. SoCo CEO Tom Fanning is among the many speakers.

FRANK MAISANO
Senior Principal
Ex. 6
Policy Resolution Group

Delivery Report

From: Microsoft Outlook [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=MICROSOFTEXCHANGE329E71EC88AE4615BBC36AB6CE41109EF7088051]
Sent: 7/25/2018 12:35:00 PM
To: Mr. Aaron E. Ringel [ringel.aaron2@epa.gov]
Subject: Undeliverable: RE: with Wilcox out
Attachments: RE: with Wilcox out

Your message
To: Maisano, Frank; Mr. Aaron E. Ringel
Subject: RE: with Wilcox out
Sent: 7/25/2018 12:35:00 PM

Your message to ringel.aaron2@epa.gov couldn't be delivered.

ringel.aaron2 wasn't found at epa.gov.

ringel.aaron	**Office 365**	**ringel.aaron2**
Action Required		Recipient
Unknown To address		

How to Fix It

The address may be misspelled or may not exist. Try one or more of the following:

- Send the message again following these steps: In Outlook, open this non-delivery report (NDR) and choose **Send Again** from the Report ribbon. In Outlook on the web, select this NDR, then select the link "**To send this message again, click here.**" Then delete and retype the entire recipient address. If prompted with an Auto-Complete List suggestion don't select it. After typing the complete address, click **Send**.
- Contact the recipient (by phone, for example) to check that the address exists and is correct.
- The recipient may have set up email forwarding to an incorrect address. Ask them to check that any forwarding they've set up is working correctly.
- Clear the recipient Auto-Complete List in Outlook or Outlook on the web by following the steps in this article: Fix email delivery issues for error code 5.1.10 in Office 365, and then send the message again. Retype the entire recipient address before selecting **Send**.

If the problem continues, forward this message to your email admin. If you're an email admin, refer to the **More Info for Email Admins** section below.

Was this helpful? Send feedback to Microsoft.

More Info for Email Admins

Status code: 550 5.1.10

This error occurs because the sender sent a message to an email address hosted by Office 365 but the address is incorrect or doesn't exist at the destination domain. The error is reported by the recipient domain's email server, but most often it must be fixed by the person who sent the message. If the steps in the **How to Fix It** section above don't fix the problem, and you're the email admin for the recipient, try one or more of the following:

The email address exists and is correct - Confirm that the recipient address exists, is correct, and is accepting messages.

Synchronize your directories - If you have a hybrid environment and are using directory synchronization make sure the recipient's email address is synced correctly in both Office 365 and in your on-premises directory.

Errant forwarding rule - Check for forwarding rules that aren't behaving as expected. Forwarding can be set up by an admin via mail flow rules or mailbox forwarding address settings, or by the recipient via the Inbox Rules feature.

Recipient has a valid license - Make sure the recipient has an Office 365 license assigned to them. The recipient's email admin can use the Office 365 admin center to assign a license (Users > Active Users > select the recipient > Assigned License > Edit).

Mail flow settings and MX records are not correct - Misconfigured mail flow or MX record settings can cause this error. Check your Office 365 mail flow settings to make sure your domain and any mail flow connectors are set up correctly. Also, work with your domain registrar to make sure the MX records for your domain are configured correctly.

For more information and additional tips to fix this issue, see Fix email delivery issues for error code 5.1.10 in Office 365.

Original Message Details

Created Date:	7/25/2018 12:35:00 PM
Sender Address:	ringel.aaron@epa.gov
Recipient Address:	ringel.aaron2@epa.gov
Subject:	RE: with Wilcox out

Error Details

Reported error:	*550 5.1.10 RESOLVER.ADR.RecipientNotFound; Recipient ringel.aaron2@epa.gov not found by SMTP address lookup*
DSN generated by:	BY2PR09MB1062.namprd09.prod.outlook.com

Message Hops

HOP	TIME (UTC)	FROM	TO	WITH
1	7/25/2018 12:35:00 PM	BY2PR09MB1061.namprd09.prod.outlook.com	BY2PR09MB1061.namprd09.prod.outlook.com	mapi

2	7/25/2018 12:35:00 PM	BY2PR09MB1061.namprd09.prod.outlook.com	BY2PR09MB1062.namprd09.prod.outlook.com	Microsoft SMTP Server cipher=TLS_ECDHE_RSA

Original Message Headers


```
Authentication-Results: bracewell.com; dkim=none (message not signed)
 header.d=none;bracewell.com; dmarc=none action=none header.from=epa.gov;
Received: from BY2PR09MB1061.namprd09.prod.outlook.com (10.166.115.155) by
 BY2PR09MB1062.namprd09.prod.outlook.com (10.166.115.156) with Microsoft SMTP
 Server (version=TLS1_2, cipher=TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384) id
 15.20.995.16; Wed, 25 Jul 2018 12:35:00 +0000
Received: from BY2PR09MB1061.namprd09.prod.outlook.com
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 12:35:00 +0000
Content-Type: application/ms-tnef; name="winmail.dat"
Content-Transfer-Encoding: binary
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
To: "Maisano, Frank" <frank.maisano@bracewell.com>, "Mr. Aaron E. Ringel"
        <ringel.aaron2@epa.gov>
Subject: RE: with Wilcox out
Thread-Topic: with Wilcox out
Thread-Index: AQHUI5e9hSWEPg2bBUe8m9v+EM/PfaSf4JIw
Date: Wed, 25 Jul 2018 12:35:00 +0000
Message-ID:
<BY2PR09MB10612F4E923F902D471CFD9B98540@BY2PR09MB1061.namprd09.prod.outlook.com>
References: <2c810b4b48ba4d10ac4c460730c077c8@bracewell.com>
In-Reply-To: <2c810b4b48ba4d10ac4c460730c077c8@bracewell.com>
Accept-Language: en-US
Content-Language: en-US
X-MS-Has-Attach: yes
X-MS-TNEF-Correlator:
<BY2PR09MB10612F4E923F902D471CFD9B98540@BY2PR09MB1061.namprd09.prod.outlook.com>
MIME-Version: 1.0
X-Originating-IP: [161.80.88.130]
X-MS-PublicTrafficType: Email
X-Microsoft-Exchange-Diagnostics:
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Return-Path: ringel.aaron@epa.gov
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R:BY2PR09MB1062;
```

X-Microsoft-Exchange-Diagnostics:

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kYlQ==

X-MS-TrafficTypeDiagnostic: BY2PR09MB1062:

Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 7/25/2018 12:35:00 PM
To: Maisano, Frank [frank.maisano@bracewell.com]; Mr. Aaron E. Ringel [ringel.aaron2@epa.gov]
Subject: RE: with Wilcox out

John Konkus is running point right now.

-Aaron

From: Maisano, Frank [mailto:frank.maisano@bracewell.com]
Sent: Tuesday, July 24, 2018 5:46 PM
To: Mr. Aaron E. Ringel <ringel.aaron2@epa.gov>; Ringel, Aaron <ringel.aaron@epa.gov>
Subject: with Wilcox out

Who is handling wheeler PR. Just want to be helpful.
Who is handling wheeler PR. Just want to be helpful.

FRANK MAISANO
Senior Principal
frank.maisano@policyres.com
T: Ex. 6 | F: Ex. 6

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policyres.com | profile | download v-card

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Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 7/23/2018 4:17:07 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: Jul 23 PRG Energy Update: Tariffs, RFS, Carbon Capture Road Map

Friends,

The British Open was exciting with Tiger Woods reemerging as a challenger. His Saturday round put him on top of a major tournament for the first time since 2010. In the end, it was Italian Francisco Molinari, who played alongside Tiger on Sunday and remains red hot, who pulled away to win the famed *Claret Jug*. And with this being the final week of the *Tour de France*, we should see some fireworks as riders head to the decisive stages in the Pyrenees starting tomorrow. Overall leader Geraint Thomas maintained his advantage of 1:39 over four-time champion and teammate Chris Froome. Tom Dumoulin, the world time trial champion, remained third at 1:50 back. What to do Team Sky? Thomas or Froome? We shall see…

This week is the last for the House before August Recess. There is a lot going on with budget and farm bill issues, with Interior-EPA Approps headed for votes. Senate Energy is also expected tomorrow to vote out DOE nominees including Dan Simmons and IG Teri Donaldson. This is also a big week for tariff issues with steel importers Friday asking the U.S. Court of International Trade for a summary judgment to immediately halt the steel duty. Bracewell's trade policy experts Josh Zive (202-828-5838) and Paul Nathanson (202-828-1715) are all over the issue and can help.

The RFS is again in the news with Friday's court decision hitting EPA for denying waivers to small refiners. As you know this has been a contentious issue with the ethanol activists hammering the waivers despite the fact that there has been no demand loss. Friday's decision is the second in favor of small refiners. The news will be follow by a presser tomorrow hosted by former Hose Energy Chair Henry Waxman and his environmental group Mighty Earth, who will attack the RFS as bad policy. Finally, on Wednesday at 9:15 a.m., the House Energy Enviro Subpanel looks at RINs and the problems they are causing with the RFS. Also, the Senate Energy Committee will look at global oil price issues tomorrow in a hearing.

In another major event Wednesday at Noon, the Carbon Utilization Research Council, ClearPath Foundation and the Electric Power Research Institute will be on Capitol Hill to officially unveil two studies that underscore the promise and benefits of aggressively developing and commercializing U.S.-based carbon capture, storage and utilization technologies. CURC and EPRI will release the 5th Advanced Fossil Energy Technology Roadmap that identifies technologies that can be available by the 2025-2035 timeframe that generate electricity from fossil fuels with significantly reduced carbon dioxide emissions that could be cost competitive with other sources of electricity generation. A companion analysis conducted by CURC and ClearPath will also include modeling provided by NERA Economic Consulting and Advanced Resources International to show that there are significant economic benefits to the U.S. if the technology development outlined in the Roadmap is undertaken under a wide range of scenarios.

Today at 2:00 pm, MIT's Jeremy Gregory will speak at the Business Council for Sustainable Energy (BCSE) for its Energy Thought Leader Speaker Series – a strategic effort to stimulate the development of resilient buildings and infrastructure that will continue through December of this year. Gregory will focus on MIT's resilience-related research, with a special focus on our quantitative analyses, as well as address ways these ideas can be extended to energy networks. The meeting is closed to BCSE members but check in with me at @fvmaisano or MIT's CSHub if you are interested in updates. (You should follow MIT's CS Hub anyway).

Finally this morning – despite House passing a non-binding resolution stating that a nationwide carbon emissions tax would be "detrimental" to the economy – Rep. Carlos Curbelo (R-Fla.) will discuss his legislation to tax on carbon emissions at a forum this morning sponsored by the Columbia Center on Global Energy Policy. The bill calls for the elimination of the federal gas tax and the reinstatement of federal climate regulations if the carbon tax, which would

start out at $23 per ton, fails to curb a certain amount of greenhouse gases. Americans for Tax Reform will hold its own discussion today on what it calls "a giant job-crushing carbon tax," with Grover Norquist and CEI's Marlo Lewis.

Bottomline: In reality, with Congress firmly on record against a carbon tax, the questions remains if a carbon tax is a no go, then what might be a solution that shows meaningful action on advancing innovation and reducing emissions? Perhaps, we can help find that answer soon…

Call with questions…Best,

Frank Maisano
Ex. 6
c. Ex. 6

FRANKLY SPOKEN

"Importantly, the court rejected EPA's "industry-wide" conclusion that refiners can pass through their RIN costs, recognizing that the ability of a refinery to pass through its RIN costs is a refinery-specific and fact specific determination."

LeAnn Johnson, counsel to Ergon-WV on Friday's court Decision on Small Refiner Waivers.

"Section 232 of the Trade Expansion Act allows the President nearly unfettered discretion to impose tariffs and create other trade barriers if he simply decides that imports threaten to impair U.S. national security. At the same time, the law allows tremendous latitude to the President in determining what constitutes a threat. The United States Constitution provides important checks on the President's power, and the Section 232 trade provision stands in clear violation of that balance."

AIIS President Richard Chriss, announcing they are asking the International Trade court to stop Section 232 tariffs imposed by President Trump

ON THE POD

Bracewell Podcasts Looks at Trade, New EPA Head – The latest episode of the Bracewell Podcast, *The Lobby Shop* is now live on Stitcher, iTunes, SoundCloud, and Google Play Music. This week we are joined by Kyle Kondik, Managing Editor of Larry Sabato's Crystal Ball out of the UVA Center for Politics. Kyle talks mid-terms, key swing states, the current political climate's impact on voting in 2018 and more.

FUN OPINIONS

Banks Calls for State Parity on GHG Impacts – In an op-ed in *The Hill*, former White House climate/energy advisor David Banks says the disparity between poorer and richer states on GHG emissions. Banks wrote "any national compromise must recognize the wealth gap between the states. It should also reflect the fact that richer states generally industrialized earlier and account for the majority of U.S. historical emissions."

Kerrigan: Small Businesses Innovated on Keeping America Working – Karen Kerrigan, head of the Small Business & Entrepreneur Council, recently wrote the White House Workforce Development Initiative is vital to small businesses. She highlighted the July 19th event where President Trump announced his "Pledge to American Workers" and signed an Executive Order (EO) on workforce development. The EO establishes the National Council for the American Worker, which will "convene voices from the private, education, labor, and not-for-profit sectors to enhance employment opportunities for Americans of all ages." Kerrigan added that small businesses are at the cutting edge of training. Entrepreneurs and their teams are implementing innovative and creative approaches that aim to keep their employees fully trained, engaged, and ready for career opportunities that may come their way.

IN THE NEWS

Court Rules in Favor of Small Refiners on RFS Waiver – Late Friday, the US Court of Appeals for the Fourth Circuit handed down an important decision in *Ergon-WV v EPA* arguing that the EPA's denial of a small-refiner exemption (SRE) under the federal renewable fuel standard (RFS) was arbitrary and capricious.

The Case is Significant Given Battle over SREs – The Fueling American Jobs Coalition says the Court agreed with Ergon that the application of the Department of Energy's (DOE) matrix constituted an "error-riddled analysis" of Ergon's petition. The Court noted that DOE's failure to score certain factors were arbitrary and capricious. Most importantly, the Court held that EPA's failure to consider the adverse impacts of high renewable identification number (RINs) prices by simply reiterating the view of one of its staffers that RINs prices were passed through to consumers was insufficient and flawed. The Court said that each refinery faces specific circumstances with respect to their markets that can constrain pass-through of RINs costs and any EPA generic assertion to the contrary was an insufficient basis upon which to deny an SRE. The Court took note that "the dramatic rise in RIN prices has amplified RFS compliance and competitive disparities, especially where unique regional factors exist, including high diesel demand, no export access, and limited biodiesel infrastructure and production."

Full decision – http://www.ca4.uscourts.gov/opinions/171839.P.pdf

Company Counsel Decision Reminder of Hardship Faced from RFS – LeAnn Johnson Koch, Perkins Coie, counsel to Ergon-West Virginia said the 4th Circuit's decision is a reminder to opponents of small refinery hardship that the harm to small refineries is real and that the Clean Air Act requires EPA to relieve it. "The "error-riddled" DOE scoring grossly underestimated the disproportionate economic hardship experienced by Ergon and consequently, impacts on the company's viability. We're grateful to the Court for recognizing it." Johnson also said the decision is also an important reminder to opponents of small refinery hardship that the goal of the RFS is not to expand ethanol consumption, but to increase energy independence and security. "The biofuels industry has doubled down on structural flaws in the rule that discourage blending and harm merchant and small refineries. It wouldn't be so troubling if they weren't at the same time pounding the table about "demand destruction" and urging EPA to violate the Clean Air Act and deny hardship relief to small refineries. Demand destruction and small refinery hardship are the consequences of not fixing the rule to restore a level playing field in the transportation fuels market."

Company: Significant, Disproportionate Hardship from RFS – Ergon-WV said they were pleased to see the 4th Circuit Court ruling which recognizes the significant and disproportionate hardship that RFS places on small refineries. Company President Kris Patrick said a 2011 DOE study predicted that this disproportionate economic hardship would occur, and this is precisely what they witnessed at EWV. Patrick: "Like other small refineries, we operate in rural geographic areas, supplying critical fuel supplies and supporting the local economies with jobs and tax revenue. It is vital that Congress, the EPA, and the DOE continue to protect the important role of small refineries in the U.S. economy."

Case Turns Misleading Ethanol on Head – Ethanol Interests and there Congressional supporters have been so misleading, it's important to remind you of the facts surrounding the program. Congress created the RFS as part of the 2005 Energy Policy Act in an effort to reduce greenhouse gas emissions and expand the nation's renewable fuels sector. Their understanding of the detrimental impact the program could have on small refineries prompted Congress to direct the EPA to grant waivers from the mandate to small refineries that would suffer a "disproportionate economic hardship" in complying with the program. Small refineries are defined as those processing less than 75,000 barrels per day of crude oil. Unlike large integrated refiners which primarily produce gasoline, many small refineries produce diesel fuel in higher proportions. All refiners are required to purchase renewable identification numbers (RINS), which the EPA describes as "credits used for compliance and the 'currency' of the RFS program." This mandate has resulted in an artificial, government-created market for blend requirements beyond what the market will accept, primarily due to diesel-to-gasoline production ratio or "diesel disparity." Fundamentally, this program unfairly disadvantages small refineries, particularly those with higher than average production of diesel.

Obama EPA Abandoned Help to Small Refiners – During the Obama administration, the EPA abandoned the original intent of Congress when establishing small refinery hardship waiver requests by interpreting that the hardship exemption must pose a threat to a refinery's survival as an ongoing operation. In EWV's case, costs directly attributable to the RFS were the refinery's third highest operating expense in 2016, following raw materials and labor.

More on Ergon – Ergon-WV operates a small refinery (23,500 barrels per day) in Newell, West Virginia that primarily produces highly refined paraffinic specialty products and fuels from local Appalachian grade crude. In addition to two small refineries, Ergon also operates an ethanol production facility which Patrick says provides them with a unique vantage point regarding RFS. "The argument touted by ethanol advocates of demand destruction as a result of hardship waivers is simply not based in logic or facts, Patrick said. "EWV blends 10% ethanol with 99% of the gasoline it produces and will continue to do so, even without a mandate. However, EWV cannot pass through its RIN costs and the detrimental impact imposed by the RFS on EWV's high diesel production is unacceptable and counter to the intent of the RFS program." EWV has made significant investments in environmentally friendly processes and technologies over the past three decades."

Steel Importers Ask For End to Tariffs – The American Institute for International Steel (AIIS) and two of its member companies, SIM-TEX, LP and KURT ORBAN PARTNERS, LLC, filed a motion for summary judgment with the US Court of International Trade in an effort to halt enforcement of the law under which tariffs are currently being collected on steel imported to the U.S. The motion follows on a lawsuit filed by the parties in late June in the same court challenging the constitutionality of the statute under which President Trump imposed a 25% tariff on imported steel. Since tariffs were imposed on steel imports earlier this year, the U.S. steel supply chain has experienced significant disruption, with American ports experiencing a sharp drop in throughput and steel-using manufacturers hit with price increases of 50% or more on steel product, coupled with newfound difficulty in obtaining specific types of steel, whether imported or sourced domestically. To date, U.S. Customs and Border Protection has collected in excess of $582 million in tariffs—amounting to a tax imposed on the U.S. economy. AIIS is America's leading voice for the steel supply chain, and the only voice in Washington, D.C. for free and responsible trade in steel. AIIS members, which include railroads and other transportation companies, port authorities, union locals, traders and logistics companies depend on imported steel for their economic well-being. As the tariff reduces the amount of imported steel, it also reduces the revenue of AIIS members, harming their businesses and putting their employees' jobs at risk.

Report: Oil Demand to Peak? – The Consulting firm Wood Mackenzie forecasts global oil demand will peak around 2036 in a new report out this week. According to WM, the peak is due to fuel efficiency gains and the anticipated rise of both autonomous and non-autonomous electric vehicles. Others have suggested a slower glide path which may undercut the WM date.

DOE: US Crude Booming, US Moves to #2 producer – The Energy Department said U.S. crude production reached 11 million barrels per day for the first time, which would place the United States as the second-biggest producer of crude, after Russia, which sources say was producing 11.2 million bpd in early July.

ON THE SCHEDULE THIS WEEK

Heritage Hosts Johnson on Trade Discussion – The Heritage Foundation hosts a discussion tomorrow at 8:00 a.m. on the real impacts of the tariffs, and what the retaliation means for Americans. Sen Johnson will join a panel of experts including the railroad assn's John Gray Maria Zieba of the pork producers and API's Aaron Padilla. The discussion will be moderated by our friend Tori Whiting.

NREL to Look at Caron Economy – Tomorrow and Wednesday, the National Renewable Energy Laboratory holds a summit in Denver on realizing a Circular Carbon Economy. NREL, in collaboration with the USDA and DOE will consider the challenges, opportunities, and needs involved in realizing the CCE. The summit will focus on defining and valuing ecosystem services in the context of a carbon-based economy; renewable fuels and energy; agricultural technology and innovation; land management; carbon cycles and sequestration (both engineered and natural); and lifecycle, sustainability and technoeconomic analyses. Positioning the United States as a major architect of a sustainable and resilient CCE is critical for maintaining economic competitiveness in the future.

Senate Energy Looks at Global Oil Price – The Senate Energy and Natural Resources Committee holds a hearing tomorrow at 10:00 a.m. on factors that impact global oil prices. Witnesses include Columbia University Center on Global Energy Policy's Jason Bordoff, oil market expert Rusty Braziel, former White House Advisor Bob McNally and IEA's Keisuke Sadamori. Prior to the hearing, the Committee will vote out DOE nominees.

House Energy Subpanel to Discuss SPR – The House Energy Committee's Energy panel will hold a hearing tomorrow at 10:15 a.m. on the Strategic Petroleum Reserve. Witnesses will include DOE's Steven Winberg, GAO's Frank Russo and our friend Kevin Book, among others.

House Resources Looks at Coal Use – The House Natural Resources Energy and Mineral Resources Subcommittee holds a hearing tomorrow at 10:00 a.m. on assessing innovative and alternative uses of coal. Witnesses include Michael Klein of Utah's Lighthouse Resources, Arg CEO Julian McIntyre, Wyoming's Ramaco Carbon CEO Randall Atkins and Vernon Haltom of Coal River Mountain Watch.

CSIS To Host EIA Outlook – The CSIS Energy & National Security Program is hosting EIA Administrator Linda Capuano tomorrow for a presentation and discussion of the EIA's International Energy Outlook 2018 (IEO2018). The IEO2018 builds on the IEO2017 reference case, which presented long-term projections of world energy demand by region and primary energy source; electricity generation by energy source; and energy-related carbon dioxide emissions. In particular, this year's outlook offers a macroeconomic perspective regarding the uncertainty in economic growth in India, China, and Africa.

USEA To Discuss Africa Energy – The US Energy Assn will host a forum tomorrow at 10:00 a.m. discuss specific generation and transmission projects currently underway and in the pipeline for development within the region. Please join us in a discussion regarding investment opportunities in various hydropower and wind power projects, as well as a transmission line and interconnection project. N Representatives of West African Power Pool (WAPP) and the Economic Community of West African States (ECOWAS) Regional Electricity Regulatory Authority (ERERA) will speak.

Waxman, Enviro Groups Attack RFS – Tomorrow at 11:00 a.m., former House Energy Chair Henry Waxman and his group Mighty Earth hold a forum on the RFS. It's been more than 10 years since the Renewable Fuel Standard became law. Once touted as a 'green' policy, many in the environmental, conservation, and scientific communities believe the opposite: that the RFS may have been a net-negative – even a disaster -- for the environment. Speaker will include Waxman, NWF's David DeGennaro, and others.

ACORE State of Industry Webinar Set – ACORE Hosts State of the Industry Webinar Focus on International Investments – ACORE and Bloomberg New Energy Finance (BNEF), hold their quarterly State of the Industry webinar on Wednesday at 12:00 p.m. The forum offers the latest intelligence and analysis on renewable energy markets, finance and policy. This quarter's webinar will focus on the increasing trend of financial institutions around the globe who are expanding their renewable energy strategies and providing new capital for North American markets. Speakers will discuss foreign investor strategies for expansion in North American markets, fueled by sustainability targets, ESG scoring and attractive business opportunities; the characteristics of these new market entrants; and U.S. attractiveness in an uncertain policy environment: challenges posed by trade wars, the new tax law and CFIUS. Speakers include ACORE's Rob Gramlich, BNEF's Amy Grace, among others.

Forum to Look at Taiwan Energy – The Global Taiwan Institute and co-sponsor, The Sigur Center for Asian Studies at George Washington University, will hold a forum tomorrow at 12:30 p.m. to explore the future of Taiwan's energy. This event is the third installment of the Civil Society and Democracy Series, which is partially funded by the Taiwan Foundation for Democracy. The panelists will discuss Taiwan's policy and opportunities in sustainable energy, how it will impact the Asia-Pacific region, and what it means for US interests.

House Energy to Look at RINs – With Friday's Court decision, the House Energy and Commerce Environment Subcommittee holds a hearing on Wednesday at 9:15 a.m. on background on Renewable Identification Numbers under

the RFS. Witnesses include CRS Energy and Minerals Manager Brent Yacobucci, Gabriel Lade of Iowa State, Paul Niznik of Argus and energy compliance expert Sandra Dunphy.

Technology Roadmap to be Released – On Wednesday at Noon in the Capitol Visitors Center, the Carbon Utilization Research Council, ClearPath Foundation and the Electric Power Research Institute will host an event Wednesday on Capitol Hill to officially unveil two studies that underscore the promise and benefits of aggressively developing and commercializing U.S.-based carbon capture, storage and utilization technologies. CURC and EPRI will release the 5th Advanced Fossil Energy Technology Roadmap that identifies technologies that can be available by the 2025-2035 timeframe that generate electricity from fossil fuels with significantly reduced carbon dioxide emissions that could be cost competitive with other sources of electricity generation. A companion analysis conducted by CURC and ClearPath will also include modeling provided by NERA Economic Consulting and Advanced Resources International to show that there are significant economic benefits to the U.S. if the technology development outlined in the Roadmap is undertaken under a wide range of scenarios. The event is sponsored by Southern Company, GE, Battelle and others.

House Resources Looks at Puerto Rico Recovery – The House Natural Resources Committee holds a hearing on Wednesday at 2:00 p.m. on the management crisis at the Puerto Rico Electric Power Authority and implications for recovery.

Forum to Look at NET CCS Plant – The US Energy Assn Hosts a discussion on Thursday at 10:00 a.m. to look at NET Power's 50-MW demonstration emissions-free natural gas power plant. NET Power is commercializing a novel power system that produces emissions-free electricity from natural gas for the same cost as conventional power plants. The system, which uses the supercritical CO2 Allam Cycle, is currently being demonstrated at a 50MWth power plant in La Porte, Texas, that is now in operation. A review of the technology will be provided, and an update will be given on the status of demonstration plant testing and operations, as well as commercial facility development.

Wilson Forum to Look at China Green Innovation – On Thursday at 2:00 p.m., the Wilson Center's China Environment Forum is hosting four experts to discuss ways to facilitate financing that will stimulate the market of green and energy-efficient buildings and technologies that China needs to reach its low carbon goals. Xiao Sun, chairman of the Ma'anshan Rural Commercial Bank (MRCB), will discuss how MRCB is promoting green building development as part of their effort to become the world's first completely green bank. Carolyn Szum, program manager at Lawrence Berkeley National Laboratory (LBNL), will discuss their partnership with Citibank and MRCB to create new financing tools for energy-efficient buildings in China. Joe Indvik, the leader of the Department of Energy's Better Buildings Initiative, will discuss how he collaborates with finance executives on expanding access for building owners to attract capital for energy projects in the US. Lastly, Yunhan Mao, from International Finance Corporation (IFC), will briefly introduce IFC's China Climate Finance Advisory program, and the role it plays in greening urban development.

Grid Forum Set for Iowa – The TransGrid-X 2030 Symposium will be held on Thursday in Ames, Iowa. The event will showcase the long-awaited NREL Seam Study—a concept featuring bi-directional high-voltage transmission; 600 GW of wind, solar and gas-fired generation; and a trillion-dollar economic event, if fully built. Our friends Rob Gramlich and former FERC Chair Jim Hoecker will be among the speakers.

IN THE FUTURE

August Congressional Recess – While the Senate will remain in Session, the House will be in recess starting next week.

Senate Environment to Host Wheeler – The Senate Environment Committee will host new acting EPA head Andy Wheeler on Wednesday August 1st.

WCEE Monthly Happy Hour – The Women's Council on Energy and Environment hosts its August Happy Hour on Wednesday, August 1st at 5:30 p.m. at MASA 14 (1825 14th Street, NW)

Tesla Book Discussion Set – Politics and Prose Bookstore hosts Author Richard Munson on Wednesday at 7:00 p.m. to discuss and sign copies of "Tesla: Inventor of the Modern". Drawing on his new book, Richard Munson shines a light on

the man behind the legend and how his unique way of doing things meant some of his most advanced ideas would go unrecognized for decades. Tesla felt inventing required the linking of science and the humanities. Unlike his better-known rival, Thomas Edison, he was not motivated by profit and preferred working in isolation.

Science-Policy Discussion Set – On Thursday, August 2nd, the Women's Council on Energy and the Environment hosts a conversation at Honeywell at Noon featuring two scientists working to shape policy at the federal level. They will discuss the role of science in shaping public policy and offer solutions for a more collaborative relationship between the scientific and policy realms.

EPRI Hosts Electrification Conference – The Electric Power Research Institute (EPRI) hosts the inaugural Electrification 2018 International Conference and Exposition on August 20th to 23rd in Long Beach CA. Hosted by the and sponsored by more than 20 major utilities and organizations, this annual conference will bring together utility leaders, regulators, researchers, academia, vendors, economic development groups, and energy users from diverse manufacturing, transportation, industrial, and agriculture sectors around the globe. SoCo CEO Tom Fanning is among the many speakers.

FRANK MAISANO
Senior Principal
Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 7/25/2018 12:38:24 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: with Wilcox out
Attachments: ATT00001.txt

Thanks. I am going to reach out because I want to help Andy and his team be the best they can be. A good word to Kronkus about connecting w me would be appreciated.

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From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Sent: Jul 25, 2018 8:36 AM
To: "Maisano, Frank" <frank.maisano@bracewell.com>; "Mr. Aaron E. Ringel" <ringel.aaron2@epa.gov>
Subject: RE: with Wilcox out

John Konkus is running point right now.

-Aaron

From: Maisano, Frank [mailto:frank.maisano@bracewell.com]
Sent: Tuesday, July 24, 2018 5:46 PM
To: Mr. Aaron E. Ringel <ringel.aaron2@epa.gov>; Ringel, Aaron <ringel.aaron@epa.gov>
Subject: with Wilcox out

Who is handling wheeler PR. Just want to be helpful.
Who is handling wheeler PR. Just want to be helpful.

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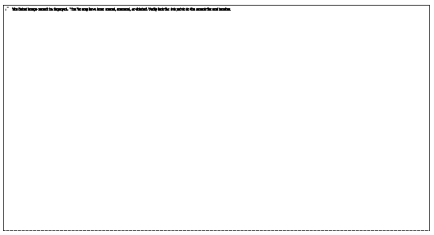

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Message

From: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Sent: 7/27/2017 7:11:40 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Final Letter
Attachments: DM-#5517302-v1-Holmstead_EPW_Letter_re_Wehrum.DOCX

I have made a few tweaks, so please use this version if you are looking for quotes. If you can give me a heads up just before the intent to nominate is announced, I will insert a new date, sign the letter, and then send it to Barrasso and Carper with a copy to you.

From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Thursday, July 27, 2017 1:00 PM
To: Holmstead, Jeff <jeff.holmstead@bracewell.com>
Subject: RE: Letter

Thanks Jeff, made some small edits to the letter (attached). If you are good with these I would ask that you put on letterhead, addressed to Barrasso/Carper, and send just us the final version. We will want to hold on sending the letter to the Chair/Ranking member until the intent to nominate is officially announced, at which point it can be sent to them.

Thanks again!

-Aaron

From: Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
Sent: Thursday, July 27, 2017 9:12 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Fw: Letter

Here is a draft. If it looks OK to you, I will put it on letterhead and address it to Chairman Barrasso and Ranking Member Carper and send you (and them) a final version.

JEFF HOLMSTEAD
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July 27, 2017

BY E-MAIL AND BY FIRST-CLASS MAIL

Chairman John Barrasso
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

Ranking Member Tom Carper
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Re: Nomination of Bill Wehrum

Dear Sirs:

I understand that President Trump has announced his intent to nominate Bill Wehrum to serve as the Assistant Administrator for Air and Radiation at the U.S. Environmental Protection Agency (EPA). I have known Mr. Wehrum for more than 20 years and have had the chance to work with him and to see his work on a wide variety of Clean Air Act regulatory, policy, and legal issues. I cannot imagine anyone better to lead EPA's Office of Air and Radiation at this critical time in EPA's history.

I believe that Bill is the only person ever to have worked on Clean Air Act issues as an environmental engineer at a major chemical plant, a young attorney in private practice, a senior policy maker at EPA, and the head of the environmental group at a major law firm.

After he graduated from Purdue University with a degree in chemical engineering in 1986, he started working at a large chemical plant and soon thereafter was put in charge of ensuring that the plant was in compliance with all applicable environmental requirements. After several years at the plant, he started attending law school at night while still working full time. Then, after graduating from law school with honors in 1993, he started working on Clean Air Act issues as a young lawyer at one of Washington's top environmental law firms. I was working at a competing law firm at the time, but after working with him

Jeffrey R. Holmstead[\swibookmark "From1"][\swibookmark "From1"][\swibookmark "From1"][\swibookmark "From1"]
Partner[\swibookmark "swiCMTitle1"][\swibookmark "swiCMTitle1"][\swibookmark "swiCMTitle1"][\swibookmark "swiCMTitle1"]

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2001 M Street NW, Suite 900[\swibookmark "swiOFStreetAddressHoriz"][\swibookmark "swiOFStreetAddressHoriz"][\swibookmark "swiOFStreetAddressHoriz"][\swibookmark "swiOFStreetAddressHoriz"], Washington[\swibookmark "swiOFCity"][\swibookmark "swiOFCity"][\swibookmark "swiOFCity"][\swibookmark "swiOFCity"], DC[\swibookmark "swiOFState"][\swibookmark "swiOFState"][\swibookmark "swiOFState"][\swibookmark "swiOFState"] 20036-3310[\swibookmark "swiOFZip"][\swibookmark "swiOFZip"][\swibookmark "swiOFZip"][\swibookmark "swiOFZip"]
jeff.holmstead@bracewell.com[\swibookmark "swiCMEmail"][\swibookmark "swiCMEmail"][\swibookmark "swiCMEmail"][\swibookmark "swiCMEmail"] bracewell.com

on a major regulatory project, my partners and I recruited him to our law firm in 1998. After I became the Assistant Administrator for Air and Radiation in 2001, I was very happy that Bill agreed to go to EPA to serve as my counsel. He was named acting Assistant Administrator when I left EPA in 2005.

Bill is well-respected and well-liked by the career staff at EPA – and by anyone who has ever worked with him. During his almost 6 years at EPA, he worked closely with career staff on a wide range of issues and was known for rolling up his sleeves and getting involved in the details of the Agency's regulations and permitting programs. From his work as an environmental engineer, his time at the Agency, and his many years of counseling clients, he has a comprehensive understanding of EPA's regulatory programs and the many technical issues involved in implementing the Clean Air Act.

Bill is committed to the goals of the Clean Air Act and to the rule of law. He is also a person of the highest integrity. I am confident that, within the framework established by Congress, he will work to protect public health and the environment while at the same time pursuing regulatory reforms that will reduce unnecessary regulatory burdens. Truly, there is no better person to serve as the Assistant Administrator of EPA for Air and Radiation.

Sincerely,

Jeffrey R. Holmstead
Partner

Message

From: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Sent: 7/27/2017 5:53:56 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: Letter

Your changes look good. I have accepted them and also want to add one more sentence saying that Bill is a person of highest integrity. I will get you the final version as soon as my assistant gets back to the office.

I will send you a final, signed version, but it won't have a date on it. When you are ready to make the announcement, I will add a date, email it to you again, and also send it to Barrasso and Carper. I won't make any other changes, so you can use any quotes you may want from the version I will send you in the next hour.

Any idea when the White House will make the announcement?

From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Thursday, July 27, 2017 1:00 PM
To: Holmstead, Jeff <jeff.holmstead@bracewell.com>
Subject: RE: Letter

Thanks Jeff, made some small edits to the letter (attached). If you are good with these I would ask that you put on letterhead, addressed to Barrasso/Carper, and send just us the final version. We will want to hold on sending the letter to the Chair/Ranking member until the intent to nominate is officially announced, at which point it can be sent to them.

Thanks again!

-Aaron

From: Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
Sent: Thursday, July 27, 2017 9:12 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Fw: Letter

Here is a draft. If it looks OK to you, I will put it on letterhead and address it to Chairman Barrasso and Ranking Member Carper and send you (and them) a final version.

JEFF HOLMSTEAD
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jeff.holmstead@bracewell.com
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Message

From: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Sent: 9/8/2017 5:51:15 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Final Wehrum letter
Attachments: Signed -Dated Holmstead EPW Letter re Wehrum.pdf

Here is the final letter I am sending to Barrasso and Carper. It's just like the version you have had for a while, except for the first sentence, which now says "I understand that President Trump has nominated Bill Wehrum," instead of "I understand that President Trump has announced his intent to nominate Bill Wehrum."

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September 7, 2017
BY E-MAIL AND BY FIRST-CLASS MAIL

Chairman John Barrasso
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

Ranking Member Tom Carper
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Re: Nomination of Bill Wehrum

Dear Sirs:

I understand that President Trump has nominated Bill Wehrum to serve as the Assistant Administrator for Air and Radiation at the U.S. Environmental Protection Agency (EPA). I have known Mr. Wehrum for more than 20 years and have had the chance to work with him and to see his work on a wide variety of Clean Air Act regulatory, policy, and legal issues. I cannot imagine anyone better to lead EPA's Office of Air and Radiation at this critical time in EPA's history.

I believe that Bill is the only person ever to have worked on Clean Air Act issues as an environmental engineer at a major chemical plant, a young attorney in private practice, a senior policy maker at EPA, and the head of the environmental group at a major law firm.

After he graduated from Purdue University with a degree in chemical engineering in 1986, he started working at a large chemical plant and soon thereafter was put in charge of ensuring that the plant was in compliance with all applicable environmental requirements. After several years at the plant, he started attending law school at night while still working full time. Then, after graduating from law school with honors in 1993, he started working on Clean Air Act issues as a young lawyer at one of Washington's top environmental law firms. I was working at a competing law firm at the time, but after working with him on a major regulatory project, my partners and I recruited him to our law firm in 1998. After I became the Assistant Administrator for Air and Radiation in 2001, I was very happy that Bill agreed to go to EPA to serve as my counsel. He was named acting Assistant Administrator when I left EPA in 2005.

Bill is well-respected and well-liked by the career staff at EPA – and by anyone who has ever worked with him. During his almost 6 years at EPA, he worked closely with career staff on a wide range of issues and was known for rolling up his sleeves and getting involved in the details of the Agency's regulations and permitting programs. From his work as an environmental engineer, his time at the Agency, and his

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Partner

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many years of counseling clients, he has a comprehensive understanding of EPA's regulatory programs and the many technical issues involved in implementing the Clean Air Act.

Bill is committed to the goals of the Clean Air Act and to the rule of law. He is also a person of the highest integrity. I am confident that, within the framework established by Congress, he will work to protect public health and the environment while at the same time pursuing regulatory reforms that will reduce unnecessary regulatory burdens. Truly, there is no better person to serve as the Assistant Administrator of EPA for Air and Radiation.

Sincerely,

Jeffrey R. Holmstead
Partner

Message

From: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Sent: 7/27/2017 1:12:10 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Fw: Letter
Attachments: EPW letter re Wehrum.docx

Here is a draft. If it looks OK to you, I will put it on letterhead and address it to Chairman Barrasso and Ranking Member Carper and send you (and them) a final version.

JEFF HOLMSTEAD
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Dear Sirs:

I understand that President Trump intends to nominate Bill Wehrum to serve as the Assistant Administrator for Air and Radiation at the U.S. Environmental Protection Agency (EPA). I have known Mr. Wehrum for more than 20 years and have had the chance to see him work on a wide variety of Clean Air Act regulatory, policy, and legal issues. I cannot imagine anyone better to lead EPA's Office of Air and Radiation at this critical time in EPA's history.

I am quite sure that Bill is the only person ever to have worked on Clean Air Act issues as an environmental engineer at a major chemical plant, a young attorney in private practice, a senior policy maker at EPA, and the head of the environmental group at a major law firm.

After he graduated from Purdue University with a degree in chemical engineering in 1986, he started working at a large chemical plant and soon thereafter was put in charge of ensuring that the plant was in compliance with all applicable environmental requirements. After several years at the plant, he started attending law school at night while still working full time. Then, after graduating from law school with honors in 1993, he started working on Clean Air Act issues as a young lawyer at one of Washington's top environmental law firms. I was working at a competing law firm at the time, but after working with him on a major regulatory project, my partners and I recruited him to our law firm in 1998. After I became the Assistant Administrator for Air and Radiation in 2001, I asked Bill to serve as my counsel, and he was named acting Assistant Administrator when I left EPA in 2005.

Bill is well respected and well liked by the career staff at EPA. During his almost 6 years at EPA, he worked closely with career staff on a wide range of issues and was known for rolling up his sleeves and getting involved in the details of the Agency's regulations and permitting programs. From his work as an environmental engineer, his time at the Agency, and his many years of counseling private clients, he has a comprehensive understanding of EPA's regulatory programs and the many technical issues involved in implementing the Clean Air Act.

Bill is committed to the goals of the Clean Air Act and to the rule of law. I am confident that, within the framework established by Congress, he will work to protect public health and the environment while at the same time pursuing common-sense regulatory reforms that will reduce unnecessary regulatory burdens.

Truly, there is no better person to serve as the Assistant Administrator of EPA for Air and Radiation.

Sincerely,

Jeff Holmstead

Message

From: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Sent: 8/1/2017 10:48:03 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Signed letter re Wehrum
Attachments: Holmstead EPW letter re Wehrum.pdf

Whoops. I meant to send you the signed version yesterday but then got distracted by other things.

Please give me a heads up when you can so that I can send the letter to Barrasso and Carper and be prepared for press calls. Good luck to you and Bill. I hope you guide him through the confirmation process quickly!

Jeff

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Partner
jeff.holmstead@bracewell.com
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BY E-MAIL AND BY FIRST-CLASS MAIL

Chairman John Barrasso
United States Senate
307 Dirksen Senate Office Building
Washington, DC 20510

Ranking Member Tom Carper
United States Senate
513 Hart Senate Office Building
Washington, DC 20510

Re: Nomination of Bill Wehrum

Dear Sirs:

I understand that President Trump has announced his intent to nominate Bill Wehrum to serve as the Assistant Administrator for Air and Radiation at the U.S. Environmental Protection Agency (EPA). I have known Mr. Wehrum for more than 20 years and have had the chance to work with him and to see his work on a wide variety of Clean Air Act regulatory, policy, and legal issues. I cannot imagine anyone better to lead EPA's Office of Air and Radiation at this critical time in EPA's history.

I believe that Bill is the only person ever to have worked on Clean Air Act issues as an environmental engineer at a major chemical plant, a young attorney in private practice, a senior policy maker at EPA, and the head of the environmental group at a major law firm.

After he graduated from Purdue University with a degree in chemical engineering in 1986, he started working at a large chemical plant and soon thereafter was put in charge of ensuring that the plant was in compliance with all applicable environmental requirements. After several years at the plant, he started attending law school at night while still working full time. Then, after graduating from law school with honors in 1993, he started working on Clean Air Act issues as a young lawyer at one of Washington's top environmental law firms. I was working at a competing law firm at the time, but after working with him on a major regulatory project, my partners and I recruited him to our law firm in 1998. After I became the Assistant Administrator for Air and Radiation in 2001, I was very happy that Bill agreed to go to EPA to serve as my counsel. He was named acting Assistant Administrator when I left EPA in 2005.

Bill is well-respected and well-liked by the career staff at EPA – and by anyone who has ever worked with him. During his almost 6 years at EPA, he worked closely with career staff on a wide range of issues and was known for rolling up his sleeves and getting involved in the details of the Agency's regulations and permitting programs. From his work as an environmental engineer, his time at the Agency, and his

Jeffrey R. Holmstead
Partner

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2001 M Street NW, Suite 900, Washington, DC 20036-3310
jeff.holmstead@bracewell.com bracewell.com

many years of counseling clients, he has a comprehensive understanding of EPA's regulatory programs and the many technical issues involved in implementing the Clean Air Act.

Bill is committed to the goals of the Clean Air Act and to the rule of law. He is also a person of the highest integrity. I am confident that, within the framework established by Congress, he will work to protect public health and the environment while at the same time pursuing regulatory reforms that will reduce unnecessary regulatory burdens. Truly, there is no better person to serve as the Assistant Administrator of EPA for Air and Radiation.

Sincerely,

Jeffrey R. Holmstead
Partner

Message

From: Krenik, Edward [edward.krenik@bracewell.com]
Sent: 10/11/2017 7:03:13 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: RE:

Flag: Follow up

https://www.commerce.senate.gov/public/index.cfm/pressreleases?ID=AE0E328E-07D7-4F7C-A3F6-BDE533AC025B

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Partner
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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Wednesday, October 11, 2017 2:56 PM
To: Krenik, Edward
Subject: RE:

Just tried you, let me know when you're free.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Wednesday, October 11, 2017 1:28 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject:

Can you give me a call at your convenience.

Ex. 6

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Partner
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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 4/17/2018 9:30:26 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Rep. Sessions letter
Attachments: Congressman Sessions Letter to Pruitt 4.17.18.pdf

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PETE SESSIONS
32ND DISTRICT, TEXAS

CHAIRMAN
COMMITTEE ON RULES

COMMITTEE ON
FINANCIAL SERVICES
(ON LEAVE)

Congress of the United States
House of Representatives

2233 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-4332
TELEPHONE: 202.225.2231
FAX: 202.225.5878

LAKESIDE SQUARE
12377 MERIT DRIVE
SUITE 750
DALLAS, TEXAS 75251-2224
TELEPHONE: 972.392.0606
FAX: 972.392.0616

sessions.house.gov

April 17, 2018

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20004-2403

Dear Administrator Pruitt:

I write to encourage your consideration and support for providing relief for small refineries suffering hardship due in considerable part to the Renewable Fuel Standard (RFS).

Congress rightly provided discretion to the EPA Administrator to intervene and provide exemptions for small refiners from the RFS program on an annual basis. I continue to believe it is appropriate to provide such relief for small refiners that: are without economies of scale to utilize in meeting EPA's mandate; possess limited ability to blend biofuels with their petroleum products; may produce a greater percentage of diesel fuel as compared to the national average. Each of these factors individually contributes to disproportionate hardship for small refiners and collectively poses the threat of irreparable economic harm.

Additionally, I am aware that in conjunction with the 2018 Renewable Volume Obligation (RVO) rulemaking, the EPA sought comment on whether to reallocate volumes associated with a small refiner exemption to other obligated parties. In the strongest of terms, I support EPA's past practice of not reallocating those RVOs.

EPA's responsibility in administering the RFS is not to maximize, at any cost, the amount of biofuel mandated as transportation fuel. Additionally, the goal of the RFS is not to establish relative competitive advantages or disadvantages based on refinery scale or market dynamics. Rather, EPA's responsibility is to dutifully apply the law, including discretion where appropriate, in consultation with other relevant agencies. I ask you to continue to fulfill this responsibility in a timely manner.

Thank you for your consideration of the applications for small refinery exemptions. Please do not hesitate to reach out if I can be of any assistance on this issue.

Sincerely,

Pete Sessions
Member of Congress

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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 6/21/2018 2:18:42 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
CC: Mathew P. Lapinski [mlapinski@crshq.com]
Subject: Reallocation
Attachments: 4.2.18 Small Refiner Letter.pdf; Congressman Sessions Letter to Pruitt 4.17.18.pdf; 3-5-18 JB and SMC to EPA and DOE.pdf

Aaron

On the heels of the reports that EPA will be reallocating volumes associated with SREs – I wanted to again provide the enclosed letters from various members of Congress that called on EPA earlier this year *not* to reallocate volumes.

Please let me know if there's more information you'd find helpful.

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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RICHARD M. RUSSELL, MAJORITY STAFF DIRECTOR
GABRIELLE BATKIN, MINORITY STAFF DIRECTOR

United States Senate

COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS
WASHINGTON, DC 20510-6175

March 5, 2018

The Honorable E. Scott Pruitt
Administrator
Environmental Protection Agency
1200 Pennsylvania Ave., NW
Washington, D.C. 20460

The Honorable Rick Perry
Secretary
Department of Energy
1000 Independence Ave., SW
Washington, D.C. 20585

Dear Administrator Pruitt and Secretary Perry:

We write to reaffirm our strong support for your leadership in providing, as Congress intended, relief to small refineries suffering hardship under the Renewable Fuel Standard (RFS). Hardship relief is critical to the commercial viability and survival of small refineries – and the thousands of jobs that they provide – in our home states and across the country. We are deeply troubled by the recent attacks on hardship relief for small refineries and what seem to be the efforts of some opponents to obtain confidential business information about these entities. We urge you, in the strongest terms, to ensure that your staff and contractors do not disclose to any outside parties the confidential and other sensitive information of small refineries that petition for hardship relief.

Under the RFS, a small refinery may petition the Environmental Protection Agency (EPA) for relief from its annual renewable fuel volume obligations (RVOs) based on "disproportionate economic hardship." When evaluating a petition, EPA consults with the Department of Energy (DOE), which uses detailed scoring metrics to determine whether a small refinery would suffer disproportionate economic hardship. Generally, a small refinery must experience a high cost of compliance relative to the industry average or an effect sufficient to cause a significant impairment of the refinery's viability. To show this, a small refinery must submit confidential and other sensitive information about its financial status, compliance status, and market position, the disclosure of which would compound the harm that the RFS already causes to the refinery.

In January, we were alarmed that *Reuters* reported the number of small refineries currently petitioning for hardship relief. While we understand that EPA and DOE consider the identity of these small refineries to be confidential business information, we are concerned that opponents may be trying to obtain this and other highly sensitive information through other means, such as federal securities laws, Freedom of Information Act requests, and contacts with government officials involved in this process. Many of these opponents compete with small refineries by, for example, selling refined products in the same market or renewable identification numbers to small refineries. If opponents obtain this information, they would be able to extract even greater profits from or at the expense of small refineries. EPA and DOE must not let that happen.

Under the RFS, EPA's responsibility is not to maximize the amount of corn ethanol used as transportation fuel. Nor is it to enhance the competitive position of large refiners and others who profit from the RFS. Rather, EPA's responsibility is to apply the law, which requires the

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Administrator, in consultation with the Secretary, to provide relief to any small refinery that would suffer disproportionate economic hardship from the RFS. We ask you to continue to fulfill this responsibility and do so in a timely manner. We make this request regardless of whether EPA continues its long-standing practice – which we strongly support – of *not* allocating the annual RVOs of small refineries to other refineries when providing relief after setting the RVOs.

Thank you for your consideration and we look forward to your prompt response.

Sincerely,

John Barrasso, M.D.
Chairman

Shelley Moore Capito
Chair
U.S. Senate Subcommittee on
Clean Air and Nuclear Safety

Congress of the United States
Washington, DC 20515

April 2, 2018

The Honorable E. Scott Pruitt
Administrator
Environmental Protection Agency
1200 Pennsylvania Avenue, NW
Washington, DC 20460

Dear Administrator Pruitt:

We write to encourage your consideration and support for providing relief for small refineries suffering hardship due in considerable part to the Renewable Fuel Standard (RFS).

Congress rightly provided discretion to the EPA Administrator to intervene and provide exemptions for small refiners from the RFS program on an annual basis. We continue to believe it is appropriate to provide such relief for small refiners that: are without economies of scale to make the EPA's mandate cost capable; possess limited ability to blend biofuels with their petroleum products; or may produce a greater percentage of diesel fuel as compared to the national average. Each of these factors individually contributes to disproportionate hardship for small refiners and collectively poses threat of irreparable economic harm.

Additionally, we are aware that in conjunction with the 2018 Renewable Volume Obligation (RVO) rulemaking, EPA sought comment on whether or not to reallocate volumes associated with a small refiner exemption to other obligated parties. In the strongest of terms, we support EPA's past practice of not reallocating those RVOs.

As you know, small independent refiners across the country have been severely burdened by increasing costs of Renewable Identification Numbers (RINs) that independent refiners are forced to purchase under the RFS. In fact, several refiners now cite RIN purchases as their largest expense outside purchasing crude oil, and are spending more money buying RINs than on payroll. The RFS was originally implemented to combat a reduced supply of oil as domestic production dipped, however we are currently experiencing a domestic energy renaissance and are not threatened by a lack of supply. We believe that this broader issue needs to be addressed, but understand this waiver is needed in the meantime to protect small refiners from this failing program.

EPA's responsibility in administering the RFS is not to maximize at any cost the amount of biofuel mandated as transportation fuel. Additionally, the goal of the RFS is not to establish relative competitive advantages or disadvantages based on refinery scale or market dynamics. Rather, EPA's responsibility is to dutifully apply the law, including discretion where appropriate, in consultation with other relevant agencies. We ask you to continue to fulfill this responsibility in a timely manner.

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Thank you for your consideration of the applications for small refinery exemptions. Please do not hesitate to let our offices know if we may be of assistance.

Sincerely,

Liz Cheney
Member of Congress

Steve Pearce
Member of Congress

Chris Stewart
Member of Congress

PETE SESSIONS
32ND DISTRICT, TEXAS

CHAIRMAN
COMMITTEE ON RULES

COMMITTEE ON
FINANCIAL SERVICES
(ON LEAVE)

Congress of the United States
House of Representatives

2233 RAYBURN HOUSE OFFICE BUILDING
WASHINGTON, DC 20515-4332
TELEPHONE: 202.225.2231
FAX: 202.225.5878

LAKESIDE SQUARE
12377 MERIT DRIVE
SUITE 750
DALLAS, TEXAS 75251-2224
TELEPHONE: 972.392.0606
FAX: 972.392.0616

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April 17, 2018

The Honorable Scott Pruitt
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue, N.W.
Washington, DC 20004-2403

Dear Administrator Pruitt:

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Thank you for your consideration of the applications for small refinery exemptions. Please do not hesitate to reach out if I can be of any assistance on this issue.

Sincerely,

Pete Sessions
Member of Congress

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Message

From: Wyman, Christine [christine.wyman@bracewell.com]
Sent: 4/20/2018 8:32:50 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: PFAS Summit

Thanks for checking! If anything opens up please let me know. Have a great weekend!

CHRISTINE WYMAN
Senior Counsel
christine.wyman@policyres.com
T: Ex. 6 F: +1.800.404.3970

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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Thursday, April 19, 2018 1:13 PM
To: Wyman, Christine <christine.wyman@bracewell.com>
Subject: RE: PFAS Summit

Here's what I got back from the Office of Ground Water and Drinking Water. Doesn't look like there is any opportunity for non-governmental entities to attend outside of national organizations. Let me know if you have any follow up questions.

GENERAL PUBLIC/STAKEHOLDERS WITHOUT INVITATION

- EPA appreciates your interest in this important issue and values your input.
- EPA is convening this leadership summit to coordinate with our state and federal partners and national organizations to identify the most critical needs they have in addressing PFAS contamination and to identify the tools we can provide them to better protect public health.
- Because space will be limited at the summit, EPA has limited the invitation to federal partners, states, territories, tribes and representatives from national organizations.
- EPA, however, will provide the opportunity for the public to join in a portion of the meeting via streaming online. Details on how to access the event will be posted on www.epa.gov/pfas.
- We will also be providing the public with the opportunity to send written input to EPA. Details on how to submit your input will be posted on www.epa.gov/pfas.
- EPA will be posting relevant meeting materials online as they become available.

- We appreciate your thoughts and suggestions on how EPA can best help states and communities facing this issue.
- We will consider your organization's interest as we plan our next steps.

-Aaron

From: Wyman, Christine [mailto:christine.wyman@bracewell.com]
Sent: Wednesday, April 18, 2018 4:55 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: PFAS Summit

Thanks!

CHRISTINE WYMAN
Senior Counsel
christine.wyman@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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2001 M Street NW, Suite 900 | Washington, D.C. | 20036-3310
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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Wednesday, April 18, 2018 4:54 PM
To: Wyman, Christine <christine.wyman@bracewell.com>
Subject: RE: PFAS Summit

Thanks Christine, let me check on this with our program folks and circle back around!

Best,

-Aaron

From: Wyman, Christine [mailto:christine.wyman@bracewell.com]
Sent: Wednesday, April 18, 2018 4:37 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: PFAS Summit

Hi Aaron – I hope you're doing well. I was wondering if you had any additional information regarding EPA's upcoming PFAS Summit, and in particular, the ability of non-governmental entities to attend. We work with a company that is integrally involved with this issue and could provide meaningful input. If their attendance is a possibility I'm happy to provide more details.

Thanks,
Christine

CHRISTINE WYMAN
Senior Counsel
christine.wyman@policyres.com
T: +Ex. 6 F: +1.800.404.3970

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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 4/4/2018 8:40:35 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: catch up

Hey – you in town next wed afternoon or Thursday to catch up? Thanks, Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Message

From: Wyman, Christine [christine.wyman@bracewell.com]
Sent: 4/18/2018 8:37:18 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: PFAS Summit

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Thanks,
Christine

CHRISTINE WYMAN
Senior Counsel
christine.wyman@policyres.com
T: +[Ex. 6] F: +1.800.404.3970

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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 2/8/2018 6:05:05 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: call

Hey Aaron –

Do you have a minute to visit briefly by phone in the next day or two?

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 11/9/2017 4:24:42 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Fwd: HollyFrontier meeting request
Attachments: EPA Administrator Pruitt External Meeting Request Form - HollyFrontier Corp..docx; ATT00001.htm

Enjoyed catching up

FYI attached and below

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
Ex. 6

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Begin forwarded message:

From: "Barfield, Blake" <Blake.Barfield@HollyFrontier.com>
Date: October 19, 2017 at 4:41:24 PM EDT
To: "Ford, Hayley" <ford.hayley@epa.gov>, "Bennett, Tate" <Bennett.Tate@epa.gov>
Subject: RE: HollyFrontier meeting request

Thanks, Hayley.

I've enclosed the meeting request form. We'd asked about 10/31 and 11/3 which I realize are coming up quickly. Happy to meet when convenient for the Administrator if he has time in the near future.

Thanks again.

Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
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blake.barfield@hollyfrontier.com

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From: Ford, Hayley [mailto:ford.hayley@epa.gov]
Sent: Thursday, October 19, 2017 3:33 PM
To: Barfield, Blake; Bennett, Tate
Subject: RE: HollyFrontier meeting request

Blake,

Attached is the form that Tate mentioned. If you could provide me with further info, I would be happy to get back to you within a week if that's not too late. Also, feel free to send future requests directly to me/Tate. Ryan gets a lot of messages so he may have missed this one.

Thanks!

Hayley Ford
Deputy White House Liaison
Office of the Administrator
Environmental Protection Agency
Room: 3309C William Jefferson Clinton North
ford.hayley@epa.gov
Phone: 202-564-2022
Cell: Ex. 6

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Thursday, October 19, 2017 4:20 PM
To: Bennett, Tate <Bennett.Tate@epa.gov>
Cc: Ford, Hayley <ford.hayley@epa.gov>
Subject: RE: HollyFrontier meeting request

We sent it to RJ.

Happy to fill out a form – don't believe we have yet.

No apology necessary!

From: Bennett, Tate [mailto:Bennett.Tate@epa.gov]
Sent: Thursday, October 19, 2017 3:14 PM
To: Barfield, Blake
Cc: Ford, Hayley
Subject: Re: HollyFrontier meeting request

Who did you send your original, official meeting request to? Hayley our scheduling guru is CC'd and can send you the internal official meeting request form if you haven't already filled it out. Sorry- we cannot locate your original request and apologize if there was a mistake on our end.

On Oct 19, 2017, at 2:17 PM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

> Tate:
>
> Hope you're well; good visiting earlier this week.
>
> Just wanted to follow-up on our request for HollyFrontier's CEO George Damiris to meet with Administrator Pruitt.

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Meeting Request Form for Administrator Scott Pruitt

Today's Date: October 19, 2017

Meeting Date: at the Administrator's availability. However, we request morning of October 31or November 3, 2017

Meeting Time:

Requested Location (if offsite, please list address, parking instructions, etc.): EPA Headquarters

Requestor: Blake Barfield

Purpose of the Meeting: to discuss the Renewable Fuel Standard with HollyFrontier Corporation CEO, George Damiris

Background on the Meeting: Administrator Pruitt and Damiris have met several times previously. The most recent meeting was March 30, 2017 at EPA Headquarters.

Role of the Administrator: meeting attendee

Attendees: George Damiris, CEO & President, HollyFrontier; Denise McWatters, SVP, General Counsel, HollyFrontier; Blake Barfield, Director, Government Affairs, HollyFrontier

Point of Contact: Blake Barfield blake.barfield@HollyFrontier.com, Ex. 6

Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 2/24/2018 8:53:10 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Re: next wed

Flag: Flag for follow up

Thx

I'll call your cell

Have a good weekend

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
Ex. 6

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On Feb 24, 2018, at 2:31 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

Sure. That works.

Sent from my iPhone

On Feb 24, 2018, at 2:35 PM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

I'm only in a quick bit

Let just touch base by phone if that's ok

Could you do 15 min at like 430 et on Tuesday?

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
Ex. 6

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message should be construed as a digital or electronic signature or a commitment to a binding agreement.

On Feb 24, 2018, at 12:03 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

I'm in San Fran for work Tues-Thur. I could do Monday or Friday unless you want to do a call.

Sent from my iPhone

On Feb 24, 2018, at 12:18 AM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

Hey you free to catch up next Wednesday afternoon? Maybe 4pm?

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 2/24/2018 5:18:51 AM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: next wed

Flag: Flag for follow up

Hey you free to catch up next Wednesday afternoon? Maybe 4pm?

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Message

From: Krenik, Edward [edward.krenik@bracewell.com]
Sent: 11/28/2017 4:10:17 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: Call me if you get a sec

Are you free today?

EDWARD KRENIK
Partner
edward.krenik@policyres.com
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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Friday, October 27, 2017 3:27 PM
To: Krenik, Edward
Subject: RE: Call me if you get a sec

Tried you a minute ago.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 27, 2017 2:55 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Call me if you get a sec

EDWARD KRENIK
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Message

From: Mann, David [david.mann@bracewell.com]
Sent: 1/29/2018 5:51:47 PM
To: Mann, David [david.mann@bracewell.com]
Subject: TONIGHT: PRG Reception Welcoming Anna Burhop, Stoney Burke, Liam Donovan, and Christine Wyman

Importance: High

Good afternoon-

Thank you for your RSVP to the PRG welcome reception TONIGHT, Monday, January 29th from 5:30 pm until 7:30 pm at Charlie Palmer Steak (101 Constitution Avenue N.W.) celebrating the newest members of the PRG team: Anna Burhop, Stoney Burke, Liam Donovan, and Christine Wyman.

By way of reminder, please do not enter through the restaurant, but instead use the main entrance of the building (Constitution Avenue side) upon arrival and proceed to the Seventh Floor Capitol View Conference Center. There will also be a check-in table in the downstairs lobby to guide you. Please don't hesitate to contact us with any questions. We look forward to seeing you tonight.

DAVID MANN
Assistant
david.mann@policyres.com
T: +1.202.828.7635 | F: +1.800.404.3970

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Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 7/25/2018 1:29:38 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: with Wilcox out

Thanks. Want to connect before next Wednesday...

FRANK MAISANO
Senior Principal
frank.maisano@policyres.com
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From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Sent: Jul 25, 2018 8:40 AM
To: "Maisano, Frank" <frank.maisano@bracewell.com>
Subject: RE: with Wilcox out

I'll let him know you'll be reaching out.

-Aaron

From: Maisano, Frank [mailto:frank.maisano@bracewell.com]
Sent: Wednesday, July 25, 2018 8:38 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: with Wilcox out

Thanks. I am going to reach out because I want to help Andy and his team be the best they can be. A good word to Kronkus about connecting w me would be appreciated.

FRANK MAISANO
Senior Principal
frank.maisano@policyres.com
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From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Sent: Jul 25, 2018 8:36 AM
To: "Maisano, Frank" <frank.maisano@bracewell.com>; "Mr. Aaron E. Ringel" <ringel.aaron2@epa.gov>
Subject: RE: with Wilcox out

John Konkus is running point right now.

-Aaron

From: Maisano, Frank [mailto:frank.maisano@bracewell.com]
Sent: Tuesday, July 24, 2018 5:46 PM
To: Mr. Aaron E. Ringel <ringel.aaron2@epa.gov>; Ringel, Aaron <ringel.aaron@epa.gov>
Subject: with Wilcox out

Who is handling wheeler PR. Just want to be helpful.
Who is handling wheeler PR. Just want to be helpful.

FRANK MAISANO
Senior Principal
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Message

From: Mann, David [david.mann@bracewell.com]
Sent: 1/26/2018 4:28:00 PM
To: Mann, David [david.mann@bracewell.com]
Subject: RSVP Confirmation for the PRG Reception on Monday, January 29th Welcoming Anna Burhop, Stoney Burke, Liam Donovan, and Christine Wyman

Importance: High

Good morning-

Thank you for your RSVP to the PRG welcome reception on Monday, January 29th from 5:30 pm until 7:30 pm at Charlie Palmer Steak (101 Constitution Avenue N.W.) celebrating the newest members of the PRG team: Anna Burhop, Stoney Burke, Liam Donovan, and Christine Wyman.

By way of reminder, please use the main entrance of the building upon arrival and proceed to the Seventh Floor Capitol View Conference Center. There will also be a check-in table in the downstairs lobby to guide you. Please don't hesitate to contact us with any questions. We look forward to seeing you on Monday.

DAVID MANN
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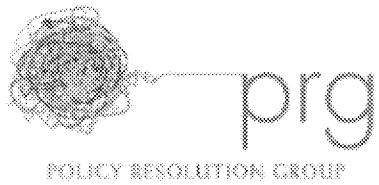

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Message

From: Wyman, Christine [christine.wyman@bracewell.com]
Sent: 2/22/2018 1:15:25 AM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Re: Howdy!

Thanks and sorry!

CHRISTINE WYMAN
Senior Counsel
christine.wyman@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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On Feb 21, 2018, at 8:13 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

> I could do 130 tomorrow.
>
> Sent from my iPhone
>
> On Feb 21, 2018, at 8:11 PM, Wyman, Christine <christine.wyman@bracewell.com> wrote:
>
> > Ack! I totally looked at my calendar wrong and I have a call until 3:30 and I now have a call at 4:30, too. I could do 1 or 1:30 tomorrow? Or Friday before 11? Sorry!!
>
> **CHRISTINE WYMAN**
> Senior Counsel
> christine.wyman@policyres.com
> T: Ex. 6 | F: +1.800.404.3970
>
> **BRACEWELL LLP**
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On Feb 21, 2018, at 6:21 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

> Good to see you as well! I can do coffee tomorrow at 3:30. We can meet at the Starbucks across the street if that works. Look forward to catching up!
>
> Sent from my iPhone
>
> On Feb 21, 2018, at 5:47 PM, Wyman, Christine <christine.wyman@bracewell.com> wrote:
>
>> Hey Aaron – Great running into to you today. Any chance you have time for a quick meeting or coffee? I'd love to hear how EPA is going and chat about a couple things. Not sure what your schedule looks like. I could meet you after 3 pm tomorrow, at 9:30 or earlier on Friday. Next week I could meet Monday afternoon or Tuesday morning.
>>
>> Thanks!
>> Christine
>>
>> **CHRISTINE WYMAN**
>> Senior Counsel
>> christine.wyman@policyres.com
>> T: Ex. 6 | F: +1.800.404.3970
>>
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>> <image04b47e.JPG>
>>
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Message

From: Wyman, Christine [christine.wyman@bracewell.com]
Sent: 2/21/2018 10:47:44 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Howdy!

Hey Aaron – Great running into to you today. Any chance you have time for a quick meeting or coffee? I'd love to hear how EPA is going and chat about a couple things. Not sure what your schedule looks like. I could meet you after 3 pm tomorrow, at 9:30 or earlier on Friday. Next week I could meet Monday afternoon or Tuesday morning.

Thanks!
Christine

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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 10/25/2017 3:38:00 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: catch up

Flag: Flag for follow up

Aaron

Hope you're well.

I'll be in town next Monday and Tuesday and wanted to see if you had a few minutes to catch up.

Thanks
Blake

–
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
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blake.barfield@hollyfrontier.com

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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 11/7/2017 2:22:44 AM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: Thursday

I'm headed back to town this week

You free to meet Thursday?

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies

Ex. 6

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Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 5/24/2018 4:03:02 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: Possible Follow up to Today's 2018 Hurricane Forecast

Friends,

NOAA announced it 2018 Hurricane forecast today. While discussions about how many storms and their intensity is important, perhaps a great follow up would be what communities can do to make themselves more hurricane resilient.

Here are a couple of good stories from the *Washington Post's* Capital Weather Gang and CNN on today's forecast. For those of you covering hurricanes, emergency preparedness/response and building or infrastructure resilience, MIT's Jeremy Gregory can offer expert perspective that helps frame the critical choices ahead for policymakers, building designers, communities, and vulnerable residents in hazard-prone areas.

You can reach him at jgregory@mit.edu and Ex. 6. Or you Can also connect with me and we will help you connect.

Frank Maisano
Ex. 6

MEDIA ADVISORY

MIT Experts Available to Discuss What to Do About Building Resilience as 2018 Hurricane Season Begins

CAMBRIDGE, MA – MIT experts that are researching hurricanes and building resiliency are available to discuss today's National Oceanic and Atmospheric Administration (NOAA) 2018 hurricane forecast released today in Washington.

Recently, two studies published *Earth's Journal* and *Geophysical Research Letters* detailed the troubling implications resulting from the increased intensity of hurricanes – and the impact they have on society. Storms that unload more rain and intensify explosively cause more destruction and suffering, as the 2017 Atlantic hurricane season made painfully clear. Harvey, Irma and Maria each ranked among the five costliest hurricanes on record. Between 1996 and 2014, damages in the US due to hazards (hurricanes, tornadoes, floods, earthquakes) totaled over $377 billion, according to the National Weather Service. In 2017 alone, storms caused over $200 billion in damages making it the costliest on record.

How do towns, cities and planners deal with this new normal? Experts at the MIT Concrete Sustainability Hub have been analyzing the costs and benefits of investing in preparation for natural disasters in hazard-prone areas of the U.S.

WHO: MIT research experts led by Jeremy Gregory

WHAT: For those of you covering hurricanes, emergency preparedness/response and building or infrastructure resilience, Dr. Gregory's expert perspective helps frame the critical choices ahead for policymakers, building designers, communities, and vulnerable residents in hazard-prone areas.

HOW: https://cshub.mit.edu/ OR reach out to Jeremy Gregory: jgregory@mit.edu; (617) 324-5639

BACKGROUND: MIT's **Break-even Mitigation Percentage (BEMP)** calculation provides a risk management tool for communities to determine the break-even point for investments in mitigation. The calculation provides a suggested amount to spend (expressed as a percentage of initial building costs) given the possibility of future damage. MIT's

interactive "dashboard" uses the BEMP calculation to help building designers and owners calculate the risk and level of investment needed to mitigate future building damage in their areas.

FRANK MAISANO
Senior Principal
Ext. Ex. 6
Policy Resolution Group

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Senior Principal
Ext. Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 4/30/2018 7:14:14 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: Apr 30 PRG Energy Update: KY Derby Preview, Recess Energy Week

Friends,

Well, it seemed Scott Pruitt was getting a rough ride last Thursday on Capitol Hill but the White House Correspondents Dinner speaker Michelle Wolf may have underperformed him Saturday. Apparently, many didn't particularly like a number of her jokes and her coverage was worse that NRDC's coverage of Pruitt. I am sad I missed it this year, but we were celebrating my colleague Scott Segal's birthday. Also, Hannah was home from Wellesley for the weekend to umpire a US national team field hockey match on Sunday.

Okay folks, the first week of May means it's Kentucky Derby week. The action starts Wednesday when post positions are drawn. Kentucky Oaks on Friday and post time for the big race is 6:46 pm on Saturday. We have the field and betting breakdown in a special section below. I am telling you that *Justify, Mendelssohn* and *Good Magic* are who I'm watching, but see below for the full details and predictions.

ICYMI, the FAA reauthorization passed Friday in the House and included provisions to update the Stafford Act (how we pay for disaster relief) that speeds up inspections and ensures a percentage of assistance is dedicated to predisaster hazard mitigation. Given the approaching NOAA hurricane season forecast, as well as the current Congressional discussions of improving disaster relief, perhaps this is the right time to dig into this hurricane preparedness issue and focus on some of the solutions the most thoughtful planners are looking at today. Researchers at MIT are already tackling part of the extreme weather calculus by looking at how to better fortify our structures to withstand the destructive effects of extreme weather events. Jeremy Gregory, executive director of MIT's Concrete Sustainability Hub (CSHub), is pushing the frontier of academic research into building materials, with implications for policymakers, building designers, communities and the vulnerable residents of hazard-prone areas. We can help you here if you are digging in. Business Council for Sustainable Energy (BCSE) President Lisa Jacobson said the legislation "will ensure that the United States better prepares for disasters and extreme weather events and rebuilds more resiliently for when disaster does strike."

Secondly, a number of folks reported on Friday that the Administration plans to freeze fuel economy standards at model year 2020 levels through at least model year 2026 vehicles. While some are looking at it as a rollback, I would remind you that the Phase II targets were always seen as an overreach by most unbiased experts. In fact, the agreement with a mid-term review was specifically designed to right-size the regs if it was likely that they would be unattainable (oh and they seem to be). Either way, our friends at SAFE, Robbie Diamond, Greg Rogers, et al are In the middle of the action and can comment. In fact, Diamond told the LA Times "a long, litigious road is the worst outcome for all stakeholders, especially the auto industry and American consumers."

We taking a deep breathe this week with Congress in recess and more Pruitt hearings set for next week.

Off the Hill, this week is Waterpower Week in DC with the Hydro Association holding several events. In Houston, the Offshore Technology Conference rolls into action. Abby Hopper headlines Solar Summit 2018 tomorrow and Wednesday in San Diego and finally, the Columbia Center for Global Energy hosts an event today on conservative prescriptions on climate change that includes former Bush CEA chair Glenn Hubbard and our friend Rich Powell of ClearPath.

Finally, today is a big day in the trade world as temporary country exemptions on steel/aluminum tariffs expire. My colleagues Josh Zive, Stoney Burke and Paul Nathanson are all over it and happy to discuss on the record. As well, you can find more trade/tariff issues at the Coalition of American Metals Manufacturers and Users, which you can follow on Twitter at @tariffsaretaxes or on the website is www.tariffsaretaxes.org.

Call with questions. Best,

Frank Maisano
Ex. 6
c. Ex. 6

FRANKLY SPOKEN

"As the largest refiner by capacity in the U.S., with a best-in-class operating capability and a strong capital structure, the combined company will be exceptionally well-positioned to deliver on its synergy and earnings targets."

Andeavor chairman and CEO, Gregg Goff discussing today's deal with Marathon and how it provides value to shareholders now and in the future as part of the combined company.

ON THE POD

Bracewell Podcast Talking Trade – The latest Bracewell podcast will be posted soon and will focus on trade. It will soon be live on Stitcher, iTunes, SoundCloud, and Google Play Music where Paul and Josh discuss today's tariff deadline.

Amy Harder Talking Pruitt On *TrumpWatch* – With the Pruitt hearings last week, Amy Harder of Axios, New York's WBA podcast "TrumpWatch" to discuss whether Pruitt stays in his role at the EPA and discusses his agenda. , Amy discusses the testimony with host Jesse Lent about some of the more consequential actions he has taken while overseeing the EPA.

FUN OPINIONS

Harder Line on Climate – Our Friend Amy Harder has an Interesting column in her regular *Harder Line* column on Axios.com that discusses why climate change can't escape Washington's back burner. Amy smartly says climate change is one of the biggest issues facing political and corporate leaders, yet it is almost always put behind more imminent priorities. The amorphous, long-term nature of the problem doesn't fit well into political agendas, and companies respond in kind." Even some of my friends in the environmental community with quietly admit this. And it is also why Tom Steyer is now spending his millions on impeachment ads rather than the environment and climate.

THE DERBY PREVIEW

The annual Run for the Roses is back again for another edition of one of horse racing's biggest events.
The first Triple Crown race of the year, the Kentucky Derby features a field of 20 horses vying for a purse of $2 million. Here's a quick look at the basic information you need to know ahead of time so you don't miss out on any of the festivities:

The **144th Kentucky Derby** is the most exciting two minutes in sports. It looks like we are in for a great and competitive race on Saturday. There are a few exciting prospects, and a few budding stars that will be going to post, but we also have some pretenders to sort through. The crop this year looks potentially strong, but important to note, while he qualified, *Gronk* is out because of a sickness.

Post time — 6:46 p.m.

Purse — $2 million, with $1.4 to the winner.

Attendance — More than 170,000

Weather — Mostly sunny and nice, 12% chance of precipitation, high of 81°. The forecast is probably the single most important factor behind a good Kentucky Derby. It affects everything from track conditions, where wet weather can lead to a sloppy afternoon, to the infield, where wet weather can lead to a completely different kind of sloppy afternoon. Bookmark willitrainonderbyday.com now and be sure to check back as we get closer to Derby Day.

TV — NBC's coverage features hosts **Bob Costas**, a 27-time Emmy Award-winner, and **Mike Tirico**; analysts **Randy Moss** and **Jerry Bailey**, the Hall of Fame jockey and two-time Kentucky Derby winner; NBCSN host **Krista Voda**; analysts/handicappers **Bob Neumeier** and **Eddie Olczyk**; reporters **Donna Brothers, Carolyn Manno, Laffit Pincay, III,** and **Kenny Rice**; and race caller **Larry Collmus**.

The Distance — The Derby is 1 ¼ miles, or 10 furlongs. Secretariat's 1973 time of 1:59.40 remains the fastest ever.

The Draw — Post positions will be drawn Wednesday morning at 11:00 a.m.

Draw Facts — Since racing began using a starting gate in 1930, the #5 post has the highest win percent at 11.4%. Interestingly, the #10 spot that has the highest in-the-money percentage of runners at 29.6%. Conventional wisdom has it that the inside post positions are not as good for horses these days due to the size of the field and the risk of being squeezed out as the race progresses. Post positions 1, 2 and 3 have been in a drought without a winner since 1986, 1978 and 1998 respectively. The official Kentucky Derby website has a convenient list of complete post position records for every Kentucky Derby over the years.

Churchill Downs — Known as the home of the Kentucky Derby and the Kentucky Oaks, Churchill Downs Racetrack is in Louisville, Kentucky and occupies 147 acres, featuring a one-mile dirt, oval racetrack and a seven furlong turf race course. Thoroughbred racing, the Kentucky Derby, and the Kentucky Oaks have run continuously at Churchill Downs since 1875. It features the Twin Spires — built in 1895 — that sit atop the grandstands, which remain among the most recognizable architectural features in the world.

What to Wear — The Kentucky Derby has been synonymous with style and glamour from the beginning. Today, it's one of the only places in the world where people still dress to the hilt for a sporting event and where men's fashion is just as important as women's. From fantastic hats and colorful spring dresses to dashing bow ties and seersucker suits, Derby's display of American style and tradition simply doesn't exist anywhere else.

> *Men* — The modern Derby man possesses an unparalleled color palette. Sun-drenched, tropical colors in bold stripes or busy plaid and bright pastels steal the limelight. Although, if you want a more polished look, a classic navy or pinstripe blazer is always in style. But remember, gentlemen: The secret to looking great is confidence.
>
> *Women* — The Derby is a chance for every woman to express her inner Southern Belle. The race's founder, Colonel M. Lewis Clark, Jr., had a vision for an experience that felt both comfortable and luxurious. Today, a myriad of fashions can be found at Derby – from cool sundresses to simple cocktail dresses and even more formal attire. But all these styles have one thing in common: the big Derby hat. The extravagant hats that have become associated with the Derby did not really come around until the 1960s, when social fashion norms loosened up and the presence of television gave women a reason to stand out. The hats became larger, brighter, and more extravagant. Hats at the Kentucky Derby have become even more popular after the royal wedding in 2011, an event that showcased many elaborate hats and fascinators. See a tutorial on Derby hats here.

The Apollo Curse — Not since the 8th running of the Derby has a horse won it without the benefit of a start as two-year old. That horse was *Apollo* who came with a late rush to beat *Runnymeade* back in 1882. This year, we have not one but two horses looking to knock off the Apollo curse. *Justify* and *Magnum Moon* both come in looking strong and could end this streak. Neither raced last year.

Breeder's Juvenile — While it is a great race to win, the Breeders' Cup Juvenile has not exactly been a harbinger for Derby winners. *Nyquist* is one of only two are the only two who won the Juvenile that also won the Roses. Last year's winner *Good Magic* may be good enough to go the distance.

THE FIELD of 20

Here are some horses in the field that I would look out for:

Magnum Moon (Trainer Todd Pletcher, Rider Luis Saez) – He is 4 for 4 without a start at two, taking the Rebel and Arkansas Derby. He will run in the Kentucky Derby off three weeks' rest. He ran in the Arkansas Derby off a short rest and was bearing out significantly in that race. Three hard races in a relatively short window is cause for concern, especially when you watch the replay of him bearing out in the Arkansas Derby. The added distance doesn't figure to help him, and at times, has shown a lack of maturity which could hurt in a big field. He should prompt the pace if not lead it. It's hard not to like an undefeated horse from the Pletcher barn, with a tough aggressive rider, but he has some negatives that could hurt him, especially if the pace is fast.

Mendelssohn (Trainer Aidan O'Brien, Rider Ryan Moore) – It should have come as no surprise this horse can motor on dirt. His race in Dubai amounted to a public workout. Yes the track was kind to speed and the rail was good but he ran fast, went easily, and by no means needs the front. He's won on turf, synthetic, and on dirt. He's been a mile and 3 sixteenths, that's further than anyone he will face in Louisville. His last win is faster than any in here have run and if he repeats that (or anything close to it) he will be very tough to beat.

Justify (Trainer Bob Baffert, Rider Mike Smith) – It is probably not possible for a colt to be in better hands coming up to the Derby than *Justify* is with trainer (Baffert) and rider (Smith). He's three for three with no starts at two, but only raced at Santa Anita, which is a question mark despite him being the likely favorite at Post time. He has plenty of speed but he doesn't have to be right on the lead. He can stalk and pounce and I suspect that is what Smith will attempt to do. He will likely be the favorite and has had a strong showing during Churchill Downs workouts over the past couple of days, clocking in at 1:13 over six furlongs.

Good Magic (Trainer Chad Brown, Rider Jose Ortiz) – *Good Magic* just won in the Blue Grass and was last year's Breeders' Cup Juvenile champ as a maiden. He has lofty expectations and trained great lately. He will probably sit off a projected fast or even contested pace, but go when called upon. Ortiz is a winning machine and chooses wisely in big races so look out for this one.

Audible (Trainer Todd Pletcher, Rider Javier Castellano) – *Audible* is popular but his pedigree doesn't scream a mile and a quarter. As well, his Florida Derby win had a lot of good Luck in it as he sat off a suicide hot pace and moved into it at the right time to finish the field. Experts worry about his finish. Interestingly, world-class rider John Velazquez won the Florida Derby aboard this colt but jumped off to ride *Vino Rosso*. That should tell you something.

Vino Rosso (Trainer Todd Pletcher, Rider John Velazquez) – Speaking of *Vino*, he looks like a true distance horse (given his breeding) and after a good race in the Wood Memorial, he pulled veteran rider Velazquez off *Audible*. He can sit back and make one run into a contested and probably fast pace. He looks like he put it all together at the right time and should be right there. The worry with *Vino* is he may be already peaking and if he has, it will be difficult for him to win.

Bolt D' Oro (Trainer Mick Ruis, Rider Victor Espinoza) – While fast and talented, he doesn't seem to be as fast and talented as *Justify*. He will need some help from his trip and his experience to turn those tables. It also hurt his chances when Javier Castellano, in search of that elusive first Kentucky Derby win, jumped off this colt to ride Audible. Victor Espinoza is a great replacement for the big show, but the he hasn't really run faster than he did as a two-years old. That is a little strange and rare. A good pedigree with *Medaglia d' Oro* and *A.P. Indy* makes him one to still keep an eye on.

Noble Indy (Trainer Todd Pletcher, Rider TBA) – The Louisiana Derby winner was somewhat lucky to beat both *Lone Sailor* and *My Boy Jack* in that race. He will face both again along with a host of others. He has speed to be part of the pace or close to it. He doesn't look like the distance will do him any favors. He may be in the mix longer than some think, but likely not at the finish. He will probably struggle with an expected fast pace and the longer distance.

My Boy Jack (Trainer Keith Desormeaux, Rider Kent Desormeaux) – *MBJ* is coming off 3 less than ideal trips starting with a win up the rail in the mud. He ran on the rail (and was not intimidated by it) and likes the mud. He also is a strong finisher as evidenced by his Louisiana Derby finish where he can from far back and was very wide. He is agile, brave and doesn't quit. He has a three race super steady pattern and may be peaking at the right time. He has lots of speed and will likely finish strong. And if there is any bit of rain, he won't mind it wet.

Hofburg (Trainer Bill Mott, Rider Irad Ortiz) – If you are looking for a sleeper, another intriguing colt who lacks seasoning is *Hofburg*. He ran in the Florida Derby where he was wide but never surrendered and kept coming against a much more seasoned and accomplished foe who also got the jump on him. He can easily turn those tables with the race behind him and with the added distance he should relish. It will take a lot of talent to overcome his inexperience but he could be a really good one flying under the radar.

Combatant (Trainer Steve Asmussen, Rider Ricardo Santana) – With an unlucky wide draw in Arkansas, *Combatant* is improving and can rally from off the pace but also not too far off if Santana chooses. He will be long odds but could surprise.

Others: Enticed, **Flameaway**, **Noble Indy**, **Firenze Fire**, **Free Drop Billy**, **Lone Sailor**, **Bravezo** – These are all long shots but if I had to consider them, I might think *Free Drop Billy*, who had a great two-year old year but just hasn't shown anything this year, might be a sleeper. As well, *Brazevo* is trained by D Wayne Lukas and ridden by Gary Stevens and while not as talented, that team has won big surprises before including Oxbow in the Preakness in 2013.

THE PACE

Pace makes the race, and the Kentucky Derby is no exception. It looks like there is enough early speed in this race to insure either a lively pace or possibly a contested one. It is impossible to get a read on this until we see the draw Wednesday morning. Post positions affect jockey strategies and will definitely change outlooks. It is likely *Promises Fulfilled* will likely be the initial pacesetter provided he breaks well. The only other scenario I see at this point is a Mike Smith decision to go if *Justify* breaks well and gets the jump. He probably doesn't want to lead, but will if it there, knowing *Justify* can handle it. *Justify* is inexperienced so a clean ride without a lot of dirt and not having to bounce in the stretch may help him. The pace is the Derby is usually a fast one as the track is likely to be playing fast, especially with the forecast, but once things are out there are a number of pace pressers (*Magnum Moon*, *Enticed*, *Flameaway*, *Noble Indy*, *Firenze Fire*) all have enough speed to hang. A fast pace does not mean speed can't win if someone is loose and gets brave but it will be hard for the speed to hold at a mile and a quarter if things get contested. Mendelssohn's strength may give him an edge on some or most of the stalkers. We'll know more with the draw on Wednesday and with track conditions on Saturday, but it looks like a closers race on paper unless Justify is just too good.

ODDS

Odds to win 2018 Kentucky Derby (5/5/18) - per **Sportsbook.ag** as of today (4/30/18):

- Justify 3-1
- Bolt D'oro 18-5
- Mendelssohn 9-2
- My Boy Jack 9-2
- Magnum Moon 19-4
- Audible 13-2
- Good Magic 15-2
- Hofburg 10-1
- Vino Rosso 16-1
- Enticed 20-1
- Solomini 25-1

- Noble Indy 28-1
- Flameaway 30-1
- Instilled Regard 35-1
- Free Drop Billy 40-1
- Bravazo 50-1
- Combatant 50-1
- Lone Sailor 50-1
- Promises Fulfilled 50-1
- Firenze Fire 75-1

2018 Kentucky Derby Prediction

I don't like to pick favorites, especially those that are under the Apollo Curse, but my gut says *Justify* is the best and strongest horse in the field. If he is a favorite at 7-2 or higher, I am definitely laying cash there, but I don't expect him to stay there. Anything lower and I'll probably box him up with *Mendelssohn* and *Good Magic* in the Trifecta box and add either *My Boy Jack* or *Magnum Moon* for the Super.

Win: *Justify*

Trifecta Box: *Justify, Mendelssohn, Good Magic*

Superfecta Box: *Justify, Mendelssohn, Good Magic* with *My Boy Jack* or *Magnum Moon*

Sleepers: *Hofburg* (10-1) and/or *My Boy Jack* (9-2)

Long Shots: *Free Drop Willy* (40-1) or *Bravazo* (50-1), each worth the $2 bet

IN THE NEWS

Marathon, Andeavor Connecting – Marathon Petroleum said today it will buy out San Antonio's Andeavor, in a $23.3 billion cash-and-stock deal, bringing together the second-largest U.S. refiner and a highly integrated marketing, logistics and refining company. The deal will see Marathon swap each Andeavor share for either 1.87 shares of Marathon common stock or $152.27 in cash; the deal is structured so that about 15% of Andeavor's shares will receive the cash consideration.
Marathon investors will hold about 66% of the company, while Andeavor investors will own the other 34%. The combined company will continue to use Marathon's Findlay, Ohio, headquarters but will maintain an office in San Antonio, Texas, where Andeavor is currently based. Gregg Goff, Andeavor chairman and CEO, said the deal provides value to shareholders now and in the future as part of the combined company. The deal, which is subject to shareholder approval by both company's investors as well as regulatory approval, is expected to close during the second half of 2017.

FAA Legislation Approved – The House approved FAA reauthorization legislation Friday. The must-pass bill includes the Disaster Recovery Reform Act (DRRA), which reforms the Stafford Act. The DRRA clarifies existing assistance programs to speed up inspections and ensure that a percentage of assistance is dedicated to predisaster hazard mitigation. The most important changes to the Stafford Act – which is how we pay disaster assistance – reduces restrictions for mitigation assistance and aims to ensure assistance is provided efficiently. The DRRA also mandates a FEMA guidance enabling cooperation with state and local governments in acquiring "open space" as a mitigation measure. This is significant most everyone agrees that hurricanes in the US are intensifying, both in frequency and in strength. Every year, we seem to be incurring more damage and spending more on repairs. The FAA changes underscore the immediate and demonstrable results of fortifying our structures to withstand the destructive effects of extreme weather events. To that end, researchers at MIT are already tackling this part of the extreme weather calculus. Jeremy Gregory, executive director of MIT's Concrete Sustainability Hub (CSHub), is pushing the frontier of academic research into building materials, with implications for policymakers, building designers, communities, and the vulnerable residents of hazard-prone areas.

CPP Comments Filed – The Electric Reliability Coordinating Council submitted comments on the Clean Power Plan repeal last Thursday as the deadline closed. ERCC argued 1) the CPP went well beyond EPA's Authority under Section 111(d) of the Clean Air Act; 2) CPP Is fundamentally inconsistent with the Cooperative Federalism Principles that Congress established in the CAA and other Federal Statutes; 3) the Clean Power Plan is just bad policy because it jeopardizes electric supply and harms consumers while essentially doing nothing to reduce climate change. Finally, ERCC said it supports efforts for EPA to replace the CPP with regulations based on sound legal and economic principles. "Such an effort would provide regulatory certainty, diminish frivolous litigation, and aide the planning efforts of power companies and state utility commissions."

Energy Storage Legislation Introduced – Reps. Steve Knight (R-CA) and Bill Foster (D-IL) have introduces legislation (H.R. 5610) that would establish a set of concrete innovation goals in the coming years for energy storage technologies. The Better Energy Storage Technology (BEST) Act is modeled after similar "moonshot" initiatives, including John F. Kennedy's original goal of landing a man on the moon that propelled the U.S. past Russia in the space race. The same type of moonshot goals can be applied to technologies such as energy and battery storage as the U.S. looks to keep up with and surpass China in the global clean energy race. The House bill is similar to one in the Senate introduced by Sens. Jeff Flake (R-Ariz.) and Martin Heinrich (D-N.M.)

DOE Announces $60M for Advanced Nuclear Technology Development – Energy Secretary Rick Perry announced 13 projects that will receive about $60 million to support cost-shared research and development in advanced nuclear technologies. The selections — broken down into categories pertaining to nuclear demonstration readiness, advanced reactor development, and regulatory assistance grants — are the first under the Office of Nuclear Energy's "U.S. Industry Opportunities for Advanced Nuclear Technology Development" effort. The announcement includes $40 million in DOE funding for NuScale's small modular reactor design effort and nearly $5 million for a project to design and license application development for a facility capable of handling high-assay, low-enriched uranium and production of uranium fuels required for advanced nuclear fleets.

Report: Market, Regulatory Challenges to Pumped Storage Growth – With WATERPOWER Week upon us, the National Hydropower Association released a new report that says developing market changes that recognize the energy reliability and security role pumped storage plays and evaluating energy storage technologies based on their abilities to provide key supporting services to the overall electric grid. The report also recommends streamlining licenses for low-impact pumped storage hydropower and developing standard evaluation criteria for all forms of energy storage to better compare and evaluate different types of storage.

Report Looks at Nuclear, Renewables Integration – MIT Energy Initiative and Argonne National Lab teamed up for a report underscoring how nuclear and renewable power can work in tandem under a more diverse and reliable grid. "We find that operating nuclear plants in a more flexible manner, including varying power output to integrate renewable energy and supplying valuable operating reserves and frequency regulation, presents a potential 'win-win-win'," MIT's Jesse Jenkins said. Jenkins and his modeled the benefits of pairing renewable resources with more flexible operation of nuclear power plants in a recent paper in *Applied Energy*. During summer 2015, the team worked on two power systems projects: one on the role of energy storage in a low-carbon electricity grid, and the other on the role of nuclear plants. Linking the two projects, the report uses new sources of operating flexibility to integrate more renewable resources into the grid.

ON THE SCHEDULE THIS WEEK

Offshore Tech Conference Set – The Offshore Technology Conference (OTC) starts today and runs through Thursday at NRG Park (formerly Reliant Park) in Houston. The conference is focused on scientific and technical knowledge for offshore resources and environmental matters. OTC showcases leading-edge technology for offshore drilling, exploration, production, and environmental protection. OTC is the world's foremost event for the development of offshore resources.

MI Innovation Council to Hold Meeting – Michigan Energy Innovation Business Council holds its 6th Annual conference today at the Radisson Hotel Lansing at the Capitol. The full-day conference focuses on innovations in advanced energy, as well as get an overview on the latest policy developments. There will be several break-out panels throughout the day featuring dozens of expert panelists. The event brings together leaders in Michigan's advanced energy industry, utility executives, policymakers, regulators, and others.

Forum to Look at Climate, Conservative Views – The Columbia Center for Global Energy hosts an event today on conservative prescriptions on climate change. As part of its continuing series "Where Next on Climate?" the Center on Global Energy Policy will host a program focusing on conservative prescriptions to deal with climate change. Dr. Glenn Hubbard, Dean of the Columbia Business School and former chair of the Council of Economic Advisors under President George W. Bush, will offer opening remarks, then lead a panel discussion with our friend Rich Powell of ClearPath, John

Diamond of Rice University's Baker Institute for Public Policy and Lynne Kiesling of Purdue University and R Street Institute.

NHA holds Washington Waterpower Week – The National Hydropower Assn holds Waterpower Week in Washington today through Wednesday. Waterpower Week is comprised of three co-located conferences rolled into one: NHA's Annual Conference, International Marine Renewable Energy Conference (IMREC), and Marine Energy Technology Symposium (METS). This 3-day jam packed event provides you the opportunity to network, learn about legislative and regulatory initiatives, and discuss the issues impacting hydropower and marine energy industry.

Solar Summit Set for SD – GTM's Solar Summit 2018 will be held in San Diego tomorrow and Wednesday at the Hyatt La Jolla. This conference will present deep dives by the top industry executives and thought leaders that will help you navigate the challenges in the market. SEIA's Abby Hopper and former Governator Cal EPA head Terry Tamminen are among the list of speakers.

CSIS to Look at Carbon Pricing – The CSIS Energy & National Security Program will host John Larsen (Rhodium Group; CSIS), Jerry Taylor (Niskanen Center), and Thomas Kerr (IFC) tomorrow to discuss the state of play of carbon markets and pricing around the world. Carbon pricing and emissions trading systems (ETS) have been gaining momentum as tools to reduce greenhouse gas emissions and meet Paris Agreement targets. The majority of OECD countries have a carbon pricing mechanism in place. Despite progress, carbon pricing and ETS only cover approximately 15% of global emissions. The United States is still without a nation-wide carbon price, a politically fraught issue. Ultimately, prices must be significantly higher, and these mechanisms more widely adopted, in order to meet the goals of the Paris Agreement. Whether pricing carbon and ETS will come to meet expectations remains an open question.

Forum to Look at PJM Region Energy Issues – On Wednesday, the Great Plains Institute and Duke University's Nicholas Institute for Environmental Policy Solutions hold an expert workshop for state officials and stakeholders exploring recent energy and environmental policy developments in the PJM region. Federal Energy Regulatory Commissioner Robert F. Powelson will deliver a keynote address. After Commissioner Powelson's keynote, Adam Keech, Executive Director of PJM Market Operations will present on recent developments at the RTO. A panel of state leaders will then react to recent PJM proposals and decisions and present on state-level developments. An industry panel will explore trends in the electricity industry, including recent commitments by utilities to decarbonize their portfolios. A third panel will explore timely environmental issues, from the new tax credit for carbon capture and storage projects to EV charging infrastructure and Virginia's move to link to RGGI.

Forum to Focus on Russian Energy – On Wednesday at 10:00 a.m., the Atlantic Council holds a timely discussion on Russia's energy strategy, the final event in a four-part series on Russia Today and Tomorrow: Internal Strengths and Weaknesses. Russia remains one of the largest oil and natural gas producers in the world. Its economy largely depends on energy exports, with revenues accounting for about a half of the country's federal budget. Dr. Tatiana Mitrova, director of the Energy Center at the Moscow School of Management SKOLKOVO, will be presenting a paper of Russia's energy strategy. This will be followed by a panel discussion which will explore the current state of the energy industry in Russia, as well as its immediate and long-term strategy and the influence of the Russian government that includes our friend Elizabeth Rosenberg of the Center for a New American Security.

JHU Forum to Look at China, Enviro Policies – On Wednesday at 12:00 p.m., Johns Hopkins University's School of Advanced International Studies hosts a forum on Chinese environmental policies. Professor Rui Wang specializes in the public policy analysis for sustainable development, especially on issues related to cities or China. Professor Wang's research appears in the areas of public policy, economics, and natural science and has been covered in the Atlantic, Harvard Business Review, Los Angeles Times and New York Times. He also gave talks at the China Finance 40 Forum, Hong Kong Monetary Authority, Los Angeles World Affairs Council, RAND, World Bank, and numerous academic conferences and institutions. His works on California's local climate actions, China's urban household carbon emissions, and parking in China's cities were cited by the IPCC's Fifth Assessment Report. Professor Wang is the inaugural Johns Hopkins SAIS China Yeung Family Endowed Scholar and a steering committee member of the Johns Hopkins 21st Century Cities Initiative.

NAS to Hold Forum on WIPP – The National Academies of Sciences hosts a public meeting on Wednesday at 2:30 p.m. focused on the disposal of surplus plutonium in the Waste Isolation Pilot Plant in New Mexico.

Forum Looks at Climate – The Wilderness Society hosts "Climate Change and U.S. Public Lands" on Thursday morning at 8:30 a.m. at the National Press Club. The forum is the second of a series of panel discussions aim to give the information, resources and connections journalists need to continue telling in-depth, powerful stories that explore the implications of current and future energy, environment and climate policies. This upcoming panel discussion will dig deeper into the role that U.S. public lands play in the climate change discussions and solution, and the issues that surround it, with topics including: energy production and emissions tracking on public lands; the impact of an energy dominance agenda on the administration's view of climate change and participation on an international stage; aspects of impacts and adaptation; and carbon storage. Speakers include former Governor of Colorado Bill Ritter, former Deputy Secretary, U.S. Department of Interior David Hayes, *Mother Jones* writer Rebeccca LKeber and *WaPo's* Dino Grandoni.

Forum Looks at Oil in Iraq – The Middle East Institute (MEI) hosts a panel discussion on Thursday at 2:00 p.m. examining options and priorities for improving governance in Iraq, featuring Erin Banco, investigative reporter for the *Star-Ledger* and NJ.com; Alan Eyre (State Department), Omar Al-Nidawi (Gryphon Partners), and MEI Scholar Jean Francois Seznec. The panel will be moderated by MEI's director for conflict resolution and Track II dialogues, Randa Slim.

IN THE FUTURE

WINDPOWER Set for Chicago – The American Wind Energy Assn (AWEA) will hold WINDPOWER 2018 in Chicago from May 7th to 10th. The industry closed 2017 strong, delivering 7,017 megawatts (MW) of new wind power capacity. That new capacity represents $11 billion in new private investment. There are now 89,077 MW of wind power installed across 41 states, enough to power 26 million American homes. The wind industry is expected to continue its growth into 2018. WINDPOWER is where the industry comes together to plan for the future and keep this success story growing.

Approps Subpanel to Mark Energy Budget – The House Appropriations Committee's Subcommittee on Energy and Water Development, and Related Agencies will meet next Monday AT 5:30 p.m. to mark-up the FY 2019 Energy and Water Appropriations Bill.

BP Tech Head to Discuss Global Energy – The Atlantic Council's Global Energy Center will hold a wide-ranging discussion next Tuesday at 9:00 a.m. about the role of technology in shaping the future of global energy. The energy industry is changing faster than at any time in our lifetime. It faces two huge challenges: firstly, providing more energy than ever before to meet the world's increasing demand; and secondly, transitioning to a lower carbon future. Drawing upon analysis conducted by BP and its partners, BP's Technology Head David Eyton will discuss some of the major longer-term signals out to 2050, as well as key findings in transport, power and heat. Eyton's conversation with Amb. Morningstar will also cover the key game-changing technologies for the energy industry and the challenges we face.

Senate Approps to Host Pruitt – EPA Administrator Scott Pruitt is scheduled to testify the week of May 7th before the Senate appropriations subcommittee that oversees his budget according to Sen. Lisa Murkowski, who chairs the panel.

BPC to Host Panel on Federal Science – The Bipartisan Policy Center will Host a Forum on Tuesday May 8th at 9:00 a.m., looking at federal funding for Fiscal Year 2018 for research and development. Continually developing new scientific knowledge and technologies drives long-term economic growth and creates higher-skilled jobs. BPC will focus its conversation on federal investment in scientific research and innovation and how to maintain America's economic and competitive edge.

Senate Energy Committee to Look at Puerto Rico – The Senate Energy Committee will convene an oversight hearing next Tuesday at 10:00 a.m. to examine the current status of Puerto Rico's electric grid and proposals for the future operation of the grid.

Forum to Discuss LNG Study – U.S. Energy Association will hold a forum on Tuesday, May 8th at 10:00 a.m. featuring energy economists at ICF who recently conducted a study for LNG Allies. The study "Calculating the Benefits of US LNG Exports" looked at direct, indirect, and induced value added ($GDP) and employment from LNG terminals and the natural gas feedstock. The principal author of the ICF report, Harry Vidas, joins Fred H. Hutchison, President/CEO, of LNG Allies to discuss the findings.

EnviroRun Features Amy Harder – Next Tuesday, Envirorun DC hosts Amy Harder, energy and climate change reporter at Axios. Amy is an energy and climate change reporter at Axios, both in her regular column called Harder Line, and her other reporting for Axios she covers congressional legislation, regulations, lobbying, and international policy actions affecting energy and climate change issues in the United States. She previously covered the same issues for The Wall Street Journal and before that at National Journal. The run begins at 6 PM and we will return to the venue for networking and hear from the speaker at 7:00 pm.

OPIS Looks at West Coast Fuel Supply – OPIS holds a forum in Napa Valley at the Silverado Resort on May 9th and 10th looking at West Coast fuel supplies and transportation opportunities. Industry experts will examine the impact of new players in the Western markets, opportunities that California assets can offer, carbon emissions regulations, renewable fuels, plus get an exclusive technical analysis of West Coast spot market prices.

Forum to Look at Nuclear Challenges – The Center for Climate and Energy Solutions holds a conversation on Wednesday May 9th at GWU's Lerner Hall at 9:30 a.m. featuring utilities, federal and state policy experts, and industry analysts to discuss solutions to address this question and others. The event will feature a keynote from Ralph Izzo, CEO of PSEG, as well as perspectives on state policy options, environmental and economic impacts, and the federal landscape.

WCEE Forum Looks Congressional Energy Agenda – The Women's Council on Energy and the Environment (WCEE) will host a forum on Thursday, May 10th at 8:00 a.m. at the American Gas Association to look at the Congressional agenda in the first year of the Trump Administration. WCEE hosts for a wide-ranging conversation over breakfast about Congressional priorities and areas for bipartisan agreement on energy and environment issues. Key Congressional staffers who will offer their insights and opinions on the busy year that lies ahead include Senate Energy's Chester Carson and Brie Van Cleve, Emily Domenech of the House Science Committee's Energy panel, House Energy and Commerce Committee's Energy and Environment Majority Chief Counsel Mary Martin and several others.

CSIS, EPIC to Hold Nuclear Forum – CSIS and the Energy Policy Institute at the University of Chicago (EPIC) will hold a half-day public conference on Thursday afternoon May 24th to address pressing questions in an effort to better understand the potential future of U.S. nuclear power. Nuclear energy faces an uncertain future in the United States as the fuel is beset by fierce competition from natural gas and renewable energy in many markets. Coupled with failure to deliver new projects on time and at cost, along with a public sensitive to operational safety, existing and future nuclear power generation is at risk in the United States.

FERC Chair Headlines EIA Annual Energy Conference – EIA holds Its annual 2018 Energy Conference on June 4th and 5th at the Washington Hilton. FERC Chair Kevin McIntyre will keynote the event.

Hydrogen, Fuel Cell Forum Set for DC – The Fuel Cell and Hydrogen Energy Association will be hosting a full-day forum and exposition on Tuesday, June 12 in Washington, D.C. at the Ronald Reagan Building and International Trade Center with leading executives, experts, and policymakers on fuel cell and hydrogen technology. The forum will bring together key federal and state policymakers, including the Department of Energy and White House, as well as the broader environmental, transportation, and energy communities to raise awareness of the benefits of fuel cell and hydrogen technology. This event will precede the Department of Energy's 2018 Annual Merit Review.

GTM to Host Grid Forum – Greentech Media host Grid Edge Innovation Summit on June 20th and 21st in San Francisco. The event is an energy conference that will examine the energy customer of tomorrow and how new innovative business models are quickly emerging. GTM brings together forward thinking and prominent members of the energy ecosystem and as our research team explores the future of the market. Former FERC Chair Jon Wellinghoff will speak along with many others, including our friends Shayle Kann, Julia Pyper and Stephen Lacey.

Young Professional Program for World Gas Forum Set – The Young Professionals Program (YPP) will hold a special forum during the World Gas Conference June 25-29 in Washington, DC. YPP will provide a great opportunity for promising young professionals in the energy sector to learn from top leaders in the natural gas industry and network with their peers throughout the world. More on this as we get closer.

Clean Energy Forum on Schedule – The 2018 Congressional Clean Energy Expo and Policy Forum will be held on July 10th and brings together up to 45-55 businesses, trade associations, and government agencies to showcase renewable energy and energy efficiency technologies.

FRANK MAISANO
Senior Principal
Ext Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 5/8/2018 8:14:48 PM
To: Maisano, Frank [frank.maisano@bracewell.com]
Subject: Great Mitigation/Resiliency Experts for Responding to 2018 NOAA Hurricane Season

Friends,

Most everyone agrees that hurricanes in the US are intensifying, both in frequency and in strength. There are three key events on the radar that will give us a chance to dig into how communities can address the related challenges they are likely to face.

1) Hurricane Preparedness Week – This week is National Hurricane Preparedness Week. Each day this week, organizers are highlighting one planning recommendation that individuals can undertake to ensure their families, homes and pets will be safe in the event of a hurricane or tropical storm. Just as importantly, states, cities and communities can improve upon planning to survive and recover from extreme weather.

2) FAA Reauthorization – This week, the Senate is expected to take up the House-approved, must-pass legislation to reauthorize the FAA. Included in the bill is the Disaster Recovery Reform Act (DRRA), which clarifies existing assistance programs to speed up inspections and ensure that a given percentage is dedicated to pre-disaster hazard mitigation. The goal is producing immediate and demonstrable results in fortifying our structures to withstand the destructive effects of extreme weather events.

3) NOAA Hurricane Forecast – Soon, NOAA will be releasing its widely read 2018 hurricane forecast. To add context to the NOAA forecast, it should be helpful to review the great research and experts from MIT – yes that MIT – analyzing hazard mitigation options, including initial construction costs (which go up with investments in resilience safeguards) vs. the high price we pay for repairs over the long-term due to damage from hazards.

Key Questions

From how cities and buildings should be structured to withstand extreme weather to helping engineers and developers calculate risk and mitigation costs in advance, community leaders are grappling with critical questions as they consider appropriate responses to intensifying hurricanes.

New Research on Resiliency From MIT

For those of you covering hurricanes, emergency preparedness and response, along with building/infrastructure resiliency, we can connect you with MIT's research and experts calibrating the additional costs of adequate preparation for natural disasters in hazard-prone areas of the U.S.

Between 1996 and 2014, damages in the US due to hazards (hurricanes, tornadoes, floods, earthquakes) totaled over $377 billion, according to a National Weather Service report.

MIT's **Break-even Mitigation Percentage (BEMP)** calculation provides a risk management tool for communities to determine the break-even point for investments in mitigation. The calculation provides a suggested amount to spend (expressed as a percentage of initial building costs) given the possibility of future damage. MIT's interactive "dashboard" uses the BEMP calculation to help building designers and owners calculate the risk and level of investment needed to mitigate future building damage in their areas.

Hazard Mitigation Expert Available for Media

If you're looking for a resource to discuss hurricane building resiliency and sustainability, MIT's Jeremy Gregory is available to address key issues and impacts of the hurricane forecast, including how to mitigate the cost impacts of disasters via hazard-resistant materials in building designs that reduce lifetime repair and maintenance costs. MIT's Concrete Sustainability Hub is pushing the frontier of academic research into building materials, with implications for policymakers, building designers, communities, and the vulnerable residents of hazard-prone areas.

Finally, late last week, MIT experts conducted a webinar that explored some truly cutting-edge ways to help us improve our understanding of a city's resilience—meaning its robustness and recovery time. The approach has enormous implications for hazard preparedness. There is a great summary below.

Let me know if you're interested in any of the above issues. It is great timing to look at this very important issue.

Frank Maisano
Ex. 6

MIT Webinar: Improving A City's Resilience to Disasters

Some cities are laid out in a very orderly fashion, like a grid, and others are arranged more chaotically. This "texture," the term MIT scientists use to describe the layouts, reveals a lot about how a city will respond to high winds in a big storm, or to a major environmental event like a hurricane or earthquake. Their research into hazard mitigation has gone in some fascinating directions:

- Scientists and engineers are applying lessons from physics, looking at cities through the lens of complicated material structures to shed new light on ways to improve energy consumption and help anticipate their resilience in the wake of extreme weather conditions.
- The difference in texture between an orderly, grid-like city like Chicago vs. a widely varying urban landscape like Los Angeles has significant potential to determine a city's resilience.
- More orderly cities actually amplify factors like temperature, wind, and pressure far more than disorganized cities. Disparate outcomes in terms of damage to nearby cities in Florida subject to the same hurricane conditions in 2014 may be explained by their different structures.
- In order to better prepare our buildings for natural disasters and make our cities more resilient, we need to map cities to better understand their textures. A better understanding of the overall texture of a city can lead to more informed decision-making on the part of builders and urban designers.

To view the webinar, "Liquid, crystal, or glass? A new approach to city resilience," click on this link.

For more information on the MIT Concrete Sustainability Hub, visit their site here.

FRANK MAISANO
Senior Principal
Ex Ex. 6
Policy Resolution Group

Message

From: Maisano, Frank [frank.maisano@bracewell.com]
Sent: 4/26/2018 3:36:27 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: [SPAM] FW: The Largest Secret US Govt Program: Federal Crop Insurance

Per our conversation...

From: "Maisano, Frank" <frank.maisano@bracewell.com>
Sent: Apr 26, 2018 9:56 AM
To: "Maisano, Frank" <frank.maisano@bracewell.com>
Subject: The Largest Secret US Govt Program: Federal Crop Insurance

A Lesson in Secrecy: Federal Crop Insurance Program Compares Poorly to the Small Refinery Hardship Program

Recently, certain Midwestern politicians have complained that hardship waivers premised on confidential business information, or CBI, are less transparent than they would prefer. But protection of CBI in this instance makes sense since the hardship waiver is premised on competitive information generated by publicly-traded corporations. For this reason, the statutory framework is based on confidentiality.

By contrast, the Federal Crop Protection Program is not based on CBI but uses secrecy to avoid political scrutiny. The Environmental Working Group has found that the top fifth of farm recipients collected almost 80 percent of all crop insurance premium subsidies. The premise for keeping these recipients secret is unclear at best. The Heritage Foundation reported:

> "*Just which big farm businesses are on the federal dole? Taxpayers have no way of knowing. Congress passed a law in 2000 that protects subsidy recipients from public disclosure. Beyond shielding Congress and big farm businesses from taxpayers' wrath, it is not clear why the names of recipients are kept secret. The names of recipients of other farm subsidies — such as commodity subsidies, which boost farmers' incomes — are publicly available. Farm bills being considered in both chambers would repeal commodity subsidies while expanding this "secret" crop insurance. Transparency in commodity subsidies played a big role in making these handouts difficult to politically justify today. Once taxpayers learned that these subsidies were mostly going to large landowners and wealthy farm operations, whose incomes far exceeded those of the average American, outrage rightly ensued.*" Source: https://www.heritage.org/agriculture/commentary/the-farm-bills-secret-handout-big-corporate-farms

According to the non-partisan Sunlight Foundation, "the multi-billion dollar agricultural insurance and the agribusiness establishment — backed by millions in campaign contributions and lobbying" has continually blocked efforts to drop the secrecy of the Federal Crop Protection Program recipients. Source: https://sunlightfoundation.com/2014/02/07/farm-bill-allows-congress-to-keep-crop-subsidies-secret/

A GREAT SOURCE TO DISCUSS CROP INSURANCE SECRECY

The Environmental Working Group has been very active on this and would be happy to discuss it with you. Their best contact is Scott Faber

Scott Faber
Senior Vice President
Environmental Working Group
Ex. 6 (desk)

Ex. 6 (cell)
sfaber@ewg.org

Here is some of their work:

https://www.ewg.org/release/new-report-highlights-ways-cut-waste-federal-crop-insurance-program#.WuDuPojwaUk
https://www.ewg.org/research/crop-insurance#.WuDuQ4jwaUk
https://www.ewg.org/research/cutting-waste-crop-insurance-program#.WuDuRojwaUk
https://www.ewg.org/agmag/2016/02/crop-insurance-industry-s-top-seven-whoppers#.WuDuSljwaUk
https://www.ewg.org/policy-plate/2013/11/crop-insurance-pricier-programs-it-was-designed-replace#.WuDuTojwaUk
https://www.ewg.org/agmag/2012/12/crop-insurance-safety-net-or-trampoline#.WuDuUljwaUk

COST Of CROP INSURANCE VS. SMALL REFINER EXEMPTION

The financial comparison to the refinery hardship program isn't even close. First, the dollars saved by small refinery hardship waivers are not taken from the federal coffers or tax payers. Second, the actual taxpayer dollars at stake in the Federal Crop Protection Program dwarf the hardship waivers in sheer numbers. According to the CBO, "The federal crop insurance program, which helps protect agricultural producers from losses due to low crop yields or lower-than-expected crop prices, is one of the largest support programs for those producers. It cost the federal government $5 billion in 2016 and an average of nearly $9 billion annually over the past five years." Source: https://www.cbo.gov/publication/53375

And yet these self-same Midwestern politicians staunchly defend the secret giveaways of the Federal Crop Protection Program while complaining about legitimate CBI protections under a refinery hardship program that is stringently reviewed by two different federal agencies and undertaken as a requirement of the federal courts.

A FEW ARTICLES

See the links below:

https://newrepublic.com/article/116470/farm-bill-2014-its-even-worse-old-farm-bill
http://www.theamericanconservative.com/articles/crony-agriculture/

FEDERAL CODE:

CFR regs related to confidentiality of employer ID numbers:

(g)ACCESS TO EMPLOYER IDENTIFICATION NUMBERS BY FEDERAL CROP INSURANCE CORPORATION FOR PURPOSES OF THE FEDERAL CROP INSURANCE ACT
(1)IN GENERAL

In the administration of section 506 of the Federal Crop Insurance Act, the Federal Crop Insurance Corporation may require each policyholder and each reinsured company to furnish to the insurer or to the Corporation the employer identification number of such policyholder, subject to the requirements of this paragraph. No officer or employee of the Federal Crop Insurance Corporation, or authorized person shall have access to any such number for any purpose other than the establishment of a system of records necessary to the effective administration of such Act. The Manager of the Corporation may require each policyholder to provide to the Manager or authorized person, at such times and in such manner as prescribed by the Manager, the employer identification number of each entity that holds or acquires a substantial beneficial interest in the policyholder. For purposes of this subclause, the term “substantial beneficial interest” means not less than 5 percent of all beneficial interest in the policyholder. The Secretary of Agriculture shall restrict, to the satisfaction of the Secretary of the Treasury, access to employer identification numbers obtained pursuant to this paragraph only to officers and employees of the United States or authorized persons whose duties or responsibilities require access for the administration of the Federal Crop Insurance Act.

(2)CONFIDENTIALITY AND NONDISCLOSURE RULES

Employer identification numbers maintained by the Secretary of Agriculture or the Federal Crop Insurance Corporation pursuant to this subsection shall be confidential, and except as authorized by this subsection, no officer or employee of the United States or authorized person who has or had access to such employer identification numbers shall disclose any such employer identification number obtained thereby in any manner. For purposes of this paragraph, the term "officer or employee" includes a former officer or employee. For purposes of this subsection, the term "authorized person" means an officer or employee of an insurer whom the Manager of the Corporation designates by rule, subject to appropriate safeguards including a prohibition against the release of such social security account numbers (other than to the Corporations) by such person.
Source: https://www.law.cornell.edu/uscode/text/26/6109

CONGRESSIONAL VOTES

From HR 2559 - Agricultural Risk Protection Act of 2000

Voting yes: **Durbin**, **Grassley** and every other farm Senator

SEC. 122. PROTECTION OF CONFIDENTIAL INFORMATION.

Section 502 of the Federal Crop Insurance Act (7 U.S.C. 1502) is amended by adding at the end the following:
``(c) Protection of Confidential Information.--
``(1) General prohibition against disclosure.--Except as provided in paragraph (2), the Secretary, any other officer or employee of the Department or an agency thereof, an approved insurance provider and its employees and contractors, and any other person may not disclose to the public information furnished by a producer under this title.

``(2) Authorized disclosure.—
``(A) Disclosure in statistical or aggregate form.--Information described in paragraph (1) may be disclosed to the public if the information has been transformed into a statistical or aggregate form that does not allow the identification of the person who supplied particular information.
``(B) Consent of producer.--A producer may consent to the disclosure of information described in paragraph (1). The participation of the producer in, and the receipt of any benefit by the producer under, this title or any other program administered by the Secretary may not be conditioned on the producer providing consent under this paragraph.

``(3) Violations; penalties.--Section 1770(c) of the Food Security Act of 1985 (7 U.S.C. 2276(c)) shall apply with respect to the release of information collected in any manner or for any purpose prohibited by this subsection.".

From HR 1947 – Federal Agriculture Reform and Risk Management Act of 2013

Duckworth Vote against an amendment that sought to limit premium subsidies to those producers with an AGI under $250,000, limit per person premium subsidies to $50,000 and cap crop insurance providers' reimbursement of administrative and operating at $90.

https://www.congress.gov/amendment/113th-congress/house-amendment/216

Text of Amendment:

Subtitle B—Assisting Family Farmers Through Insurance Reform Measures

SEC. 11045. CROP INSURANCE PREMIUM SUBSIDIES DISCLOSURE IN THE PUBLIC INTEREST.
Section 502(c)(2) of the Federal Crop Insurance Act (7 U.S.C. 1502(c)(2)) is amended— (1) by redesignating subparagraphs (A) and (B) as subparagraphs (C) and (D) respectively; and (2) by inserting before subparagraph (C) (as so redesignated) the following:

''(A) DISCLOSURE IN THE PUBLIC INTEREST.— Notwithstanding paragraph (1) or any other provision of law, except as provided in subparagraph (B), the Secretary shall on an annual basis make available to the public— ''(i)(I) the name of each individual or entity who obtained a federally subsidized crop insurance, livestock, or forage policy or plan of insurance during the previous fiscal year; ''(II) the amount of premium subsidy received by the individual or entity from the Corporation; and ''(III) the amount of any Federal portion of indemnities paid in the event of a loss during that fiscal year for each policy associated with that individual or entity; and ''(ii) for each private insurance provider, by name— ''(I) the underwriting gains earned through participation in the federally subsidized crop insurance program; and ''(II) the amount paid under this subtitle for—
''(aa) administrative and operating expenses;
''(bb) any Federal portion of indemnities and reinsurance; and
''(cc) any other purpose.

''(B) LIMITATION.—The Secretary shall not disclose information pertaining to individuals and entities covered by a catastrophic risk protection plan offered under section 508(b).''.

Other Crop Insurance Votes

2012- Amendment to limit crop insurance premium subsidies to persons with an average income over $750,000
https://www.senate.gov/legislative/LIS/roll_call_lists/roll_call_vote_cfm.cfm?congress=112&session=2&vote=00157

Grassley – Yea
Klobuchar – Yea
Stabenow – Nay
Durbin – Yea
Thune – Nay
Blunt – Nay
McCaskill – Nay

2013 – House amendment to limit subsidies to producers with gross income under $250,000
https://www.govtrack.us/congress/votes/113-2013/h276

Duckworth – Nay

2015 – Senate vote to reject a $3 billion cut to crop insurance
https://www.senate.gov/legislative/LIS/roll_call_lists/roll_call_vote_cfm.cfm?congress=114&session=1&vote=00330

Grassley – Yea
Klobuchar – Yea
Enrst – Yea
Fischer – Yea
Durbin – Nay
Thune – Yea

Blunt – Yea
McCaskill – Nay
Heitkamp – Yea
Donnelly – Yea

FRANK MAISANO
Senior Principal
Ext Ex. 6
Policy Resolution Group

FRANK MAISANO
Senior Principal
frank.maisano@policyres.com
T: Ex. 6 | F: +1.+1.800.404.3970

BRACEWELL LLP
2001 M Street NW, Suite 900 | Washington, D.C. | 20036-3310
policyres.com | profile | download v-card

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Message

From: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Sent: 3/8/2018 3:32:17 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: FW: Democrats demand GOP call Pruitt for E&C budget hearing

DEMAND!

From: POLITICO Pro [mailto:politicoemail@politicopro.com]
Sent: Thursday, March 08, 2018 8:37 AM
To: Barfield, Blake
Subject: Democrats demand GOP call Pruitt for E&C budget hearing

By Anthony Adragna

03/08/2018 09:32 AM EDT

Two senior House Energy and Commerce Committee Democrats are pushing their counterparts ask — and if necessary compel — EPA Administrator Scott Pruitt to testify on his agency's fiscal 2019 budget request.

Pruitt last appeared before the committee in December for an oversight hearing, but the committee has not yet scheduled an appearance on the administration's budget unveiled last month.

Ranking Member Frank Pallone (D-N.J.) and Environment Subcommittee Ranking Member Paul Tonko (D-N.Y.) say they have questions about "drastic" cuts to various agency programs, regulatory rollbacks, Pruitt's first-class travel habits and "disregard for transparency," among other issues.

They note to Chairman Greg Walden (R-Ore.) and Environment Subcommittee Chairman John Shimkus (R-Ill.) that the committee never held a budget hearing with Pruitt in 2017.

"This lack of accountability, while entirely consistent for Administrator Pruitt, is unacceptable," they write. "You have an obligation, and the means to compel him to appear before the Committee, and we request that you do so."

An EPA spokesman said the agency would work with the committee.

"Once again Democrats are going to the press before making us aware of their request," EPA spokesman Jahan Wilcox wrote in an email. "We will work with the House Energy and Commerce Committee on this matter."

To view online:
https://www.politicopro.com/energy/whiteboard/2018/03/democrats-demand-gop-call-pruitt-for-e-c-budget-hearing-764795

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Yes, very | Somewhat | Neutral | Not really | Not at all

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POLITICOPRO

This email was sent to blake.barfield@hollyfrontier.com by: POLITICO, LLC 1000 Wilson Blvd. Arlington, VA, 22209, USA

Message

From: John Stipicevic [stip@cgcn.com]
Sent: 4/28/2017 3:34:49 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: random question

You are the man. Thank you.

From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Friday, April 28, 2017 11:30 AM
To: John Stipicevic <stip@cgcn.com>
Subject: Re: random question

Thanks, didn't know it was this short of a turnaround. I'll see what I can do today.

Sent from my iPhone

On Apr 28, 2017, at 11:24 AM, John Stipicevic <stip@cgcn.com> wrote:

> Aaron – the folks over at SAP said May 2 is their drop dead date for getting the paperwork so they can ship it out.
>
> ---
>
> **From:** Ringel, Aaron [mailto:ringel.aaron@epa.gov]
> **Sent:** Thursday, April 27, 2017 4:00 PM
> **To:** John Stipicevic <stip@cgcn.com>
> **Subject:** Re: random question
>
> Send me the info for the staffer that told you that and their office, I'll get on it.
>
> Sent from my iPhone
>
> On Apr 27, 2017, at 3:58 PM, John Stipicevic <stip@cgcn.com> wrote:
>
>> Just when you thought you escaped me – I am bugging you again!!!! I have a very random question.
>>
>> Our client, SAP, has a large trade show coming up. They are trying to bring over a vehicle for the trade show from Germany. It is our understanding that to do that, you need paperwork from the EPA.
>>
>> - It is a swiss concept Vehicle from the company Rinspeed for SAP's trade show in Orlando on May 16th
>> - For the record, this same vehicle came over in early January of this year for the CES show in Las Vegas.
>>
>> SAP is being told by a staffer at the EPA that they are unable to get to working on this paperwork due to the possibility of a government shutdown. This seems a bit strange. It is our understanding that this is not a very time consuming project.

Are you able to provide any advice/insight/next steps we should take? Thank you!!

JOHN STIPICEVIC | CGCN GROUP
1101 K STREET, NW, SUITE 650 WASHINGTON, D.C. 20005
Ex. 6 / stip@cgcn.com / www.cgcn.com

Message

From: John Stipicevic [stip@cgcn.com]
Sent: 4/27/2017 8:38:21 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: random question

Flag: Follow up

Hurlin.david@epa.gov

David C. Hurlin

EPA Imports Line, Exemptions

Managed by Jacobs, Contractor to the U.S. EPA

Phone: Ex. 6

John Stipicevic
CGCN Group
Ex. 6
www.cgcn.com

-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 4/27/17 4:00 PM (GMT-05:00)
To: John Stipicevic <stip@cgcn.com>
Subject: Re: random question

Send me the info for the staffer that told you that and their office, I'll get on it.

Sent from my iPhone

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JOHN STIPICEVIC | CGCN GROUP
1101 K STREET, NW, SUITE 650 WASHINGTON, D.C. 20005
Ex. 6 / stip@cgcn.com / www.cgcn.com

Message

From: John Stipicevic [stip@cgcn.com]
Sent: 4/27/2017 8:02:39 PM
To: Ringel, Aaron [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=1654bdc951284a6d899a418a89fb0abf-Ringel, Aar]
Subject: RE: random question

Will do!

John Stipicevic
CGCN Group
Ex. 6
www.cgcn.com

-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 4/27/17 4:00 PM (GMT-05:00)
To: John Stipicevic <stip@cgcn.com>
Subject: Re: random question

Send me the info for the staffer that told you that and their office, I'll get on it.

Sent from my iPhone

On Apr 27, 2017, at 3:58 PM, John Stipicevic <stip@cgcn.com> wrote:

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>
> JOHN STIPICEVIC | CGCN GROUP
> 1101 K STREET, NW, SUITE 650 WASHINGTON, D.C. 20005
> Ex. 6 stip@cgcn.com / www.cgcn.com

Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 6/21/2018 3:02:33 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
CC: Mathew P. Lapinski [mlapinski@crshq.com]
Subject: RE: Reallocation

Thanks Blake, appreciate you passing these along.

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Thursday, June 21, 2018 10:19 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Cc: Mathew P. Lapinski <mlapinski@crshq.com>
Subject: Reallocation

Aaron

On the heels of the reports that EPA will be reallocating volumes associated with SREs – I wanted to again provide the enclosed letters from various members of Congress that called on EPA earlier this year *not* to reallocate volumes.

Please let me know if there's more information you'd find helpful.

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 4/4/2018 9:11:23 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: RE: catch up

Yep, that works. See you then man!

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Wednesday, April 4, 2018 5:11 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: catch up

Perfect – Starbucks again?

From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Wednesday, April 04, 2018 3:46 PM
To: Barfield, Blake
Subject: RE: catch up

Sure, how about 2pm next Wednesday?

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Wednesday, April 4, 2018 4:41 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: catch up

Hey – you in town next wed afternoon or Thursday to catch up? Thanks, Blake

–
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
(Ex. 6)
blake.barfield@hollyfrontier.com

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 4/18/2018 1:40:26 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: RE: Rep. Sessions letter

Thanks for passing along, got it from Ryan yesterday as well.

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Tuesday, April 17, 2018 5:30 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Rep. Sessions letter

FYI

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 2/8/2018 6:37:21 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: RE: call

Just tried you.

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Thursday, February 8, 2018 1:32 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: call

Ex. 6

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Thursday, February 08, 2018 12:31 PM
To: Barfield, Blake
Subject: RE: call

What number is best for you, have a quick meeting then I'll drop you a line.

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Thursday, February 8, 2018 1:27 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: call

I'm not in – what's best number to reach you?

From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Thursday, February 08, 2018 12:25 PM
To: Barfield, Blake
Subject: RE: call

Sure, I can chat this afternoon or we can grab coffee if you're in town.

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Thursday, February 8, 2018 1:05 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: call

Hey Aaron –

Do you have a minute to visit briefly by phone in the next day or two?

Thanks
Blake

–
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 2/8/2018 6:31:18 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: RE: call

What number is best for you, have a quick meeting then I'll drop you a line.

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Thursday, February 8, 2018 1:27 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: call

I'm not in – what's best number to reach you?

From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Thursday, February 08, 2018 12:25 PM
To: Barfield, Blake
Subject: RE: call

Sure, I can chat this afternoon or we can grab coffee if you're in town.

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Thursday, February 8, 2018 1:05 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: call

Hey Aaron –

Do you have a minute to visit briefly by phone in the next day or two?

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 2/6/2018 8:08:08 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: Re: Welcoming Anne Idsal as Region 6 Administrator

Will get if for you.

Sent from my iPhone

On Feb 6, 2018, at 3:07 PM, Krenik, Edward <edward.krenik@bracewell.com> wrote:

Do have Dourson's number?

EDWARD KRENIK
Senior Principal
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Wednesday, January 3, 2018 11:02 AM
To: Krenik, Edward
Subject: Re: Welcoming Anne Idsal as Region 6 Administrator

That works.

Sent from my iPhone

On Jan 3, 2018, at 10:55 AM, Krenik, Edward <edward.krenik@bracewell.com> wrote:

1130 is best if it works for you.

Sent from my Verizon, Samsung Galaxy smartphone

EDWARD KRENIK
Senior Principal
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 1/3/18 10:51 AM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: Re: Welcoming Anne Idsal as Region 6 Administrator

I'll call you in a like 15.

Sent from my iPhone

On Jan 3, 2018, at 10:48 AM, Krenik, Edward <edward.krenik@bracewell.com> wrote:

> Which number?
>
> Sent from my Verizon, Samsung Galaxy smartphone
>
> **EDWARD KRENIK**
> Senior Principal
> edward.krenik@policyres.com
> T: Ex. 6 | F: +1.800.404.3970
>
> **BRACEWELL LLP**
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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 1/3/18 10:33 AM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: Re: Welcoming Anne Idsal as Region 6 Administrator

Sure. Anytime before 2pm

Sent from my iPhone

On Jan 3, 2018, at 10:32 AM, Krenik, Edward <edward.krenik@bracewell.com> wrote:

> Do you have time to talk today?
>
> Sent from my Verizon, Samsung Galaxy smartphone
>
> **EDWARD KRENIK**
> Senior Principal
> edward.krenik@policyres.com
> T: Ex. 6 F: +1.800.404.3970
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> **BRACEWELL LLP**
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>
> -------- Original message --------
> From: "Ringel, Aaron" <ringel.aaron@epa.gov>
> Date: 12/11/17 9:51 AM (GMT-05:00)
> To: "Krenik, Edward" <edward.krenik@bracewell.com>

Subject: FW: Welcoming Anne Idsal as Region 6 Administrator

-Aaron

From: Message from the Chief of Staff
Sent: Monday, December 11, 2017 9:49 AM
To: Message from the Chief of Staff <messagefromthechiefofstaff@epa.gov>
Subject: Welcoming Anne Idsal as Region 6 Administrator

Colleagues,

I am pleased to announce Administrator Pruitt's appointment of Anne Idsal to bec
administrator for Region 6. Please join me in welcoming Anne to the agency. She
Dec. 18, 2017.

Anne joins the agency having spent her career working for the Texas state gover
shape environmental and land policy for the state. Since 2015, she has served a
deputy land commissioner for the Texas General Land Office (GLO), where she
budget and expenditure matters and initiated the office's reorganization efforts to
functions and provide cost savings for taxpayers. She previously served as the g
GLO, where she provided substantive and procedural legal counsel to the comm
office of attorneys on issues relating to oil and gas, coastal lands, public lands, fi
transactions, and general law.

Prior to joining the GLO, Anne served as general counsel to the Texas Commiss
Environmental Quality (TCEQ), where she provided legal counsel to the commis
oversaw the offices of the chief clerk, public interest counsel, and chief auditor. S
a special advisor to the commissioner, providing counsel on policy development
implementation.

I want to thank Sam Coleman, who has been serving as acting regional administ
arrival, Sam will return to his permanent position as Region 6 deputy regional ad

Ryan Jackson

Chief of Staff

Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 1/22/2018 7:19:20 PM
To: david.mann@bracewell.com
Subject: Re: PRG Happy Hour

I will be attending. Thanks.

Aaron E. Ringel
Deputy Associate Administrator
Office of Congressional & Intergovernmental Relations
U.S. Environmental Protection Agency

W: 202.564.4373
Ringel.Aaron@epa.gov

Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 10/23/2017 6:06:17 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: Re: RE:

Was in a meeting sorry. Call my cell when you finish up.

Sent from my iPhone

On Oct 23, 2017, at 1:50 PM, Krenik, Edward <edward.krenik@bracewell.com> wrote:

I'm in Jackson waiting room. Want to come down?

Sent from my Verizon, Samsung Galaxy smartphone

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 10/20/17 1:20 PM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: RE: RE:

Will do.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 20, 2017 1:18 PM

To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: RE:

Too many Aaron's. Call her COS Nancy Lowery. Ex. 6 or Gib Mullan.

Sent from my Verizon, Samsung Galaxy smartphone

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 10/20/17 1:01 PM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: RE: RE:

Hmmm, he's out of the office right now on vacation.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 20, 2017 12:59 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: RE:

He reached out to CPSC on letter. They were confused.

Sent from my Verizon, Samsung Galaxy smartphone

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 10/20/17 12:55 PM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: RE: RE:

He's the oversight team lead in OCIR.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 20, 2017 12:35 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: RE:

Who is Kyle Aaron at EPA?

EDWARD KRENIK
Partner
edward.krenik@policyres.com
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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Wednesday, October 11, 2017 2:56 PM
To: Krenik, Edward
Subject: RE:

Just tried you, let me know when you're free.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Wednesday, October 11, 2017 1:28 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject:

Can you give me a call at your convenience.

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EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 11/28/2017 4:46:20 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: Re: Call me if you get a sec

Sure.

Sent from my iPhone

On Nov 28, 2017, at 11:30 AM, Krenik, Edward <edward.krenik@bracewell.com> wrote:

> Does 3:30 work as well?
>
> **EDWARD KRENIK**
> Partner
> edward.krenik@policyres.com
> T: Ex. 6 F: +1.800.404.3970
>
> **BRACEWELL LLP**
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>
> **From:** Ringel, Aaron [mailto:ringel.aaron@epa.gov]
> **Sent:** Tuesday, November 28, 2017 11:26 AM
> **To:** Krenik, Edward
> **Subject:** RE: Call me if you get a sec
>
> That works. Call my office line, 202-564-4373
>
> -Aaron
>
> **From:** Krenik, Edward [mailto:edward.krenik@bracewell.com]
> **Sent:** Tuesday, November 28, 2017 11:16 AM
> **To:** Ringel, Aaron <ringel.aaron@epa.gov>
> **Subject:** Re: Call me if you get a sec
>
> Need to catch up. How about 3. What's the best number?

Sent from my Verizon, Samsung Galaxy smartphone

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 11/28/17 11:13 AM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: RE: Call me if you get a sec

I am this afternoon, what's up?

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Tuesday, November 28, 2017 11:10 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: Call me if you get a sec

Are you free today?

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Friday, October 27, 2017 3:27 PM
To: Krenik, Edward
Subject: RE: Call me if you get a sec

Tried you a minute ago.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 27, 2017 2:55 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Call me if you get a sec

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 11/28/2017 4:25:59 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: RE: Call me if you get a sec

That works. Call my office line, 202-564-4373

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Tuesday, November 28, 2017 11:16 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: Call me if you get a sec

Need to catch up. How about 3. What's the best number?

Sent from my Verizon, Samsung Galaxy smartphone

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Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 11/28/17 11:13 AM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: RE: Call me if you get a sec

I am this afternoon, what's up?

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Tuesday, November 28, 2017 11:10 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: Call me if you get a sec

Are you free today?

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 F: +1.800.404.3970

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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Friday, October 27, 2017 3:27 PM
To: Krenik, Edward
Subject: RE: Call me if you get a sec

Tried you a minute ago.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 27, 2017 2:55 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Call me if you get a sec

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Partner
edward.krenik@policyres.com
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From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 2/24/2018 8:31:02 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: Re: next wed

Sure. That works.

Sent from my iPhone

On Feb 24, 2018, at 2:35 PM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

> I'm only in a quick bit
>
> Let just touch base by phone if that's ok
>
> Could you do 15 min at like 430 et on Tuesday?
>
> --
> Blake D. Barfield
> Director, Government Affairs
> The HollyFrontier Companies
> Ex. 6
>
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On Feb 24, 2018, at 12:03 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

> I'm in San Fran for work Tues-Thur. I could do Monday or Friday unless you want to do a call.
>
> Sent from my iPhone
>
> On Feb 24, 2018, at 12:18 AM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:
>
> > Hey you free to catch up next Wednesday afternoon? Maybe 4pm?
> >
> > --
> > Blake D. Barfield
> > Director, Government Affairs
> > The HollyFrontier Companies
> > 2828 N. Harwood, Suite 1300
> > Dallas, TX 75201
> > Ex. 6
> > blake.barfield@hollyfrontier.com

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From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 12/6/2017 4:03:29 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: Re:

Was finalized. Waiting announcement.

Sent from my iPhone

On Dec 6, 2017, at 10:32 AM, Krenik, Edward <edward.krenik@bracewell.com> wrote:

> Any news on the Region 6 Administrator?
>
> **EDWARD KRENIK**
> Partner
> edward.krenik@policyres.com
> T: { Ex. 6 } F: +1.800.404.3970
>
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> <image48df5e.JPG>
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From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 11/9/2017 2:07:13 PM
To: Blake Barfield [Blake.Barfield@HollyFrontier.com]
Subject: We still on for coffee?

At the Starbucks at trump hotel.

Sent from my iPhone

Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 10/31/2017 3:17:04 AM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: Re: catch up

Ok, let me know when you're in town next. Sorry for the late notice!

Sent from my iPhone

On Oct 30, 2017, at 11:11 PM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

> No but I'm up here a bunch and happy to reschedule
>
> --
> Blake D. Barfield
> Director, Government Affairs
> The HollyFrontier Companies
> **Ex. 6**
>
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On Oct 30, 2017, at 11:07 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

> Anyway you can do tomorrow afternoon? My morning tomorrow is a mess.
>
> Sent from my iPhone
>
> On Oct 27, 2017, at 11:19 AM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:
>
> > That'll be great. See you then.
> >
> > ---
> > **From:** Ringel, Aaron [mailto:ringel.aaron@epa.gov]
> > **Sent:** Friday, October 27, 2017 10:18 AM
> > **To:** Barfield, Blake
> > **Subject:** Re: catch up
> >
> > Sure I'll only have like 30 minutes though.
> >
> > Sent from my iPhone
> >
> > On Oct 27, 2017, at 10:56 AM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:
> >
> > > I messed up – can you do 9 am?

From: Barfield, Blake
Sent: Wednesday, October 25, 2017 11:56 AM
To: Ringel, Aaron
Subject: Re: catch up

Perfect

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
Ex. 6

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On Oct 25, 2017, at 12:48 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

Sure, I can do next Tuesday the 31st at 10:30 a.m. Want to meet at the Starbucks in the Trump hotel?

-Aaron

Aaron E. Ringel
Deputy Associate Administrator
Office of Congressional & Intergovernmental Relations
U.S. Environmental Protection Agency
W: 202.564.4373
Ringel.Aaron@epa.gov

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Wednesday, October 25, 2017 11:38 AM
To: Ringel, Aaron

<ringel.aaron@epa.gov>
Subject: catch up

Aaron

Hope you're well.

I'll be in town next Monday and Tuesday and wanted to see if you had a few minutes to catch up.

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 10/31/2017 3:07:33 AM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: Re: catch up

Anyway you can do tomorrow afternoon? My morning tomorrow is a mess.

Sent from my iPhone

On Oct 27, 2017, at 11:19 AM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

> That'll be great. See you then.
>
> ---
>
> **From:** Ringel, Aaron [mailto:ringel.aaron@epa.gov]
> **Sent:** Friday, October 27, 2017 10:18 AM
> **To:** Barfield, Blake
> **Subject:** Re: catch up
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>> **From:** Barfield, Blake
>> **Sent:** Wednesday, October 25, 2017 11:56 AM
>> **To:** Ringel, Aaron
>> **Subject:** Re: catch up
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>> Perfect
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>>> Blake D. Barfield
>>> Director, Government Affairs
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Sure, I can do next Tuesday the 31st at 10:30 a.m. Want to meet at the Starbucks in the Trump hotel?

-Aaron

Aaron E. Ringel
Deputy Associate Administrator
Office of Congressional & Intergovernmental Relations
U.S. Environmental Protection Agency

W: 202.564.4373
Ringel.Aaron@epa.gov

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Wednesday, October 25, 2017 11:38 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: catch up

Aaron

Hope you're well.

I'll be in town next Monday and Tuesday and wanted to see if you had a few minutes to catch up.

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
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blake.barfield@hollyfrontier.com

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 7/28/2017 4:13:42 PM
To: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Subject: Re: Final Letter

No problem, thanks.

Sent from my iPhone

On Jul 28, 2017, at 11:59 AM, Holmstead, Jeff <jeff.holmstead@bracewell.com> wrote:

I'm glad this will do the trick -- and I like the quote you pulled.

Is it OK if I send you the signed PDF copy (without a date) on Monday morning? I may not get back to the office today.

From: Ringel, Aaron <ringel.aaron@epa.gov>
Sent: Friday, July 28, 2017 10:27 AM
To: Holmstead, Jeff
Subject: RE: Final Letter

Thanks Jeff, this look great. If you could send me a final signed PDF copy without date it would be much appreciated. Will give you a heads up just before the intent to nominate is announced, still waiting to hear when that will be...seems like the constant answer we get from PPO is 'soon.' I think we'll use the below text from your letter as the quote, very well written and much appreciated!

"Bill is committed to the goals of the Clean Air Act and to the rule of law. He is also a person of the highest integrity. I am confident that, within the framework established by Congress, he will work to protect public health and the environment while at the same time pursuing regulatory reforms that will reduce unnecessary regulatory burdens. Truly, there is no better person to serve as the Assistant Administrator of EPA for Air and Radiation."

-Jeff Holmstead, Assistant Administrator, Office of Air and Radiation, EPA (2001 – 2005)

Best,

-Aaron

From: Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
Sent: Thursday, July 27, 2017 3:12 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Final Letter

I have made a few tweaks, so please use this version if you are looking for quotes. If you can give me a heads up just before the intent to nominate is announced, I will insert a new date, sign the letter, and then send it to Barrasso and Carper with a copy to you.

From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Thursday, July 27, 2017 1:00 PM
To: Holmstead, Jeff <jeff.holmstead@bracewell.com>
Subject: RE: Letter

Thanks Jeff, made some small edits to the letter (attached). If you are good with these I would ask that you put on letterhead, addressed to Barrasso/Carper, and send just us the final version. We will want to hold on sending the letter to the Chair/Ranking member until the intent to nominate is officially announced, at which point it can be sent to them.

Thanks again!

-Aaron

From: Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
Sent: Thursday, July 27, 2017 9:12 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Fw: Letter

Here is a draft. If it looks OK to you, I will put it on letterhead and address it to Chairman Barrasso and Ranking Member Carper and send you (and them) a final version.

JEFF HOLMSTEAD
Partner
jeff.holmstead@bracewell.com
T: Ex. 6 F: +1.800.404.3970

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 10/20/2017 5:19:18 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: RE: RE:

Will do.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 20, 2017 1:18 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: RE:

Too many Aaron's. Call her COS Nancy Lowery Ex. 6 or Gib Mullan.

Sent from my Verizon, Samsung Galaxy smartphone

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 10/20/17 1:01 PM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: RE: RE:

Hmmm, he's out of the office right now on vacation.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 20, 2017 12:59 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: RE:

He reached out to CPSC on letter. They were confused.

Sent from my Verizon, Samsung Galaxy smartphone

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: [Ex. 6] F: +1.800.404.3970

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-------- Original message --------
From: "Ringel, Aaron" <ringel.aaron@epa.gov>
Date: 10/20/17 12:55 PM (GMT-05:00)
To: "Krenik, Edward" <edward.krenik@bracewell.com>
Subject: RE: RE:

He's the oversight team lead in OCIR.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 20, 2017 12:35 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: RE:

Who is Kyle Aaron at EPA?

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: [Ex. 6] F: +1.800.404.3970

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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Wednesday, October 11, 2017 2:56 PM
To: Krenik, Edward
Subject: RE:

Just tried you, let me know when you're free.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Wednesday, October 11, 2017 1:28 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject:

Can you give me a call at your convenience.

Ex. 6

EDWARD KRENIK
Partner
edward.krenik@policyres.com
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Sent: 10/27/2017 3:18:17 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: Re: catch up

Sure I'll only have like 30 minutes though.

Sent from my iPhone

On Oct 27, 2017, at 10:56 AM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

I messed up – can you do 9 am?

From: Barfield, Blake
Sent: Wednesday, October 25, 2017 11:56 AM
To: Ringel, Aaron
Subject: Re: catch up

Perfect

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
Ex. 6

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On Oct 25, 2017, at 12:48 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

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-Aaron

_____
Aaron E. Ringel
Deputy Associate Administrator
Office of Congressional & Intergovernmental Relations
U.S. Environmental Protection Agency

W: 202.564.4373
Ringel.Aaron@epa.gov

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Wednesday, October 25, 2017 11:38 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: catch up

Aaron

Hope you're well.

I'll be in town next Monday and Tuesday and wanted to see if you had a few minutes to catch up.

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Sent: 10/20/2017 4:54:45 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: RE: RE:

He's the oversight team lead in OCIR.

-Aaron

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Friday, October 20, 2017 12:35 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: RE:

Who is Kyle Aaron at EPA?

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 F: +1.800.404.3970

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Sent: Wednesday, October 11, 2017 2:56 PM
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Subject: RE:

Just tried you, let me know when you're free.

-Aaron

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To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject:

Can you give me a call at your convenience.

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Partner
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Sent: 9/8/2017 6:11:29 PM
To: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Subject: RE: Final Wehrum letter

Great, thanks!

-Aaron

From: Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
Sent: Friday, September 8, 2017 1:51 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Final Wehrum letter

Here is the final letter I am sending to Barrasso and Carper. It's just like the version you have had for a while, except for the first sentence, which now says "I understand that President Trump has nominated Bill Wehrum," instead of "I understand that President Trump has announced his intent to nominate Bill Wehrum."

JEFF HOLMSTEAD
Partner
jeff.holmstead@bracewell.com
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Sent: 7/27/2017 5:00:13 PM
To: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Subject: RE: Letter
Attachments: 07-27-2017 - Holmstead EPW letter re Wehrum v2 ar edits.docx

Thanks Jeff, made some small edits to the letter (attached). If you are good with these I would ask that you put on letterhead, addressed to Barrasso/Carper, and send just us the final version. We will want to hold on sending the letter to the Chair/Ranking member until the intent to nominate is officially announced, at which point it can be sent to them.

Thanks again!

-Aaron

From: Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
Sent: Thursday, July 27, 2017 9:12 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Fw: Letter

Here is a draft. If it looks OK to you, I will put it on letterhead and address it to Chairman Barrasso and Ranking Member Carper and send you (and them) a final version.

JEFF HOLMSTEAD
Partner
jeff.holmstead@bracewell.com
T: Ex. 6 F: +1.800.404.3970

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Dear Sirs:

I understand that President Trump ~~intends~~ has announced his intent to nominate Bill Wehrum to serve as the Assistant Administrator for Air and Radiation at the U.S. Environmental Protection Agency (EPA). I have known Mr. Wehrum for more than 20 years and have had the chance to see him work on a wide variety of Clean Air Act regulatory, policy, and legal issues. I cannot imagine anyone better to lead EPA's Office of Air and Radiation at this critical time in EPA's history.

I am quite sure that Bill is the only person ever to have worked on Clean Air Act issues as an environmental engineer at a major chemical plant, a young attorney in private practice, a senior policy maker at EPA, and the head of the environmental group at a major law firm.

After he graduated from Purdue University with a degree in chemical engineering in 1986, he started working at a large chemical plant and soon thereafter was put in charge of ensuring that the plant was in compliance with all applicable environmental requirements. After several years at the plant, he started attending law school at night while still working full time. Then, after graduating from law school with honors in 1993, he started working on Clean Air Act issues as a young lawyer at one of Washington's top environmental law firms. I was working at a competing law firm at the time, but after working with him on a major regulatory project, my partners and I recruited him to our law firm in 1998. After I became the Assistant Administrator for Air and Radiation in 2001, I asked Bill to serve as my counsel, and he was named acting Assistant Administrator when I left EPA in 2005.

Bill is well respected and well liked by the career staff at EPA. During his almost 6 years at EPA, he worked closely with career staff on a wide range of issues and was known for rolling up his sleeves and getting involved in the details of the Agency's regulations and permitting programs. From his work as an environmental engineer, his time at the Agency, and his many years of counseling private clients, he has a comprehensive understanding of EPA's regulatory programs and the many technical issues involved in implementing the Clean Air Act.

Bill is committed to the goals of the Clean Air Act and to the rule of law. I am confident that, within the framework established by Congress, he will work to protect public health and the environment while at the same time pursuing common-sense regulatory reforms that will reduce unnecessary regulatory burdens.

Truly, there is no better person to serve as the Assistant Administrator of EPA for Air and Radiation.

Sincerely,

Jeff Holmstead

Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 2/22/2018 1:15:47 AM
To: Wyman, Christine [christine.wyman@bracewell.com]
Subject: Re: Howdy!

No worries!

Sent from my iPhone

On Feb 21, 2018, at 8:11 PM, Wyman, Christine <christine.wyman@bracewell.com> wrote:

> Ack! I totally looked at my calendar wrong and I have a call until 3:30 and I now have a call at 4:30, too. I could do 1 or 1:30 tomorrow? Or Friday before 11? Sorry!!
>
> **CHRISTINE WYMAN**
> Senior Counsel
> christine.wyman@policyres.com
> T: Ex. 6 F: +1.800.404.3970
>
> **BRACEWELL LLP**
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>
> On Feb 21, 2018, at 6:21 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:
>
>> Good to see you as well! I can do coffee tomorrow at 3:30. We can meet at the Starbucks across the street if that works. Look forward to catching up!
>>
>> Sent from my iPhone
>>
>> On Feb 21, 2018, at 5:47 PM, Wyman, Christine <christine.wyman@bracewell.com> wrote:
>>
>>> Hey Aaron – Great running into to you today. Any chance you have time for a quick meeting or coffee? I'd love to hear how EPA is going and chat about a couple things. Not sure what your schedule looks like. I could meet you after 3 pm tomorrow, at 9:30 or earlier on Friday. Next week I could meet Monday afternoon or Tuesday morning.
>>>
>>> Thanks!

Christine

CHRISTINE WYMAN
Senior Counsel
christine.wyman@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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<image04b47e.JPG>

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 9/8/2017 4:20:38 PM
To: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Subject: RE: Signed letter re Wehrum

It is official, the signed paperwork is going over to EPW today.

-Aaron

From: Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
Sent: Friday, September 8, 2017 12:19 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: Signed letter re Wehrum

Did the President actually nominate Wehrum or is this an intent to nominate? If it's the former, I will revise the letter right away and send you and Barrasso and Carpet the corrected version

Sent from my iPhone

On Sep 8, 2017, at 10:02 AM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

> Hey Jeff, you are good to send the final version to Barrasso and Carper!
>
> -Aaron
>
> ---
>
> **From:** Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
> **Sent:** Tuesday, August 1, 2017 6:48 PM
> **To:** Ringel, Aaron <ringel.aaron@epa.gov>
> **Subject:** Signed letter re Wehrum
>
> Whoops. I meant to send you the signed version yesterday but then got distracted by other things.
>
> Please give me a heads up when you can so that I can send the letter to Barrasso and Carper and be prepared for press calls. Good luck to you and Bill. I hope you guide him through the confirmation process quickly!
>
> Jeff
>
> **JEFF HOLMSTEAD**
> Partner
> jeff.holmstead@bracewell.com
> T: +[Ex. 6] | F: +1.800.404.3970
>
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Sent: 9/8/2017 4:18:05 PM
To: Holmstead, Jeff [jeff.holmstead@bracewell.com]
Subject: RE: Signed letter re Wehrum

You can just email it to Matt Leggett, EPW majority counsel, and ask that he share with the minority staffer. His email is below in case you need it.

Matt_Leggett@epw.senate.gov

Thanks,
-Aaron

From: Holmstead, Jeff [mailto:jeff.holmstead@bracewell.com]
Sent: Friday, September 8, 2017 12:15 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: Signed letter re Wehrum

Yes. I am in Colorado today, but my assistant has already put a date on the signed version. I will send it to you in a few minutes. What's the best way to get it to Barrasso and Carper?

Sent from my iPhone

On Sep 8, 2017, at 10:02 AM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

> Hey Jeff, you are good to send the final version to Barrasso and Carper!
>
> -Aaron
>
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> **Sent:** Tuesday, August 1, 2017 6:48 PM
> **To:** Ringel, Aaron <ringel.aaron@epa.gov>
> **Subject:** Signed letter re Wehrum
>
> Whoops. I meant to send you the signed version yesterday but then got distracted by other things.
>
> Please give me a heads up when you can so that I can send the letter to Barrasso and Carper and be prepared for press calls. Good luck to you and Bill. I hope you guide him through the confirmation process quickly!
>
> Jeff
>
> **JEFF HOLMSTEAD**
> Partner
> jeff.holmstead@bracewell.com
> T: Ex. 6 | F: +1.800.404.3970

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Sent: 2/21/2018 11:20:14 PM
To: Wyman, Christine [christine.wyman@bracewell.com]
Subject: Re: Howdy!

Good to see you as well! I can do coffee tomorrow at 3:30. We can meet at the Starbucks across the street if that works. Look forward to catching up!

Sent from my iPhone

On Feb 21, 2018, at 5:47 PM, Wyman, Christine <christine.wyman@bracewell.com> wrote:

> Hey Aaron – Great running into to you today. Any chance you have time for a quick meeting or coffee? I'd love to hear how EPA is going and chat about a couple things. Not sure what your schedule looks like. I could meet you after 3 pm tomorrow, at 9:30 or earlier on Friday. Next week I could meet Monday afternoon or Tuesday morning.
>
> Thanks!
> Christine
>
> **CHRISTINE WYMAN**
> Senior Counsel
> christine.wyman@policyres.com
> T: Ex. 6 | F: +1.800.404.3970
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> **POLICY RESOLUTION GROUP | BRACEWELL LLP**
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> <image04b47e.JPG>
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Sent: 11/7/2017 2:30:51 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: RE: Thursday

Great, see you then.

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Tuesday, November 7, 2017 7:21 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: Thursday

See you at the trump Starbucks at 9

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
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On Nov 7, 2017, at 6:13 AM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

9am or after noon?

Sent from my iPhone

On Nov 7, 2017, at 7:06 AM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

Sorry I've got a 10 am senate side

Any other time works

--
Blake D. Barfield
Director, Government Affairs
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On Nov 7, 2017, at 5:24 AM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

That works, 10am?

Sent from my iPhone

On Nov 6, 2017, at 9:29 PM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

Coffee that am?

--
Blake D. Barfield
Director, Government Affairs
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On Nov 6, 2017, at 8:26 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

Sure, when works for you?

Sent from my iPhone

On Nov 6, 2017, at 9:23 PM, Barfield, Blake <Blake.Barfield@HollyFrontier.com > wrote:

I'm headed back to town this week

You free to meet Thursday?

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies

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Sent: 10/25/2017 4:59:59 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: RE: catch up

Great, see you then!

-Aaron

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Wednesday, October 25, 2017 12:56 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: Re: catch up

Perfect

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
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On Oct 25, 2017, at 12:48 PM, Ringel, Aaron <ringel.aaron@epa.gov> wrote:

Sure, I can do next Tuesday the 31st at 10:30 a.m. Want to meet at the Starbucks in the Trump hotel?

-Aaron

Aaron E. Ringel
Deputy Associate Administrator
Office of Congressional & Intergovernmental Relations
U.S. Environmental Protection Agency

W: 202.564.4373
Ringel.Aaron@epa.gov

From: Barfield, Blake [mailto:Blake.Barfield@HollyFrontier.com]
Sent: Wednesday, October 25, 2017 11:38 AM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: catch up

Aaron

Hope you're well.

I'll be in town next Monday and Tuesday and wanted to see if you had a few minutes to catch up.

Thanks
Blake

--
Blake D. Barfield
Director, Government Affairs
The HollyFrontier Companies
2828 N. Harwood, Suite 1300
Dallas, TX 75201
Ex. 6
blake.barfield@hollyfrontier.com

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Sent: 11/7/2017 12:13:19 PM
To: Barfield, Blake [Blake.Barfield@HollyFrontier.com]
Subject: Re: Thursday

9am or after noon?

Sent from my iPhone

On Nov 7, 2017, at 7:06 AM, Barfield, Blake <Blake.Barfield@HollyFrontier.com> wrote:

> Sorry I've got a 10 am senate side
>
> Any other time works
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> --
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> Director, Government Affairs
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>
> > Coffee that am?
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Sure, when works for you?

Sent from my iPhone

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I'm headed back to town this week

You free to meet Thursday?

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Blake D. Barfield
Director, Government Affairs
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Subject: Re: Thursday

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Sent: 5/23/2017 7:04:33 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: Re: EPA Budget

Approps. Not doing authorizing thankfully.

Sent from my iPhone

On May 23, 2017, at 3:03 PM, Krenik, Edward <edward.krenik@bracewell.com> wrote:

> Approps or Authorizing? Usually Authorizing goes first.
>
> **EDWARD KRENIK**
> Partner
> edward.krenik@policyres.com
> T: [Ex. 6] F: +1.800.404.3970
>
> **BRACEWELL LLP**
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> **From:** Ringel, Aaron [mailto:ringel.aaron@epa.gov]
> **Sent:** Tuesday, May 23, 2017 3:02 PM
> **To:** Krenik, Edward
> **Subject:** Re: EPA Budget
>
> Yeah, we are going up in June to do both house and senate.
>
> Sent from my iPhone
>
> On May 23, 2017, at 2:51 PM, Krenik, Edward <edward.krenik@bracewell.com> wrote:
>
> > Has the hill budget hearings been set yet?

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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Sent: Tuesday, May 23, 2017 2:29 PM
To: Krenik, Edward
Subject: RE: EPA Budget

No problem.

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Tuesday, May 23, 2017 2:21 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: EPA Budget

Thanks. This is what I was looking for.

Ed

EDWARD KRENIK
Partner
edward.krenik@policyres.com
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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Tuesday, May 23, 2017 2:06 PM
To: Krenik, Edward
Subject: RE: EPA Budget

Hey Ed, doing well, busy as you can imagine. We aren't planning on doing a budget briefing for the media as far as I know. For the specifics, are you asking about the congressional justifications doc? That was released today as well (attached). If it's a different doc I can check and see what the deal is, can you send me a previous years copy if you have it so I know what to look for?

In the CJ doc, it doesn't appear that IRIS was eliminated (see P.103). Hope this helps.

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Tuesday, May 23, 2017 1:58 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: EPA Budget

Aaron,

How are you doing? Quick question, is EPA holding a budget briefing for the media to give specifics or not? Also, when will the more specific budget numbers be released? Specifically looking to see if the IRIS program has been eliminated.

Thank you,

Ed

EDWARD KRENIK
Partner
edward.krenik@policyres.com
T: Ex. 6 | F: +1.800.404.3970

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<image001.jpg>

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Partner
edward.krenik@policyres.com
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Subject: RE: EPA Budget

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To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: RE: EPA Budget

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Ed

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Partner
edward.krenik@policyres.com
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From: Ringel, Aaron [mailto:ringel.aaron@epa.gov]
Sent: Tuesday, May 23, 2017 2:06 PM
To: Krenik, Edward
Subject: RE: EPA Budget

Hey Ed, doing well, busy as you can imagine. We aren't planning on doing a budget briefing for the media as far as I know. For the specifics, are you asking about the congressional justifications doc? That was released today as well (attached). If it's a different doc I can check and see what the deal is, can you send me a previous years copy if you have it so I know what to look for?

In the CJ doc, it doesn't appear that IRIS was eliminated (see P.103). Hope this helps.

From: Krenik, Edward [mailto:edward.krenik@bracewell.com]
Sent: Tuesday, May 23, 2017 1:58 PM
To: Ringel, Aaron <ringel.aaron@epa.gov>
Subject: EPA Budget

Aaron,

How are you doing? Quick question, is EPA holding a budget briefing for the media to give specifics or not? Also, when will the more specific budget numbers be released? Specifically looking to see if the IRIS program has been eliminated.

Thank you,

Ed

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Message

From: Ringel, Aaron [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1654BDC951284A6D899A418A89FB0ABF-RINGEL, AAR]
Sent: 5/23/2017 6:05:49 PM
To: Krenik, Edward [edward.krenik@bracewell.com]
Subject: RE: EPA Budget
Attachments: fy-2018-congressional-justification.pdf

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United States Environmental Protection Agency

FISCAL YEAR 2018

Justification of Appropriation Estimates for the Committee on Appropriations

EPA-190-K-17-002

May 2017

www.epa.gov/ocfo

The EPA's Mission

The mission of the Environmental Protection Agency (EPA) is to protect human health and the environment. In carrying out its mission, the EPA works to ensure that all Americans are protected from exposure to hazardous environmental risks where they live, learn, work, and enjoy their lives. The agency guides national efforts to reduce environmental risks, based upon on-going research and scientific analysis.

The agency's FY 2018 budget lays out a comprehensive back-to-basics and foundational strategy to maintain core environmental protection with respect to statutory and regulatory obligations. This budget provides the direction and resources to return the EPA to its core mission of protecting human health and the environment. This can be accomplished by engaging with state, local, and tribal partners to create and implement sensible regulations that also work to enhance economic growth.

The EPA works to ensure our future generations will inherit a better and healthier environment. Environmental stewardship while growing our economy is essential to the American way of life and key to economic success and competitiveness. Regulation and policy will incorporate robust input from the public through formal and informal mechanisms to seek full understanding of the impacts of proposed policy on public health, the environment, the economy, jobs, families, and our communities. We will build on progress to date by focusing on three core philosophies for carrying out the EPA's mission:

- **Rule of law:** Administering the laws enacted by Congress and issuing environmental rules tethered to those statutes, relying on agency expertise and experience to carry out congressional direction and to ensure that policies and rules reflect common sense and withstand legal scrutiny.
- **Cooperative federalism:** Recognizing the states and tribes, as applicable, as the primary implementers and enforcers of our environmental laws and programs, and partnering with them to engender trust and maximize environmental results to protect human health and environment.
- **Public participation:** Fulfilling obligations to conduct open and transparent rulemaking processes, engaging with and learning from the diverse views of the American public, and addressing stakeholder input on the impacts of rules on families, jobs, and communities.

The EPA is proud to be a good steward of taxpayer resources and to deliver environmental protection efficiently. To learn more about how the agency accomplishes its mission, including information on the organizational structure and regional offices, please visit: http://www.epa.gov/aboutepa/.

FY 2018 Annual Performance Plan

The EPA's FY 2018 Annual Performance Plan and Budget of $5.655 billion is $2.6 billion below the FY 2017 Annualized Continuing Resolution funding level for the EPA. This resource level and the agency FTE level of 11,611 supports the agency's return to a focus on core statutory work and recognizes the appropriate federal role in environmental protection. The budget addresses our highest environmental priorities and refocuses efforts toward streamlining and reducing burden. Responsibility for funding local environmental efforts and programs is returned to state and local

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entities, while federal funding supports priority national work. Funding is provided for infrastructure and includes accelerating the pace of work in clean water and drinking water infrastructure as well as at Brownfield and Superfund projects. Resources also are focused on efforts to improve and protect air quality and to ensure the safety of chemicals. In FY 2018, increased resources will support the agency's significant continuing and new responsibilities for ensuring that new and existing chemicals are evaluated in a timely manner for introduction in commerce and do not present unreasonable risks to human health or the environment. The agency will work across all of our programs to unite varied interests and stakeholders to focus attention and leverage federal, state, local, and non-governmental resources in a coordinated effort to address the nation's greatest environmental challenges.

Infrastructure

The infrastructure of the nation is not limited to roads and bridges. The infrastructure needs of our communities are broader and include making improvements to drinking water and waste water infrastructure as well as cleaning up contaminated land. Focused efforts in the Superfund and Brownfields programs can lead to tangible benefits for communities: a cleaner environment and the redevelopment of sites back to beneficial use and new economic development.
A priority for the agency is modernizing the outdated water infrastructure on which the American public depends. While most small systems consistently provide safe and reliable drinking water, many small systems face challenges with aging infrastructure, increasing costs and decreasing rates bases. Funding is provided for critical drinking and wastewater projects. These funding levels support the President's commitment to infrastructure repair and replacement and would allow states, municipalities, and private entities to finance high priority infrastructure investments. The FY 2018 budget includes $2.3 billion for the State Revolving Funds and $20 million for the Water Infrastructure Finance and Innovation Act (WIFIA) program. Under WIFIA, the EPA could potentially provide up to $1 billion in credit assistance, which, when combined with other funding sources, would spur an estimated $2 billion in total infrastructure investment.[1] This makes the WIFIA program credit assistance a powerful new tool to help address a variety of existing and new water infrastructure needs.

The cleanup and reuse of contaminated lands often can play a role in economically revitalizing a community. The EPA's cleanup programs, including Superfund and Brownfields, protect human health and the environment and also return sites to productive use, which is important to the economic well-being of communities. Working collaboratively with partners across the country, the EPA engages with communities in site cleanup decisions, fosters employment opportunities in communities during and after remedy construction, promotes the redevelopment of blighted areas, and protects human health and the environment. For example, Superfund properties are often reused as commercial facilities, retail centers, government offices, residential areas, industrial and manufacturing operations, and parks and recreational areas. The agency will look for program efficiencies to increase the pace of projects and reduce often heavy administrative costs. The EPA also invests in communities through Brownfields grants so communities can realize their own visions for environmental health, economic growth, and job creation. As of April 2017, the

[1] This approximation is based on notional calculations. Subsidy cost is determined on a loan-by-loan basis.

Brownfield grants have led to over 67,000 acres of idle land made ready for productive use and over 124,300 jobs and $23.6 billion leveraged.[2]

Improving Air Quality

In FY 2018, the EPA will perform activities in support of the National Ambient Air Quality Standards (NAAQS) and implementation of stationary source regulations, supporting state, local, and tribal air quality programs. The agency will continue its Clean Air Act-mandated responsibilities to administer the NAAQS and will provide a variety of technical assistance, training, and information to support state clean air plans. The EPA will continue to prioritize CAA and court-ordered actions. A focus will be placed on states achieving attainment, looking for improved process for SIPS and implementation options. In addition, in FY 2018, the EPA will continue to conduct risk assessments, to determine whether the Maximum Achievable Control Technology (MACT) rules appropriately protect public health.

In FY 2018, the Federal Vehicle and Fuels Standards and Certification program will focus its efforts on certification decisions. The agency will perform its compliance oversight functions on priority matters, where there is evidence to suggest noncompliance, and conduct testing activities for pre-certification confirmatory testing for emissions and fuel economy for passenger cars.
The Greenhouse Gas Reporting Program requires mandatory greenhouse gas emissions reporting to inform the annual GHG inventory, a U.S. treaty obligation. The program will focus on implementing already-finalized regulatory revisions across multiple sectors to address stakeholder concerns associated with collection and potential release of data elements considered to be sensitive business information; aligning the database management systems with those regulatory revisions; and conducting a targeted Quality Assurance/Quality Control and verification process through a combination of electronic checks, staff reviews, and follow-up with facilities when necessary.

Air monitoring, which provides information to states used to develop clean air plans, for research, and for the public, will continue to be a focus of the Administration. In FY 2018, the EPA will provide grants to state, local, and tribal air pollution control agencies to manage and implement their air quality programs.

This budget supports implementation of the Energy Independence Executive Order which directs agencies responsible for regulating domestic energy production to identify, and propose measures to revise or rescind, regulatory barriers that impede progress towards energy independence.

Clean and Safe Water

The EPA will continue to partner with states, drinking water utilities, and other stakeholders to identify and address current and potential sources of drinking water contamination. These efforts are integral to the sustainable infrastructure efforts as source water protection can reduce the need for additional drinking water treatment and associated costs. As progress has been made, work remains for existing and emerging issues.

[2] The EPA's ACRES database (https://cfext.epa.gov/acres/)

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The EPA will continue to provide scientific water quality criteria information, review and approve state water quality standards, and review and approve state lists of impaired waters. In FY 2018, the agency will continue to work with states and other partners on Total Maximum Daily Loads (TMDLs) as required by the Clean Water Act, as well as on other waterbody restoration plans for listed impaired waterbodies. The EPA also will continue to implement and support core water quality programs that control point-source discharges through permitting and pre-treatment programs.

Ensuring the Safety of Chemicals

The EPA's toxics program will maintain its 'zero tolerance' goal for preventing the introduction of unsafe new chemicals into commerce. In FY 2018, $65 million is requested for the TSCA Chemical Risk Review and Reduction Program to support the agency's significant continuing and new responsibilities for ensuring that chemicals in commerce do not present unreasonable risks to human health or the environment. New chemicals will be evaluated and decisions will be based on best available science and the weight of evidence. For chemicals in commerce, the EPA will maintain an ambitious schedule for initiating and completing chemical risk evaluations and, where risks are identified, for initiating and completing regulatory actions to address those risks. The EPA also will implement the new mandates related to determinations on claims for confidentiality for chemical identities.

In FY 2018, the agency will continue implementing TSCA activities not amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act. The agency also will provide firm and individual certifications for safe work practices for lead-based paint abatement and renovation and repair efforts, as well as provide for the operation and maintenance of the online Federal Lead-Based Paint program database (FLPP) that supports the processing of applications for training providers, firms and individuals.

Identifying, assessing, and reducing the risks presented by the pesticides on which our society and economy rely is integral to ensuring environmental and human safety. Chemical and biological pesticides help meet national and global demands for food. They provide effective pest control for homes, schools, gardens, highways, utility lines, hospitals, and drinking water treatment facilities, while also controlling vectors of disease. The program ensures that the pesticides available in the U.S. are safe when used as directed. In addition, the program is increasing the focus on pollinator health, working with other federal partners, states, and private stakeholder groups to stem pollinator declines and increase pollinator habitat.

In FY 2018, the EPA will invest resources to improve the compliance of pesticide registrations with the Endangered Species Act. A portion of the funding also will ensure that pesticides are correctly registered and applied in a manner that protects water quality.

Agency Strategic Plan and Performance Measures

The FY 2018 annual performance measures and provisional targets and the FY 2016 EPA Annual Performance Report (APR), which includes performance measures and related information from

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FY 2011 to FY 2017, are included in the appendixes to the FY 2018 Annual Performance Plan and Budget [https://www.epa.gov/planandbudget/fy2018].

Eliminated Programs

Programs eliminated in the FY 2018 budget total $983 million. Details are found in [https://www.epa.gov/planandbudget/fy2018]. The Administration is committed to creating a leaner, more accountable, less intrusive, and more effective Government. The FY 2018 budget eliminates programs that are duplicative or those that can be absorbed into other programs or are state and local responsibilities.

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Environmental Protection Agency
2018 Annual Performance Plan and Congressional Justification

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Environmental Protection Agency
FY 2018 Annual Performance Plan and Congressional Justification

APPROPRIATION SUMMARY

Budget Authority
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud
Science & Technology	$763,829.4	$733,251.0	$450,812.0
Environmental Program & Management	$2,650,794.7	$2,630,269.0	$1,717,484.0
Inspector General	$39,802.3	$41,410.0	$37,475.0
Building and Facilities	$44,550.4	$42,237.0	$39,553.0
Inland Oil Spill Programs	$18,682.8	$18,175.0	$15,717.0
Superfund Program	$1,131,787.6	$1,063,355.0	$745,728.0
IG Transfer	$8,975.4	$9,920.0	$3,900.0
S&T Transfer	$18,301.2	$18,814.0	$12,435.0
Hazardous Substance Superfund	$1,159,064.2	$1,092,089.0	$762,063.0
Leaking Underground Storage Tanks	$93,702.6	$91,766.0	$47,429.0
State and Tribal Assistance Grants	$3,484,836.2	$3,611,473.0	$2,933,467.0
Hazardous Waste Electronic Manifest System Fund	$2,910.2	$3,667.0	$0.0
Water Infrastructure Finance and Innovation Fund	$0.0	$20,000.0	$20,000.0
SUB-TOTAL, EPA	*$8,258,172.8*	*$8,284,337.0*	*$6,024,000.0*
Rescission of Prior Year Funds	$0.0	($40,000.0)	($369,000.0)
SUB-TOTAL, EPA (INCLUDING RESCISSIONS)	*$8,258,172.8*	*$8,244,337.0*	*$5,655,000.0*
Hurricane Sandy Supplemental	$238.8	$0.0	$0.0
TOTAL, EPA	$8,258,411.6	$8,244,337.0	$5,655,000.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Environmental Protection Agency
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APPROPRIATION SUMMARY
Full-time Equivalents (FTE)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud
Science & Technology	2,106.5	2,198.2	1,484.7
Science and Tech. - Reim	0.5	1.5	0.0
Environmental Program & Management	9,270.8	9,767.2	7,320.8
Envir. Program & Mgmt - Reim	35.8	0.0	0.0
Inspector General	225.0	268.0	201.4
Inland Oil Spill Programs	87.5	98.3	76.5
Oil Spill Response - Reim	5.6	0.0	0.0
Superfund Program	2,458.4	2,523.4	1,987.1
IG Transfer	46.1	50.1	12.0
S&T Transfer	68.9	71.6	49.3
Hazardous Substance Superfund	2,573.4	2,645.1	2,048.4
Superfund Reimbursables	101.4	17.5	11.7
Leaking Underground Storage Tanks	50.4	54.1	40.7
State and Tribal Assistance Grants	5.7	0.0	0.0
WCF-Reimbursable	155.9	181.0	211.8
FIFRA	84.8	145.0	195.5
Pesticide Registration Fund	60.8	0.0	0.0
Hazardous Waste Electronic Manifest System Fund	7.6	7.9	7.9
Water Infrastructure Finance and Innovation Fund	0.0	12.0	12.0
UIC Injection Well Permit BLM	2.6	0.0	0.0
Deepwater Horizon Natural Resource Damage Assessment	2.5	0.0	0.0
SUB-TOTAL, EPA (INCLUDING RESCISSIONS)	*14,776.8*	*15,395.8*	*11,611.4*

	FY 2016 Actuals		FY 2017 Annualized CR		FY 2018 Pres Bud
Hurricane Sandy Supplemental	0.0		0.0		0.0
TOTAL, EPA	14,776.8		15,395.8		11,611.4

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

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Improving Air Quality

Introduction

As part of its mission to protect human health and the environment, the EPA is dedicated to improving the quality of the nation's air. To address these concerns, the agency works in cooperation with states, tribes, and local governments to design and implement standards and programs, and to share information. This cooperative federalism underpins all aspects of the National Air Program. Strong cooperative partnerships are needed to make and sustain improvements in air quality in accordance with the Clean Air Act. The National Air program will focus on implementing core programs where a federal presence in required by statute. Regulation and policy will be based upon the clear direction given by Congress in the Clean Air Act, follow the rule of law, and incorporate robust input from the public. States and tribes intimately understand their air quality problems and are therefore best positioned to develop solutions.

From 1970 to 2015, aggregate national emissions of the six common air pollutants dropped an average of 70 percent while gross domestic product grew by over 246 percent. Despite this progress, in 2015, approximately 120 million people (about 40 percent of the U.S. population) lived in counties with air that did not meet EPA's regulations for at least one pollutant.

The EPA's criteria pollutant programs are critical to continued progress in reducing public health risks and improving the quality of the environment. However, listening to and working with states to set and implement standards is key. The criteria pollutant program first sets National Ambient Air Quality Standards (NAAQS) which are then implemented by the states who have primary responsibility under the CAA for developing clean air plans. The EPA provides a variety of technical assistance, training and information to support state clean air plans and air permits to assist states with achieving attainment with air quality standards.

The air toxics program develops and implements national emission standards for stationary and mobile sources and state/local air agency actions to address local air toxics problems in communities. The EPA reviews air toxics emissions standards, required every eight years under the Clean Air Act, to determine if additional emission control technologies exist and, if so, the EPA proposes more effective emission control technologies based on these reviews.

The EPA also implements the U.S. Greenhouse Gas Reporting Program, which requires mandatory greenhouse gas emissions reporting covering over 8,000 facilities from 41 large industrial source categories in the U.S. The data are shared with industry stakeholders, state and local governments, the research community, and the public to better understand emissions, inform opportunities, and communicate progress of actions. They also inform the annual GHG Inventory, a U.S. treaty obligation.

The EPA develops, implements, and ensures compliance with national emission standards to reduce mobile source related air pollution from light-duty cars and trucks, heavy-duty trucks and buses, nonroad engines and vehicles, and from their fuels. The program also evaluates new emission control technology and provides information to state, Tribal, and local air quality managers on a variety of transportation programs. On March 15, 2017 the EPA and Department

of Transportation announced that the EPA intends to reconsider the Final Determination, issued on January 12, 2017, that recommended no change to the greenhouse gas standards for light duty vehicles for model years 2022 - 2025. In order to provide the technical foundation for an agency decision, the program will undertake an assessment of factors such as technological feasibility, costs impacts, impacts on air quality and public health, and other relevant issues. The EPA must make any modifications to the existing rule through a notice-and-comment rulemaking, including the issuing of a Notice of Proposed Rulemaking and a Final Rulemaking.

The agency also measures and monitors ambient radiation and radioactive materials and assesses radioactive contamination in the environment. The agency supports federal radiological emergency response and recovery operations under the National Response Framework (NRF) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

Highlights of the FY 2018 President's Budget:

FY 2018 resources include $447.7 million and 1,312.2 FTE to improve air quality. Highlights include the following.

National Ambient Air Quality Standards (NAAQS)

In FY 2018, the EPA will continue to perform key activities in support of the NAAQS and implementation of stationary source regulations, supporting state, local, and tribal air quality programs. The agency will continue its CAA-mandated responsibilities to administer the NAAQS by reviewing state plans and decisions consistent with statutory obligations, taking federal oversight actions such as approving State Implementation Plan / Tribal Implementation Plan (SIP/TIP) submittals, and by developing regulations and policies to ensure continued health and welfare protection during the transition between existing and new standards. The budget request includes $100.4 million to provide federal support for state and local air quality management.

Air Toxics

The EPA will continue to prioritize CAA and court-ordered obligations. Section 112 of the CAA requires that the emissions control bases for all Maximum Achievable Control Technology (MACT) standards be reviewed and updated, as necessary, every eight years. In FY 2018, the EPA will continue to conduct risk assessments, to determine whether the MACT rules appropriately protect public health. The program will tier its work with an emphasis on meeting court ordered deadlines to align with priorities and capacity.

Federal Vehicle and Fuel Standards and Certification Program

In FY 2018, the budget includes $76 million for the Federal Vehicle and Fuels Standards and Certification program, which will focus its efforts on certification decisions. The agency will continue to perform its compliance oversight functions on priority matters, where there is evidence to suggest noncompliance. The EPA will continue to conduct testing activities for pre-certification confirmatory testing for emissions and fuel economy for passenger cars. In FY 2018, the EPA anticipates reviewing and approving about 5,000 vehicle and engine emissions certification

requests, including light-duty vehicles, heavy-duty diesel engines, nonroad engines, marine engines, locomotives, and others.

Greenhouse Gas Reporting Program

In FY 2018, the budget provides for $8.5 million to continue to implement the Greenhouse Gas Reporting Program. The program focus will include:

- Implementing already-finalized regulatory revisions across multiple sectors to address stakeholder concerns associated with collection and potential release of data elements considered to be sensitive business information;
- Aligning the database management systems with those regulatory revisions; and
- Conducting a targeted Quality Assurance/Quality Control and verification process through a combination of electronic checks, staff reviews, and follow-up with facilities when necessary.

Radiation

In FY 2018, the EPA's Radiological Emergency Response Team (RERT) will maintain essential readiness to support federal radiological emergency response and recovery operations under the National Response Framework (NRF) and National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The EPA will design essential training and exercises to enhance the RERT's ability to fulfill the EPA's responsibilities and improve overall radiation response preparedness. The agency will continue to operate RadNet, the agency's fixed ambient environmental radiation monitoring network for the U.S

Grants for State, Local and Tribal Air Quality Management

In FY 2018, the EPA will provide grants to state, local, and tribal air pollution control agencies to manage and implement their air quality programs. Air monitoring, which provides information to states used to develop clean air plans, for research, and for the public, will continue to be a focus of the Administration. The budget includes $168.4 million in grants to states, localities and tribes to support air quality management work. Community scale air toxics monitoring will be funded by states and communities.

Research

The funding request of $30.6 million for Air and Energy (A&E) research program will support five related topic areas that include research projects that support the EPA's mission to protect human health and the environment, fulfill the agency's legislative mandates, and advance cross-agency priorities. The A&E program will work to measure progress toward environmental health goals, and translate research results to inform communities and individuals about measures to reduce impacts of air pollution. In addition, research personnel will analyze existing research data and publish scientific journal articles to disseminate findings associated with these data. The A&E research program relies on successful partnerships with other EPA research programs, offices, academic and industry researchers, state, local and private sector organizations, as well as key federal agencies.

Ensuring Clean and Safe Water

Introduction

Protecting the nation's water from pollution and contaminants relies on cooperation between the EPA, states and tribes. This cooperative federalism guides and underpins all aspects of the National Water Program. Strong partnerships between states, tribes, and the EPA are needed to make and sustain improvements in water quality. States and tribes intimately understand their water quality problems and are therefore best positioned to develop localized solutions to protect their waters.

The National Water Program will focus on implementing core programs where a federal presence is required by the statute. The decisions and priorities of the National Water Program will be based upon the clear direction given by Congress in the Clean Water Act and the Safe Drinking Water Act. Following the rule of law, all regulation and policy will be based on what the law directs and incorporate robust input from the public. Input from the public will help make our water policy beneficial to both the environment and the economy.

While much progress in water quality has been made over the last two decades, challenges remain to protect America's waters, particularly as it relates to aging infrastructure. In FY 2018, the National Water Program will focus its resources on supporting the modernization of outdated water infrastructure; creating incentives for new water technologies and innovation; and funding the core requirements of the Clean Water Act and Safe Drinking Water Act while providing states and tribes with flexibility to best address their particular priorities.

Highlights of the FY 2018 President's Budget:

FY 2018 resources include $2.873 billion and 1,778.8 FTE. Resources and FTE have been targeted to focus on core water programs authorized by statute. Funding for the categorical grants to states and tribes to support core water programs is $250 million.

Water Infrastructure Investments

A top priority for the National Water Program is modernizing the outdated water infrastructure on which the American public depends. Robust funding is provided for critical drinking and wastewater infrastructure. These funding levels further the President's ongoing commitment to infrastructure repair and replacement and would allow states, municipalities, and private entities to continue to finance high priority infrastructure investments that protect human health and the environment. The FY 2018 budget includes $2.3 billion for the State Revolving Funds and $20 million for the Water Infrastructure Finance and Innovation Act (WIFIA) program. Under WIFIA, the EPA could potentially provide up to $1 billion in credit assistance, which, when combined with other funding sources, would spur an estimated $2 billion in total infrastructure investment.[1]

[1] This approximation is based on notional calculations. Subsidy cost is determined on a loan-by-loan basis.

Categorical Grants to States and Tribes

In addition to the State Revolving Funds described above, the FY 2018 budget provides funding for the following categorical grants that support state and tribal implementation of the Clean Water Act and the Safe Drinking Water Act: Public Water System Supervision (PWSS), Pollution Control (Sec. 106), Underground Injection Control (UIC), and Wetlands Program Development Grants. The EPA will work with states and tribes to target the funds to core requirements while providing states and tribes with flexibility to best address their particular priorities.

Safe Drinking Water

The FY 2018 budget requests $83.7 million for Drinking Water Programs, including science and technology programs. The EPA will continue work to revise the Lead and Copper Rule, providing certainty to states and Tribes, and to develop regulations to implement the Water Infrastructure Improvement for the Nation Act and the Reduction of Lead in Drinking Water Act. In addition, the EPA will continue work with states to develop the next generation management and reporting tool used by the majority of state drinking water programs. The new Safe Drinking Water Information System tool will provide the following benefits: improvements in program efficiency and data quality, greater public access to drinking water data, facilitation of electronic reporting, reductions in reporting burdens on laboratories and water utilities, reductions in data management burden for states, and ultimately reduction in public health risk.

Clean Water

The FY 2018 budget requests $175 million for Surface Water Protection and $18.1 for Wetlands. The FY 2018 budget supports the following core Surface Water Protection program components: water quality criteria, standards and technology; National Pollutant Discharge Elimination System (NPDES); water monitoring; Total Maximum Daily Loads (TMDLs); watershed management; water infrastructure and grants management; core wetlands programs and Clean Water Act Section 106 program management. In FY 2018, the EPA and the Army Corps of Engineers will work to implement the President's Executive Order directing the Administrator of the EPA and the Assistant Secretary of the Army for Civil Works to review the 2015 Clean Water Rule and publish for notice and comment a proposed rule rescinding or revising the rule, as appropriate and consistent with law.

Homeland Security

In FY 2018, the EPA will propose a targeted set of activities and outreach in its role as the sector specific agency for the water sector critical infrastructure. Outreach and technical assistance will be provided for the highest priority areas. Under Executive Order 13636: Improving Critical Infrastructure Cybersecurity, the EPA, in FY 2018, will continue to coordinate water sector specific cybersecurity risks with DHS.

Research

The EPA's Safe and Sustainable Water Resources (SSWR) research program is funded at $68.5 million in the FY 2018 President Budget. The SSWR research program uses a systems approach to develop scientific and technological solutions for the protection of human health and watersheds. The research is conducted in partnership with other EPA programs, federal and state agencies, academia, non-governmental agencies, public and private stakeholders, and the scientific community. This approach maximizes efficiency, interdisciplinary insights and integration of results.

Cleaning up Land

Introduction

The EPA works to improve the health and livelihood of all Americans by cleaning up and restoring our land, preventing contamination, and responding to emergencies. Approximately 166 million people – roughly 53 percent of the U.S. population and 55 percent of children under the age of 5 – live within three miles of a Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA or Superfund), Resource Conservation and Recovery Act (RCRA) Corrective Action, or a Brownfields site that received EPA funding[2]. Collaborating with and effectively leveraging efforts of other federal agencies, industry, states, tribes, and local communities, the EPA uses its resources to enhance the livability and economic vitality of neighborhoods in and around hazardous waste sites.

The EPA partners with states, tribes and industry to prevent and reduce exposure to contaminants. Superfund and RCRA provide legal authority for the EPA's work to protect and restore the land. The agency and its partners use Superfund authority to clean up uncontrolled or abandoned hazardous waste sites, allowing land to be returned to productive use. Under RCRA, the EPA works in partnership with states and tribes to address risks associated with the generation, transportation, treatment, storage, or disposal of waste as well as works to clean up contamination at active sites.

The EPA works collaboratively with international, state, Tribal, and local governments to reach its goals and consider the effects of decisions on communities. The EPA will continue to work with communities to help them understand and address risks posed by intentional and accidental releases of hazardous substances into the environment and ensure that communities have an opportunity to participate in environmental decisions that affect them. The EPA's efforts are guided by scientific data, tools, and research that alert us to emerging issues and inform decisions on managing materials and addressing contaminated properties.

The EPA ensures federal environmental laws are implemented in Indian country. In situations in which tribes are not administering Tribal environmental programs, the EPA generally directly implements those programs to ensure protection of Tribal health and the environment. At this time, EPA directly implements the majority of federal environmental programs in Indian country. The EPA seeks to ensure that federal environment statutes are as effective inside Indian county as they are outside Indian country.

In FY 2018, the agency requests $1 million and 5.0 FTE to focus on analyzing the economic and regulatory impacts on the largest manufacturing sectors of the U.S. economy, streamline permitting processes and provide technical assistance to communities. The EPA will build constructive relationships with the largest manufacturing sectors of our economy. The goals are to ensure that the agency understands the needs of our customers, the regulated community, and states; identifies collaborative and innovative solutions to overcome barriers that prevent job

[2]U.S. EPA, Office of Land and Emergency Management Estimate 2015. Data collected includes: (1) site information as of the end of FY13; and (2) census data from the 2007-2013 American Community Survey.

creation and economic growth; and provide for better-informed rulemakings, reduced burden, increased transparency about environmental performance, and develop efficient, effective, consensus-based solutions to environmental problems.

Highlights of the FY 2018 President's Budget:

The FY 2018 request is $992.2 million and 2,255.1 FTE. The EPA will focus on implementing core programs where a federal presence is required by the statute. Decisions and priorities will be based upon the clear direction given by Congress. Following the rule of law, all regulation and policy will be based on what the law directs and incorporate robust input from the public. Input from the public will help make our policy beneficial to both the environment and the economy.

Restoring Contaminated Sites to Productive Use, Creating Jobs and New Economic Opportunities

The EPA's cleanup programs (i.e., Superfund Remedial, Superfund Federal Facilities, Superfund Emergency Response and Removal, RCRA Corrective Action, and Brownfields) work cooperatively with state, Tribal, and local partners to take proactive steps to facilitate the cleanup and revitalization of contaminated properties. Cleanup programs protect both human health and the environment and return sites to productive use, which is important to the economic well-being of communities.

In FY 2018, the EPA is looking to identify efficiencies and reduce administrative costs to accelerate the pace of cleanups. The agency will continue to help communities clean up and revitalize once productive properties by: removing contamination; enabling economic development; taking advantage of existing infrastructure; and maintaining, and improving quality of life. There are multiple benefits associated with cleaning up contaminated sites: reducing mortality and morbidity risk; preventing and reducing human exposure to contaminants; making land available for commercial, residential, industrial, or recreational reuse; and promoting community economic development.

Working collaboratively with partners across the country, the EPA engages with communities in site cleanup decisions, fosters employment opportunities in communities during and after remedy construction, promotes the redevelopment of blighted areas, and protects human health and the environment. Superfund properties are often reused as commercial facilities, retail centers, government offices, residential areas, industrial and manufacturing operations, and parks and recreational areas. The reuse often can play a role in economically revitalizing a community

The EPA works in partnership with states, having authorized 44 states and one territory to directly implement the RCRA Corrective Action program[3]. This program is responsible for overseeing and managing cleanups at active RCRA sites. States have been challenged in the cleanup program, and through worksharing, the agency serves as lead or support for a significant number of complex and challenging cleanups in both non-authorized and authorized states.

The UST program has achieved significant success in addressing releases since the beginning of the program and will continue to do so with a request of $11.976 million. End of year FY 2016

[3] State implementation of the CA Program is funded through the STAG (Program Project 11) and matching State contributions

data shows that, of the approximately 532,000 releases reported since the beginning of the UST program in 1988, more than 461,000 (or 86.7 percent) have been cleaned up. Approximately 71,000 releases remain that have not reached cleanup completion. The EPA is working with states to develop and implement specific strategies and activities applicable to their particular sites to reduce the UST releases remaining to be cleaned up.

By awarding Brownfields grants, the EPA is making investments in communities so that they can realize their own visions for environmental health, economic growth, and job creation. As of April 2017, the grants awarded by the program have led to over 67,000 acres of idle land made ready for productive use and over 124,300 jobs and $23.6 billion leveraged.[4]

Chemical Facility Safety

In FY 2018, the EPA requests $10 million for the State and Local Prevention and Preparedness program. States and communities often lack the capacity needed to prepare for and/or respond to these emergencies or to prevent them from happening, and the EPA fills valuable role in filling this gap.

The program establishes a structure composed of federal, state, local, and Tribal partners who work together with industry to protect emergency responders, local communities, and property from chemical risks through advanced technologies, community and facility engagement, and improved safety systems. In FY 2018 the program will inspect Risk Management Plan (RMP) facilities to ensure compliance with accident prevention and preparedness activities. There are approximately 12,500 chemical RMP facilities that are subject to inspections in the program. Of these, approximately 1,900 facilities have been designated as high-risk based upon their accident history, quantity of on-site dangerous chemicals stored, and proximity to large residential populations.[5]

Strategic Environmental Management

In FY 2018, the agency will focus on streamlining the permitting processes, which impact environmental protection and economic development in many sectors of the economy. This work will be done in conjunction with and in support of the Presidents' Memorandum Streamlining Permitting and Reducing Regulatory Burdens for Domestic Manufacturing.[6] While the EPA's permits will continue to protect human health and the environment, the more efficiently the agency works with state partners and the regulated industry, the more quickly permits can be issued, fostering greater environmental protection and economic development.

RCRA Waste Management

The FY 2018 budget provides $41.1 million to the RCRA Waste Management program. In FY 2018, RCRA permits for approximately 20,000 hazardous waste units (such as incinerators and landfills) at 6,600 treatment, storage, and disposal facilities will be issued, updated or maintained.

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[4] The EPA's ACRES database.
[5] For additional information, refer to: https://www.gpo.gov/fdsys/pkg/FR-2017-01-13/pdf/2016-31426.pdf
[6] For more information: https://www.whitehouse.gov/the-press-office/2017/01/24/presidential-memorandum-streamlining-permitting-and-reducing-regulatory

The EPA will focus on PCB cleanups and providing work-sharing and leadership assistance to the states and territories authorized to implement the permitting program and directly implements the entire RCRA program in two states.

Hazardous Waste Electronic Manifest

On October 5, 2012, the Hazardous Waste Electronic Manifest Establishment Act was enacted, requiring the EPA to develop and maintain a hazardous waste electronic manifest system. The system will be designed to, among other functions, assemble and maintain the information contained in the estimated five million manifest forms accompanying hazardous waste shipments across the nation. When fully implemented, the electronic hazardous waste manifest (e-Manifest) program will reduce the reporting burden for industry by approximately $75 million annually. In FY 2018, the system will go into service and will transition into a fee-funded program.

Oil Spill Prevention

The inland oil spills can threaten human health, cause severe environmental damage, and create financial loss to industry and the public. The Oil Spill program helps protect the American people by effectively preventing, preparing for, responding to, and monitoring inland oil spills. The EPA serves as the lead responder for cleanup of all inland zone spills, including transportation-related spills, and provides technical assistance and support to the U.S. Coast Guard for coastal and maritime oil spills. In FY 2018, the EPA requests a total of $12.1 million for the Oil Spill Prevention, Preparedness and Response program.

Homeland Security

The EPA's Homeland Security work is an important component of the agency's prevention, protection, and response activities. The FY 2018 budget submission includes $15 million to maintain agency capability to respond to incidents that may involve harmful chemical, biological, and radiological (CBR) substances. Resources also will allow the agency to develop and maintain expertise and operational readiness for all phases of consequential management following a CBR incident.

Environmental Protection in Indian Country

The EPA Indian Environmental General Assistance Program (GAP) provides financial assistance to tribes to assist with capacity building and the development of environmental protection programs in Indian country. In FY 2018, the EPA will continue to fund the GAP grants which will allow tribes to develop media-specific environmental programs and also will ensure adequate resources for grantees to successfully implement the EPA-Tribal Environmental Plans (ETEPs) that outline their environmental program priorities and goals at the local level. Tribal resources are essential to address long-standing challenges to recruit and retain qualified environmental professionals to remote Indian country locations and will assist tribes with the implementation of environmental regulatory programs.

The magnitude of Tribal environmental and human health challenges reinforces the importance of the EPA's commitment to maintaining strong environmental protections in Indian country and to working with other federal agencies to effectively leverage resources. The EPA, the Department of the Interior, the Department of Health and Human Services (Indian Health Service), the Department of Agriculture, and the Department of Housing and Urban Development have worked through several Memoranda of Understanding (MOUs) as partners to improve infrastructure on Tribal lands. The Infrastructure Task Force will build on prior partnership success, including improved access to funding and reduced administrative burden for Tribal communities, through the review and streamlining of agency policies, regulations, and directives, as well as improved coordination of technical assistance to water service providers and solid waste managers through regular coordination meetings and web-based tools.

Research

In FY 2018, the Sustainable and Healthy Communities (SHC) program is funded at $60.7 million and will prioritize efforts to continue to support the EPA's program offices and state and Tribal partners in protecting and restoring land, and providing community decision makers with decision tools to support community health and well-being. In FY 2018, the EPA research personnel and associated support staff will analyze existing research data and publish scientific journal articles to disseminate findings associated with these data.

The SHC program also will continue to develop or revise protocols to test oil spill control agents or products for listing on the National Contingency Plan Product Schedule, including dispersants' performance and behavior in deep water and arctic conditions. Additional research outcomes include improved characterization and remediation methods for fuels released from leaking underground storage tanks.

Ensuring the Safety of Chemicals

Introduction

Chemicals are present in our everyday lives and products. They are used in the production of everything from our homes and cars to the cell phones we carry and the food we eat. Chemicals often may be released into the environment as a result of their manufacture, import, processing, use, and disposal.
The budget ensures the agency has the resources to address the safety of new chemicals and existing chemicals through the implementation of new Toxic Substances Control Act (TSCA).

Under authorization by TSCA, as amended, on June 22, 2016, by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, the EPA is charged with the responsibility of assessing the safety of commercial and industrial chemicals and acting upon those chemicals if they pose significant risks to human health or the environment. The new law requires that an affirmative determination be made by the EPA on whether a new chemical substance will present, may present, or is not likely to present an unreasonable risk (or that available information is insufficient to enable any of these determinations to be made) before the chemical substance can proceed to the marketplace. The EPA also will maintain an ambitious schedule for initiating and completing in a timely manner risk evaluations of existing chemicals and, where risks are identified, for initiating and completing regulatory actions and increased communications with manufacturers to address risks. Work on the first 10 chemicals to be evaluated began in December 2016. By law, there must be 20 evaluations ongoing by the end of 2019. In addition, most claims of confidentiality for chemical identity must be reviewed in 90 days, as well as 25 percent of all other claims for confidentiality.

The EPA's pesticide licensing program evaluates new pesticides before they reach the market and ensure that pesticides already in commerce are safe when used in accordance with the label as directed by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal Food, Drug, and Cosmetic Act (FFDCA), and the Food Quality Protection Act (FQPA). The EPA will register pesticides in a manner that protects consumers, pesticide users, workers, children, and other populations who may be exposed to pesticides. The program also will continue the registration review process for older pesticides. For all pesticides in review, the EPA will evaluate potential impacts on the environment.

The EPA has a long history of collaboration to address a wide range of domestic and global environmental issues. The EPA envisions that environmental actions in cooperation with international partners can catalyze even greater progress toward protecting our domestic environment. The EPA's work with international organizations is essential to successfully addressing transboundary pollution adversely impacting the U.S., strengthening environmental protection abroad so that it is on par with practices in the United States, and supporting the foreign policy objectives outlined by the White House, the National Security Council, and the Department of State.

The EPA research programs of Chemical Safety for Sustainability (CSS), Human Health Risk Assessment (HHRA), and Homeland Security underpin the analysis of risks and potential health

impacts across the broad spectrum of EPA programs and provide the scientific foundation for chemical safety. In FY 2018, the EPA will further strengthen its planning and delivery of science by continuing an integrated research approach that tackles problems systematically.

Highlights of the FY 2018 President's Budget:

In FY 2018, the agency expects to review over 1,000 new chemical submissions, take appropriate testing and risk management actions and make affirmative determinations in a timely manner and as close to the 90-day review as possible. The program also will evaluate the data submitted from Section 5 Consent Orders and address submitted Notices of Commencement (NOCs). In FY 2018, the EPA's toxics program will maintain its 'zero tolerance' goal for preventing the introduction of unsafe new chemicals into commerce.

Chemical Safety

In FY 2018, $65 million is directed to the TSCA Chemical Risk Review and Reduction Program. This increase in funding will support the agency's significant continuing and new responsibilities for ensuring that chemicals in commerce do not present unreasonable risks to human health or the environment. As authorized by the amendments to TSCA, the agency expects to collect TSCA Service fees beginning in FY 2018 in support of certain responsibilities under the new law.

Review of new chemicals will be prioritized. Scheduling will reflect a need for the agency to eliminate the backlog of reviews in order to ensure chemicals go to market in a manner that better promotes economic development. Timely evaluation will be based on the intended use of chemicals.

For chemicals in commerce, the EPA will maintain an ambitious schedule for initiating and completing chemical risk evaluations and, where risks are identified, for initiating and completing regulatory actions to address those risks. In FY 2018, the agency will be working to advance the first 10 chemicals that will undergo risk evaluations through the draft, peer review/public comment and final stages. In FY 2018, the agency plans to commence the process for identifying an additional 10 chemicals for which risk evaluation will be initiated during 2018-2019, to have 20 risk evaluations underway by the end of 2019. The EPA may require testing on up to 12 chemicals in connection with the prioritization and risk evaluation processes, where such testing is needed. Under TSCA section 6(h), there is a new fast-track process to address certain PBT chemicals; the EPA has begun risk management actions to address five of these Persistent Bioaccumulative Toxic (PBTs) within the prescribed period mandated by the law. The agency expects to publish an Alternative Testing Methods Strategy by June 2018, two years after the date of enactment, as required by the new law. In FY 2018, the EPA will finalize the designation of chemical substances on the TSCA inventory as either "active" or "inactive" in U.S. commerce. And throughout the fiscal year, the EPA will implement the new mandate to make determinations on claims for confidentiality for chemical identities and 25 percent of all other claims for confidentiality.

The agency also will provide firm and individual certifications for safe work practices for lead-based paint abatement and renovation and repair efforts, as well as provide for the operation and

maintenance of the online Federal Lead-Based Paint program database (FLPP) that supports the processing of applications for training providers, firms and individuals.

Identifying, assessing, and reducing the risks presented by the pesticides on which our society and economy rely is integral to ensuring environmental and human safety. Chemical and biological pesticides help meet national and global demands for food. They provide effective pest control for homes, schools, gardens, highways, utility lines, hospitals, and drinking water treatment facilities, while also controlling vectors of disease. The program ensures that the pesticides available in the U.S. are safe when used as directed. The agency's pesticide program is increasing its focus on pollinator health as well, working with other federal partners, states, and private stakeholder groups to stem pollinator declines and increase pollinator habitat. In addition, the program places priority on reduced risk pesticides that, once registered, will result in increased societal benefits.

In FY 2018, $99.4 million in appropriated funding is provided to support the EPA's pesticide registration review and registration program. The EPA will invest resources to improve the compliance of pesticide registrations with the Endangered Species Act. A portion of the funding also will ensure that pesticides are correctly registered and applied in a manner that protects water quality. The EPA will continue registration and reregistration requirements for antimicrobial pesticides. Together, these programs will minimize exposure to pesticides, maintain a safe and affordable food supply, address public health issues, and minimize property damage that can occur from insects, pests and microbes. The agency's worker protection, certification, and training programs will encourage safe application practices. The EPA also will continue to emphasize reducing exposures from pesticides used in and around homes, schools, and other public areas.

The EPA will continue to work to improve pollinator health by performing laboratory analyses of honeybees and related resources, such as hive structures. The EPA will continue to assess the effects of pesticides, including neonicotinoids, on bee and other pollinator health and take action as appropriate to protect pollinators, engage state and Tribal agencies in the development of pollinator protection plans, and expedite review of registration applications for new products targeting pests harmful to pollinators.

International Priorities

To achieve our domestic environmental and human health goals, international partnerships are essential, including those with the business community, entrepreneurs and other members of society. Pollution is often carried by wind and water across national boundaries, posing risks to human health and ecosystems many hundreds and thousands of miles away. In FY 2018, the EPA will continue to engage both bilaterally and through multilateral institutions to improve international cooperation to prevent and address the transboundary movement of pollution. In particular, the Office of International and Tribal Affairs (OITA) will continue technical and policy assistance for global and regional efforts to address international sources of harmful pollutants, such as mercury.

In FY 2018, the agency also will maintain a targeted set of efforts to reduce environmental threats to U.S. citizens. In particular, the EPA will continue technical and policy assistance for global and regional efforts to address international sources of harmful pollutants, such as mercury. Because

70 percent of the mercury deposited in the U.S. comes from global sources[7], both domestic efforts and international cooperation are important to address mercury pollution.

Research

The EPA research programs of Chemical Safety for Sustainability (CSS), Human Health Risk Assessment (HHRA), and Homeland Security underpin the analysis of risks and potential health impacts across the broad spectrum of EPA programs and provide the scientific foundation for chemical safety and pollution prevention. In FY 2018, the EPA will further strengthen its planning and delivery of science by continuing an integrated research approach that tackles problems systematically.

Research: Chemical Safety for Sustainability (CSS)

In FY 2018, the EPA is requesting $61.7 million for the CSS research program. These resources will: 1) incorporate advances in computational chemistry to allow use of information from chemical structures with known bioactivity to other structures with less data (i.e. read-across) in concert with growing international efforts; 2) use the high-throughput hazard and exposure information to begin to evaluate cumulative risk of chemical exposures; and 3) demonstrate how the ToxCast/Tox21 data can be used to develop high-throughput risk assessments, in particular for data-poor chemicals. The EPA also will utilize resources to research responsibilities under the Frank R. Lautenberg Chemical Safety for the 21st Century Act that support new assessment and chemical review capabilities, as directed by the law.

FY 2018 presents an opportunity to further enhance and broaden the application of the CSS computational toxicology research to agency activities across diverse regulatory frameworks. New emerging applications can add significant efficiency and effectiveness to agency operations. The applications complement efforts of the agency's Chemical Safety and Pollution Prevention program to apply high throughput and other 21st Century exposure information to Toxic Substances Control Act (TSCA) chemical prioritization.

Additionally, the CSS program will continue to apply computational and knowledge-driven approaches to amplify the impact of its research on engineered nanomaterials and on evaluation of emerging safer chemical alternatives. Results of this research will provide guidelines for evaluating potential impacts of emerging materials from the molecular design phase throughout their lifecycle in their applications to goods and products in commerce. These research directions are in keeping with the environmental health and safety research needs identified by the National Nanotechnology Initiative. Through specific case studies, CSS will further evaluate the impact of nanomaterial exposures through ubiquitous use in consumer products and lifecycle impacts, including discharge to wastewater or impact to biosolids.

Finally, the CSS research program is the lead national research program for the agency's Children's Environmental Health (CEH) Roadmap. Transforming EPA's capacity for considering child-specific vulnerabilities requires that the program apply advanced systems science and integrate diverse emerging data and knowledge in exposure, toxicology, and epidemiology to

[7] http://www.epa.gov/international/toxics/mercury/mnegotiations.html; www.mercuryconvention.org;

improve understanding of the role of exposure to environmental factors during early life on health impacts that may occur at any point over the life course.

Research: Human Health Risk Assessment (HHRA)

In FY 2018, the agency's Human Health Risk Assessment Research Program will continue to develop assessments and scientific products that are used extensively by EPA programs and regional offices and the risk management community to estimate the potential risk to human health from exposure to environmental contaminants. These include:

- Integrated Risk Information System health hazard and dose-response assessments;
- Integrated Science Assessments of criteria air pollutants;
- Community risk science; and
- Advancing analyses and applications.

Research: Homeland Security Research Program (HSRP)

The Homeland Security Research Program (HSRP) will continue to enhance the nation's preparedness, response, and recovery capabilities for homeland security incidents and other hazards by providing stakeholders and partners with valuable detection and response analytics for incidents involving chemical, biological, or radiological agents. The program will continue to emphasize the research needed to support response and recovery from wide-area attacks involving radiological agents, nuclear agents, and biothreat agents such as anthrax.

In FY 2018, $108.2 million is directed to the Chemical Safety and Sustainability, Human Health Risk Assessment, and Homeland Security Research programs.

Enforcing Laws and Assuring Compliance

Introduction

The EPA's enforcement program is focused on assuring compliance with our nation's environmental laws. Consistent regulatory enforcement also levels the playing field among regulated entities, ensuring that those that fail to comply with the law do not have an unfair advantage over their law-abiding competitors. The EPA works in partnership with state and Tribal agencies to achieve this objective and to ensure that our communities have clean air, water, and land. To improve compliance, the EPA works to provide accessible tools that help regulated entities, federal agencies, and the public understand these laws and find efficient, cost effective means for putting them into practice. The EPA's enforcement program prioritizes inspections and other monitoring and enforcement activities based on the degree of health and environmental risk. The program collaborates with the Department of Justice, states, local government agencies, and Tribal governments to ensure consistent and fair enforcement of all environmental laws and regulations.

Highlights of the FY 2018 President's Budget:

Compliance Monitoring

The Compliance Monitoring program provides the critical infrastructure to promote compliance with the nation's environmental laws and protect human health and the environment. Compliance monitoring is comprised of a variety of tools and activities that states and the EPA use to identify whether regulated entities are in compliance with applicable laws, regulations, and permit conditions. In addition, compliance monitoring activities such as inspections and investigations are conducted to determine whether conditions exist that may present imminent and substantial endangerment to human health and the environment.

In FY 2018, the EPA's compliance monitoring activities such as field inspections, data tools, and assistance will focus on those programs that are not delegated to states, while providing some targeted oversight and support to state, local, and Tribal programs. The agency will prioritize work with states to develop methods that successfully leverage advances in both monitoring and information technology.

In FY 2018, the EPA will continue to maintain ICIS access to the agency, states, and the public, and implement the NPDES Electronic Reporting Rule covering e-reporting rule permitting requirements for the EPA and states on an adjusted schedule. In FY 2018, the EPA will work with states to prioritize next steps for the development of electronic reporting tools that support states. The EPA's electronic reporting tools save the states a significant amount of resources in development and operations and maintenance costs. In FY 2018, the proposed budget for compliance monitoring is $87.2 million.

Civil Enforcement

The Civil Enforcement program's overarching goal is to maximize compliance with the nation's environmental laws and regulations in order to protect human health and the environment. The program collaborates with the Department of Justice, states, local agencies, and Tribal governments to ensure consistent and fair enforcement of all environmental laws and regulations. The program seeks to strengthen environmental partnerships with co-implementers in the states, encourage regulated entities to rapidly correct their own violations, ensure that violators do not realize an economic benefit from noncompliance, and pursue enforcement to deter future violations.

In FY 2018, recognizing the role of states as primary implementers, the EPA will focus resources on direct implementation responsibilities and the most significant violations. Direct implementation responsibilities include programs that are not delegable or where a state has not sought or obtained the authority to implement a particular program. Examples include the Clean Air Act mobile source program, pesticide labeling and registration under FIFRA, enforcement on Tribal lands, and enforcement of non-delegated portions of various other laws, including RCRA, the Clean Water Act, and stratospheric ozone under the CAA, among others. The EPA also will continue to pursue enforcement actions at federal facilities where significant violations are discovered. The agency will refocus efforts from areas where significant progress has been made (and which no longer require as active an enforcement presence) toward areas that address the most substantial impacts to human health. In FY 2018, the proposed budget for civil enforcement is $143.3 million.

Criminal Enforcement

The EPA's Criminal Enforcement program enforces the nation's environmental laws through targeted investigation of criminal conduct, committed by individual and corporate defendants, that threatens public health and the environment. In FY 2018, the Criminal Enforcement program will focus its resources on the most egregious cases (e.g., significant human health, environmental, and deterrent impacts), while balancing its overall case load across all environmental statutes. The EPA's Criminal Enforcement program plays a critical role across the country, since states have a very limited capacity to prosecute environmental crimes. The Criminal Enforcement program within our resource levels will continue to collaborate and coordinate with the Civil Enforcement program to ensure that the EPA's Enforcement program responds to violations as effectively as possible. In FY 2018, the proposed budget for Criminal Enforcement is $44.5 million.

National Environmental Policy Act (NEPA)

In FY 2018, the EPA will work with OMB, CEQ, and other federal agencies to coordinate, streamline, and improve the NEPA process.[8] The EPA will work with agencies as they implement FAST-41, which sets out requirements to streamline infrastructure permitting project reviews.[9] The EPA also will work to implement the Executive Order: "Expediting Environmental Reviews

[8] For additional information, refer to: https://www.gpo.gov/fdsys/pkg/PLAW-114publ94/pdf/PLAW-114publ94.pdf.
[9] For additional information, refer to: https://www.gpo.gov/fdsys/pkg/PLAW-114publ94/pdf/PLAW-114publ94.pdf.

and Approvals for High Priority Infrastructure Projects."[10] The program expects to achieve some efficiencies by expediting environmental reviews and approvals for high priority infrastructure projects.

During FY 2018, the EPA will focus resources on the most significant proposals for major federal actions. As a component of this effort, the program will use and promote NEPAssist, a geographic information system (GIS) tool developed to assist users (the EPA, other federal agencies, and the public) with environmental reviews. In FY 2018, the proposed budget for NEPA is $13.5 million.

Forensics Support

The Forensics Support program provides specialized scientific and technical support for the nation's most complex civil and criminal enforcement cases, as well as technical expertise for agency compliance efforts. The work of the EPA's National Enforcement Investigations Center (NEIC) is critical to determining non-compliance and building viable enforcement cases. The NEIC maintains a sophisticated chemistry laboratory and a corps of highly trained inspectors and scientists with a wide range of environmental scientific expertise. In FY 2018, NEIC will provide high-quality forensics work within our resource levels in support of the highest priority investigations. Initiatives to stay at the forefront of environmental enforcement in FY 2018 will include improvements in inspection methods used at regulated hazardous waste facilities and utilizing existing technologies, such as advanced remote sensing for on-site air and water sampling for toxic and non-conventional pollutants. In FY 2018, the proposed budget for Forensics Support is $11.2 million.

Superfund Enforcement

The EPA's Superfund Enforcement program protects communities by ensuring that responsible parties conduct cleanups, preserving federal dollars for sites where there are no viable contributing parties. The EPA's Superfund Enforcement program ensures prompt site cleanup and reuse by maximizing the participation of liable and viable parties in performing and paying for cleanups. In both the Superfund Remedial and Superfund Emergency Response and Removal programs, the Superfund Enforcement program obtains potentially responsible parties commitments to perform and pay for cleanups through civil, judicial, and administrative site actions.

In FY 2018, the agency will prioritize its efforts on the most significant sites in terms of environmental impact and potential cost liability to the government. The agency will continue its efforts to establish special accounts (site-specific, interest-bearing accounts funded by the potentially responsible party under a settlement agreement for cleanup and enforcement activities at the site for which it received the money). Since special account funds may only be used for sites and uses specified in the settlement agreement, both special account resources and annually appropriated resources are critical to the Superfund program to clean up Superfund sites.

In FY 2018, the EPA will focus its resources on the highest priority federal sites, particularly those that may present an imminent and/or substantial endangerment, and on resolving formal disputes

[10] For additional information, refer to: https://www.whitehouse.gov/the-press-office/2017/01/24/executive-order-expediting-environmental-reviews-and-approvals-high.

under the Federal Facility Agreements (FFAs). In FY 2018, the EPA is requesting to merge the Superfund Federal Facilities Enforcement program with the Superfund Enforcement program. The agency will optimize the resources between the two programs. In FY 2018 the proposed budget for the Superfund Enforcement program is $94.4 million.

Partnering with States and Tribes

In FY 2018, the Enforcement and Compliance Assurance program will sustain its environmental enforcement partnerships with states and Tribes and work to strengthen their ability to address environmental and public health threats. In FY 2018, the Enforcement and Compliance Assurance program will provide $14.5 million in grants to the states and Tribes to assist in the implementation of compliance and enforcement provisions of the Toxic Substances Control Act (TSCA) and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). These grants support state and Tribal compliance activities to protect human health and the environment from harmful chemicals and pesticides. Under the Pesticides Enforcement Grant program, the EPA will continue to provide resources to states and Tribes to conduct FIFRA compliance inspections and take appropriate enforcement actions. The Toxic Substances Compliance Grants protect the public and the environment from PCBs, asbestos, and lead-based paint.

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Resource Summary Table
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology				
Budget Authority	$763,829.4	$733,251.0	$450,812.0	($282,439.0)
Total Workyears	2,107.0	2,199.7	1,484.7	-715.0

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Bill Language: Science and Technology

For science and technology, including research and development activities, which shall include research and development activities under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980; necessary expenses for personnel and related costs and travel expenses; procurement of laboratory equipment and supplies; and other operating expenses in support of research and development, $450,812,000, to remain available until September 30, 2019.

Program Projects in S&T
(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Clean Air				
Clean Air Allowance Trading Programs	$8,149.6	$7,793.0	$5,739.0	($2,054.0)
GHG Reporting Program	$8,824.2	$8,003.0	$0.0	($8,003.0)
Federal Support for Air Quality Management	$6,234.3	$7,453.0	$3,959.0	($3,494.0)
Federal Vehicle and Fuels Standards and Certification	$85,613.6	$93,070.0	$76,010.0	($17,060.0)
Subtotal, Clean Air	$108,821.7	$116,319.0	$85,708.0	($30,611.0)
Indoor Air and Radiation				
Indoor Air: Radon Program	$378.9	$172.0	$0.0	($172.0)
Radiation: Protection	$2,064.5	$1,831.0	$0.0	($1,831.0)
Radiation: Response Preparedness	$3,716.5	$3,774.0	$3,339.0	($435.0)
Reduce Risks from Indoor Air	$260.4	$209.0	$0.0	($209.0)
Subtotal, Indoor Air and Radiation	$6,420.3	$5,986.0	$3,339.0	($2,647.0)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Enforcement				
Forensics Support	$13,949.7	$13,643.0	$10,444.0	($3,199.0)
Homeland Security				
Homeland Security: Critical Infrastructure Protection	$9,807.2	$10,497.0	$0.0	($10,497.0)
Homeland Security: Preparedness, Response, and Recovery	$26,800.2	$26,004.0	$22,597.0	($3,407.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	$551.0	$551.0	$500.0	($51.0)
Subtotal, Homeland Security	$37,158.4	$37,052.0	$23,097.0	($13,955.0)
IT / Data Management / Security				
IT / Data Management	$2,892.6	$3,083.0	$2,725.0	($358.0)
Operations and Administration				
Facilities Infrastructure and Operations	$71,332.8	$68,209.0	$68,339.0	$130.0
Workforce Reshaping	$0.0	$0.0	$10,995.0	$10,995.0
Subtotal, Operations and Administration	$71,332.8	$68,209.0	$79,334.0	$11,125.0
Pesticides Licensing				
Pesticides: Protect Human Health from Pesticide Risk	$3,772.1	$3,122.0	$2,274.0	($848.0)
Pesticides: Protect the Environment from Pesticide Risk	$1,737.5	$2,324.0	$2,195.0	($129.0)
Pesticides: Realize the Value of Pesticide Availability	$427.4	$570.0	$527.0	($43.0)
Subtotal, Pesticides Licensing	$5,937.0	$6,016.0	$4,996.0	($1,020.0)
Research: Air and Energy				
Research: Air and Energy	$104,407.9	$91,731.0	$30,592.0	($61,139.0)
Research: Safe and Sustainable Water Resources				
Research: Safe and Sustainable Water Resources	$114,874.9	$107,230.0	$68,520.0	($38,710.0)
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	$154,349.4	$139,709.0	$54,211.0	($85,498.0)
Research: Chemical Safety and Sustainability				
Human Health Risk Assessment	$36,007.0	$37,530.0	$22,516.0	($15,014.0)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Research: Chemical Safety and Sustainability				
Endocrine Disruptors	$15,980.1	$0.0	$10,122.0	$10,122.0
Computational Toxicology	$23,937.4	$0.0	$17,165.0	$17,165.0
Research: Chemical Safety and Sustainability (other activities)	$53,405.9	$89,158.0	$34,386.0	($54,772.0)
Subtotal, Research: Chemical Safety and Sustainability	$93,323.4	$89,158.0	$61,673.0	($27,485.0)
Subtotal, Research: Chemical Safety and Sustainability	$129,330.4	$126,688.0	$84,189.0	($42,499.0)
Water: Human Health Protection				
Drinking Water Programs	$3,975.8	$3,512.0	$3,657.0	$145.0
Congressional Priorities				
Water Quality Research and Support Grants	$10,378.5	$14,073.0	$0.0	($14,073.0)
Subtotal, Water Quality Research and Support Grants	$10,378.5	$14,073.0	$0.0	($14,073.0)
TOTAL, EPA	$763,829.4	$733,251.0	$450,812.0	($282,439.0)

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Program Area: Clean Air

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$17,343.4	$16,112.0	$12,791.0	($3,321.0)
Science & Technology	***$8,149.6***	***$7,793.0***	***$5,739.0***	***($2,054.0)***
Total Budget Authority / Obligations	$25,493.0	$23,905.0	$18,530.0	($5,375.0)
Total Workyears	71.7	71.4	63.7	-7.7

Program Project Description:

This program is responsible for managing the Clean Air Status and Trends Network (CASTNET), a long-term ambient monitoring network, established under Title IX of the Clean Air Act (CAA) Amendments of 1990, which serves as the nation's primary source for atmospheric data on the dry component of acid deposition, regional ground-level ozone, and other forms of particulate and gaseous air pollution. Used in conjunction with the National Atmospheric Deposition Program's (NADP) wet deposition networks and other ambient air quality networks, CASTNET's long-term datasets and data products are used to determine the effectiveness of national and regional emission control programs. The CASTNET program provides spatial and temporal trends in ambient air quality and atmospheric deposition in non-urban areas and sensitive ecosystems (i.e., National Parks). Maintaining the CASTNET monitoring network continues to be critical for assessing the environmental benefits realized from the Acid Rain Program and regional programs that control transported emissions (thereby reducing secondary pollutant formation of ozone and fine particles).

The EPA's Long-Term Monitoring (LTM) program was created to assess the health of water bodies in response to changes in deposition of atmospheric pollutants. Today, it ensures that the Clean Air Act continues to be effective in reducing the impact of atmospheric pollutants (e.g., strong acid anions) on surface waters in New England, the Adirondack Mountains, the Northern Appalachian Plateau (including the Catskill and Pocono mountains), and the Blue Ridge region. This program is operated cooperatively with numerous partners in state agencies, academic institutions, and other federal agencies. The LTM surface water chemistry monitoring program provides field measurements for understanding biogeochemical changes in sulfur, nitrogen, acid neutralizing capacity (ANC), aluminum, and carbon in streams and lakes in relation to changing pollutant emissions. The LTM program is one of the longest running programs at the EPA, providing long-term datasets based on sampling and measurements that go back to 1983.

Clean Air Allowance Trading Programs, established under Title I and IV of the Clean Air Act, help implement the National Ambient Air Quality Standards (NAAQS) and the Acid Rain Program, as well as reduce toxics emissions and regional haze. Pollutants reduced include sulfur dioxide (SO_2), nitrogen oxides (NO_X), ground-level ozone, fine particulate matter ($PM_{2.5}$), and mercury. The EPA provides assistance to states as they develop, implement, and assess their state and regional programs to address major regional and national air issues from large stationary sources. This

assistance has traditionally come in the form of technical analysis, modeling, and emissions monitoring support.

In July 2011, the EPA issued the Cross-State Air Pollution Rule (CSAPR). CSAPR, which took effect on January 1, 2015,[1] requires 27 states to limit their state-wide emissions of SO_2 and/or NOx in order to reduce or eliminate the states' contributions to fine particulate matter and/or ground-level ozone pollution in other states. The emissions limitations are defined in terms of maximum state-wide "budgets" for emissions of annual SO_2, annual NOx, and/or ozone-season NOx from each state's large electric generating units (EGUs). In September 2016, the EPA finalized an update to CSAPR for the 2008 ozone NAAQS.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will:

- Continue quality assurance, analysis, and reporting of environmental data from the CASTNET deposition/rural ozone and LTM surface water monitoring networks to the extent possible. Analyze and assess trends in sulfur and nitrogen deposition, rural ozone concentrations, surface water quality, and other indicators of ecosystem health and ambient air quality in non-urban areas of the U.S.

- Assure the continuation of ongoing SO_2 and NO_X emission reductions from power plants in the eastern half of the U.S. by implementing CSAPR and the CSAPR update, and across the contiguous U.S. by implementing the Acid Rain Program.[2]

- Ensure accurate and consistent results for the programs. Work will continue on performance specifications and investigating monitoring alternatives and methods to improve the efficiency of monitor certification and emissions data reporting.

- Work with states to implement emission reduction programs to comply with CAA Section 110(a)(2)(D) requirements.

The EPA tracks the change in nitrogen deposition and sulfur deposition to assess the effectiveness of the Acid Rain and related programs with performance targets set for every three years. The EPA

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[1] CSAPR was stayed and then vacated by the D.C. Circuit Court of Appeals, but the Supreme Court reversed the D.C. Circuit's opinion vacating the rule, EPA v. EME Homer City Generation, L.P., 134 S. Ct. 1584 (2014), and the D.C. Circuit subsequently lifted the stay. In July 2015, the D.C. Circuit issued a decision on remaining legal challenges to CSAPR, upholding the rule in most respects but remanding without vacatur several state budgets to the EPA for reconsideration. EME Homer City Generation, L.P. v. EPA, 795 F.3d 118 (D.C. Cir. 2015). EPA is responding to the remand by withdrawing the federal implementation plan provisions requiring compliance with the remanded budgets. Eleven of the remanded budgets addressed the 1997 ozone NAAQS. These budgets were withdrawn in the final rule updating CSAPR for the 2008 ozone NAAQS. In eight cases, the withdrawn budgets were replaced with new budgets addressing the more recent NAAQS, and, in three cases, the budgets were withdrawn without replacement. The remaining four remanded budgets addressed the 1997 and/or 2006 NAAQS for particulate matter. Three of the four states concerned have submitted, or have committed to submit, state implementation plans replacing the withdrawn budgets, and withdrawal of the remanded budgets is being coordinated with approval of the replacement budgets. To address the final remanded budget, for Texas, EPA has issued a proposed rule that would withdraw the federal implementation plan provisions requiring Texas power plants to participate in the CSAPR trading programs for annual emissions of SO_2 and NO_X without replacement. 81 FR 78954 (November 10, 2016). That proposal has not yet been finalized.

[2] Clean Air Act §§ 110(a)(2)(D) and Section 401.

also tracks changes in surface water acidity in lakes and streams in acid sensitive regions to assess the change in the number of chronically acidic water bodies. This is a long-term measure with a performance target set for 2030. The EPA will close seven of 59 EPA-sponsored CASTNET monitoring sites (six on Tribal lands) and seven of EPA's 32 National Atmospheric Deposition Program sites. Because these are the newest sites in the network, their closure would have the lowest impact on the agency's long-term record of monitoring.
See http://www.epa.gov/airmarkets-/progress/progress-reports.html for additional information.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,054.0) This streamlines support for the following activities in FY 2018:
    - Close seven CASTNET monitoring sites (six on Tribal lands) and seven National Atmospheric Deposition Program sites. The EPA will limit operations at other sites;
    - Focus assistance, such as technical analysis, modeling, and emissions monitoring support, to states as they develop, implement, and assess their state and regional programs to address major regional and national air issues from large stationary sources;
    - Phase-out the development of a new Air Markets Program Data tool; and
    - Discontinue reanalysis of the multi-state e-Government infrastructure program.

Statutory Authority:

Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$106,864.3	$95,255.0	$13,580.0	($81,675.0)
Science & Technology	***$8,824.2***	***$8,003.0***	***$0.0***	***($8,003.0)***
Total Budget Authority / Obligations	$115,688.5	$103,258.0	$13,580.0	($89,678.0)
Total Workyears	204.5	224.1	50.0	-174.1

Program Project Description:

Within the S&T account, this program supports implementation and compliance with emission standards.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,003.0 / -33.8 FTE) This funding change eliminates the program in the S&T account.

Statutory Authority:

Clean Air Act; Pollution Prevention Act (PPA), §§ 6602-6605; National Environmental Policy Act (NEPA), § 102; Clean Water Act, § 104; Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), § 8001; Energy Policy Act of 2005, § 756.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$138,050.2	$124,506.0	$96,456.0	($28,050.0)
Science & Technology	***$6,234.3***	***$7,453.0***	***$3,959.0***	***($3,494.0)***
Total Budget Authority / Obligations	$144,284.5	$131,959.0	$100,415.0	($31,544.0)
Total Workyears	804.1	842.0	601.8	-240.2

Program Project Description:

Federal support for the criteria pollutant and air toxics programs includes a variety of tools to characterize ambient air quality and the level of risk to the public from air pollutants and to measure national progress toward improving air quality and reducing associated risks. The Federal Support for Air Quality Management program supports development of State Implementation Plans (SIPs) through modeling and other tools and assists states in implementing, attaining, maintaining, and enforcing the National Ambient Air Quality Standards (NAAQS) for criteria pollutants. The program also develops and provides information, training, and tools to assist state, Tribal, and local agencies, as well as communities, to reduce air toxics emissions and risk specific to their local areas. Finally, the program includes activities related to the Clean Air Act's stationary source residual risk program, which involves an assessment of source categories subject to Maximum Achievable Control Technology (MACT) standards to determine if more stringent standards are needed to further reduce the risks to public health (taking into account developments in practices, processes, and control technologies).

FY 2018 Activities and Performance Plan:

As part of implementing the revised NAAQS, the EPA will provide state and local air quality agencies with a basic level of assistance in developing SIPs during FY 2018. The EPA also will help states identify the control options available and provide priority guidance to assist them with attaining the NAAQS. The EPA will ensure national consistency in how air quality modeling is conducted as part of regulatory decision-making including federal and state permitting programs as well as how conformity determinations are conducted across the U.S. The agency will work with state and local air quality agencies to ensure that particulate matter (PM) hot-spot analyses are conducted in a manner consistent with the transportation conformity regulation and guidance.

The EPA is working on improving monitoring systems to fill data gaps and get a better estimate of actual population exposure to toxic air pollution. The EPA will continue to provide quality assurance proficiency testing for federal and commercial laboratories that produce data from $PM_{2.5}$ air monitoring systems to ensure quality data for use in determining air quality.

In FY 2018, the EPA will work with partners to continue improving emission factors and inventories, including the National Emissions Inventory, to the extent possible. This effort includes gathering improved activity data from monitoring equipment and using geographic information systems and satellite remote sensing, where possible, for key point, area, mobile, and fugitive sources, and global emission events.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,494.0 / -3.1 FTE) This streamlines assistance to state, Tribal, and local agencies in SIP/TIP development as well as activities to reduce air toxic emissions and risks for communities.

Statutory Authority:

Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$85,613.6***	***$93,070.0***	***$76,010.0***	***($17,060.0)***
Total Budget Authority / Obligations	$85,613.6	$93,070.0	$76,010.0	($17,060.0)
Total Workyears	285.2	304.5	304.3	-0.2

Program Project Description:

Under the Federal Vehicle and Fuels Standards and Certification program, the EPA develops, implements, and ensures compliance with national emission standards to reduce mobile source related air pollution from light-duty cars and trucks, heavy-duty trucks and buses, nonroad engines and vehicles, and from the fuels that power these engines. The program also evaluates new emission control technology and provides state, Tribal, and local air quality managers and transportation planners with access to information on transportation programs and incentive-based programs. As part of ensuring compliance with national emission standards, the program tests vehicles, engines, and fuels, and establishes test procedures for federal emissions and fuel economy standards.

The National Vehicle and Fuel Emissions Laboratory (NVFEL) ensures air quality benefits and fair competition in the marketplace by conducting testing operations on motor vehicles, heavy-duty engines, nonroad engines, and fuels to certify that all vehicles, engines, and fuels that enter the U.S. market comply with all federal clean air and fuel economy standards. The NVFEL conducts vehicle emission tests as part of pre-production tests, certification audits, in-use assessments, and recall programs to ensure compliance with mobile source clean air programs.

The EPA works with states and local governments to ensure the technical integrity of the mobile source control emission benefits in State Implementation Plans (SIPs) and transportation conformity determinations. The EPA develops and provides information and tools to assist state, local, and Tribal agencies, as well as communities, to reduce air toxics emissions and risks specific to their local areas. Reductions in emissions of mobile source air toxics, such as components of diesel exhaust, are achieved through establishing national emissions standards and partnership approaches working with state, local, and Tribal governments, as well as a variety of stakeholder groups.

The EPA administers the Renewable Fuel Standard (RFS) program, which was created under the Energy Policy Act of 2005 (EPAct), which amended the Clean Air Act (CAA), and was expanded under the Energy Independence and Security Act of 2007 (EISA). The RFS program requires a certain volume of renewable fuel to replace or reduce the quantity of petroleum-based transportation fuel, heating oil, or jet fuel. The four renewable fuel categories under the RFS are biomass-based diesel, cellulosic biofuel, advanced biofuel, and total renewable fuel. Obligated

parties under the RFS program are refiners or importers of gasoline or diesel fuel. Compliance is achieved by blending renewable fuels into transportation fuel, or by obtaining credits (called "Renewable Identification Numbers" or RINs) to meet an EPA-specified Renewable Volume Obligation (RVO).

FY 2018 Activities and Performance Plan:

The Federal Vehicle and Fuels Standards and Certification program supports the agency's integrated criteria pollutant and greenhouse gas (GHG) compliance programs by operating test cells that simultaneously measure criteria pollutants and GHG emissions, reviewing certification applications for light-duty vehicles and heavy-duty engines to approve applications for both the criteria pollutant and GHG programs, and examining potential violations.

In FY 2018, the Federal Vehicle and Fuels Standards and Certification program will focus its efforts on certification decisions. The agency will continue to perform its compliance oversight functions on priority matters. In FY 2018, the agency will conduct compliance oversight tests where there is evidence to suggest noncompliance. The EPA will continue to conduct, at a reduced level, testing activities for pre-certification confirmatory testing for emissions and fuel economy for passenger cars.

In FY 2018, the EPA anticipates reviewing and approving about 5,000 vehicle and engine emissions certification requests, including light-duty vehicles, heavy-duty diesel engines, nonroad engines, marine engines, locomotives, and others. This has been a significant increase in demand for the EPA's certification services over the last two decades, due in part to the addition of certification requirements for marine, other nonroad, and small spark-ignited engines.

The EPA uses in-use emissions data, provided by light-duty vehicle manufacturers, as a means to measure compliance and determine if any follow-up evaluation or testing is necessary. Since 2000, light-duty vehicle manufacturers have been required, by regulation, to test a number of newer and older in-use vehicles and provide the data to the EPA. The EPA receives over 2,100 test results annually. The EPA reviews the data and determines if there are any specific vehicles, models, or manufacturers that are failing emissions in-use. The EPA will use this information submitted by light-duty manufacturers to determine if there are vehicle models that should be identified for testing for the upcoming model year prior to granting the manufacturer a certificate of conformity which allows the manufacturer to sell vehicles in the U.S.

In FY 2018, the EPA will continue to implement the harmonized fuel economy and existing GHG emission standards for light-duty vehicles and heavy-duty vehicles which provide regulatory certainty to the marketplace and spur innovation in vehicle technology. These standards were finalized by the EPA in coordination with the National Highway Traffic Safety Administration (NHTSA) and the EPA is responsible for implementing both the emission standards and significant aspects of the fuel economy standards.

In FY 2018, the EPA also will oversee compliance with vehicle fuel economy labeling requirements. In past years, the EPA conducted in-use audits of manufacturer "coast-down" data revealing issues in

manufacturer data submitted to the EPA and, as a result, inaccurate fuel economy labels on more than a million vehicles from several well-known manufacturers.

In FY 2018, the EPA will continue implementing the Tier 3 standards for light-duty vehicles and certifying manufacturers' fleets for vehicle Model Year 2019. The EPA is responsible for establishing the test procedures needed to measure tailpipe emissions and for verifying manufacturers' vehicle fuel economy data; as a result, the agency will deploy its laboratory testing resources to ensure that new cars and trucks are in compliance with the Tier 3 emissions standards.

On March 15, 2017, the EPA and the Department of Transportation announced that the EPA intends to reconsider the Final Determination on the Appropriateness of the Model Year 2022-2025 Light-Duty Vehicle GHG Emissions Standards, issued on January 12, 2017. Consistent with the original schedule, the EPA intends to make a new Final Determination regarding the appropriateness of the standards no later than April 1, 2018. In order to provide the technical foundation for an agency decision, the program will undertake an assessment of factors such as technological feasibility, cost impacts, impacts on air quality and public health, and other relevant issues for the Administrator's consideration in making a Final Determination. If the Administrator's Final Determination is that the model year 2022-2025 standards or program should be modified, the EPA must then make any modifications to the existing rule through a notice-and-comment rulemaking, including the issuing of a Notice of Proposed Rulemaking and a Final Rulemaking.

The EPA will continue working with the International Maritime Organization (IMO) and the International Civil Aviation Organization (ICAO) on programs to control conventional pollutant emissions from marine and aircraft engines, respectively. The EPA will work with ICAO on its program to develop international action plans to reduce particulate matter (PM) emissions from international civil aviation.

The Motor Vehicle Emissions Simulator (MOVES) is the agency's emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria air pollutants, greenhouse gases, and air toxics. In FY 2018, MOVES will support the agency's emission control programs, as well as provide critical support to states in their determination of program needs to meet air quality standards. The agency also will evaluate the schedule for updates to MOVES.

In FY 2018, the EPA will continue to provide state and local governments with assistance in developing SIPs and providing assistance with transportation conformity determinations. The EPA will continue to work with states and local governments to ensure the technical integrity of the mobile source emission estimates in their SIPs. The EPA will assist in identifying control options available and provide guidance, as needed. In addition, the EPA will ensure national consistency in how conformity determinations are conducted across the U.S. and in the development of motor vehicle emissions budgets in air quality plans, for use in conformity determinations.

The EPA will continue to provide assistance to state and local transportation and air quality agencies working on $PM_{2.5}$ hot-spot analyses. This will help ensure that analyses use the latest available information and that a measure of consistency exists across the nation. Additionally, the

EPA will continue partnering with states to support inspection and maintenance (I/M) programs that focus on in-use vehicles and engines. Basic and/or enhanced I/M testing is currently being conducted in over 30 states with technical and programmatic guidance from the EPA.

In FY 2018, the EPA will continue to work with a broad range of stakeholders to develop targeted, sector-based, and place-based incentives for diesel fleets (including school buses, ports, and freight) to limit emissions from older, pre-2007 diesel engines not subject to stringent emissions standards. Because large numbers of people live near ports and are vulnerable to mobile source diesel emissions, the EPA will focus its efforts on reducing mobile source emissions in and around ports. According to the EPA's National Port Strategy Assessment report (https://www.epa.gov/ports-initiative/national-port-strategy-assessment), approximately 39 million people in the U.S. currently live in close proximity to ports and can be exposed to air pollution associated with emissions from diesel engines at ports, including particulate matter, nitrogen oxides, ozone, and air toxics. The EPA will focus its efforts on reducing mobile source emissions in and around ports. The EPA will seek balanced stakeholder advice, through the Mobile Source Technical Review Subcommittee of the Clean Air Act Advisory Committee, on its approach to reducing these port-related emissions. The EPA also is working with industry to bring about field testing and emissions testing protocols for a variety of innovative, energy-efficient, and emissions reducing technologies for the legacy fleet.

In the fuels area, the EPA will continue to implement the RFS program and to carry out several other actions required by the Energy Policy Act (EPAct) of 2005 and the Energy Independence and Security Act (EISA) of 2007, including operating and maintaining of credit trading system (EMTS). EISA dramatically expanded the renewable fuels provisions of EPAct and requires additional studies in various areas of renewable fuel use. EISA requires that the EPA set an annual volume standard for renewable fuels and the 2019 RFS volume requirements are statutorily required to be promulgated in FY 2018.

EISA also requires the EPA to develop a comprehensive lifecycle GHG methodology to implement the Act's GHG threshold requirements for the RFS. Producers of new and advanced biofuels regularly seek to qualify their fuels under RFS and the EPA will continue to apply its lifecycle analysis to such fuels to evaluate and determine eligibility for the program. The EPA will reprioritize the evaluations of new fuel products.

In FY 2018, the EPA will maintain oversight of the RFS program and continue to evaluate compliance with RFS provisions through its moderated transaction system, which is used to track the creation, trades, and use of billions of Renewable Identification Numbers (RINs) for compliance. The tracking system handles 4,000 to 6,000 submissions per day, typically averaging more than 20,000 transactions per day, and the generation of more than 1.4 billion RINs per month. RINs are generated with the production of qualifying renewable fuel and are used to achieve national RFS programmatic goals of reducing or replacing the quantity of petroleum-based transportation fuel, heating oil, or jet fuel.

In FY 2018, the EPA will continue to implement its Fuel and Fuel Additive Registration program. The agency will prioritize its review and decisions for Part 79 registrations.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$17,060.0 / -0.2 FTE) This streamlines funding to the overall program. The agency will consolidate efforts to ensure compliance with national standards to reduce air pollution from vehicles, and engines, and fuels. The agency also will assess the capabilities of new and current vehicle technologies and focus efforts to detect potential violations of clean air standards in a more efficient manner.

Statutory Authority:

Title II of the Clean Air Act; Motor Vehicle Information Cost Savings Act; Alternative Motor Fuels Act of 1988; National Highway System Designation Act; Energy Policy Act of 1992; Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU); Energy Policy Act of 2005; Energy Independence and Security Act of 2007.

Program Area: Indoor Air and Radiation

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$378.9***	***$172.0***	***$0.0***	***($172.0)***
Environmental Program & Management	$2,759.3	$2,904.0	$0.0	($2,904.0)
Total Budget Authority / Obligations	$3,138.2	$3,076.0	$0.0	($3,076.0)
Total Workyears	8.5	10.6	0.0	-10.6

Program Project Description:

Title III of the Toxic Substances Control Act (TSCA) authorizes the EPA to undertake a variety of activities to address the public health risks posed by exposures to indoor radon. Under the statute, the EPA studies the health effects of radon, assesses exposure levels, sets an action level, and advises the public of steps they can take to reduce exposure. For over 29 years, the EPA's radon program has provided important guidance and significant funding to help states establish their own programs.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. This is a mature program where states have the technical capacity to continue this work.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$172.0) This funding change eliminates the Indoor Air: Radon program.

Statutory Authority:

Title III of the Toxic Substances Control Act (TSCA); Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA); Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$12,972.9	$13,707.0	$0.0	($13,707.0)
Science & Technology	***$260.4***	***$209.0***	***$0.0***	***($209.0)***
Total Budget Authority / Obligations	$13,233.3	$13,916.0	$0.0	($13,916.0)
Total Workyears	37.6	40.7	0.0	-40.7

Program Project Description:

Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA) authorizes the EPA to conduct and coordinate research on indoor air quality, develop and disseminate information, and coordinate efforts at the federal, state, and local levels.

The EPA conducts field measurements and assessments and provides technical support for indoor air quality remediation, when requested.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. This is a mature program where states have the technical capacity to continue this work.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$209.0 / -1.6 FTE) This funding change eliminates the Reduce Risks from Indoor Air program.

Statutory Authority:

Title III of the Toxic Substances Control Act (TSCA); Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA); Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$8,371.0	$8,427.0	$0.0	($8,427.0)
Science & Technology	***$2,064.5***	***$1,831.0***	***$0.0***	***($1,831.0)***
Hazardous Substance Superfund	$2,194.2	$1,981.0	$0.0	($1,981.0)
Total Budget Authority / Obligations	$12,629.7	$12,239.0	$0.0	($12,239.0)
Total Workyears	52.9	59.1	0.0	-59.1

Program Project Description:

The EPA supports waste site characterization and cleanup by providing field and fixed laboratory environmental radioanalytical data and technical support, radioanalytical training to state and federal partners, and by developing new and improved radioanalytical methods. The National Analytical Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama and the National Center for Radiation Field Operations (NCRFO) in Las Vegas, Nevada provide analytical and field operation support for radioanalytical and mixed waste testing, quality assurance, analysis of environmental samples, field radiological support, and field measurement systems and equipment to support site assessment, cleanup, and response activities in the event of a radiological accident or incident.

Together, these organizations provide technical support for conducting site-specific radiological characterizations and cleanups. They also develop guidance for cleaning up Superfund and other sites that are contaminated with radioactive materials.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018.

The EPA will explore alternatives to continue to meet its statutory obligation to implement its regulatory oversight responsibilities for Department of Energy (DOE) activities at the Waste Isolation Pilot Plant (WIPP) facility, as mandated by Congress in the WIPP Land Withdrawal Act of 1992.

The EPA also will explore alternatives for its requirement, under the Atomic Energy Act, to establish health and environmental protection standards for exposures to radiation.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,831.0 / -12.3 FTE) This funding change eliminates the Radiation: Protection program.

Statutory Authority:

Atomic Energy Act of 1954; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute); Clean Air Act; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Energy Policy Act of 1992; Nuclear Waste Policy Act of 1982; Public Health Service Act; Safe Drinking Water Act; Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978; Waste Isolation Pilot Plant Land Withdrawal Act of 1992; Marine Protection, Research, and Sanctuaries Act; Clean Water Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$3,716.5***	***$3,774.0***	***$3,339.0***	***($435.0)***
Environmental Program & Management	$2,047.1	$2,545.0	$2,257.0	($288.0)
Total Budget Authority / Obligations	$5,763.6	$6,319.0	$5,596.0	($723.0)
Total Workyears	35.5	39.2	31.5	-7.7

Program Project Description:

The National Analytical Radiation Environmental Laboratory (NAREL) in Montgomery, Alabama and the National Center for Radiation Field Operations (NCRFO) in Las Vegas, Nevada, provide laboratory analyses, field sampling and analyses, and direct scientific support to respond to radiological and nuclear incidents. This work includes measuring and monitoring radioactive materials and assessing radioactive contamination in the environment. This program comprises direct scientific field and laboratory activities to support preparedness, planning, training, and procedure development. In addition, selected personnel are members of the EPA's Radiological Emergency Response Team (RERT), a component of the agency's emergency response program, and are trained to provide direct expert scientific and technical assistance in the field. The EPA's Radiation and Indoor Air program's RERT asset is identified as an agency Critical Infrastructure/Key Resource.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA's RERT will continue to provide support for federal radiological emergency response and recovery operations under the National Response Framework (NRF) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). They also will support field operations with on-site technical support/consultation, fixed laboratory and mobile laboratory analyses to provide rapid and accurate radionuclide analyses of environmental samples.[3]

In FY 2018, NAREL and NCRFO will prioritize and adjust the schedule, to develop rapid methods and techniques for the laboratory analysis of samples and rapid deployment capabilities to ensure that field teams and laboratory personnel are ready to provide scientific data, analyses, and updated analytical techniques for radiation emergency response programs across the agency. Both organizations will maintain core levels of readiness for radiological emergency responses; participate in the most critical emergency exercises; provide on-site scientific support to state radiation, solid waste, and health programs that regulate radiation remediation; participate in the Protective Action Guidance (PAG) development and application; and respond, as required, to radiological incidents.
A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[3] See additional information at: http://www.epa.gov/radiation/rert/.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$612.0 / -4.3 FTE) This streamlines personnel and associated payroll for the development of rapid methods and techniques for the laboratory analysis of samples and rapid deployment capabilities.

- (+$177.0) This increases support for preparedness work including basic laboratory analytic functions such as measuring and monitoring radioactive materials and assessing radioactive contamination in the environment.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Homeland Security Act of 2002; Atomic Energy Act of 1954; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute); Clean Air Act; Post-Katrina Emergency Management Reform Act of 2006 (PKEMRA); Public Health Service Act (PHSA); Robert T. Stafford Disaster Relief and Emergency Assistance Act; Safe Drinking Water Act (SDWA).

Program Area: Enforcement

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$13,949.7***	***$13,643.0***	***$10,444.0***	***($3,199.0)***
Hazardous Substance Superfund	$1,739.3	$1,087.0	$708.0	($379.0)
Total Budget Authority / Obligations	$15,689.0	$14,730.0	$11,152.0	($3,578.0)
Total Workyears	78.3	80.3	49.7	-30.6

Program Project Description:

The EPA's Forensics Support program provides expert scientific and technical support for criminal and civil environmental enforcement cases, as well as technical support for the agency's compliance efforts. The EPA's National Enforcement Investigations Center (NEIC) is an environmental forensic center accredited for both laboratory and field sampling operations that generate environmental data for law enforcement purposes. It is fully accredited under International Standards Organization (ISO) 17025, the main standard used by testing and calibration laboratories, as recommended by the National Academy of Sciences.[4] The NEIC maintains a sophisticated chemistry laboratory and a corps of highly trained inspectors and scientists with expertise across media. The NEIC works closely with the EPA's Criminal Investigation Division to provide technical support (e.g., sampling, analysis, consultation, and testimony) to criminal investigations. The NEIC also works closely with the EPA's Headquarters and Regional Offices to provide technical support, consultation, on-site inspection, investigation, and case resolution services in support of the agency's Civil Enforcement program.

FY 2018 Activities and Performance Plan:

In FY 2018, the NEIC will continue to provide high-quality forensics work for the agency across all enforcement programs. Particularly, the NEIC will focus on improvements in inspection methods used at regulated hazardous waste facilities and the use of existing technologies.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,199.0 / -27.7 FTE) This streamlines the Forensics Support program.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Resource Conservation and Recovery Act; Clean Water Act; Safe Drinking Water Act; Clean Air Act; Toxic Substances Control Act;

[4] Strengthening Forensic Science in the United States: A Path Forward, National Academy of Sciences, 2009, available at http://www.nap.edu/catalog.php?record_id=12589.

Residential Lead-Based Paint Hazard Reduction Act; Federal Insecticide, Fungicide, and Rodenticide Act; Ocean Dumping Act (i.e., MPRSA); Emergency Planning and Community Right-to-Know Act.

Program Area: Homeland Security

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$9,807.2***	***$10,497.0***	***$0.0***	***($10,497.0)***
Environmental Program & Management	$627.1	$970.0	$0.0	($970.0)
Total Budget Authority / Obligations	$10,434.3	$11,467.0	$0.0	($11,467.0)
Total Workyears	23.6	23.1	0.0	-23.1

Program Project Description:

The EPA's water security program is implemented through close partnerships with the water sector, state emergency response and water program officials, and other federal agencies—most notably DHS, the Army Corps of Engineers, and the intelligence community.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. Please note that 5.0 FTE and associated resources have been provided to the Homeland Security: Preparedness, Response, and Recovery Program for a focused effort to meet the EPA's responsibilities as the water Sector-Specific Agency (SSA) implementing specific statutory and Presidential directives relating to homeland security.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$10,497.0 / -22.1 FTE) This funding change eliminates the S&T Homeland Security: Critical Infrastructure Protection program.

Statutory Authority:

Safe Drinking Water Act (SDWA), §§ 1431-1435; Clean Water Act; Public Health Security and Bioterrorism Emergency and Response Act of 2002; Emergency Planning and Community Right-to-Know Act (EPCRA), §§ 301-305.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$26,800.2***	***$26,004.0***	***$22,597.0***	***($3,407.0)***
Hazardous Substance Superfund	$36,411.9	$35,209.0	$16,457.0	($18,752.0)
Total Budget Authority / Obligations	$63,212.1	$61,213.0	$39,054.0	($22,159.0)
Total Workyears	132.4	127.4	113.0	-14.4

Program Project Description:

The EPA has responsibility under Presidential Directives to remediate contaminated environments affected by incidents such as terrorist attacks, industrial accidents, or natural disasters. The EPA's disaster-related responsibilities are described by the following three objectives in Homeland Security Research Program's (HSRP's) *Strategic Research Action Plan* (StRAP): protecting America's water systems, remediation of indoor and outdoor contaminated areas, and the development of a nationwide laboratory network with the capability and capacity to analyze for Chemical, Biological, Radiological, and Nuclear (CBRN) agents during routine monitoring and in response to terrorist attacks and other disasters.

Funding will provide critical science to fulfill the aforementioned responsibilities, as well as support the EPA's efforts to help communities prepare for, absorb, and recover from disasters – safeguarding their economic, environmental, and social well-being. The HSRP will continue to build upon its record of providing measurable benefits to its partners and stakeholders in EPA's program offices, as well as develop innovative solutions for decontamination and remediation efforts. The HSRP will deliver effective tools, methods, information, and guidance to local, state, and federal decision-makers that will address both critical terrorism-related issues and natural or manmade disasters.

Research is planned and prioritized based on the needs of end-users of this science, including Regional On-Scene Coordinators[5] (OSCs), water utility companies, and EPA Regions and programs.[6] Priorities also are informed by lessons learned from EPA response activities, advice from external review boards such as the Board of Scientific Counselors (BOSC) and the Science Advisory Board (SAB), and participation on Office of Science and Technology Policy (OSTP) subcommittees and workgroups. The HSRP collaborates with state, local, and private sector organizations and key federal agencies[7] to prioritize research needs and prevent the duplication of scientific and technical work.

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[5] On-Scene Coordinators (OSCs) are the federal officials responsible for monitoring or directing responses to all oil spills and hazardous substance releases reported to the federal government. https://www.epa.gov/emergency-response/epas-scene-coordinators-oscs

[6] Water programs, Land & Emergency Management programs, and EPA Regions.

[7] Partners include the Department of Homeland Security (DHS), Department of Defense (DoD), Centers for Disease Control and Prevention (CDC), the Federal Bureau of Investigation (FBI), National Institute of Health (NIH), National Science Foundation (NSF), Department of Energy (DOE), and the Department of Agriculture (DOA).

The EPA will serve as the SSA for the water sector and implement specific statutory and Presidential directives relating to homeland security. The EPA also will coordinate water sector specific cybersecurity risks with DHS and the sector under Executive Order 13636: Improving Critical Infrastructure Cybersecurity.

The EPA also is responsible for managing the network of near real-time stationary and deployable monitors known as RadNet under the Nuclear/Radiological Incident Annex to the National Response Framework (NRF). The network includes near real-time stationary monitors and deployable monitors. This network is identified as an EPA Critical Infrastructure/Key Resource asset.

FY 2018 Activities and Performance Plan:

HSRP Activities:

The HSRP features three topic areas of research that support the EPA's mission to protect human health and the environment and fulfill the Agency's legislative mandates.

Characterizing Contamination and Assessing Exposure
During an incident, the EPA oversees site characterization[8] and remediation of contaminated water systems and indoor and outdoor areas. This funding request will enable the EPA to continue to decrease the time it takes for site characterization, getting people back into their homes faster. In FY 2018, the HSRP activities in this topic will fill critical scientific research gaps by: providing the science needed for effective sampling strategy development, developing sampling and analysis methods for biological contaminants, and developing methods to assess exposure pathways for biological contamination to inform all aspects of the response.

Supporting Characterization of Contamination
In FY 2018, HSRP will develop innovative bio-threat agent sampling and analytical methods for the Selected Analytical Methods for Environmental Remediation and Recovery document, available on a publically-accessible website, to support post-incident decisions regarding exposure assessment, remediation, and re-occupancy.[9] The HSRP will conduct studies to support sample strategy options for characterization after a wide-area biological incident and examine methods and deployment strategies to reduce the logistical burden of characterization. A tool also will be developed to assist EPA end users in developing sampling and analysis plans for biological agents, which will incorporate data quality objectives and increase public confidence in the data and accompanying decisions. This research will be used by the EPA's OSCs and the Environmental Unit within the Incident Command Structure to ensure that biological agent characterization supports decisions within resource and time constraints.

Water System Security and Resilience
As of 2006, there were approximately 160,000 public drinking water utilities and more than 16,000 wastewater utilities in the United States. Roughly 75 percent to 85 percent of the population

[8] The process of identifying and quantifying the contaminants in environmental samples of a site to determine the nature and extent of contamination present.
[9] To access, please see: https://www.epa.gov/homeland-security-research/sam

receives potable water and sanitary sewer service from these utilities.[10] As the lead agency overseeing the Water Sector, the EPA addresses Water Sector needs identified by the Water Sector Coordinating Council and the Water Government Coordinating Council's Critical Infrastructure Partnership Advisory Council.[11]

Improving Resilience of Water Systems
Recent drinking water system contamination incidents, such as the spill of MCHM[12] into the Elk River in West Virginia, illustrates the connectivity between source water and drinking water systems, and the dire consequences of contamination: 300,000 people, government, and businesses without safe water for five days. HSRP will develop methods to decontaminate infrastructure and manage contaminated water. To support all of the water research efforts outlined above, the HSRP will conduct field-scale evaluations of water contamination sensors, decontamination methodologies, and water treatment. Data from these studies are made available to water utilities through the EPA's Water Contaminant Information Tool (WCIT) and through outreach activities with utilities.

Remediating Wide Areas
A myriad of biological threats, vulnerabilities, and consequences have collectively and dramatically increased the risk to the nation.[13] In FY 2018, the HSRP will continue to address critical scientific knowledge gaps in responding to and recovering from wide-area biological attack on urban centers and public areas. This funding request will enable the EPA to continue developing tools, methods, and technologies for decision-makers to respond to disasters, providing solutions that optimize cleanup efficacy, minimize cost and recovery time, and unintended consequences. The following research in this topic will bridge critical gaps for informed decontamination and waste management decisions for a biological agent incident. The HSRP will continue to develop effective strategies to complete remediation and re-occupancy activities for rapid return of normalcy in the affected area.

Decision Support Tools for Expedient and Effective Response to a Biological Agent
Decision-making during a large-scale environmental response is extremely complex, especially when very toxic and/or pathogenic contaminants are present. Decision makers, such as OSCs, need tools to safely and efficiently identify the best course of action. HSRP will develop tools to integrate data on the effectiveness of decontamination technologies in contrast with operational and logistical challenges. Scenarios generated will project the consequences of environmental response/remediation decisions. For example, HSRP developed the Waste Estimation Support Tool (WEST) to identify implications of decontamination method selections on the waste generated from decontamination activities versus removal. WEST supported numerous National Level Exercises related to radiological, nuclear, and natural disasters enabling realistic waste. The tool will be expanded in FY 2018 for use in a wide area biological incident.

The HSRP also will develop tools to support other bio-agent response decisions. Research will target optimization of sampling strategies from a cost-effectiveness perspective and identification

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[10] R.M. Clark et al. *Handbook of Water and Wastewater System Protection,* Protecting Critical Infrastructure

[11] The Water Sector Coordinating Council is a "self-organized, self-run, and self-governed council" composed of water utilities. This council facilitates the development of policy impacting the water sector. It was formed as the federal government counterpart to the Water Sector Coordinating Council and is responsible for interagency coordination of efforts related to the water sector.

[12] 4-Methylcyclohexanemethanol, a chemical used for coal extraction

[13] From the source, "A National Blueprint for Biodefense" bipartisan report of the blue ribbon study panel on biodefense; http://www.biodefensestudy.org/

of optimal waste storage and staging sites. This tool will reduce the time responders spend in the hot zone during a bio-incident, provide a way to use the most recent science on sampling strategies, and find waste storage and staging sites to facilitate cleanup activities simultaneous to decision-making regarding waste treatment, transport, and disposal. These tools will be used by OSCs, the Environmental Unit, and other technical specialists, within the Incident Command, during an environmental response.

Decontamination Technologies & Methods for Biological Agents
Large research gaps remain in the identification and evaluation of decontamination technologies for a wide-area CBRN contamination incident. In FY 2018, HSRP will develop approaches to improve the capacity to conduct large-scale bio-agent cleanup including methods that are widely-available to local, state, and federal responders, such as municipal equipment (e.g., street sweepers) and commercial off-the-shelf methods for effective distribution of decontaminants (e.g., humidifiers). Research to scale-up technologies for wide-area use and develop scalable approaches to manage contaminated waste for application to a biological incident will continue specifically focusing on how to manage contaminated vehicles. The cost and logistics of disposing anthrax-contaminated vehicles may overwhelm local, state, and federal recovery efforts. In FY 2018, HSRP will study the fate and transport of spores to inform methods for decontamination and options for vehicle waste management. All methods developed are transitioned to state, local, and federal responders through guidance developed by HSRP's Program Office Partners.[14]

Radiation Monitoring:

The RadNet fixed monitoring network provides near real-time radiation monitoring coverage near each of the 100 most populous U.S. cities as well as expanded geographic coverage for a total of 139 monitoring sites. In FY 2018, the agency will operate the RadNet air monitoring network. Fixed stations will operate with essential maintenance and, should there be an emergency, in conjunction with available deployable monitors following a radiological incident. The RadNet air monitoring network will provide the agency, first responders, and the public with access to data, thereby informing officials' ability to make decisions about protecting public health and the environment during and after an incident. The EPA will continue to operate its fixed and deployable monitoring systems with essential maintenance. Additionally, the data will be used by scientists to better characterize the effect of a radiological incident.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,540.0 / -4.0 FTE) This changes the EPA's timeline to carry out its mandates and develop strategies and methods for characterizing, decontaminating, and managing waste from an intentional or unintentional release of chemical and radiological agents that result from currently understood threats.

[14] Office of Land and Emergency Management, Office of Emergency Management and Office of Resource Conservation and Recovery

- (-$1,187.0 / -0.3 FTE) This change refocuses resources from the development of tools to support resilience of water systems, including response to contamination incidents, and evaluation of sensors to support detection of contamination.

- (-$780.0 / -1.0 FTE) This change reflects a decrease of personnel and contract dollars to keep RadNet capabilities current with technology.

- (+$1,100.0 / +5.0 FTE) These resources and FTE have been reallocated to the Homeland Security: Preparedness, Response, and Recovery Program for a focused effort to meet the EPA's responsibilities as the water Sector-Specific Agency (SSA) implementing specific statutory and Presidential directives relating to homeland security.

Statutory Authority:

Atomic Energy Act of 1954; Clean Air Act, §§ 102, 103; Comprehensive Environmental Response Compensation and Liability Act (CERCLA), §§ 104-106; Safe Drinking Water Act (SDWA), §§ 1431-1435, 1442; Robert T. Stafford Disaster Relief and Emergency Assistance Act; National Defense Authorization Act for Fiscal Year 1997, §§ 1411-1412; Public Health Security and Bioterrorism Preparedness Response Act of 2002; Toxic Substances Control Act (TSCA), § 10; Oil Pollution Act (OPA); Pollution Prevention Act (PPA); Resource Conservation and Recovery Act (RCRA); Emergency Planning and Community Right-to-Know Act (EPCRA); Clean Water Act; Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA); Food Quality Protection Act (FQPA); Food Safety Modernization Act (FSMA), §§ 203, 208.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$4,987.0	$5,336.0	$4,986.0	($350.0)
Science & Technology	***$551.0***	***$551.0***	***$500.0***	***($51.0)***
Building and Facilities	$7,366.2	$6,663.0	$6,176.0	($487.0)
Hazardous Substance Superfund	$833.6	$1,084.0	$542.0	($542.0)
Total Budget Authority / Obligations	$13,737.8	$13,634.0	$12,204.0	($1,430.0)
Total Workyears	8.1	12.2	12.2	0.0

Program Project Description:

This program supports activities to ensure that the EPA's physical structures and assets are secure and operational and that certain physical security measures are in place to help safeguard staff in the event of an emergency. These efforts also protect the capability of the EPA's vital laboratory infrastructure assets. Specifically, funds within this appropriation support security needs for the National Vehicle and Fuel Emissions Laboratory (NVFEL).

FY 2018 Activities and Performance Plan:

In FY 2018, the agency will continue to provide enhanced physical security for the NVFEL and its employees. This funding supports the incremental cost of security enhancements required as part of an agency security assessment review.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$51.0) This change reduces the security budget at the agency's National Vehicle and Fuel Emissions Laboratory (NVFEL).

Statutory Authority:

Intelligence Reform and Terrorism Prevention Act of 2004; Homeland Security Act of 2002; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: IT / Data Management / Security

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$83,883.2	$83,790.0	$70,069.0	($13,721.0)
Science & Technology	***$2,892.6***	***$3,083.0***	***$2,725.0***	***($358.0)***
Hazardous Substance Superfund	$14,968.1	$13,776.0	$8,213.0	($5,563.0)
Total Budget Authority / Obligations	$101,743.9	$100,649.0	$81,007.0	($19,642.0)
Total Workyears	441.5	478.8	451.1	-27.7

Program Project Description:

The EPA's Information Technology/Data Management (IT/DM) program promotes the use of quality environmental information for informing decisions, improving management, documenting performance, and measuring success, which supports the agency's mission to protect public health and the environment. Science and Technology (S&T) resources for the EPA's IT/DM program fund the following activities: Quality Program,[15] EPA libraries, and One EPA Web.

The Quality Program ensures that all environmentally-related data activities performed by or for the agency will result in the production of data that is of adequate quality to support specific decisions or actions. In order for this data to be used with a high degree of certainty by its intended users, its quality must be known and documented. The Quality Program provides Quality Assurance (QA) policies, training, oversight and technical support to assist the EPA's programs in the implementation of their quality management systems which are required by the EPA Quality Policy CIO 2105.0 for all environmental data operations. The Quality Program also oversees the implementation of the EPA Information Quality Guidelines.

FY 2018 Activities and Performance Plan:

In FY 2018, the agency will focus S&T resources for this program to maintaining the EPA's national libraries and the One EPA Web, which supports hosting for all agency websites and Web pages. The Quality Program will provide limited technical support to all of the EPA's programs and laboratories for the implementation of the EPA Quality Policies, Procedures and Standards. The Quality Program also will continue to provide necessary QA training courses such as mandatory QA training in the agency's online training portal for all employees, a QA training for managers and staff, and a QA in contracts training.

In FY 2018, the Quality Program will complete at least six Quality Management Plan reviews and conduct at least two Quality System Assessments of the agency's programs. In addition, the program will continue to provide targeted technical support to the EPA's organizations conducting internal audits of their conformance with the Field Operations Group Guidelines. The oversight

[15] More information about the EPA Quality Program can be found at http://www.epa.gov/quality.

activities assist with environmental decision-making and assures the reliability of the data. Additionally, the Quality Program will provide oversight of the EPA's Information Quality Guidelines and facilitate the development of agency responses to the public's request for correction of the agency's disseminated information.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2017 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$358.0/ -3.6 FTE) The funding change streamlines technical support for conducting quality assurance oversight, training, policy development, and support for agency-wide quality activities.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Food Quality Protection Act (FQPA); Safe Drinking Water Act (SDWA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Freedom of Information Act (FOIA); Controlled Substances Act (CSA)

Program Area: Operations and Administration

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$679.6	$583.0	$680.0	$97.0
Environmental Program & Management	$304,456.9	$310,948.0	$301,001.0	($9,947.0)
Science & Technology	***$71,332.8***	***$68,209.0***	***$68,339.0***	***$130.0***
Building and Facilities	$37,184.2	$35,573.0	$33,377.0	($2,196.0)
Leaking Underground Storage Tanks	$785.2	$782.0	$785.0	$3.0
Hazardous Substance Superfund	$69,168.0	$74,137.0	$59,072.0	($15,065.0)
Total Budget Authority / Obligations	$483,606.7	$490,232.0	$463,254.0	($26,978.0)
Total Workyears	332.9	357.7	312.2	-45.5

Program Project Description:

Science & Technology (S&T) resources in the Facilities Infrastructure and Operations program fund rent, utilities, and security. This program also supports centralized administrative activities and support services, including health and safety, environmental compliance and management, facilities maintenance and operations, energy conservation, sustainable buildings programs, and space planning. Funding is allocated for such services among the major appropriations for the agency.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to invest to reconfigure the EPA's workspaces, enabling the agency to release office space and reduce long-term rent costs, consistent with HR 4465[16], the *Federal Assets Sale and Transfer Act of 2016*. Since FY 2012 the EPA has released over 517 thousand square feet of office space nationwide, resulting in a cumulative annual rent avoidance of nearly $20 million across all appropriations. These savings help offset the EPA's escalating rent and security costs. Currently planned consolidations will allow the EPA to release another estimated 336 thousand square feet of office space. For FY 2018, the agency is requesting $28.80 million for rent, $19.53 million for utilities, and $14.13 million for security in the S&T appropriation.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[16] For additional information, refer to: https://www.congress.gov/bill/114th-congress/house-bill/4465, *Federal Assets Sale and Transfer Act of 2016*.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$130.0) This change reflects an increase to support facility operations to meet basic needs and to fund cost escalation for contracts that support activities like custodial, landscaping, and warehouse activities at the EPA's research and development facilities and laboratories.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$0.0***	***$0.0***	***$10,995.0***	***$10,995.0***
Environmental Program & Management	$0.0	$0.0	$46,719.0	$46,719.0
Hazardous Substance Superfund	$0.0	$0.0	$10,437.0	$10,437.0
Total Budget Authority / Obligations	$0.0	$0.0	$68,151.0	$68,151.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Science and Technology (S&T) resources for the workforce reshaping program support organizational restructuring efforts throughout the U.S. Environmental Protection Agency. To help achieve its mission, the EPA will develop, review, and analyze mission requirements and implement options to effectively align and redistribute the agency's workforce based on program priorities, resource reallocation, and technological advances.

FY 2018 Activities and Performance Plan:

Effective workforce reshaping is critical to the EPA's ability to accomplish its mission. The EPA will be examining our statutory functions and processes to eliminate inefficiencies and streamline our processes. Primary criteria will include effectiveness and accountability, as the EPA is focused on greater value and real results. These analyses will likely create a need to significantly reshape the workforce. The agency anticipates the need to offer voluntary early out retirement authority (VERA) and voluntary separation incentive pay (VSIP), and potentially relocation expenses, as part of the workforce reshaping effort. The use of VERA/VSIP will increase voluntary attrition and enable more focused support for the agency's highest priority work.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$10,995.0) In support of the reprioritization of agency activities, this increase will support:
    - Voluntary early out retirement authority (VERA)
    - Voluntary separation incentive pay (VSIP)
    - Workforce support costs for relocation of employees as we realign work assignments.

Statutory Authority:

5 U.S.C. 8336(d)(2) includes the statutory VERA provisions for employees covered by the Civil Service Retirement System; 5 U.S.C. 8414(b)(1)(B) includes the statutory VERA provisions for employees covered by the Federal Employees Retirement System; Section 1313(b) of the Chief Human Capital Officers Act of 2002 (Public Law 107-296, approved November 25, 2002) authorized the VSIP option under regulations issued by OPM, as codified in Sections 3521 to 3525 of Title 5, United States Code (U.S.C.).

Program Area: Pesticides Licensing

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$3,772.1***	***$3,122.0***	***$2,274.0***	***($848.0)***
Environmental Program & Management	$57,708.1	$57,699.0	$48,568.0	($9,131.0)
Total Budget Authority / Obligations	$61,480.2	$60,821.0	$50,842.0	($9,979.0)
Total Workyears	399.9	418.7	416.5	-2.2

Program Project Description:

The EPA's Pesticide Program screens new pesticides before they reach the market and ensures that pesticides already in commerce are safe. As directed by Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Food Quality Protection Act (FQPA) of 1996, as well as the Pesticide Registration Improvement Extension Act of 2012 (known as PRIA3), the EPA is responsible for registering and re-evaluating pesticides to protect consumers, pesticide users, workers who may be exposed to pesticides, children, and other sensitive populations. To make regulatory decisions and establish tolerances (maximum allowable pesticide residues on food and feed) for food use pesticides and for residential or non-occupational use, the EPA must find the pesticide safe, including cumulative and aggregate risks, and ensure extra protection for children. The agency must balance the risks and benefits of other uses.

The EPA's Chemical Safety, Pollution Prevention, and Pesticide program operates two laboratories that support the goal of protecting human health and the environment through diverse analytical testing and analytical method development and validation efforts. The laboratories also provide a variety of technical services to the EPA, other federal and state agencies, Tribal nations, and other organizations.

EPA's Microbiology Laboratory

The Microbiology Laboratory develops and standardizes product efficacy test methodology for public health pesticides (i.e., antimicrobial pesticides) and generates data to support programmatic decision-making. Antimicrobial pesticides are an essential tool in combating human pathogenic microorganisms on environmental surfaces, including treating surfaces contaminated with new and emerging pathogens.

The Microbiology Laboratory leads the federal effort on designing and standardizing ways to test important infectious agents such as *Clostridium difficile* (*C. difficile)* and *Candida auris.* Deaths related to *C. difficile* (hospital-acquired infections) continue to increase due in part to a stronger germ strain, and have now reached ~14,000 deaths per year. Almost half of the infections occur in

people younger than 65, but more than 90 percent of the deaths occur in people 65 and older.[17] The organism has been shown to persist in the hospital environment and disinfectants are essential to reduce disease transmission. Thirteen cases of *Candida auris*, a serious and sometimes fatal fungal infection which is emerging globally, were recently identified in the United States according to the CDC. The laboratory is working with this new microbe to develop a test method and efficacy data to ensure guidance to hospitals is adequate for environmental cleaning and disinfection. Any new emerging human or animal pathogen (H1N1, *Clostridium difficile*, MRSA, etc.) represents a new method development challenge for evaluating disinfectants. The goal is to standardize the procedures to ensure consistent data from the testing community. Regulatory guidance will be updated and a data call-in notice for all current registrations for *C. difficile* will be evaluated to ensure the efficacy of the products. The development of guidance for registering products against *Candida auris* is under development.

The laboratory also is leading efforts to evaluate an internationally harmonized efficacy test method, the Organization for Economic Cooperation and Development (OECD) quantitative test method, as well as methods for *Pseudomonas and Staphylococcus* biofilms, feline calcivirus, *Mycobacterium,* and a new quantitative test method for evaluating hospital disinfectant towelette formulations. Draft guidance for registering claims against biofilms was issued in FY 2016 for review and comment. The laboratory analyzed data from two collaborative studies in FY 2016– the towelette method and the virus component of the OECD method. Following data analysis, methods also will be adopted or placed under review at standard-setting organizations such as the American Society for Testing and Materials or Association of Official Analytical Communities. Methods are posted at: http://www.epa.gov/pesticides/methods/atmpindex.htm.

EPA's Analytical Chemistry Laboratory

The Analytical Chemistry Laboratory provides technical review of enforcement analytical methods and method validation and serves as a third-party confirmation laboratory. In addition, the laboratory provides analytical and technical support to various Regional Offices in enforcement cases, such as evaluating possible adverse effects of pesticide use, including contaminated, deficient, or illegally labeled products. The laboratory develops and validates multi-residue pesticide analytical methods to monitor and enforce agricultural uses of pesticides, and to analyze for pesticide residues in water, soil, bees, crops, and feeds. Multi-residue methods are a quicker and more cost effective "one-stop-shop" method for multiple (100+) pesticides, based on their mode of action and chemical properties. The laboratory is leading a team of chemists from the EPA's Pesticide Programs, Food and Drug Administration, United States Department of Agriculture, and Canada's Pest Management Regulatory Agency in the update of the agency's 860.1360 Residue Chemistry Guidelines for Multi-residue Methods. The new guidelines, when approved as a replacement for the current guideline (written in 1987), also will enable the submission of multi-residue methods for use in enforcement and tolerance setting, based on more cost effective and more reliable techniques and technologies.

The Analytical Chemistry Laboratory works to standardize analytical methods to provide the agency with scientifically valid data for use in risk assessment, such as for determining the permeability of agricultural tarps to fumigants. This work assists the EPA in determining potential

[17] http://www.cdc.gov/media/releases/2012/p0306_cdiff.html

buffer zone credit for fumigated fields and assists crop growers with information to help determine the best tarps for their practices. The laboratory continues to support the EPA by reviewing data submitted to the agency for buffer zone credit request of newly manufactured tarps.

The Analytical Chemistry Laboratory also operates the EPA National Pesticide Standard Repository (NPSR), which collects and maintains pesticide standards (samples of pure active ingredients or technical grade active ingredients for pesticides). It distributes these standards to the EPA and other federal, state, and Tribal laboratories involved in pesticide use enforcement.

FY 2018 Activities and Performance Plan:

In FY 2018, the agency will protect human health by ensuring the availability of appropriate analytical methods and techniques for analyzing pesticide residues in food, feed, water, soil, and bees (and their products) and ensuring their suitability for monitoring pesticide residues and enforcing tolerances. The Microbiology laboratory will continue with efficacy testing of antimicrobials, including *C. difficile* claims; complete current method development activities; present data to the international community on the OECD collaborative data and determine the course of action with respect to the method; issue final guidance for biofilm claims following review and comment; issue revised guidance for *C. difficile*, develop efficacy data and guidance for *Candida auris* claims; and initiate a collaborative study with *Trichophyton*. In addition, the laboratory will assist with efforts to formulate a new regulatory schematic for evaluating claims based on use of a disinfectant hierarchy for establishing efficacy claims for antimicrobials. Post-registration testing of antimicrobials enables the agency to remove ineffective products from the market. New methods enable the regulated community to register new products for use against emerging pathogens.

Additionally, the EPA will: (a) continue to develop improved analytical methods using state of the art instruments to replace outdated methods, thus increasing laboratory efficiency and accuracy of the data; (b) continue to provide analytical support to fill in data gaps for the Pesticide Programs' risk assessment and for Section 18 emergency exemptions, and to perform studies for use in risk mitigation; (c) continue to provide analytical assistance and technical advice to all Regional Offices in their enforcement cases; (d) continue operation of the NPSR; (e) continue to verify that antimicrobial pesticides are properly formulated; and (f) validate, optimize, and standardize a method to determine permeability of agricultural tarps for fumigants.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$848.0 / -1.3 FTE) This reduces funding for pesticide program activities from annual appropriations with the intent to increase utilization of pesticide user fee collections. Proposed legislative language accompanying the President's Budget will expand the EPA's scope of activities that can be funded with user fees.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$39,651.4	$37,222.0	$31,930.0	($5,292.0)
Science & Technology	***$1,737.5***	***$2,324.0***	***$2,195.0***	***($129.0)***
Total Budget Authority / Obligations	$41,388.9	$39,546.0	$34,125.0	($5,421.0)
Total Workyears	280.4	269.3	268.4	-0.9

Program Project Description:

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), Section 3(c)(5), states that the Administrator shall register a pesticide if it is determined that, when used in accordance with labeling and common practices, the product "will also not generally cause unreasonable adverse effects on the environment." FIFRA defines "unreasonable adverse effects on the environment," as "any unreasonable risk to man or the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide."[18]

In compliance with FIFRA, the EPA conducts risk assessments using the latest scientific methods to determine the risks that pesticides pose to human health and ecological effects on plants, animals, and ecosystems that are not the targets of the pesticide. The agency's significant regulatory decisions are posted for review and comment to ensure that these actions are transparent and to allow stakeholders, including at-risk populations, to be engaged in decisions that affect their environment. Under FIFRA, the EPA must determine that a pesticide also will not cause unreasonable adverse effects on the environment. The EPA must determine that food and residential uses of pesticides are safe. For other risk concerns, the EPA must balance the risks of the pesticides with benefits provided from the use of the product. To avoid unreasonable risks, the EPA may impose risk mitigation measures such as modifying use rates or application methods, restricting uses, or denying some or all uses. In some regulatory decisions, the EPA may determine that uncertainties in the risk determination need to be reduced and may require monitoring of environmental conditions, such as effects on water sources or the development and submission of additional laboratory or field study data by the pesticide registrant.

In addition to FIFRA responsibilities, the agency has responsibilities under the Endangered Species Act (ESA).[19] Under the ESA, the EPA must ensure that pesticide regulatory decisions will not destroy or adversely modify designated critical habitat or result in jeopardy to the continued existence of species listed by the U. S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS) as threatened or endangered. Where risks are identified, the EPA must

[18] Federal Insecticide, Fungicide, and Rodenticide Act. Sections 2 and 3, Definitions, Registration of Pesticides (7 U.S.C. §§ 136, 136a). Available online at http://www.epa.gov/opp00001/regulating/laws.htm.
[19] The Endangered Species Act of 1973 Sections 7(a)(1) and 7 (a)(2); Federal Agency Actions and Consultations (16 U.S.C. 1536(a)). Available at U.S. Fish and Wildlife Service, Endangered Species Act of 1973 internet site: http://www.fws.gov/endangered/laws-policies/section-7.html

work with the FWS and NMFS in a consultation process to ensure these pesticide registrations also will meet the ESA standard.

The national program laboratories of the EPA's Pesticide Programs provide a diverse range of environmental data that are used by the EPA to make informed regulatory decisions. The Analytical Chemistry Laboratory and the Microbiology Laboratory each provide critical laboratory testing and support activities to assist the decision-making processes of the agency. The laboratories develop efficacy data, and validate environmental and analytical chemistry methods to ensure that the Food and Drug Administration (FDA), the United States Department of Agriculture (USDA), the EPA, and states have reliable methods to measure and monitor pesticide residues in food and in the environment.

EPA's Microbiology Laboratory

The Microbiology Laboratory ensures that pesticides deliver intended results by evaluating efficacy and registrant claims. The laboratory provides analyses that support the development of efficacy data for pesticides used for the decontamination of buildings (such as chlorine dioxide), supports research on methods and rapid detection assays, and evaluates commercial products used for the remediation and decontamination of sites contaminated with biothreat agents such as *Bacillus anthracis* (commonly known as anthrax). Work conducted by the laboratory led to a regulatory framework for licensing products against *Bacillus anthracis* as outlined in Pesticide Registration Notice 2008-2. Several products are now registered against this biothreat agent. The Microbiology Laboratory is the only EPA laboratory with a select agent registration under the CDC's select agent program, enabling the laboratory to receive, transfer, and work with *Bacillus anthracis*.

EPA's Analytical Chemistry Laboratory

The Analytical Chemistry Branch laboratory supports the work of the EPA to determine the ecological risks that pesticides pose to ecosystems, plants, and animals, such as bees, that are not the targets of the pesticide by bringing new analytical methods online and using in-house expertise to develop and validate multi-residue pesticide analytical methods. Additional benefits are gained by transferring technologies, such as the multi-residue methods, to other EPA organizations and state laboratories for use in monitoring pesticide residues in the environment and ecological systems, and the standard method for testing permeability of agricultural tarps to fumigants, which is currently used by tarp manufacturers to measure the efficiency of newly developed and manufactured tarps.

The Analytical Chemistry laboratory will continue to provide analytical support to fill data gaps for the pesticide program's risk assessments and for section 18 emergency exemptions, and to perform studies for use in risk mitigation. Support includes working collaboratively with the United States Geological Survey (USGS) to identify the presence of pesticides in rivers and streams across the nation. These data will allow USGS and the EPA to study the patterns of exposure of agricultural and urban ecosystems to pesticides. The Analytical Chemistry Laboratory also provides analytical assistance and technical advice to all the EPA Regional Offices for use in enforcement cases and reviews and validates analytical methods or studies submitted as part of a pesticide registration.

FY 2018 Activities and Performance Plan:

The Microbiology Laboratory is working with the Department of Homeland Security to evaluate various materials (wood, concrete, fabric, tile, etc.) for recovery (e.g., extracting the microbe of interest) of high consequence animal pathogens (foot and mouth disease, avian influenza, etc.) and the effect of decon technologies (including National Stockpile chemicals) on these viruses. The goal is to develop a methodology for evaluating antimicrobial pesticides against these pathogenic agents. These types of hard and porous materials are found at sites requiring remediation due to contamination with non-spore forming high consequence animal pathogens that can have a negative impact on the economy. Particular interest to the Microbiology Laboratory are methods for evaluating decontamination technologies for avian influenza. Outbreaks due to migratory birds have affected the poultry industry in the United States.

The Analytical Chemistry laboratory will continue to focus on analytical method development and validations as well as special studies to address specific short-term, rapid-turnaround priority issues. The laboratory also will continue to provide technical and analytical assistance to the Enforcement and Compliance Assurance Program and the EPA Regional Offices in support of their enforcement cases. Analytical support will continue in the fifth year of a multi-year multi agency (EPA and USGS) project to assess the quality of rivers and streams across the U.S. The lab will continue to support pesticide registration review and U.S. tarp manufacturers by reviewing the permeability data of fumigants through newly manufactured tarps. In an effort to reduce emission of soil fumigants into the air, the agency established certain buffer zone credits based on the tarps' permeability: the lower the permeability of a tarp, the lower the emission of fumigants into the air and more fumigant remains in the soil for pest control. Thus, the EPA can allow a greater buffer zone reduction credit. The Analytical Chemistry Laboratory will continue to understand the effects on pollinators as part of the program's existing registration and registration review processes.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$129.0 / -0.9 FTE) This reduces funding for pesticide program activities from annual appropriations with the intent to increase utilization of pesticide user fee collections. Proposed legislative language accompanying the President's Budget will expand the EPA's scope of activities that can be funded with user fees.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Endangered Species Act (ESA).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$7,727.5	$6,074.0	$5,028.0	($1,046.0)
Science & Technology	***$427.4***	***$570.0***	***$527.0***	***($43.0)***
Total Budget Authority / Obligations	$8,154.9	$6,644.0	$5,555.0	($1,089.0)
Total Workyears	42.0	46.5	46.3	-0.2

Program Project Description:

The Chemical Safety and Pollution Prevention's national program laboratories make significant contributions to help the agency realize the value of pesticides.

EPA's Microbiology Laboratory

The Microbiology Laboratory evaluates and develops data to support Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) Section 18 Emergency Exemption requests to combat emerging or novel pathogens such as prions, new use sites (such as those colonized by biofilms, including sinks, drains, and water lines) and conducts applied research on new analytical methods for novel antimicrobials. In many cases of new claims or pathogens, there is no standard method for determining efficacy of a pesticidal product. For example, it is recognized that microorganisms that exist as biofilm communities may be more resistant to disinfection. The laboratory has technical expertise managing unusual pathogens for which registration of a pesticide might not be economically viable under FIFRA Section 3 Registration. The evaluation of these requests is necessary in order to make pesticides available in the marketplace for these unusual or emergency situations. Examples include the H1N1 virus, prions, foot and mouth disease, Severe Acute Respiratory (SAR) infections, *C. difficile, and C. auris*. The Microbiological Laboratory also evaluates the efficacy of antimicrobials to allow the EPA to remove ineffective products from the market. In addition, the Microbiology Laboratory provides technical support on numerous non-standard protocols for antimicrobials, including: foggers, chemicals used for inactivation of prions, use of citric acid for control of foot and mouth disease, and evaluation of requests from other federal agencies to use paraformaldehyde for decontamination of laboratory environments.

EPA's Analytical Chemistry Laboratory

The Analytical Chemistry Branch Laboratory works to benefit specialty crop growers by developing more cost-effective and efficient ways to establish tolerances (maximum residue levels). This is accomplished through the United States Department of Agriculture's Inter-Regional Research Project No. 4 (IR-4), Crop Group Validation, which focuses on the development of analytical methods and analysis of crop samples to determine if, when applied at the same rate, pesticide residues found in crops from same crop groups are similar. The data will be used to determine whether a representative crop from a crop group can be used as a model to establish

tolerances for all the members of the crop group. Such a validation would support the concept of crop grouping being accepted in the Codex[20] and by the Organization for Economic Co-operation and Development. Over 500 samples have been analyzed to date in support of this project. The laboratory also provided analytical support to the IR-4 Global Study to evaluate the influence of spatial variation between various geographic locations around the world on the level of pesticide residues in field grown tomatoes when subjected to standardized application parameters and rates. Crop grouping provides growers, especially growers that produce minor and specialty crops, with pesticide tools that otherwise would not be available due to the cost of generating field trial data. They allow for an efficient use of private resources and public tax dollars while ensuring a safe food supply.

The Analytical Chemistry Laboratory efforts and resulting success in standardizing the fumigation tarp protocol through the American Society for Testing and Materials (ASTM) international provides tarp manufacturers with a method to test their newly manufactured tarps before submitting the data to the agency to request buffer zone credit[21] to reduce the required buffer zone, when fumigant is used as pest control in the field.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will realize the benefits of pesticides by operating the National Pesticide Standard Repository and conducting chemistry and efficacy testing for antimicrobials. As the recognized source for expertise in pesticide analytical method development, the EPA's laboratories will continue to provide quality assurance and technical support and training to the EPA's Regional Offices, state laboratories, and other federal agencies that implement FIFRA.

The Microbiology Laboratory will continue to evaluate Section 18 emergency exemptions and novel protocol requests for new uses and novel pathogens. The Analytical Chemistry Laboratory will continue its work with the IR-4 Global Study and the IR-4 Crop Group Validation Study.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$43.0 / -0.2 FTE) This reduces funding for pesticide program activities from annual appropriations with the intent to increase utilization of pesticide user fee collections. Proposed legislative language accompanying the President's Budget will expand the EPA's scope of activities that can be funded with user fees.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408.

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[20] http://www.who.int/foodsafety/areas_work/food-standard/en/
[21] http://www.epa.gov/soil-fumigants/calculating-buffer-zones-guide-applicators

Program Area: Research: Air and Energy

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$104,407.9***	***$91,731.0***	***$30,592.0***	***($61,139.0)***
Total Budget Authority / Obligations	$104,407.9	$91,731.0	$30,592.0	($61,139.0)
Total Workyears	274.3	287.8	153.8	-134.0

Program Project Description:

The Air and Energy (AE) research program provides scientific information to EPA program and Regional Offices. The overall research effort is organized around six integrated and transdisciplinary national research programs. Each program is guided by a Strategic Research Action Plan (StRAP) that is the result of a collaboration with, and supportive of, the EPA's programs and Regional Offices.

The resources requested for AE will support the analysis of research data and publication of scientific journal articles to disseminate findings. The AE research program relies on successful partnerships with other EPA research programs, offices, academic and industry researchers, state, local, and private sector organizations, as well as key federal agencies.

Recent Accomplishments:

The following are examples of recent accomplishments:

- **Multi-Ethnic Study of Atherosclerosis (MESA) Air Pollution Study**
  In 2004, EPA awarded a Science to Achieve Results (STAR) research grant to the University of Washington to study how air pollution affects the development of cardiovascular disease in healthy people. The MESA study investigated cardiovascular impacts among more than 6,000 participants over a 10-year period. This study determined that long-term everyday exposure of air pollution to people accelerates the progression of coronary artery disease. The research supports the investigation of health effects of air pollution under the Clean Air Act. The results are significant from both clinical practice and policy perspectives, emphasizing long-term prevention of exposure to air pollution as a strategy to mitigate or delay the onset of cardiovascular disease. This product provides key data and tools needed by individuals, communities, and governmental agencies to prevent and reduce emissions of pollutants, assess effects associated with pollutants, and make informed decisions to protect public health.

- **Village Green II Deployment**
  The EPA developed an innovative prototype air and weather measurement system, called the Village Green Station, to provide new ways for communities to learn about local air quality. Through partnerships with cities and other organizations, the EPA installed seven

new stations nationally and internationally in FY 2016. The stations are designed and engineered to incorporate sensor technology into standalone park bench structures. This project advances air pollution measurement technology to provide quality-assured data to the public in a real-time, transparent, and accessible way. This project further supports the EPA's mission of protecting human health and the environment by furthering public outreach, supplementing the regulatory monitoring network to explore local-scale pollution trends, and increasing data available for research purposes.

- **Community-Multiscale Air Quality Model (CMAQ) Update**
  As air pollution emissions are released locally and globally, they circulate through changing weather patterns in the atmosphere. Emissions are distributed in the areas where they are released and across the U.S., affecting the air Americans breathe. The EPA released an updated version of the Community Multi-Scale Air Quality Model[2] (CMAQ), allowing users in states, regional planning organizations, and international organizations to simulate air quality in and around metropolitan areas, identify air pollution hot spots, and develop potential remediation strategies. The system links meteorological and emissions models to simultaneously model multiple air pollutants, which helps air quality managers determine the best pollution management strategies for their communities, regions, and states. For example, CMAQ provided data to inform state and local actions to maintain and achieve clean air, to avoid an estimated 2,000 premature deaths per year and 50,000 cases of respiratory ailments in children nation-wide.

FY 2018 Activities and Performance Plan:

The AE program features five related topic areas that include research projects that support the EPA's mission to protect human health and the environment and fulfill the agency's legislative mandates. The AE program will attempt to measure progress toward environmental health goals, and translate research results to inform communities and individuals about measures to reduce impacts of air pollution. In addition, research personnel will analyze existing research data and publish scientific journal articles to disseminate findings associated with these data.

The EPA has established a standing subcommittee under the EPA's Board of Scientific Counselors (BOSC) for the AE program to evaluate its performance and provide feedback to the agency. In addition, the EPA meets with the BOSC and Science Advisory Board (SAB) annually for input on topics related to research program design, science quality, innovation, relevance, and impact. The EPA will be advised on its strategic research direction as part of the review of the Research and Development program's recently-released StRAPs.

The EPA collaborates with the National Institutes of Health (NIH), National Science Foundation (NSF), Department of Energy (DOE), U.S. Department of Agriculture (USDA), and the White House's Office of Science and Technology Policy (OSTP) to assess research performance. The EPA supports the interagency Science and Technology in America's Reinvestment, Measuring the Effect of Research on Innovation, Competitiveness, and Science (STAR METRICS) efforts.

[23] For more information, http://www.cmaq-model.org/

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$18,582.0 / -47.3 FTE) This funding change eliminates climate change research.
- (-$31,987.0 / -86.7 FTE) This funding change reduces air quality research.
- (-$10,570.0) This eliminates funding for the Science to Achieve Results (STAR) program for FY 2018.

Statutory Authority:

Clean Air Act; Title II of Energy Independence and Security Act of 2007; Environmental Research, Development, and Demonstration Authorization Act (ERDDAA); Intergovernmental Cooperation Act; National Environmental Policy Act (NEPA), § 102; Pollution Prevention Act (PPA); Global Change Research Act of 1990.

Program Area: Research: Safe and Sustainable Water Resources

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$114,874.9***	***$107,230.0***	***$68,520.0***	***($38,710.0)***
Total Budget Authority / Obligations	$114,874.9	$107,230.0	$68,520.0	($38,710.0)
Total Workyears	406.5	403.0	266.4	-136.6

Program Project Description:

The Safe and Sustainable Water Resources (SSWR) research program is developing cost-effective, sustainable solutions to current, emerging, and long-term water resource challenges for complex chemical and microbial contaminants.

The SSWR research program uses a systems approach to develop scientific and technological solutions for the protection of human health and watersheds. The research is being conducted in partnership with other EPA programs, federal and state agencies, academia, non-governmental agencies, public and private stakeholders, and the scientific community.

The SSWR research projects are organized into four interrelated research topics:

- **Watershed Sustainability:** Assessing and synthesizing the necessary environmental, economic, and social information of watersheds and aquatic resources from local to national scales, to determine the condition, future prospects, and restoration potential of the Nation's watersheds and aquatic resources.
- **Nutrients and Harmful Algal Blooms:** Conducting nutrient research efforts in lakes, rivers, streams, and estuaries across media (water, land, air) and scales (temporal and spatial).
- **Green Infrastructure (GI):** Developing innovative tools, technologies, and strategies for managing stormwater and combined sewer overflows (CSOs) today and over the long- term. Research focuses on the costs and benefits of using GI to control stormwater runoff and CSOs at multiple scales (e.g., from local scales, such as parking lots, to an entire watershed).
- **Water Systems (Drinking Water, Wastewater, Water Reuse):** Developing innovative tools and technologies and providing technical support for improving the treatment of water and wastewater. Research also focuses on water quality issues in drinking water distribution systems and premise plumbing. Efforts under this topic also promote economic water reuse and the recovery of water, energy, and nutrient resources through municipal water services and whole system assessment tools. Research results are translated into tools and training for small water system operators through workshops and webinars.

The overall research effort is organized around six integrated and transdisciplinary national research programs. Each program is guided by a Strategic Research Action Plan (StRAP) that is the result of a collaboration with, and supportive of, the EPA's program offices and regions.

Recent accomplishments include:

Recreational Water Quality
Advances in the performance of quantitative, molecular methods for waterborne pathogens to provide more robust, same-day notifications of fecal contamination in recreational waters. Method performance and standardization, including developing standards for use by stakeholders, has been evaluated in eight midwestern rivers, the National Rivers and Streams Assessment, the 2015 National Coastal Condition Assessment study, and in a multi-laboratory survey examining U.S. coastal and inland surface waters.

Harmful Algal Blooms
SSWR developed and released the Water Quality Assessment Tool (WQAT), in conjunction with NASA Stennis Space Center. WQAT is a software tool that facilitates and simplifies the extraction and analysis of satellite data. WQAT's intended users are the Water Program, Regions, States, tribes, drinking water treatment facilities, state health departments, recreational water managers, and state water quality managers.

Green Infrastructure Toolkit
The Green Infrastructure Models and Tools toolkit is a webpage of five EPA green infrastructure (GI) models and tools, along with communication materials. The toolkit is being used by the EPA's regions to train their staff and for outreach to states.

Flint, MI Technical Assistance
The agency's research and development program's researchers provided their expertise and participated in the EPA's Flint Drinking Water Task Force to assist the State of Michigan and the City of Flint with lead contamination and chlorine residual challenges in their drinking water system. In coordination with the EPA's Task Force, the city and state, the agency's involvement included project development, oversight, and implementation for distribution system monitoring for disinfectant and disinfection byproducts, lead pipe scale evaluations, pipe loop rigs for corrosion control testing, assessment of chlorine residual levels in the distribution system and the development of a flushing optimization plan. The agency's research and development program contribution played a large part in helping to raise chlorine residuals by flushing hydrants, as well as determining where chlorine sampling would take place. The assistance provided by the agency's research and development program is helping Flint move towards a solution to their drinking water crisis. The agency's researchers are currently developing sampling protocols and exposure risk assessment models for lead in drinking water for use by stakeholders.

FY 2018 Activities and Performance Plan:

In order to achieve its goals, the SSWR program has focused its four topic areas on specific research objectives as outlined below.

Watershed Sustainability
The EPA will continue research on waterborne pathogens to improve recreational water quality. A collaborative, cross-agency economic analysis will continue to develop tools for determining changes in value associated with changes in water quality, ecosystem services of water bodies, and watershed integrity.

Nutrients
The EPA will investigate health impacts from exposure to harmful algal/cyanobacteria toxins. Research also focuses on monitoring and optimizing drinking water treatment systems and developing methods to predict, monitor, and characterize blooms with innovative technology.

Research will continue on nutrient-enhanced acidification and hypoxia in economically important coastal fisheries (e.g., Pacific Northwest and New England), and nutrient and hypoxia modeling of the Mississippi River Basin and Gulf of Mexico.

Green Infrastructure
The EPA will continue leading research for core support of the Storm Water Management Model (SWMM) and National Stormwater Calculator to help states and utilities address stormwater and wastewater infrastructure needs, and for risk assessments on stormwater capture for augmenting water supplies.

Water Systems (Drinking Water, Wastewater, Water Reuse)
Research will focus on delivering safe drinking water (e.g., distribution systems and premise plumbing, lead and other chemical or microbial contaminants, disinfection by-products, and biofilm) assessing the health and environmental impacts of known and emerging risks of individual and groups of chemical and biological contaminants (e.g., per- and poly-fluorinated substances) in drinking water sources, drinking/wastewater treatment, and water reuse.

Water reuse will be an essential component of a sustainable water supply by mitigating water withdrawals from surface water and groundwater sources. Resource recovery and water reuse offer opportunities for collaboration with other federal agencies, industry, and international organizations to expedite the development and market introduction of cost effective technologies.

The EPA has established a standing subcommittee under the EPA's Board of Scientific Counselors (BOSC) for the SSWR program to evaluate its performance and provide feedback to the agency. In addition, the EPA will meet regularly with both the BOSC and SAB to seek their input on topics related to research program design, science quality, innovation, relevance, and impact. This includes advising the EPA on its strategic research direction as part of the review of the research and development program's recently released StRAPs.

The agency collaborates with several science agencies and the research community to assess our research performance. For example, the EPA is partnering with the National Institutes of Health, National Science Foundation, Department of Energy, Department of Agriculture, U.S. Geological Survey, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, Department of Defense, National Aeronautics and Space Administration, National Oceanic and Atmospheric Administration, and others. The EPA also works with the White House's Office of Science and

Technology Policy and supports the interagency Science and Technology in America's Reinvestment–Measuring the Effect of Research on Innovation, Competitiveness, and Science (STAR METRICS) effort.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,098.0) This eliminates funding for the Science to Achieve Results (STAR) program for FY 2018.

- (-$20,372.0 / -79.2 FTE) This streamlines funding to the program for research related to technical support and site-specific support; communication and technology transfer efforts; translation of nutrient modeling and monitoring data; and research assisting states to prioritize watersheds and differentiating sources of nutrient overloading.

- (-$13,240.0 / -57.4 FTE) This refocuses resources from research on recovering resources (e.g. nutrients) from wastewater, transformative water systems and life cycle analysis and research on advancing water systems technologies for FY 2018.

Statutory Authority:

Safe Drinking Water Act (SDWA), § 1442(a)(1); Clean Water Act, §§ 101(a)(6), 104, 105; Environmental Research, Development, and Demonstration Authorization Act (ERDDAA); Marine Protection, Research, and Sanctuaries Act (MPRSA), § 203; Title II of Ocean Dumping Ban Act of 1988 (ODBA); Water Resources Development Act (WRDA); Wet Weather Water Quality Act of 2000; Marine Plastic Pollution Research and Control Act of 1987 (MPPRCA); National Invasive Species Act; Coastal Zone Amendments Reauthorization Act (CZARA); Coastal Wetlands Planning, Protection, and Restoration Act; Endangered Species Act (ESA); North American Wetlands Conservation Act; Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Toxic Substances Control Act (TSCA).

Program Area: Research: Sustainable Communities

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$862.0	$663.0	$503.0	($160.0)
Science & Technology	***$154,349.4***	***$139,709.0***	***$54,211.0***	***($85,498.0)***
Leaking Underground Storage Tanks	$315.5	$319.0	$320.0	$1.0
Hazardous Substance Superfund	$13,622.3	$14,005.0	$5,655.0	($8,350.0)
Total Budget Authority / Obligations	$169,149.2	$154,696.0	$60,689.0	($94,007.0)
Total Workyears	460.3	476.3	265.1	-211.2

Program Project Description:

The EPA's Sustainable and Healthy Communities (SHC) program supplies research to support regulatory activities, including protocol development for the National Contingency Plan, and provides on-demand technical support at federal, Tribal, or state-led cleanup sites and during emergencies. The SHC program serves two primary customers: the EPA's federal and regional decision makers, and community decision makers across the country.

The overall research effort is organized around six integrated and transdisciplinary national research programs. Each program is guided by a Strategic Research Action Plan (StRAP) that is the result of a collaboration with, and supportive of, the EPA's program offices and regions.

Recent accomplishments include:

- **Identifying Key Factors for Improved Water Quality in Lawrence, MA**: SHC has worked closely with Region 1, the City of Lawrence, Groundwork Lawrence[23], and the Merrimack Valley Watershed Council[24] to map and analyze flood zones, precipitation data, combined sewer overflows, E. coli concentration data, incidents of gastrointestinal illness, and exposure locations to inform actions that reduce potential flooding and improve water quality.

- **Facilitating Improvements in Great Lakes Areas of Concern:** SHC works closely with Region 5, the Great Lakes Program Office, and Great Lakes States to fully integrate environmental protection with the communities' economic vitality. At the St. Louis River Estuary in Duluth, MN, significant improvements already have been made. A 2016 SHC study found that up to 85% of the estuary surface now falls below pollution limits.[25]

- **Developing Guidelines for Evaluating the Post-Closure Care (PCC) Period for Hazardous Waste Disposal Facilities:** SHC is evaluating data to quantify the field performance of

[23] http://www.groundworklawrence.org/
[24] http://www.merrimack.org/web/
[25] https://cfpub.epa.gov/si/si_public_record_report.cfm?dirEntryId=311324

engineered containment systems from eight landfills that are nearing the end of their 30-year PCC period. Results from this evaluation will form the basis for technical guidance to evaluate hazardous waste landfills nation-wide per Subtitle C of RCRA.

- **Improving Children's Health Protection Through Lead Exposure Modeling:** In response to the National Drinking Water Advisory Council's (NDWAC)[26] recommendations for a revised Lead and Copper Rule, SHC has produced age-specific estimates of lead exposure from water, soil ingestion, food, and air to inform health-based values for lead in drinking water. This effort supplies information to otherwise data-poor areas of exposure research in very young children.

- **Adding Six New Communities to EnviroAtlas[27]:** EnviroAtlas is an interactive online mapping system that displays layers of information on environmental quality, health statistics, and socio-economic factors in specific communities. It provides local leaders with high resolution data to inform decision-making. In 2016, SHC added Austin, TX, Cleveland, OH, Des Moines, IA, Memphis, TN, Minneapolis, MN and New York, NY to the Atlas. The addition of these cities brought the number of EnviroAtlas communities to 18, with another 6 planned for inclusion in the coming fiscal year.

FY 2018 Activities and Performance Plan:

In FY 2018, resources will be used to support the research personnel who will analyze existing research data and publish scientific journal articles to disseminate findings associated with the data.

Several research efforts will be retained, including: EnviroAtlas, a web-based atlas of ecosystem services; conducting valuation of ecosystem services; studying how ecosystem services impact human health; measuring impact on vulnerable populations (e.g. children); and the remediation of contaminated sites.

The EPA has established a standing subcommittee under ORD's Board of Scientific Councilors (BOSC) for the SHC program to evaluate its performance and provide feedback to the agency. In addition, ORD will meet regularly with both the BOSC and the Science Advisory Board over the next several years to seek their input on topics related to research program design, science quality, innovation, relevance, and impact. This includes advising the EPA on its strategic research direction with the review of ORD's recently released Strategic Research Action Plans (StRAPs).[28]

The EPA also collaborates with several science agencies and the research community to assess our research performance. For example, the EPA is partnering with the National Institutes of Health, National Science Foundation, Department of Energy, and Department of Agriculture. The EPA also works with the White House's Office of Science and Technology Policy and supports the interagency Science and Technology in America's Reinvestment–Measuring the Effect of Research on Innovation, Competitiveness, and Science (STAR METRICS) effort.[29]

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[26] https://www.epa.gov/ndwac
[27] https://www.epa.gov/enviroatlas
[28] EPA Strategic Research Action Plans, http://www.epa.gov/research/strategic-research-action-plans-2016-2019.
[29] STAR METRICS, https://www.starmetrics.nih.gov/.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$36,524.0 / -86.7 FTE) This streamlines research support in FY 2018 related to the following activities:
    - The Ecotox database;
    - The EPA's Report on the Environment (ROE); and
    - The inclusion of a data layer in EnviroAtlas on ecosystem services and their beneficiaries.

- (-$18,266.0 / -50.4 FTE) This streamlines research efforts across environmental media, including:
    - Research on the life cycle of materials in commerce; and
    - The People, Prosperity and the Planet (P3) program for college-level competition.

- (-$17,121.0 / -40.3 FTE) This streamlines research on the following:
    - The Health Impact Assessment (HIA) approach for assessing the impact of major planned infrastructure development (e.g. highway construction) at a city scale of governance;
    - Research into the mechanisms of chemical exposures and effects on human health outcomes and well-being, especially research into cumulative effects;
    - Research into the uptake and distribution of contaminates (e.g., lead, arsenic) within vulnerable populations;
    - Research into the environmental component of children's asthma.

- (-$13,587.0) This eliminates funding for the Science to Achieve Results (STAR) program for FY 2018.

Statutory Authority:

Clean Air Act (CAA); Clean Water Act (CWA); Clinger Cohen Act; Coastal Zone Management Act (CZMA); Environmental Research, Development & Demonstration Authorization Act (ERDDAA); Endangered Species Act (ESA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Food Quality and Protection Act (FQPA); Intergovernmental Cooperation Act; Marine Protection, Research, and Sanctuaries Act; National Environmental Education Act; National Environmental Policy Act (NEPA); Toxic Substances Control Act, §§ 10, 306; Water Resources Research Act.

Program Area: Research: Chemical Safety and Sustainability

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$93,323.4***	***$89,158.0***	***$61,673.0***	***($27,485.0)***
Total Budget Authority / Obligations	$93,323.4	$89,158.0	$61,673.0	($27,485.0)
Total Workyears	291.1	306.4	238.9	-67.5

Program Project Description:

The EPA's Chemical Safety for Sustainability (CSS) research program provides information, tools, and methods to make better-informed, more-timely decisions about the thousands of chemicals circulating in the United States. The CSS program provides products that strengthen the agency's ability to evaluate and predict impacts from the use and disposal of manufactured chemicals. The CSS program works with program offices to plan and develop innovative research that directly addresses agency challenges and informs agency decisions. Products delivered by the CSS program inform the implementation of multiple agency programs including mitigation activity at Superfund sites (CERCLA), the assessment of chemical toxicity using alternative testing protocols, and chemical prioritization (TSCA).

The CSS program is one of six integrated and transdisciplinary national research programs. Each program is guided by a Strategic Research Action Plan (StRAP) that is the result of a collaboration with, and supportive of, the EPA's program offices and regions.

Recent accomplishments include:

- **Public release of the interactive Chemistry Dashboard:**[30] In a continued commitment to improve the public's access to data, CSS scientists released a new interactive Chemistry Dashboard with chemistry information for over 700,000 chemicals. While large amounts of chemical data are available, it often appears in scattered locations. The Chemistry Dashboard is a gateway to an array of related public domain databases and serves as a hub that links together many EPA research databases, providing improved access to data and models associated with chemicals of interest. The Chemistry Dashboard brings the EPA one step closer to a one-stop-shop for data needs regarding environmental chemistry data that inform future exposure and risk assessments by the agency and outside researchers.

- **Advances in consensus modeling: powering prediction through collaboration**[31]**:** Predictive computational models can efficiently help prioritize thousands of chemicals for additional testing and evaluation. In support of the EPA's Endocrine Disruptor Screening Program (EDSP), CSS scientists led a large-scale modeling project called the Collaborative Estrogen Receptor Activity Prediction Project (CERAPP). CERAPP demonstrated the

[30] Interactive Chemistry Dashboard accessible here: https://comptox.epa.gov/dashboard/
[31] Link to article "CERAPP: Collaborative Estrogen Receptor Activity Prediction Project" http://ehp.niehs.nih.gov/15-10267/

efficacy of using computational models with high-throughput screening data to predict potential estrogen receptor activity of over 32,000 chemicals. This international effort (17 research groups from the United States and Europe) collaborated to develop 48 individual models which were then evaluated and weighed for their predictive accuracy. This research demonstrates the feasibility of computational modeling and data and literature mining approaches for screening large numbers of chemicals, which aids the work of the EPA's regulators and outside parties.

- **Advances in exposure dose-response modeling for improved risk assessments[32]:** Understanding what happens to a chemical after it enters the body, and how the chemical is adsorbed, distributed, metabolized, and excreted (ADME) is an important challenge for risk assessors. Models to estimate ADME and relevant exposures and doses have been extremely limited by available data. Even with the engagement of the broader scientific community, 14 such models for unique chemicals are produced each year. In FY 2016, CSS researchers and their collaborators produced a portfolio of modeling approaches and curated databases that make it possible to accelerate the rate at which these models can be developed for the chemicals and populations of interest. These models inform users inside and outside the EPA.

- **Public release of the Sequence Alignment to Predict Across Species Susceptibility (SeqAPASS) tool[33]:** Researchers and regulators often have to make decisions based on limited information. SeqAPASS helps fill their knowledge gaps faster and cheaper by extrapolating toxicity information across species. It does this by using reported information about the effect of one chemical on a specific species to apply it to information about other species. This tool has proven to be extremely valuable in evaluating risks of exposures from pesticides and pharmaceuticals in wildlife species.

FY 2018 Activities and Performance Plan:

The CSS program will continue to produce innovative tools that accelerate the pace of data-driven chemical evaluations, enable the EPA and state decisions to be environmentally sound and public health protective, and support sustainable innovation of chemicals.

Computational Toxicology (CompTox): The EPA has been a leader in developing innovative computational and high-throughput methods for efficiently screening large numbers of chemicals in a shorter amount of time and using fewer research dollars than conventional methods. In FY 2018, CompTox research will provide essential support to agency activities across diverse regulatory frameworks (e.g., TSCA, FIFRA). Novel applications can add significant efficiency and effectiveness to agency operations and provide states with the information to support effective decisions and actions. Opportunities in FY 2018 include:

[32] Link to example article about evaluating risks to infants and children https://academic.oup.com/toxsci/article-abstract/152/1/230/2579248/Integration-of-Life-Stage-Physiologically-Based

[33] Additional information here: https://blog.epa.gov/blog/tag/seqapass/. Login here: https://seqapass.epa.gov/seqapass/

- Using ToxCast/Tox21 data to develop high-throughput risk assessments, in particular for chemicals for which adequate information has not been available historically to conduct risk assessments.
- Developing and releasing on-line software tools to transparently provide information on thousands of chemicals and integrate human health, environmental, and exposure data for a range of decisions, including chemical prioritization decisions.
- Exploring how high-throughput exposure and hazard information can be combined to predict potential for exposure and risk to susceptible subpopulations.

These applications perform research as directed by, and to support efforts of the agency's Chemical Safety and Pollution Prevention Program to fulfill requirements for chemical evaluation under the Toxic Substances Control Act of 1976 (TSCA) as amended by the *Frank R. Lautenberg Chemical Safety for the 21st Century Act.*

Endocrine Disrupting Chemicals: The agency is requesting funding to fulfill its core statutory requirements under the Food Quality Protection Act of 1996 (Public Law 104-170). The EPA will significantly reduce its overall research efforts focused on endocrine disrupting chemicals.

Emerging Materials (including Nanotechnology): In FY 2018, the CSS program will continue research on emerging materials, including the increased use of nanoparticles. Research activities on nanoparticles maintain the agency's contribution to research carried out under the *21st Century Nanotechnology Research and Development Act* (Public Law 108-153), which includes specifically mapping the environmental fate of nanomaterials across the lifecycle, evaluating impacts to ecosystems and wildlife health, and providing research support that aids industry in developing safer nanomaterials.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$6,270.0) This eliminates funding for the Science to Achieve Results (STAR) program for FY 2018.

- (-$4,451.0 / -13.1 FTE) This change in funding reduces resources for the development of high-throughput toxicity testing and the agency's development of improved methods for chemical evaluations.

- (-$2,753.0 / -10.7 FTE) This change in funding reduces research efforts focused on endocrine disrupting chemicals under this program.

- (-$14,011.0 / -43.7 FTE) This reduces funding for the development of virtual tissue models and tools that potentially can be used to conduct chemical toxicity screening to understand impacts on human development and health outcomes, while minimizing the use of animal testing.

Statutory Authority:

Clean Air Act §§ 103, 104, 154; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Children's Health Act; 21st Century Nanotechnology Research and Development Act; Clean Water Act, §§ 101-121; Environmental Research, Development, and Demonstration Authorization Act of 1976 (ERDDAA); Federal Food, Drug, and Cosmetic Act (FFDCA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Food Quality Protection Act (FQPA); Intergovernmental Cooperation Act; National Environmental Policy Act (NEPA), § 102; Pollution Prevention Act (PPA); Resource Conservation and Recovery Act (RCRA); Safe Drinking Water Act (SDWA); Toxic Substances Control Act (TSCA), §§ 10, 15.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$36,007.0***	***$37,530.0***	***$22,516.0***	***($15,014.0)***
Hazardous Substance Superfund	$2,751.4	$2,838.0	$5,305.0	$2,467.0
Total Budget Authority / Obligations	$38,758.4	$40,368.0	$27,821.0	($12,547.0)
Total Workyears	160.7	178.9	111.6	-67.3

Program Project Description:

The EPA's Human Health Risk Assessment (HHRA) research program is focused on the science of assessments that inform decisions made by the EPA and its partners, including states and tribes. These assessments provide the scientific basis for decisions under an array of environmental laws, including the Clean Air Act, Clean Water Act, Safe Drinking Water Act, Toxic Substances Control Act (TSCA), and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The current portfolio of HHRA products include:

- ***Integrated Risk Information System (IRIS):*** IRIS assessments are the top tier source of toxicity information used by the EPA and other health agencies to inform national standards, clean-up levels at local sites, and set advisory levels. IRIS assessments are not risk assessments. IRIS assessments inform decisions under the Clean Air Act, Safe Drinking Water Act, CERCLA/Superfund, and TSCA.

- ***Integrated Science Assessments (ISAs):*** Provide a concise evaluation and synthesis of science necessary to support decisions to retain or revise the National Ambient Air Quality Standards (NAAQS) for six criteria air pollutants (particulate matter, ozone, lead, sulfur oxides, nitrogen oxides, and carbon monoxide) as required every five years by Sections 108(a)(2) and 109(d)(1) of the Clean Air Act. ISAs also inform the cost-benefit analyses that support the regulations designed to allow states and local areas to meet the NAAQS.

- ***Community and Site-specific Risk*:** Develops Provisional Peer-Reviewed Toxicity Values (PPRTVs) and exposure assessment tools to help inform the EPA's timely response to contaminated Superfund and hazardous waste sites, as required by the CERCLA. PPRTVs are typically developed for data poor chemicals for which no IRIS value exists.

- ***Research to Advance Analyses and Applications:*** Develops tools and methods that support the scientific advances in assessments. This includes research to incorporate non-animal testing data into assessments. It also includes research on cumulative risk assessment.

Recent accomplishments include:

Final IRIS Assessments for Ammonia, Trimethylbenzenes, Ethylene Oxide, and Benzo(a)pyrene: HHRA scientists recently finalized and posted IRIS reviews of these high priority chemicals. The IRIS assessment for ammonia addresses the potential noncancer human health effects from long-term inhalation exposure to ammonia, and it updates the toxicological information on ammonia posted to the IRIS database in 1991. Trimethylbenzenes are important constituents of gasoline and common waste site contaminants. Ethylene oxide is a major industrial chemical and is used to sterilize hospital equipment. Benzo(a)pyrene is a component of smoke from forest fires, industrial processes, vehicle exhaust, cigarettes, and is formed through the burning of fuel (such as wood, coal, and petroleum products).

Final ISA for Oxides of Nitrogen – Primary NAAQS (Health Criteria): The ISA is a comprehensive evaluation and synthesis of the policy-relevant science characterizing exposures to ambient oxides of nitrogen and the health effects associated with the exposures. This ISA will provide the scientific basis for decisions by the EPA Administrator to retain or revise the NAAQS for nitrogen dioxide.

Exposure Resource for Scenarios Tool (ExpoFIRST) and EPA-Eco-Box: The ExpoFIRST tool launched at the end of FY 2016 expanded the capabilities of regional, state, and local scientists in conducting site-specific health assessments by allowing users to define and explore an unlimited number of potential exposure scenarios related to a chemical of concern based on the Exposure Factors Handbook and the Expo-Box toolbox. The EPA-Eco-Box provides a quick, easy, and flexible way for users to access information and resources for conducting ecological risk assessments.

FY 2018 Activities and Performance Plan:

The program will continue to provide support to EPA programs, Regional Offices, and states in their chemical evaluation needs to implement the *Frank R. Lautenberg Chemical Safety for the 21st Century Act.* This includes scientific support for risk evaluations and high priority contaminants, including perfluorinated compounds, lead, and polychlorinated biphenyls (PCBs). In order to achieve its goals, HHRA will focus its resources on the following research projects:

IRIS:

The IRIS program will focus its efforts on accelerating the pace of and throughput for its chemical reviews.

- Assessments that support policy and regulatory decisions for the EPA's programs and regions, and state agencies, will be consolidated into a portfolio of *Chemical Evaluation* products that optimize the application of best available science and technology. These products will be shaped for use by a number of partners, including the EPA's program and Regional Offices, states, and other federal agencies. This will allow HHRA to: a) navigate by anticipating the EPA's strategic regulatory and policy directions, while scientifically remaining ahead of the curve; b) manage tactically by ensuring that the order/timing/priorities of its assessment

activities are consistent with both short-term and long-term goals; and c) work proactively to translate and integrate the science and its tailored 'fit-for-purpose' products.

- Through a more proactive pipeline with the EPA's Office of Pollution Prevention and Toxics (OPPT), IRIS will continue to provide the support required for TSCA implementation. In addition, IRIS will work with the Office of Air and Radiation to support response to court-ordered requirements under the Residual Risk Assessment program.

- In terms of updated Health Assessments, IRIS will develop case studies of accelerated systematic review methodologies/protocols and related automation tools. For this pilot, existing assessments will be updated to meet focused high-priority needs for the EPA's program and Regional Offices.

- HHRA also will collaborate with the Chemical Safety for Sustainability (CSS) research program to link the architecture of assessment databases and literature management tools, including *Health and Environmental Research Online* (HERO) with the RapidTox Dashboard being developed by the National Center for Computational Toxicology in CSS. This integration can be used to inform assessment development and fill gaps in assessments, especially for data poor chemicals. It also can incorporate diverse data streams, including data from non-animal testing strategies, to develop assessment products for chemicals that are lacking assessments. The National Academies Report, *Using 21st Century Science to Improve Risk-Related Evaluations*[34] provides additional guidance for implementing this approach through structured case studies.

Integrated Science Assessments (ISAs):
ISAs will continue to be developed, including a draft ISA for particulate matter and a second draft ISA for the ecological effects of nitrogen oxides, sulfur oxides, and particulate matter. The final ISA for Oxides of Sulfur is anticipated to be completed on schedule: litigation is underway and a court decree has been proposed that includes completion of this ISA in December 2017.

Community and Site-Specific Risk:
PPRTVs will be developed to support the EPA's clean-up decisions at contaminated Superfund and hazardous waste sites, as required by CERCLA/Superfund. In FY 2018, 12 PPRTVs will be completed and provided to the EPA's Land and Emergency Management Program and conveyed to state and local agency partners to support decisions at waste sites.

Research to Advance Analyses and Applications:
Continued updating of the Exposures Factors Handbook and support for the Expo-Box and Eco-Box toolsets will provide support and advance new methods (e.g. sensor technologies) to target real-world scenarios. Research to develop and apply advances in molecular and systems biology to inform IRIS, PPRTV, TSCA, and other assessment activities will be continued at a modified schedule.

The EPA has established a standing subcommittee under the EPA's Board of Scientific Councilors (BOSC) for the Chemical Safety for Sustainability area that will be utilized to evaluate the research

[34] (http://dels.nas.edu/Report/Using-21st-Century-Science-Improve/24635?bname=best)

dimensions of the HHRA program as part of its performance and provide feedback to the agency. The EPA will meet regularly with both the BOSC and Science Advisory Board (SAB) to seek their input on topics related to research program design, science quality, innovation, relevance, and impact. This includes advising the EPA on its strategic research direction as part of the review of the agency's research and development program's recently released Strategic Research Action Plans (StRAPs).[35]

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$12,050.0 / -66.8 FTE) This refocuses research in the following areas:
    - The Integrated Risk Information System (IRIS);
    - The development of cumulative risk methods and models to evaluate the complex mixture and interplay of chemical and non-chemical stressors affecting ecological and human health;
    - The Superfund Health Risk Technical Support Center (STSC) and Ecological Risk Assessment Support Center (ERASC);
    - Systematic review and dose-response methods and tools used to inform ISAs, IRIS, PPRTVs, and TSCA; and
    - The development of advanced methods to support cost-benefit assessment.

- (-$2,964.0 / -15.2 FTE) Resources are being realigned to the Superfund appropriation within this program/project for IRIS.

Statutory Authority:

CAA Amendments, 42 U.S.C. 7403 et seq. - Sections 103, 108, 109, and 112; CERCLA (Superfund, 1980) Section 209(a) of Public Law 99-499; CWA Title I, Sec. 101(a)(6) 33 U.S.C. 1254 – Sec 104 (a) and (c) and Sec. 105; ERDDA 33 U.S.C. 1251 – Section 2(a); FIFRA (7 U.S.C. s/s 136 et seq. (1996), as amended), Sec. 3(c)(2)(A); FQPA PL 104-170; SDWA (1996) 42 U.S.C. Section 300j-18; TSCA (Public Law 94-469): 15 U.S.C. s/s 2601 et seq. (1976), Sec. 4(b)(1)(B), Sec. 4(b)(2)(B).

[35] EPA Strategic Research Action Plans, http://www.epa.gov/research/strategic-research-action-plans-2016-2019.

Program Area: Water: Human Health Protection

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$96,372.2	$96,341.0	$80,044.0	($16,297.0)
Science & Technology	***$3,975.8***	***$3,512.0***	***$3,657.0***	***$145.0***
Total Budget Authority / Obligations	$100,348.0	$99,853.0	$83,701.0	($16,152.0)
Total Workyears	511.4	522.7	443.3	-79.4

Program Project Description:

Through the Drinking Water Technical Support Center, this program provides critical tools to provide accurate and reliable monitoring for contaminants and effective operation of treatment systems to remove the contaminants that present public health risk in drinking water.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA's Drinking Water Technical Support Center will carry out the following activities:

- Lead the development, revision, evaluation, and approval of chemical and microbiological analytical methods for compliance monitoring and for occurrence data gathering to ensure protection of public health from contaminants in drinking water (*e.g.*, toxins resulting from harmful algal blooms).
- Implement the EPA's Drinking Water Laboratory Certification Program, which sets direction for oversight of municipal and commercial laboratories that analyze drinking water samples. Conduct three regional program reviews during FY 2018 and deliver three certification officer training courses [(1) chemistry, (2) microbiology, and (3) cryptosporidium)] for state and regional representatives to ensure the quality of the analytical results.
- Partner with states and water systems to optimize their treatment technology under the drinking water Area Wide Optimization Program (AWOP). The AWOP is a highly successful technical/compliance assistance and training program that enhances the ability of small systems to meet existing microbial, disinfectant, and disinfection byproduct standards and also addresses distribution system integrity issues. During FY 2018, the EPA expects to continue to work with 21 states and tribes to facilitate the transfer of specific skills and build upon other drinking water implementation program efforts to reduce health based compliance challenges.
- Initiate monitoring under the fourth Unregulated Contaminant Monitoring Rule (UCMR 4). The UCMR 4 was published in December 2016, and addresses collection of data on occurrence of 30 contaminants (e.g., cyanotoxins) to assess the frequency and levels at which these contaminants are found in public water systems. The UCMR 4 is a federal

direct implementation program coordinated by the EPA, as directed by the Safe Drinking Water Act. The data collected are used by the EPA as part of the agency's determination of whether to establish a health-based standard to protect public health. Monitoring activities for UCMR 4 will occur from 2018-2020. Key activities for the EPA include assuring laboratories are available that can perform the required analyses, managing all aspects of small system monitoring, and managing data reported by large systems. The EPA is required by Section 1452(o) of the Safe Drinking Water Act (SDWA), as amended, to annually set aside $2.0 million of Drinking Water State Revolving Funds to pay the costs of small system monitoring and sample analysis for contaminants for each cycle of the UCMR.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$145.0 / -2.1 FTE) Resource and FTE changes represent the net of all other changes in the program/project.

Statutory Authority:

Safe Drinking Water Act (SDWA).

Program Area: Congressional Priorities

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	***$10,378.5***	***$14,073.0***	***$0.0***	***($14,073.0)***
Environmental Program & Management	$12,678.0	$12,676.0	$0.0	($12,676.0)
Total Budget Authority / Obligations	$23,056.5	$26,749.0	$0.0	($26,749.0)
Total Workyears	4.1	4.0	0.0	-4.0

Program Project Description:

In FY 2016, Congress appropriated $14.1 million in the Science and Technology appropriation. $4.1 million was to fund high priority water quality and water availability research. The EPA was instructed to award grants on a competitive basis, independent of the STAR program, and give priority to not-for-profit organizations that: conduct activities that are national in scope; can provide a twenty-five percent match, including in-kind contributions; and often partner with the agency. $3.0 million was to further research on oil and gas development in the Appalachian Basin. $7.0 million was to fund certification and compliance activities related to vehicle and engine emissions. This funding was provided by Congress to help the agency address certification and compliance program needs in light of motor vehicle emissions noncompliance.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$14,073.0 / -4.0 FTE) This funding change eliminates this program.

Statutory Authority:

CAA 42 U.S.C. 7401 et seq. Title 1, Part A – Sec. 103 (a) and (d) and Sec. 104 (c); CAA 42 U.S.C. 7402(b) Section 102; CAA 42 U.S.C. 7403(b)(2) Section 103(b)(2); Clinger Cohen Act, 40 U.S.C. 11318; CERCLA (Superfund, 1980) Section 209(a) of Public Law 99-499; Children's Health Act; CWA, Sec. 101 - 121; CWPPRA; CZARA; CZMA 16 U.S.C. 1451 - Section 302; Economy Act, 31 U.S.C. 1535; EISA, Title II Subtitle B; ERDDA, 33 U.S.C. 1251 – Section 2(a); ESA, 16 U.S.C. 1531 - Section 2; FFDCA, 21 U.S.C. Sec. 346; FIFRA (7 U.S.C. s/s 136 et seq. (1996), as amended), Sec. 3(c)(2)(A); FQPA PL 104-170; Intergovernmental Cooperation Act, 31 U.S.C. 6502; MPRSA Sec. 203, 33 U.S.C. 1443; NAWCA; NCPA; National Environmental Education Act, 20 U.S.C. 5503(b)(3) and (b)(11); NEPA of 1969, Section 102; NISA; ODBA Title II; PPA, 42 U.S.C. 13103; RCRA; SDWA (1996) 42 U.S.C. Section 300j-18; SDWA Part E, Sec. 1442 (a)(1); TSCA, Sections 10, 15, 26, U.S.C. 2609; USGCRA 15 U.S.C. 2921; WRDA; WRRA; and WWWQA.

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APPROPRIATION: Environmental Program & Management
Resource Summary Table
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management				
Budget Authority	$2,650,794.7	$2,630,269.0	$1,717,484.0	($912,785.0)
Total Workyears	9,306.6	9,767.2	7,320.8	-2,446.4

Bill Language: Environment Programs and Management

For environmental programs and management, including necessary expenses, not otherwise provided for, for personnel and related costs and travel expenses; hire of passenger motor vehicles; hire, maintenance, and operation of aircraft; purchase of reprints; library memberships in societies or associations which issue publications to members only or at a price to members lower than to subscribers who are not members; administrative costs of the brownfields program under the Small Business Liability Relief and Brownfields Revitalization Act of 2002; and not to exceed $19,000 for official reception and representation expenses, $1,717,484,000, to remain available until September 30, 2019.

Program Projects in EPM
(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Clean Air				
Clean Air Allowance Trading Programs	$17,343.4	$16,112.0	$12,791.0	($3,321.0)
GHG Reporting Program	$106,864.3	$95,255.0	$13,580.0	($81,675.0)
Federal Stationary Source Regulations	$21,958.0	$22,899.0	$16,653.0	($6,246.0)
Federal Support for Air Quality Management	$138,050.2	$124,506.0	$96,456.0	($28,050.0)
Stratospheric Ozone: Domestic Programs	$5,195.6	$4,906.0	$3,687.0	($1,219.0)
Stratospheric Ozone: Multilateral Fund	$8,907.0	$8,911.0	$0.0	($8,911.0)
Subtotal, Clean Air	$298,318.5	$272,589.0	$143,167.0	($129,422.0)
Indoor Air and Radiation				
Indoor Air: Radon Program	$2,759.3	$2,904.0	$0.0	($2,904.0)
Radiation: Protection	$8,371.0	$8,427.0	$0.0	($8,427.0)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Radiation: Response Preparedness	$2,047.1	$2,545.0	$2,257.0	($288.0)
Reduce Risks from Indoor Air	$12,972.9	$13,707.0	$0.0	($13,707.0)
Subtotal, Indoor Air and Radiation	$26,150.3	$27,583.0	$2,257.0	($25,326.0)
Brownfields				
Brownfields	$24,718.6	$25,544.0	$16,082.0	($9,462.0)
Compliance				
Compliance Monitoring	$103,713.4	$101,472.0	$86,431.0	($15,041.0)
Enforcement				
Civil Enforcement	$174,120.9	$171,051.0	$140,470.0	($30,581.0)
Criminal Enforcement	$47,844.7	$46,225.0	$40,341.0	($5,884.0)
Environmental Justice	$7,347.6	$6,724.0	$0.0	($6,724.0)
NEPA Implementation	$15,761.3	$16,179.0	$13,496.0	($2,683.0)
Subtotal, Enforcement	$245,074.5	$240,179.0	$194,307.0	($45,872.0)
Geographic Programs				
Geographic Program: Chesapeake Bay	$77,543.8	$72,861.0	$0.0	($72,861.0)
Geographic Program: Gulf of Mexico	$5,392.3	$4,473.0	$0.0	($4,473.0)
Geographic Program: Lake Champlain	$4,395.0	$4,391.0	$0.0	($4,391.0)
Geographic Program: Long Island Sound	$3,935.6	$3,932.0	$0.0	($3,932.0)
Geographic Program: Other				
Lake Pontchartrain	$947.0	$0.0	$0.0	$0.0
S.New England Estuary (SNEE)	$4,975.0	$0.0	$0.0	$0.0
Geographic Program: Other (other activities)	$1,460.0	$7,379.0	$0.0	($7,379.0)
Subtotal, Geographic Program: Other	$7,382.0	$7,379.0	$0.0	($7,379.0)
Great Lakes Restoration	$288,091.8	$299,430.0	$0.0	($299,430.0)
Geographic Program: South Florida	$1,733.0	$1,701.0	$0.0	($1,701.0)
Geographic Program: San Francisco Bay	$4,600.7	$4,810.0	$0.0	($4,810.0)
Geographic Program: Puget Sound	$28,046.3	$27,947.0	$0.0	($27,947.0)
Subtotal, Geographic Programs	$421,120.5	$426,924.0	$0.0	($426,924.0)
Homeland Security				
Homeland Security: Communication and Information	$4,025.3	$3,870.0	$3,512.0	($358.0)
Homeland Security: Critical Infrastructure Protection	$627.1	$970.0	$0.0	($970.0)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Homeland Security: Protection of EPA Personnel and Infrastructure	$4,987.0	$5,336.0	$4,986.0	($350.0)
Subtotal, Homeland Security	$9,639.4	$10,176.0	$8,498.0	($1,678.0)
Information Exchange / Outreach				
State and Local Prevention and Preparedness	$15,044.1	$15,289.0	$10,011.0	($5,278.0)
TRI / Right to Know	$13,292.4	$13,856.0	$8,680.0	($5,176.0)
Tribal - Capacity Building	$14,056.3	$14,358.0	$11,731.0	($2,627.0)
Executive Management and Operations	$47,798.4	$46,930.0	$37,106.0	($9,824.0)
Environmental Education	$10,138.8	$8,685.0	$0.0	($8,685.0)
Exchange Network	$17,066.5	$16,984.0	$11,784.0	($5,200.0)
Small Minority Business Assistance	$1,464.0	$1,667.0	$0.0	($1,667.0)
Small Business Ombudsman	$2,378.0	$1,995.0	$1,965.0	($30.0)
Children and Other Sensitive Populations: Agency Coordination	$6,252.7	$6,535.0	$2,018.0	($4,517.0)
Subtotal, Information Exchange / Outreach	$127,491.2	$126,299.0	$83,295.0	($43,004.0)
International Programs				
US Mexico Border	$2,913.7	$3,057.0	$0.0	($3,057.0)
International Sources of Pollution	$6,345.0	$6,418.0	$4,051.0	($2,367.0)
Trade and Governance	$6,231.3	$5,896.0	$0.0	($5,896.0)
Subtotal, International Programs	$15,490.0	$15,371.0	$4,051.0	($11,320.0)
IT / Data Management / Security				
Information Security	$27,152.6	$28,132.0	$11,997.0	($16,135.0)
IT / Data Management	$83,883.2	$83,790.0	$70,069.0	($13,721.0)
Subtotal, IT / Data Management / Security	$111,035.8	$111,922.0	$82,066.0	($29,856.0)
Legal / Science / Regulatory / Economic Review				
Integrated Environmental Strategies	$13,429.0	$11,469.0	$9,151.0	($2,318.0)
Administrative Law	$4,984.0	$4,765.0	$4,141.0	($624.0)
Alternative Dispute Resolution	$1,442.1	$1,043.0	$0.0	($1,043.0)
Civil Rights Program	$11,216.7	$10,052.0	$8,266.0	($1,786.0)
Legal Advice: Environmental Program	$49,227.0	$48,473.0	$42,565.0	($5,908.0)
Legal Advice: Support Program	$14,692.6	$15,450.0	$15,548.0	$98.0
Regional Science and Technology	$1,602.1	$1,529.0	$0.0	($1,529.0)
Science Advisory Board	$4,203.8	$3,875.0	$3,567.0	($308.0)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Regulatory/Economic-Management and Analysis	$15,218.6	$14,546.0	$15,208.0	$662.0
Subtotal, Legal / Science / Regulatory / Economic Review	$116,015.9	$111,202.0	$98,446.0	($12,756.0)
Operations and Administration				
Central Planning, Budgeting, and Finance	$70,707.8	$72,047.0	$64,709.0	($7,338.0)
Facilities Infrastructure and Operations	$304,456.9	$310,948.0	$301,001.0	($9,947.0)
Acquisition Management	$30,174.3	$30,406.0	$24,978.0	($5,428.0)
Human Resources Management	$40,756.0	$43,185.0	$40,512.0	($2,673.0)
Financial Assistance Grants / IAG Management	$27,202.6	$25,248.0	$18,564.0	($6,684.0)
Workforce Reshaping	$0.0	$0.0	$46,719.0	$46,719.0
Subtotal, Operations and Administration	$473,297.6	$481,834.0	$496,483.0	$14,649.0
Pesticides Licensing				
Science Policy and Biotechnology	$1,362.5	$1,172.0	$0.0	($1,172.0)
Pesticides: Protect Human Health from Pesticide Risk	$57,708.1	$57,699.0	$48,568.0	($9,131.0)
Pesticides: Protect the Environment from Pesticide Risk	$39,651.4	$37,222.0	$31,930.0	($5,292.0)
Pesticides: Realize the Value of Pesticide Availability	$7,727.5	$6,074.0	$5,028.0	($1,046.0)
Subtotal, Pesticides Licensing	$106,449.5	$102,167.0	$85,526.0	($16,641.0)
Resource Conservation and Recovery Act (RCRA)				
RCRA: Corrective Action	$37,967.0	$36,860.0	$31,947.0	($4,913.0)
RCRA: Waste Management	$57,022.8	$58,986.0	$41,146.0	($17,840.0)
RCRA: Waste Minimization & Recycling	$8,510.8	$8,832.0	$0.0	($8,832.0)
Subtotal, Resource Conservation and Recovery Act (RCRA)	$103,500.6	$104,678.0	$73,093.0	($31,585.0)
Toxics Risk Review and Prevention				
Endocrine Disruptors	$6,035.4	$7,539.0	$0.0	($7,539.0)
Pollution Prevention Program	$11,982.4	$13,115.0	$0.0	($13,115.0)
Toxic Substances: Chemical Risk Review and Reduction	$56,030.4	$58,443.0	$65,036.0	$6,593.0
Toxic Substances: Lead Risk Reduction Program	$13,051.2	$13,250.0	$0.0	($13,250.0)
Subtotal, Toxics Risk Review and Prevention	$87,099.4	$92,347.0	$65,036.0	($27,311.0)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Underground Storage Tanks (LUST / UST)				
LUST / UST	$11,083.4	$11,273.0	$5,612.0	($5,661.0)
Water: Ecosystems				
National Estuary Program / Coastal Waterways	$25,862.3	$26,672.0	$0.0	($26,672.0)
Wetlands	$21,065.5	$21,025.0	$18,115.0	($2,910.0)
Subtotal, Water: Ecosystems	$46,927.8	$47,697.0	$18,115.0	($29,582.0)
Water: Human Health Protection				
Beach / Fish Programs	$1,779.8	$1,978.0	$0.0	($1,978.0)
Drinking Water Programs	$96,372.2	$96,341.0	$80,044.0	($16,297.0)
Subtotal, Water: Human Health Protection	$98,152.0	$98,319.0	$80,044.0	($18,275.0)
Water Quality Protection				
Marine Pollution	$10,757.8	$10,142.0	$0.0	($10,142.0)
Surface Water Protection	$202,080.5	$199,875.0	$174,975.0	($24,900.0)
Subtotal, Water Quality Protection	$212,838.3	$210,017.0	$174,975.0	($35,042.0)
Congressional Priorities				
Water Quality Research and Support Grants	$12,678.0	$12,676.0	$0.0	($12,676.0)
Subtotal, Water Quality Research and Support Grants	$12,678.0	$12,676.0	$0.0	($12,676.0)
TOTAL, EPA	$2,650,794.7	$2,630,269.0	$1,717,484.0	($912,785.0)

Program Area: Clean Air

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$17,343.4***	***$16,112.0***	***$12,791.0***	***($3,321.0)***
Science & Technology	$8,149.6	$7,793.0	$5,739.0	($2,054.0)
Total Budget Authority / Obligations	$25,493.0	$23,905.0	$18,530.0	($5,375.0)
Total Workyears	71.7	71.4	63.7	-7.7

Program Project Description:

Sulfur dioxide (SO_2) and nitrogen oxides (NO_X) are precursors for fine particulate matter ($PM_{2.5}$), while NO_X also is a precursor for ground-level ozone (O_3). Researchers have associated $PM_{2.5}$ and O_3 exposure with adverse health effects in toxicological, clinical, and epidemiological studies. Lowering exposure to $PM_{2.5}$ and O_3 contributes to significant human health benefits.

The Clean Air Allowance Trading Programs are nationwide and multi-state programs that address major global, national, and regional air pollutants from large stationary sources. In FY 2018, the EPA will operate seven Clean Air Allowance Trading Programs. Under Title I of the Clean Air Act, the EPA operates five Clean Air Allowance Trading Programs – two annual SO_2 trading programs, an annual NOx trading program, and two ozone season NOx trading programs on behalf of 27 states in the eastern U.S.[1] In addition, under Title IV of the Clean Air Act, the Acid Rain Program (ARP), the EPA operates a national annual SO_2 trading program and a NOx emissions reduction program for the power sector.[2]

The Clean Air Allowance Trading Programs establish a total emission limit that is allocated to affected emission sources in the form of allowances; authorizations to emit one ton of a pollutant. The owners and operators of affected emission sources may select among different methods of compliance – install pollution control equipment, purchase allowances, or switch fuel types. These programs are managed through a centralized database system operated by the EPA.[3] Select data, collected under these programs, is made available to the public through the EPA's Air Markets Program Data (AMPD) website. AMPD provides access to both current and historical data collected as part of the Clean Air Allowance Trading Programs through interactive maps, charts, reports, and pre-packaged datasets.

To implement the Clean Air Allowance Trading Programs, the EPA operates the Part 75 emission measurement program that requires approximately 4,500 affected units to monitor and report hourly emission data and operation data.[4] The emission measurement program requires high degrees of

[1] Clean Air Act § 110(a)(2)(D)
[2] Clean Air Act § 401
[3] Clean Air Act § 403(d)
[4] Clean Air Act § 412; Clean Air Act Amendments of 1990. P.L. 101-549. § 821

accuracy and reliability from continuous emission monitoring systems (CEMS) or approved alternative methods at the affected sources. The EPA provides the affected emission sources with a software tool, the Emissions Collection and Monitoring Plan System (ECMPS), to process and quality assure the data and facilitate reporting to the EPA. The agency conducts electronic audits, desk reviews, and field audits of the emission data and monitoring systems. The emission measurement program supports a number of other state and federal emission control and reporting programs.

The EPA's centralized database system, the allowance tracking system, records allowance allocations and transfers.[5] At the end of each compliance period, allowances are reconciled against reported emissions to determine compliance for every facility with affected emission sources. For over 20 years, the affected facilities have maintained near-perfect compliance under the trading programs. In 2016, total SO_2 emissions from emission sources subject to the Acid Rain Program were 1.5 million tons, or approximately one-sixth of the statutory nationwide emissions cap. Total NO_X emissions were 1.2 million tons in 2016, reflecting a reduction of over 6 million tons from projected 2000 NO_X levels absent the Acid Rain Program, exceeding the program's total targeted reduction of 2 million tons.

The Clean Air Act's Good Neighbor provision[6] requires states or, in some circumstances, the agency to reduce interstate pollution that interferes with the attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). Under this authority, the EPA issued the Cross-State Air Pollution Rule (CSAPR), which took effect on January 1, 2015. CSAPR requires 27 states in the eastern U.S. to limit their state-wide emissions of SO_2 and/or NO_X in order to reduce or eliminate the states' contributions to $PM_{2.5}$ and/or ground-level O_3 pollution in other downwind states. The emission limitations are defined in terms of maximum state-wide "budgets" for emissions of annual SO_2, annual NO_X, and/or ozone-season NO_X from certain large stationary sources in each state.

The EPA relies on the Clean Air Status and Trends Network (CASTNET) for monitoring deposition, ambient sulfate and nitrate concentrations, and other air quality indicators. The EPA uses the Long-Term Monitoring (LTM) program for assessing how water bodies and aquatic ecosystems are responding to reductions in sulfur and nitrogen emissions. Data from these air quality and environmental monitoring programs, in conjunction with SO_2 and NO_X emissions data from the Part 75 monitoring program, have allowed the EPA to develop a comprehensive accountability framework to track the results of its air quality programs. The EPA applies this framework to the programs it implements and issues annual progress reports on compliance and environmental results achieved by the Acid Rain Program and Cross-State Air Pollution Rule. Previous reports have covered progress under the Clean Air Interstate Rule and the NO_X Budget Trading Program. These annual progress reports not only track reductions in SO_2 and NO_X emissions from affected sources, but also assess the impacts of these reductions on air quality (e.g., ozone and $PM_{2.5}$ levels), acid deposition, surface water acidity, forest health, and other environmental indicators.

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[5] Clean Air Act § 403(d)
[6] Clean Air Act § 110(a)(2)(D); see also Clean Air Act § 110(c)

FY 2018 Activities and Performance Plan:

The EPA will continue to operate the Clean Air Allowance Trading Programs and the systems to assess the programs' progress toward the environmental goals required by the Clean Air Act. The EPA will work to meet requirements and requests for modeling in support of the power sector and for legal defense of regulatory actions. The program will support emission reporting for the Mercury and Air Toxics Standard (MATS) Rule,[7] aligned with capacity.

Allowance tracking and compliance assessment

The EPA will allocate SO_2 and NO_X allowances to affected emission sources and other account holders as established in the Clean Air Act[8] and state and federal CSAPR implementation plans. These allowance holdings will be maintained in an updated allowance tracking system (i.e., central database) that will record allowance transfers.[9] At the end of each compliance period, the EPA will reconcile each facility's allowance holdings against its emissions to ensure compliance for all affected sources.[10]

Emission measurement and data collection and review

The EPA will operate the Part 75 emission measurement program to collect, quality assure, and track emissions of air pollutants and air toxics, from approximately 4,500 fossil-fuel-fired electric generating units.

Program assessment

The EPA will develop progress reports and other information to communicate the extent of the progress made by the Clean Air Allowance Trading Programs.[11]

Assistance to states

The EPA will work with states to develop emission reduction programs to comply with Clean Air Act Good Neighbor Provision requirements.[12] This includes implementation of the CSAPR Update regulation finalized on September 7, 2016.

The FY 2018 performance target maintains SO_2 emissions below three million tons, reflecting the implementation of the CSAPR programs in the eastern states in combination with the Acid Rain Program.

Progress was stronger than anticipated in FY 2016, with actual emissions of SO_2 from electric power generation sources of 1,487,542 tons, compared with a target of 4 million tons. Actual

[7] 40 C.F.R. pt. 63, subpt. UUUUU (National Emission Standards for Hazardous Air Pollutants: Coal and Oil Fired Electric Utility Steam Generating Units).
[8] Clean Air Act §§ 110 and 403
[9] Clean Air Act §§ 110 and 403
[10] Clean Air Act §§ 110 and 404-405 and state CSAPR implementation plans
[11] Government Performance and Results Act § 1115
[12] Clean Air Act § 110(a)(2)(D)

emissions have consistently been lower than the targets due to a number of factors including: use of the large and growing bank of ARP allowances; and uncertainty regarding market dynamics related to the mix of fuels and power generation sources in the future. For more information, see http://www.epa.gov/airmarket/progress/progress-reports.html

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,321.0 / -7.7 FTE) This streamlines support for the program, focusing on the operation of existing systems to meet core requirements.

Statutory Authority:

Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$106,864.3***	***$95,255.0***	***$13,580.0***	***($81,675.0)***
Science & Technology	$8,824.2	$8,003.0	$0.0	($8,003.0)
Total Budget Authority / Obligations	$115,688.5	$103,258.0	$13,580.0	($89,678.0)
Total Workyears	204.5	224.1	50.0	-174.1

Program Project Description:

The EPA's Greenhouse Gas (GHG) Reporting Program develops and delivers data, analysis, and technical information and assistance to identify technologies and strategies for industries, states, communities, and tribes to meet Clean Air Act obligations and other statutory requirements.

Greenhouse Gas Reporting Program: The EPA implements the U.S. Greenhouse Gas Reporting Program, which directs the EPA to "require mandatory reporting of greenhouse gas emissions above appropriate thresholds in all sectors of the economy of the U.S." The EPA annually collects data from over 8,000 facilities from 41 large industrial source categories in the U.S. and uses this data to improve estimates included in the *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, to support federal and state-level policy development and to share with industry stakeholders, state and local governments, the research community, and the public.

Inventory of U.S. Greenhouse Gas Emissions and Sinks: In order to fulfill U.S. Treaty obligations, under Article 4 of the 1992 Framework Convention on Climate Change, which was ratified by the Senate, the EPA prepares the annual *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, to provide information on total annual U.S. emissions and removals by source, economic sector, and greenhouse gas. EPA leads the interagency process of preparing the *Inventory*, working with technical experts from numerous federal agencies including the Department of Energy's Energy Information Agency; U.S. Department of Agriculture; Department of Defense; U.S. Geological Survey, and academic and research institutions.

Partnership Programs: The EPA participates in a number of partnership programs, including the following:

- ENERGY STAR
- AgSTAR
- Coalbed Methane Outreach Program
- The Landfill Methane Outreach Program
- The Natural GasSTAR Program
- The Natural Gas STAR Methane Challenge program
- The Global Methane Initiative

- The SmartWay Transport program
- The EPA's Green Power Partnership
- The Combined Heat and Power Partnership
- The Center for Corporate Climate Leadership
- The State and Local Climate and Energy Program

HFC Programs: The EPA supports reducing the use and emissions of HFCs through the Significant New Alternatives Policy (SNAP) program, mandated under Section 612 of the Clean Air Act Amendments. This program has finalized actions to restrict the use of HFCs in applications where alternatives now exist, and to develop options for key industrial sectors including refrigeration and air-conditioning, foams, and fire suppression.

Science, Economic, and Technical Analyses: The EPA conducts a range of economic, scientific and technical analyses for CAA regulatory actions and technical input.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will provide technical, analytical, and scientific support for the regulatory action consistent with Presidential Executive Order on Promoting Energy Independence and Economic Growth dated March 28, 2017. The budget includes resources to support the review of the Clean Power Plan.

In FY 2018, the EPA will continue to implement the Greenhouse Gas Reporting Program covering a total of 41 sectors, with approximately 8,000 reporters. Focus areas for the program will include:

- Implement regulatory revisions across multiple sectors to address stakeholder concerns associated with collection and potential release of data elements considered to be sensitive business information;
- Align the database management systems with those regulatory amendments; and
- Conduct a QA/QC and verification process through a combination of electronic checks, staff reviews, and follow-up with facilities, when necessary.

The EPA will work to complete the annual Inventory of U.S. Greenhouse Emissions and Sinks.

In FY 2018, funding for ENERGY STAR and other partnership programs is eliminated. The EPA will explore options for the potential transfer of the ENERGY STAR and other climate protection partnership programs to non-governmental entities.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$81,675.0 / -140.3 FTE) This streamlines funding for the GHG Reporting Program in the following areas:

- Partnership programs with industry, businesses, states, tribes, and localities;
- Use and emissions of HFCs under the SNAP program; and
- Technical support to the U.S. Global Change Research Program.

Statutory Authority:

Clean Air Act; FY 2008 Consolidated Appropriations Act; Global Change Research Act of 1990; Global Climate Protections Act; Energy Policy Act of 2005, § 756; Pollution Prevention Act, §§ 6602-6605; National Environmental Policy Act (NEPA), § 102; Clean Water Act, § 104; Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), § 8001.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$21,958.0***	***$22,899.0***	***$16,653.0***	***($6,246.0)***
Total Budget Authority / Obligations	$21,958.0	$22,899.0	$16,653.0	($6,246.0)
Total Workyears	107.1	122.5	79.1	-43.4

Program Project Description:

Under the Clean Air Act (CAA), the EPA is required to set National Ambient Air Quality Standards (NAAQS) for ambient pollutants considered harmful to public health and the environment. The six "criteria" pollutants for which the EPA has established NAAQS are: particulate matter (PM), ozone, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), and lead. The CAA requires the EPA to periodically review the science upon which the NAAQS are based and the standards themselves. These national standards form the foundation for air quality management and establish goals that protect public health and the environment.

Section 109 of the CAA Amendments of 1990 established two types of NAAQS. Primary standards are set at a level requisite to protect public health with an adequate margin of safety. Secondary standards are set at a level requisite to protect public welfare from any known or anticipated adverse effects.

This program includes activities, mandated by the CAA, directed toward reducing air emissions of toxic, criteria, and other pollutants from stationary sources. Specifically, to address air toxics, this program provides for the development of National Emission Standards for Hazardous Air Pollutants (NESHAP) for major sources (i.e., Maximum Achievable Control Technology - MACT standards) and area sources, the development of standards of performance and emissions guidelines for waste combustion sources, the assessment and, as necessary, regulation of residual risk remaining after implementation of the NESHAP, the periodic review and revision of the NESHAP, and associated national guidance and outreach. In addition to existing CAA and court-ordered mandates, the EPA is required to periodically review, and, where appropriate, revise both the list of air toxics subject to regulation and the list of source categories for which standards must be developed. The program also includes issuing, reviewing, and periodically revising, as necessary, New Source Performance Standards (NSPS) for criteria and certain listed pollutants, and providing guidance on Reasonably Available Control Technology (RACT) through issuance and periodic review and revision of control technique guidelines (CTG).

The CAA also requires protection of air quality related values (AQRV) for 156 congressionally mandated national parks and wilderness areas, known as Class I areas. Visibility is one such AQRV, and Congress established a national goal of returning visibility in the Class I areas to natural conditions, i.e., the visibility conditions which existed without manmade air pollution. The

Regional Haze Rule sets forth the requirements that state plans must satisfy to make reasonable progress towards meeting this national goal. The year 2064 is used as a reference date in the regional haze planning process, but is not a firm statutory deadline to achieve natural conditions of visibility.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to perform regulatory reviews mandated by the CAA, including any associated actions.

In FY 2018, the EPA will continue its reviews of the NAAQS and make revisions, as appropriate. Each review involves a comprehensive reexamination, synthesis, and evaluation of the scientific information, the design and conduct of complex air quality and risk and exposure analyses, the development of a comprehensive policy assessment providing analysis of the scientific basis for alternative policy options. The agency will adjust schedules for the development of proposed and final rules to align with the capacity and agency considerations to revise regulatory assessments.

Section 111 of the CAA requires the EPA to set NSPS for industrial categories that cause, or significantly contribute to, air pollution that may endanger public health or welfare. In FY 2018, the EPA will continue work to address NSPS for sources of air pollutants, consistent with the requirements of the CAA. Section 111 of the CAA also requires the EPA, at least every eight years, to review and, if appropriate, revise NSPS for each source category for which such standards have been established.

Work is currently underway to achieve and maintain compliance with existing standards. These include the ozone standards established in 2015, 2008, 1997, and 1979; the 1997 PM_{10} standards; the 2012, 2006 and 1997 $PM_{2.5}$ standards; the 2008 lead standard;[13] the 2010 NO_2 standard; the 1971 CO standard; and the 2010 SO_2 standard.

The agency will adjust the schedule of updating the National Air Toxics Assessment (NATA). Air toxics are pollutants known to cause or suspected of causing cancer, birth defects, reproductive effects, or other serious health problems.

To reduce or eliminate the health risks and exposures to air toxics in affected communities and to fulfill its statutory and court-ordered obligations more efficiently, the EPA will need to pursue opportunities to meet multiple CAA requirements for stationary sources in more integrated ways in FY 2018. In aligning this effort with Executive Order 13777, Enforcing the Regulatory Reform Agenda and Executive Order 13771, Reducing Regulation and Controlling Regulatory Costs, the EPA will look for ways to repeal, replace, or modify existing regulations to make them less burdensome and to be prudent and financially responsible in the expenditure of public and private funds.

[13] In September 2016, EPA completed the review of the 2008 Lead NAAQS and retained the standards without revision.

In addition, ongoing regulatory reviews statutorily mandated by the CAA will be prioritized to maximize public health protection and to meet court-ordered deadlines. For example, Section 112(d)(6) of the CAA requires the EPA to review and revise, as necessary, within eight years, all of the MACT standards for air toxics that have been promulgated under CAA Section 112 since 1990. These reviews include collection of new information and emissions data from industry; review of emission control technologies; and associated economic analyses for the affected industries. Similarly, Section 112(f) of the CAA requires the EPA to conduct reviews of the risk that remains after the implementation of MACT standards within eight years of promulgation. In FY 2018, the EPA will engage in rulemaking efforts to review and revise, as necessary and appropriate, emissions standards for five source categories pursuant to a court order or consent decree (Portland cement, nutritional yeast, pulp and paper, publically owned treatment works, and wool fiberglass). There is a pending consent decree for a sixth source category (off-site waste recovery operations). The EPA also is under recent court orders to complete CAA Section 112 risk and technology review rulemakings by 2020 for 33 source categories and subject to litigation for completion of similar rulemakings for nine other source categories. A substantial portion of the work for these Section 112 rulemakings will need to commence in FY 2018. On a limited basis, compliance testing and monitoring methodologies will continue to be developed and improved in support of these risk determination and rulemaking efforts. In addition, under Section 129 of the CAA, the EPA plans to continue efforts to address the risk and technology review for Large Municipal Waste Combustors.

In FY 2018, the EPA will continue to address program-wide issues, including court-vacated rules that apply across many industrial sources.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$6,246.0 / -43.4 FTE) As a result of this change, the agency will work to develop a more efficient approach to meeting its statutorily-required NAAQS reviews. In addition, the EPA will rely on states and other stakeholders to pinpoint burden and cost-reduction actions needed to improve the federal-state partnership and the stationary source regulatory process as a whole.

Statutory Authority:

Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$138,050.2***	***$124,506.0***	***$96,456.0***	***($28,050.0)***
Science & Technology	$6,234.3	$7,453.0	$3,959.0	($3,494.0)
Total Budget Authority / Obligations	$144,284.5	$131,959.0	$100,415.0	($31,544.0)
Total Workyears	804.1	842.0	601.8	-240.2

Program Project Description:

The Federal Support for Air Quality Management Program assists states, tribes, and local air pollution control agencies in the development, implementation, and evaluation of programs for the National Ambient Air Quality Standards (NAAQS), establishes standards for reducing air toxics, and sustains visibility protection. The EPA develops federal measures and regional strategies that help to reduce emissions from stationary and mobile sources; whereas states have the primary responsibility (and tribes may choose to take responsibility) for developing clean air measures necessary to meet the NAAQS and protect visibility. At the core of this air quality management program are sound scientific and technical data of air pollutant emissions and concentrations. The EPA, working with states, tribes, and local air agencies, collects these data and maintains databases (e.g., Emissions Inventory System, Air Quality System, etc.). The EPA also supports training for state, Tribal, and local air pollution professionals.

Under Section 109 of the Clean Air Act (CAA), the EPA is required to set National Ambient Air Quality Standards (NAAQS) for ambient pollutants considered harmful to public health and the environment. The six "criteria" pollutants for which the EPA has established NAAQS are: particulate matter (PM), ozone, sulfur dioxide (SO_2), nitrogen dioxide (NO_2), carbon monoxide (CO), and lead (Pb). The CAA requires the EPA to periodically review the science upon which the NAAQS are based and the standards themselves. These national standards form the foundation for air quality management and establish goals that protect public health and the environment.

The CAA Amendments of 1990 established two types of NAAQS. Primary standards are set at a level requisite to protect public health with an adequate margin of safety, including the health of at-risk populations.

For each of the six criteria pollutants, under Section 110 of the CAA, the EPA tracks two kinds of air pollution information: air pollutant concentrations based on actual measurements in the ambient (outside) air at monitoring sites throughout the country; and pollutant emissions based on engineering estimates or measurements of the total tons of pollutants released into the air each year. The EPA works with state and local governments to ensure the technical integrity of emission source controls in State Implementation Plans (SIPs) and with tribes on Tribal Implementation Plans (TIPs).

Section 169A of the CAA also requires protection of air quality related values (AQRV) for 156 congressionally mandated national parks and wilderness areas, known as Class I areas. Visibility is one such AQRV and Congress established a national goal of returning visibility in the Class I areas to natural conditions (i.e., the visibility conditions which existed without manmade air pollution). The EPA developed the Regional Haze Rule, which sets forth the requirements that state plans must satisfy to make reasonable progress towards meeting this national goal.

The provisions in the Clean Air Act that address the control of air toxics are found in Section 112 of the CAA which requires that the emissions control bases for all Maximum Achievable Control Technology (MACT) standards be reviewed and updated, as necessary, every eight years.

FY 2018 Activities and Performance Plan:

Air quality has improved significantly for communities across the country since passage of the CAA in 1970 (with amendments in 1977 and 1990). Since 1990, for example, national average levels have decreased by 22 percent for ozone, 37 percent for particulate matter, 81 percent for sulfur dioxide, and 99 percent for lead. In FY 2018, the EPA will continue to perform key activities in support of the NAAQS and implementation of stationary source regulations support; by state, Tribal, and local air quality programs.

In FY 2018, the EPA will continue its CAA mandated responsibilities to administer the NAAQS by reviewing state plans and decisions consistent with statutory obligations, taking federal oversight actions such as approving or disapproving SIP/TIP submittals, and by developing regulations and policies to ensure continued health and welfare protection during the transition between existing and new standards. The EPA will work with states to adjust the schedules to additional state-requested rulemakings and guidance documents to support state and Tribal efforts to implement CAA SIP requirements to align with capacity and priorities. This includes additional guidance requested by states on developing exceptional events demonstrations. The EPA will provide prioritized technical and policy assistance to states and tribes developing or revising SIPs/TIPs.

The EPA will continue to look for ways to improve the efficiency and effectiveness of the SIP process, including its own review process, with a goal of maximizing timely processing of state-requested SIP actions, which on average number about 300 per year across the regions. The agency will take action on designation or re-designation of nonattainment areas to attainment, as appropriate, pursuant to Sections 107 and 110 of the Clean Air Act respectively. Nonattainment designations can negatively impact economic development, and a focus will be placed on states achieving attainment, looking at improved processes, and implementation options.

Another aspect of ongoing reviews will be to approve SIPs for regional haze to ensure that states are making reasonable progress towards their visibility improvement goals, consistent with statutory obligations. In FY 2018, the EPA will continue to assist states that are developing plan revisions. Section 169A of the CAA requires the EPA to assess and approve the plans.

The EPA will continue to assist other federal agencies and state and local governments in implementing the conformity regulations promulgated pursuant to Section 176 of the Clean Air Act. These regulations require federal agencies, taking actions in nonattainment and maintenance areas, to determine that the emissions caused by their actions will conform to the SIP.

The EPA will work to meet its Prevention of Significant Deterioration (PSD) and New Source Review (NSR) obligations pursuant to Section 165 of the Clean Air Act. The EPA will continue to review and respond to reconsideration requests and (working with the Department of Justice) legal challenges related to NSR program revisions, take actions necessary to respond to court decisions, and work with states and industries on NSR applicability issues.

The EPA maintains the RACT/BACT/LAER clearinghouse (RBLC) to help permit applicants and reviewers make pollution prevention and control technology decisions for stationary air pollution sources. The RBLC includes data submitted by several U.S. territories and all 50 states on over 200 different air pollutants and 1000 industrial processes. Please see http://cfpub.epa.gov/RBLC/ for more information.

In FY 2018, the EPA will provide prioritized oversight of state, Tribal, and local permitting programs' activities as they review permit applications and issue permits, including permits for oil and gas to minor sources. States will have primary responsibility for Title V permitting, including the more complex permit actions and inquiries pertaining to permit issues.

The agency will work to identify priorities and efficiencies as called for in the January 24th, 2017 Presidential Memorandum; Streamlining Permitting and Reducing Regulatory Manufacturing.

One of the EPA's top priorities is to fulfill its CAA and court-ordered obligations. Section 112 of the CAA requires that the emissions control bases for all Maximum Achievable Control Technology (MACT) standards be reviewed and updated, as necessary, every eight years. In FY 2018, the EPA will continue to conduct risk assessments to determine whether the MACT rules appropriately protect public health. The program will prioritize its work with an emphasis on meeting court ordered deadlines.

Through implementation of Executive Order 13777, Enforcing the Regulatory Reform Agenda and Executive Order 13771, Reducing Regulation and Controlling Regulatory Costs, the EPA will look for ways to repeal, replace, or modify existing regulations to make them less burdensome and to be prudent and financially responsible in the expenditure of public and private funds.

In FY 2018, the EPA will provide assistance to state, Tribal, and local agencies for various technical activities. The EPA uses a broad suite of analytical tools, such as source characterization analyses, emission factors and inventories, statistical analyses, source apportionment techniques, quality assurance protocols and audits, improved source testing and monitoring techniques, urban and regional-scale air quality models, and augmented cost/benefit tools, to assess control strategies. See http://www.epa.gov/ttn for further details. The agency will maintain the core function of these tools (e.g., integrated multiple pollutant emissions inventory, air quality modeling platforms, etc.) to provide the technical underpinnings for more efficient and comprehensive air quality management by state, local, and Tribal agencies.

In FY 2018, the EPA will strive to maintain baseline analytical capabilities required to develop effective regulations including: analyzing the economic impacts of regulations and policies; developing and refining existing emission test methods for measuring pollutants from smokestacks and other industrial sources; developing and refining existing source sampling measurement

techniques to determine rates of emissions from stationary sources; and conducting air quality modeling that characterizes the atmospheric processes that disperse a pollutant emitted by a source. Resources from the Science and Technology appropriation component of this program support the scientific development of these capabilities.

In FY 2018, state and local agencies will have the lead in implementing the National Air Toxics Trends Sites (NATTS). The NATTS, designed to capture the impacts of widespread pollutants, is comprised of 27 permanent monitoring sites. See http://www.epa.gov/ttn/amtic/airtoxpg.html for additional information. The EPA will consult on priority data gaps to better assess population exposure to toxic air pollution.

In FY 2018, the EPA will maintain the Air Quality System (AQS), one of the agency's mission essential functions, which houses the nation's air quality data and allows for exchanges of data and technology. The EPA will provide the core support needed for the AQS Data Mart, which provides access to the scientific community and others to obtain air quality data via the internet. The agency's national real-time ambient air quality data system (AirNow) will maintain baseline operations. The EPA will continue to operate and maintain the Emissions Inventory System (EIS), a system used to quality assure and store current and historical emissions inventory data, and to generate the National Emissions Inventory (NEI). The NEI is used by the EPA, states, and others to analyze the public health risks from air toxics and to develop strategies to manage those risks and support multi-pollutant analysis covering air emissions.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$28,050.0 / -237.1 FTE) This streamlines EPA technical assistance to and support of state, Tribal, and local air programs, including those that develop and implement clean air plans, issue air permits, and provide air quality information to the public.
    - The agency will focus efforts to ensure timely processing of state-requested SIP actions, which on average number about 300 per year across the regions.
    - In addition, the EPA will limit reanalysis of permitting tools while streamlining consideration of exceptional event demonstrations.

Statutory Authority:

Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$5,195.6***	***$4,906.0***	***$3,687.0***	***($1,219.0)***
Total Budget Authority / Obligations	$5,195.6	$4,906.0	$3,687.0	($1,219.0)
Total Workyears	21.8	22.0	18.0	-4.0

Program Project Description:

The stratospheric ozone layer protects life by shielding the Earth's surface from harmful ultraviolet (UV) radiation. Scientific evidence demonstrates that ozone-depleting substances (ODS) used around the world destroy the stratospheric ozone layer,[14] which raises the incidence of skin cancer and other illnesses.[15]

The EPA estimates that in the United States alone, the worldwide phase out of ODS will avert millions of cases of non-fatal and fatal skin cancers (melanoma and non-melanoma), as well as millions of cataract cases, which is the leading cause of blindness. Full implementation of the *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol) globally, including its amendments and adjustments, is expected to avoid more than 280 million cases of skin cancer, approximately 1.6 million skin cancer deaths, and more than 45 million cases of cataracts in the United States among individuals born between 1890 and 2100.[16]

The EPA implements provisions of the Clean Air Act Amendments of 1990 (CAA) and the Montreal Protocol, resulting in the reduction of ODS in the U.S. and lower health risks to the American public. The EPA uses a combination of regulatory and partnership programs to protect and restore the ozone layer. The CAA provides for a phase-out of production and consumption of ODS and requires controls on their use, including banning certain emissive uses, requiring labeling to inform consumer choice, and requiring sound servicing practices for the use of refrigerants in air conditioning and refrigeration appliances. The CAA also prohibits venting ODS and their substitutes and requires listing of alternatives that reduce overall risk to human health or the environment, ensuring that businesses and consumers have alternatives that are safer for the ozone layer than the chemicals they replace.

As a signatory to the Montreal Protocol, the U.S. is committed to ensuring that our domestic program is at least as stringent as international obligations and to regulating and enforcing the

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[14] World Meteorological Organization (WMO). Scientific Assessment of Ozone Depletion: 2014. Global Ozone Research and Monitoring Project–Report No. 56, Geneva, Switzerland. 2014.
[15] Fahey, D.W., and M.I. Hegglin (Coordinating Lead Authors), Twenty questions and answers about the ozone layer: 2014 Update, In Scientific Assessment of Ozone Depletion: 2014, Global Ozone Research and Monitoring Project–Report No. 56, World Meteorological Organization, Geneva, Switzerland, 2014. Available on the internet at: https://www.esrl.noaa.gov/csd/assessments/ozone/2014/twentyquestions2014update.pdf.
[16] EPA, Updating ozone calculations and emissions profiles for use in the Atmospheric Health Effects Framework Model (2015)

terms of the Montreal Protocol domestically. With U.S. leadership, the Parties to the Montreal Protocol agreed to a more aggressive phase-out for ozone-depleting hydrochlorofluorocarbons (HCFCs) equaling a 47 percent reduction in overall emissions during the period 2010-2040. The 2007 adjustment also calls on Parties to promote the selection of alternatives to HCFCs that minimize environmental impacts, in particular impacts on climate.[17] In 2016, the parties to the Montreal Protocol agreed to the Kigali Amendment,[18] which will globally phase down production and consumption of HFCs. HFCs are intentionally manufactured fluorinated greenhouse gases used in all the same sectors as ODS such as air conditioning, refrigeration, fire suppression, solvents, foam blowing agents, and aerosols. U.S. industry has expressed support for addressing HFCs under the Montreal Protocol.

FY 2018 Activities and Performance Plan:

In carrying out the requirements of the CAA and the Montreal Protocol in FY 2018, the EPA will continue to meet its ODS import caps and work toward the gradual reduction in production and consumption of ODS. To meet FY 2018 targets and out-year targets, the EPA will issue allocations for HCFC production and import in accordance with the requirements established under CAA Sections 605 and 606; manage information that industry identifies as Confidential Business Information (CBI) under CAA Section 603; and implement current regulations concerning the production, import, and export of ODS and maintenance of the tracking system used to collect the information. The EPA also will prepare and submit an annual report under Article 7 of the Montreal Protocol on U.S. consumption and production of ODS.

CAA Section 612 requires continuous review of alternatives through the EPA's Significant New Alternatives Policy (SNAP) program[19] to find those that pose less overall risk to human health and the environment and to promote a smoother transition to safer alternatives. Through these evaluations, SNAP generates lists of acceptable and unacceptable substitutes for approximately 50 end uses across eight industrial sectors. The EPA will act upon a number of submissions and petitions in FY 2018 that add new alternatives to the list of acceptable alternatives, for end-uses where there is an urgent need for more options. The schedule for other approvals will be adjusted at least until FY 2019 to minimize the risk to the investment made by companies in R&D and testing phases given that SNAP listings are critical to the commercialization of many substitutes and alternative technologies in key sectors of use. The EPA also will continue to work towards ensuring the uptake of safer alternatives and technologies, while supporting innovation, and ensuring adoption through support for changes to industry codes and standards.

In FY 2018, the EPA will continue efforts under CAA Section 608 to reduce emissions of refrigerants, including HFCs, during the service, maintenance, repair, and disposal of air conditioning and refrigeration equipment. The EPA will provide a baseline of compliance assistance for rules concerning servicing, maintenance, repair, and disposal of air conditioning and refrigeration appliances.

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[17] *Montreal Protocol Decision XIX/6: Adjustments to the Montreal Protocol with regard to Annex C, Group I, substances (hydrochlorofluorocarbons).*

[18] Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer, Kigali 15 October 2016, https://treaties.un.org/doc/Publication/CN/2016/CN.872.2016-Eng.pdf

[19] For more information, see: http://www.epa.gov/ozone/snap/index.html

The EPA will continue to support the CAA Section 609 motor vehicle air conditioning (MVAC) servicing program to reduce emissions of refrigerants from MVAC systems. Where industry consensus standards are available that the EPA considers to be sufficient for protection of human health and the environment, the EPA may adopt the standards into its regulations through incorporation by reference. The EPA is aware of such standards developed by the Society of Automotive Engineers (SAE) for recovery equipment for new alternatives and will engage with the SAE and others on potential options.

In FY 2018, the EPA will continue to support implementation of the Montreal Protocol domestically by ensuring U.S. interests are represented at Montreal Protocol meetings by providing technical expertise. The agency will provide technical expertise for the Montreal Protocol's Technology and Economic Assessment Panel (TEAP).

With the decline in allowable HCFC production, a significant stock of air conditioning and refrigeration equipment that continues to use HCFCs will need access to recovered and recycled/reclaimed HCFCs to ensure proper servicing. The EPA reviews available market data to ensure that future demand for virgin HCFCs can be satisfied under production and import caps. The EPA also will implement other provisions of the Montreal Protocol, including exemption programs to allow for a continued smooth transition from ODS to alternatives.

Additionally, the EPA will continue to work with federal and international agencies to stem illegal imports of ODS in order to support a level playing field for companies that produce and import ODS. The EPA will continue data exchange with U.S. Customs and Border Protection and Homeland Security Investigations on ODS importers and exporters for Customs to determine admissibility and target illegal ODS shipments entering the United States as well as reviewing and approving ODS imports flagged in the Automated Customs Environment.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,219.0 / -4.0 FTE) This streamlines funding to the program related to the following activities:
    - Development of outreach and compliance assistance materials;
    - Release of consumption and/or import data in accordance with Freedom of Information Act requests;
    - Adoption of SAE standards for recycling equipment for alternative refrigerants;
    - Support to Customs and Border Protection at ports; and
    - Lastly, the agency will concentrate assistance to refrigeration and air-conditioning technicians when they lose their required CAA Section 608 certification by developing and providing guidance for technicians and training organizations for recertification.

Statutory Authority:

Title VI of the Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$8,907.0***	***$8,911.0***	***$0.0***	***($8,911.0)***
Total Budget Authority / Obligations	$8,907.0	$8,911.0	$0.0	($8,911.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The *Montreal Protocol on Substances that Deplete the Ozone Layer* (Montreal Protocol) facilitates a global phaseout of ozone-depleting substances (ODS). The United States implements its treaty obligations primarily through Title VI of the Clean Air Act.

The *Multilateral Fund for the Implementation of the Montreal Protocol* (Multilateral Fund) was created by the Parties to the Montreal Protocol to provide funds to enable developing countries to comply with their Montreal Protocol obligations to phase out the use of ODS on an agreed schedule. The United States and other developed countries contribute to the Multilateral Fund. The U.S. contribution to the Multilateral Fund is split between the EPA and the Department of State.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will continue domestic ODS reduction work.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,911.0) This funding change eliminates the Stratospheric Ozone: Multilateral Fund program.

Statutory Authority:

Title VI of the Clean Air Act.

Program Area: Brownfields

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$24,718.6***	***$25,544.0***	***$16,082.0***	***($9,462.0)***
Total Budget Authority / Obligations	$24,718.6	$25,544.0	$16,082.0	($9,462.0)
Total Workyears	135.9	149.8	92.6	-57.2

Program Project Description:

Brownfield sites are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. The Brownfields program supports these efforts by awarding grants and providing technical assistance to states, tribes, local communities, and other stakeholders to work together to plan, inventory, assess, safely cleanup, and reuse brownfields. Approximately 104 million people (roughly 33 percent of the U.S. population) live within three miles of a Brownfields site that receives EPA funding.[20] As of April 2017, grants awarded by the program have led to over 67,000 acres of idle land made ready for productive use and over 124,300 jobs and $23.6 billion leveraged.[21]

This funding supports the program's ability to 1) conduct the annual, high volume cooperative agreement competitions; 2) award new cooperative agreements; 3) manage the ongoing cooperative agreement workload; 4) provide technical assistance and ongoing support to grantees; 5) collaborate with other agency programs; 6) operate the Assessment Cleanup and Redevelopment Exchanges System (ACRES) on-line grantee reporting tool; 7) assist communities to explore land reuse opportunities under the Land Revitalization Program; 8) develop guidance and tools that clarify potential environmental cleanup liabilities; and 9) organize a potential National Brownfields Training Conference.

FY 2018 Activities and Performance Plan:

In FY 2018, the Brownfields program will continue to manage over 900 assessments, cleanup, revolving loan fund (RLF), area-wide planning (AWP), and Environmental Workforce Development and Job Training (EWDJT) cooperative agreements; as well as state and Tribal assistance agreements, training, research, and technical assistance agreements, and Land Revitalization projects.

[20] U.S. EPA, Office of Land and Emergency Management Estimate 2015. Data collected includes: (1) site information as of the end of FY13; and (2) census data from the 2007-2013 American Community Survey.
https://www.epa.gov/aboutepa/population-surrounding-12216-brownfield-sites-received-epa-funding
[21] The EPA's ACRES database.

In FY 2018, the Brownfields program will support the following activities:

- **Compete and Award New Cooperative Agreements**: Develop and manage five competitively awarded and two allocation-based cooperative agreement funding solicitations. Review, select, and award 450 new cooperative agreements which will lead to over 1,200 projects and approximately $1.1billion and 5,800 jobs leveraged in future years.

- **Oversight and Management of Existing Cooperative Agreements:** Continue federal fiduciary responsibility to manage approximately 900 existing brownfields cooperative agreements to ensure the terms and conditions of the agreements are met, and provide limited technical assistance. Provide limited environmental oversight support to grantees (*e.g.*, site eligibility determinations, review of environmental site assessment and cleanup reports).

- **Technical Assistance:** Provide technical assistance to states, tribes, and local communities in the form of research, training, and analysis. This can lead to cost effective implementation of brownfields redevelopment projects by providing communities the knowledge necessary to understand market conditions, economic development and other community revitalization strategies, and how cleanup and reuse can be catalyzed by small businesses.

- **Collaboration:** The program will work collaboratively with our partners at the state, Tribal, and local level on innovative approaches to help achieve land reuse. It also will continue to develop guidance and tools that clarify potential environmental cleanup liabilities, thereby providing greater certainty for parties seeking to reuse these properties. The program also can provide direct support to parties seeking to reuse contaminated properties in order to facilitate transactions.

- **Accomplishment Tracking**: Support the maintenance of the ACRES online grantee reporting tool. This enables grantees to track accomplishments and report on the number of sites assessed and cleaned up, and the amount of dollars and jobs leveraged with brownfields grants.

- **Land Revitalization Program Support**: Provide limited support for two communities as part of the EPA's Land Revitalization program. The Land Revitalization program supports communities in their efforts to restore contaminated lands into sustainable community assets.

- **National Brownfields Training Conference:** The EPA will explore options for hosting an FY 2019 National Brownfields Training Conference, the largest and most comprehensive conference in the nation focused on environmental revitalization and economic redevelopment issues.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,684.0 / -55.7 FTE) This change is a reduction in funding for managing and closing out assistance agreements.

- (-$778.0 / -1.5 FTE) This reflects a change in data collection analysis and system enhancements.

Statutory Authority:

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), as amended by the Small Business Liability Relief and Brownfields Revitalization Act, §§ 101, 104, 107, 128; Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, § 8001.

Program Area: Compliance

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$143.3	$139.0	$124.0	($15.0)
Environmental Program & Management	***$103,713.4***	***$101,472.0***	***$86,431.0***	***($15,041.0)***
Hazardous Substance Superfund	$844.1	$993.0	$605.0	($388.0)
Total Budget Authority / Obligations	$104,700.8	$102,604.0	$87,160.0	($15,444.0)
Total Workyears	510.4	539.6	432.4	-107.2

Program Project Description:

The Compliance Monitoring program promotes compliance with the nation's environmental laws. Compliance monitoring is comprised of a variety of tools and activities that states and the EPA use to identify whether regulated entities are in compliance with environmental laws enacted by Congress, as well as applicable regulations and permit conditions. In addition, compliance monitoring activities, such as inspections and investigations, are conducted to determine whether conditions exist that may present imminent and substantial endangerment to human health and the environment.

Tools used in the compliance monitoring program include:

- Compliance Assistance. The EPA has been providing a modest level of compliance assistance through seventeen on-line sector-based compliance assistance centers (e.g., automotive recycling, agriculture, and transportation) which contain information helpful to facilities in complying with their environmental obligations.

- Full Electronic Interaction. The EPA has an internet-accessible, national enforcement and compliance data system, the Integrated Compliance Information System (ICIS), which supports both the compliance monitoring and civil enforcement programs. Currently, the EPA and states are implementing the National Pollution Discharge Elimination System (NPDES) Electronic Reporting Rule through ICIS.[22] Phase 1 of the rule was implemented in FY 2017 for NPDES Discharge Monitoring Reports (DMRs). Approximately 20 states currently use the EPA's electronic reporting tool to collect DMRs.

- Smart Tools for Field Inspectors. These are software solutions to improve the effectiveness and efficiency of how the EPA and states conduct RCRA Subtitle C (hazardous waste) inspections.

[22] For more information, refer to: https://www.epa.gov/compliance/npdes-ereporting.

- Compliance Training for the EPA and States. To ensure the quality of compliance monitoring activities, the EPA develops national policies, updates inspection manuals, provides required training for inspectors, and issues inspector credentials. The EPA's National Enforcement Training Institute (NETI) has provided on-line, e-learning courses for 2,500 EPA, state and Tribal inspectors, and has made available over 165 on-line training courses in the NETI e-Learning Center for the EPA and state, local, and Tribal enforcement partners.

- Import-Export of Hazardous Waste. The EPA has a role in assisting U.S. exporters and importers in obtaining foreign government consent that ensures compliance with domestic regulations and international agreements. The EPA developed electronic data exchange on a government-to-government basis with Canada and Mexico for the timely and accurate transmission of notice information. While the vast majority of the hazardous waste trade occurs with Canada, the United States also has agreements with many other countries.[23]

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will streamline its compliance monitoring activities such as field inspections, data tools, and assistance. The EPA will focus on those programs that are not delegated to states, while providing some targeted oversight and support to state, local, and Tribal programs. To accomplish this, the agency will prioritize work with states to develop methods that successfully leverage advances in both monitoring and information technology.

Within the current resourcing levels, the EPA will conduct an analysis to identify and prioritize necessary updates at existing compliance assistance centers and identify additional sectors that would potentially benefit from a compliance assistance center. In FY 2018, the EPA will maintain accessibility to ICIS for the agency, states and the public.

The agency also will implement the NPDES Electronic Reporting Rule which covers the e-reporting rule permitting requirements for the EPA and states on a prolonged schedule. The EPA will work with states to evaluate and prioritize the development of additional electronic reporting tools that support states. The EPA's centralized development of electronic reporting tools saves the states significant resources in development.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$10,212.0 / -101.2 FTE) This change streamlines the EPA's Compliance Monitoring program.

- (-$4,829.0 / -5.2 FTE) This change streamlines the development of tools that can improve the effectiveness of state compliance monitoring programs.

[23] For more information, refer to: http://www.epa.gov/osw/hazard/international/imp-exp.htm.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Act to Prevent Pollution from Ships (MARPOL Annex VI); Asbestos Hazard Emergency Response Act; Atomic Energy Act; Clean Air Act; Certain Alaskan Cruise Ship Operations; Clean Water Act; Community Environmental Response Facilitation Act; Emergency Planning and Community Right-to-Know Act; Energy Policy Act; Federal Insecticide, Fungicide, and Rodenticide Act; Marine Protection, Research, and Sanctuaries Act; Mercury-Containing and Rechargeable Battery Management Act; National Environmental Policy Act; Noise Control Act; Oil Pollution Act; Program Fraud Civil Remedies Act; Residential Lead-Based Paint Disclosure Program; Resource Conservation and Recovery Act; Safe Drinking Water Act; Small Business Regulatory Enforcement Fairness Act; Small Business Liability Relief and Brownfields Revitalization Act; Toxic Substances Control Act; Uranium Mill Tailings Radiation Control Act; North American Agreement on Environmental Cooperation; La Paz Agreement on US/Mexico Border Region.

Program Area: Enforcement

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$2,444.0	$2,408.0	$2,266.0	($142.0)
Environmental Program & Management	***$174,120.9***	***$171,051.0***	***$140,470.0***	***($30,581.0)***
Leaking Underground Storage Tanks	$758.0	$619.0	$559.0	($60.0)
Total Budget Authority / Obligations	$177,322.9	$174,078.0	$143,295.0	($30,783.0)
Total Workyears	1,064.6	1,080.4	858.7	-221.7

Program Project Description:

The EPA Civil Enforcement program's goal is to assure the fair and effective enforcement of the nation's environmental laws, to deter violations and promote compliance while working together with the United States Department of Justice, states, local agencies, and Tribal governments. The EPA Civil Enforcement program is responsible for maximizing compliance with 12 major environmental statutes, 28 distinct programs under those statutes, and numerous regulatory requirements under those programs, which apply in various combinations to a universe of approximately 40 million regulated federal and private entities. The Civil Enforcement program develops, litigates, and settles administrative and civil judicial cases against serious violators of environmental laws.

Civil enforcement efforts achieve meaningful results. For example, in 2016, through its civil enforcement cases, the EPA achieved commitments to treat, minimize, or properly dispose of 62 billion pounds of hazardous waste and estimated pollution reduction commitments totaling 324 million pounds. Also in FY 2016, the EPA enforcement actions resulted in companies investing an estimated $13.7 billion in actions and equipment to control pollution (injunctive relief).

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will focus the program's resources on direct implementation responsibilities and the most significant violations. Direct implementation responsibilities include programs that are not delegable or where a state has not sought or obtained the authority to implement a particular program.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$30,581.0 / -220.2 FTE) This streamlines the Civil Enforcement program. The program will focus on its core direct implementation responsibilities, with an emphasis on violations with the most significant public health and environmental impacts.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Act to Prevent Pollution from Ships (MARPOL Annex VI); Asbestos Hazard Emergency Response Act; Atomic Energy Act; Clean Air Act; Certain Alaskan Cruise Ship Operations; Clean Water Act; Emergency Planning and Community Right-to-Know Act; Energy Policy Act; Federal Insecticide, Fungicide, and Rodenticide Act; Marine Protection, Research, and Sanctuaries Act; Mercury-Containing and Rechargeable Battery Management Act; National Environmental Policy Act; Noise Control Act; Oil Pollution Act; Residential Lead-Based Paint Disclosure Program; Resource Conservation and Recovery Act; Safe Drinking Water Act; Small Business Regulatory Enforcement Fairness Act; Small Business Liability Relief and Brownfields Revitalization Act; Toxic Substances Control Act; Uranium Mill Tailings Radiation Control Act; North American Agreement on Environmental Cooperation; La Paz Agreement on US/Mexico Border Region.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$47,844.7***	***$46,225.0***	***$40,341.0***	***($5,884.0)***
Hazardous Substance Superfund	$6,883.7	$7,110.0	$4,161.0	($2,949.0)
Total Budget Authority / Obligations	$54,728.4	$53,335.0	$44,502.0	($8,833.0)
Total Workyears	247.8	268.9	194.4	-74.5

Program Project Description:

The EPA's Criminal Enforcement program investigates and helps prosecute violations of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and associated violations of Title 18 of the United States Code such as fraud, conspiracy, false statements, and obstruction of justice. The EPA's criminal enforcement agents (Special agents) do this through targeted investigation of criminal conduct, committed by individual and corporate defendants, that threatens public health and the environment.

Within the Criminal Enforcement program, forensic scientists, attorneys, technicians, engineers, and other program experts assist Special Agents. The EPA's criminal enforcement attorneys provide legal and policy support for all of the program's responsibilities, including forensics and expert witness preparation, information law, and personnel law to ensure that program activities are carried out in accordance with legal requirements and agency policies. These efforts support environmental crimes prosecutions primarily by the United States Attorneys and the Department of Justice's Environmental Crimes Section. In FY 2016, the conviction rate for criminal defendants was 94 percent.[24]

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will streamline its Criminal Enforcement program. The Criminal Enforcement program will continue to collaborate and coordinate with the Civil Enforcement program to ensure that the EPA's Enforcement program responds to violations as effectively as possible. The program will focus its resources on the most egregious cases (e.g., significant human health, environmental, and deterrent impacts), while balancing its overall case load across all environmental statutes.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[24] For additional information, refer to: http://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-fy-2016.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,884.0 / -59.3 FTE) This streamlines the EPA's Criminal Enforcement program.

Statutory Authority:

Title 18 of the U.S.C.; 18 U.S.C. § 3063; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Resource Conservation and Recovery Act; Clean Water Act; Safe Drinking Water Act; Clean Air Act; Toxic Substances Control Act; Emergency Planning and Community Right-To-Know Act; Residential Lead-Based Paint Hazard Reduction Act; Federal Insecticide, Fungicide, and Rodenticide Act; Ocean Dumping Act (i.e., MPRSA); Pollution Prosecution Act; Title 18 General Federal Crimes (e.g., false statements, conspiracy); Powers of Environmental Protection Agency (18 U.S.C. 3063).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$7,347.6***	***$6,724.0***	***$0.0***	***($6,724.0)***
Hazardous Substance Superfund	$681.7	$544.0	$0.0	($544.0)
Total Budget Authority / Obligations	$8,029.3	$7,268.0	$0.0	($7,268.0)
Total Workyears	35.8	40.3	0.0	-40.3

Program Project Description:

The Environmental Justice (EJ) program fosters environmental and public health in communities disproportionately burdened by pollution by integrating and addressing issues of environmental justice in the EPA's programs and policies. This program includes partnerships with intra-agency programs and collaboration with interagency partners to develop guidance documents and tools to incorporate environmental justice considerations into decision making.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY2018. EJ work impacting the entire agency will be incorporated into future policy work within the Integrated Environmental Strategy program, which is a part of the EPA's Office of the Administrator.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$6,724.0 / -36.8 FTE) This funding change eliminates the Environmental Justice program. Environmental Justice will continue to be supported in the work done at the EPA, as applicable.

Statutory Authority:

Resource Conservation and Recovery Act (RCRA); Clean Water Act; Safe Drinking Water Act (SDWA); Clean Air Act; Toxic Substances Control Act (TSCA); Emergency Planning and Community Right-to-Know Act (EPCRA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); National Environmental Policy Act (NEPA); Pollution Prevention Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$15,761.3***	***$16,179.0***	***$13,496.0***	***($2,683.0)***
Total Budget Authority / Obligations	$15,761.3	$16,179.0	$13,496.0	($2,683.0)
Total Workyears	106.3	104.8	80.5	-24.3

Program Project Description:

Pursuant to the National Environmental Policy Act (NEPA) and as mandated by Section 309 of the Clean Air Act, the EPA's NEPA Implementation program coordinates the environmental review of major federal actions. The NEPA Implementation Program also guides the EPA's compliance with NEPA, the National Historic Preservation Act, and other relevant statutes and Executive Orders. The program also manages the official Environmental Impact Statement (EIS) filing system for all federal EISs, in accordance with a Memorandum of Understanding with the Council on Environmental Quality (CEQ).[25] Additionally, the program manages the review of Environmental Impact Assessments of non-governmental activities in Antarctica, in accordance with the Antarctic Science, Tourism and Conservation Act.

The program uses and promotes *NEPAssist*, a geographic information system (GIS) tool developed to assist users (the EPA, other federal agencies, and the public) with environmental reviews under NEPA. Approximately 900 users visit the website each month and 83 percent are return visitors. The EPA also promotes *e-NEPA*, a web-based system for federal agencies to file EISs and to make comments on EISs accessible to the public on a centralized public website.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will work with OMB, CEQ, and other federal agencies to evaluate ways to coordinate, streamline, and improve the NEPA process. Additionally, the EPA will work with agencies as they implement the FAST-41 Act, which sets requirements to streamline infrastructure permitting project reviews.[26] The EPA also will work to implement the Executive Order: "Expediting Environmental Reviews and Approvals for High Priority Infrastructure Projects."[27]

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[25] Memorandum of Agreement No. 1 Between The Council on Environmental Quality and The Environmental Protection Agency, October 1977.
[26] For additional information, refer to: https://www.gpo.gov/fdsys/pkg/PLAW-114publ94/pdf/PLAW-114publ94.pdf.
[27] For additional information, refer to: https://www.whitehouse.gov/the-press-office/2017/01/24/executive-order-expediting-environmental-reviews-and-approvals-high

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,683.0 / -24.3 FTE) This streamlines the NEPA Implementation program.

Statutory Authority:

National Environmental Policy Act (NEPA); Clean Air Act, § 309; Antarctic Science, Tourism, and Conservation Act; Clean Water Act, § 511(c); Endangered Species Act; National Historic Preservation Act; Archaeological and Historic Preservation Act; Fishery Conservation and Management Act; Fish and Wildlife Coordination Act; Fixing America's Surface Transportation Act Title 41.

Program Area: Geographic Programs

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$288,091.8***	***$299,430.0***	***$0.0***	***($299,430.0)***
Total Budget Authority / Obligations	$288,091.8	$299,430.0	$0.0	($299,430.0)
Total Workyears	78.7	71.7	0.0	-71.7

Program Project Description:

Implementation of the Great Lakes Restoration Initiative (GLRI) restores and maintains the environmental integrity of the Great Lakes ecosystem.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will encourage the eight Great Lakes states and Tribal and local entities to continue to make progress in restoring the Great Lakes from within core water programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$299,430.0 / -71.7 FTE) This funding change eliminates the Great Lakes Restoration Initiative program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

Great Lakes Legacy Act; Clean Water Act; Great Lakes Water Quality Agreement; Clean Air Act; Water Infrastructure Improvements for the Nation.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$77,543.8***	***$72,861.0***	***$0.0***	***($72,861.0)***
Total Budget Authority / Obligations	$77,543.8	$72,861.0	$0.0	($72,861.0)
Total Workyears	39.7	39.9	0.0	-39.9

Program Project Description:

The Chesapeake Bay program is a voluntary partnership, initiated in 1983, that now includes the Chesapeake Bay watershed states (Delaware, Maryland, New York, Virginia, Pennsylvania, and West Virginia), the District of Columbia, the Chesapeake Bay Commission, and the federal government. The EPA represents the federal government on the partnership's Chesapeake Executive Council (EC), maintains a program office, and works with the EC to coordinate activities of the partnership.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will encourage the six Chesapeake Bay states and Washington D.C. to continue to make progress in restoring the Bay from within core water programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$72,861.0 / -39.9 FTE) This funding change eliminates the Chesapeake Bay program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

Clean Water Act; Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$4,600.7***	***$4,810.0***	***$0.0***	***($4,810.0)***
Total Budget Authority / Obligations	$4,600.7	$4,810.0	$0.0	($4,810.0)
Total Workyears	1.8	1.9	0.0	-1.9

Program Project Description:

The EPA collaborates with agencies and non-governmental organizations to implement the seven-point *Bay Delta Action Plan* (2012)[28] designed to protect and restore water quality, aquatic life, and ecosystem processes in the San Francisco Bay/Sacramento-San Joaquin Delta. The EPA assists the State Water Resources Control Board with the comprehensive update of the Bay Delta Water Quality Control Plan.[29]

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will encourage the state of California and local entities to continue to make progress in restoring the San Francisco Bay from within core water programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,810.0 / -1.9 FTE) This funding change eliminates the San Francisco Bay program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

Clean Water Act.

[28] EPA Bay Delta Action Plan (2012). http://www2.epa.gov/sfbay-delta/bay-delta-action-plan
[29] State Water Board Bay Delta Water Quality Control Plan. http://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$28,046.3***	***$27,947.0***	***$0.0***	***($27,947.0)***
Total Budget Authority / Obligations	$28,046.3	$27,947.0	$0.0	($27,947.0)
Total Workyears	5.7	6.0	0.0	-6.0

Program Project Description:

The Puget Sound Program works with partners to implement the Puget Sound Action Agenda, the long-term plan for Puget Sound basin protection and restoration. In addition, the Puget Sound Program funds assistance agreements with the federally recognized tribes in Puget Sound, Tribal consortia, and the North West Indian Fisheries Commission.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will encourage state, Tribal, and local entities to continue to make progress in restoring the Puget Sound from within core water programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$27,947.0 / -6.0 FTE) This funding change eliminates the Puget Sound program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

Clean Water Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$3,935.6***	***$3,932.0***	***$0.0***	***($3,932.0)***
Total Budget Authority / Obligations	$3,935.6	$3,932.0	$0.0	($3,932.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA and the States of Connecticut and New York work in partnership to restore and protect Long Island Sound. The EPA assists states in implementing the Long Island Sound's Comprehensive Conservation and Management Plan by coordinating the cleanup and restoration actions of the Long Island Sound Study Management Conference.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. The EPA will encourage Long Island Sound states and local entities to continue to make progress in restoring the Sound from within core water programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,932.0) This funding change eliminates the Long Island Sound program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

Clean Water Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$5,392.3***	***$4,473.0***	***$0.0***	***($4,473.0)***
Total Budget Authority / Obligations	$5,392.3	$4,473.0	$0.0	($4,473.0)
Total Workyears	10.8	14.3	0.0	-14.3

Program Project Description:

The efforts of the EPA's Gulf of Mexico Program Office (GMPO) are dedicated to the protection, restoration, and enhancement of the water bodies and coastal environments associated with the greater Gulf of Mexico region.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will encourage the five Gulf of Mexico states to continue to make progress in restoring the Gulf of Mexico from within core water programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,473.0 / -14.3 FTE) This funding change eliminates the Gulf of Mexico program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

Clean Water Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$1,733.0***	***$1,701.0***	***$0.0***	***($1,701.0)***
Total Budget Authority / Obligations	$1,733.0	$1,701.0	$0.0	($1,701.0)
Total Workyears	0.8	1.4	0.0	-1.4

Program Project Description:

The EPA's South Florida program coordinates restoration activities in South Florida, including the Florida Keys.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will encourage state, Tribal, and local entities to continue to make progress in protecting and restoring sensitive aquatic ecosystems in South Florida from within core water programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,701.0 / -1.4 FTE) This funding change eliminates the South Florida program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

Florida Keys National Marine Sanctuary and Protection Act of 1990; Clean Water Act; Water Resources Development Act of 1996; Water Resources Development Act of 2000.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$4,395.0***	***$4,391.0***	***$0.0***	***($4,391.0)***
Total Budget Authority / Obligations	$4,395.0	$4,391.0	$0.0	($4,391.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA supports efforts to protect Lake Champlain through partnerships to implement the "Opportunities for Action" management plan (revised in 2010). The plan was developed to bring together people with diverse interests in the lake to create a comprehensive pollution prevention, control, and restoration plan for protecting the future of the Lake Champlain Basin.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. The EPA will encourage New York and Vermont to continue to make progress in restoring Lake Champlain from within core water programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,391.0) This funding change eliminates the Lake Champlain program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

1909 Boundary Waters Treaty; Clean Water Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$7,382.0***	***$7,379.0***	***$0.0***	***($7,379.0)***
Total Budget Authority / Obligations	$7,382.0	$7,379.0	$0.0	($7,379.0)
Total Workyears	3.8	4.9	0.0	-4.9

Program Project Description:

Under this program, the agency develops and implements approaches to mitigate pollution for specific and targeted geographic areas, including the Northwest Forest Program, Lake Pontchartrain Basin Restoration Program, and the Southeast New England Coastal Watershed Restoration Program.

Northwest Forest Program

The Northwest Forest Program supports interagency and intergovernmental efforts that coordinate and leverage resources for water quality and drinking water efforts in seven[30] western states.

Lake Pontchartrain Basin Restoration Program

The Lake Pontchartrain Basin Restoration Program, through a collaborative and voluntary effort, strives to restore ecological health by developing and funding restoration projects within the sixteen parishes in the basin.

Southeast New England Coastal Watershed Restoration Program (SNECWRP)

The Southeast New England Coastal Watershed Restoration Program serves as a hub to enable protection and restoration of the coastal watersheds of Southeast New England, including the ecosystem services that sustain the region's communities.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will encourage states and local entities to continue to make progress in restoring these major aquatic ecosystems from within core water programs.

[30] California, Idaho, Montana, Nevada, Oregon, Utah, and Washington.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$7,379.0 / -4.9 FTE) This funding change eliminates the Geographic Other program. This change returns the responsibility for funding local environmental efforts and programs to state and local entities.

Statutory Authority:

Clean Water Act.

Program Area: Homeland Security

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$4,025.3***	***$3,870.0***	***$3,512.0***	***($358.0)***
Total Budget Authority / Obligations	$4,025.3	$3,870.0	$3,512.0	($358.0)
Total Workyears	11.7	11.7	11.3	-0.4

Program Project Description:

This program supports the EPA's coordination and communication activities related to homeland security. The White House, Congress, and the Department of Homeland Security (DHS) have defined expectations for the EPA in the event of a homeland security incident through a series of statutes, presidential directives, and national plans. The Office of Homeland Security (OHS), located in the Administrator's office, leads and coordinates the EPA's engagement with the White House and other federal departments and agencies on the development of new homeland security policy and requirements.

The EPA uses both the Homeland Security Executive Steering Committee, composed of senior executives from Headquarters offices and the Regions, and the Homeland Security Collaborative Network (HSCN), a cross-agency leadership group, to support its ability to implement this broad range of homeland security responsibilities, ensure consistent development and implementation of homeland security policies and procedures, avoid duplication, and build a network of partnerships.

As the EPA Federal Intelligence Coordination Office (FICO), OHS coordinates analytic intelligence support capacity across the Agency to meet EPA requirements and EPA whole of government obligations.

Homeland security information technology efforts are closely coordinated with the agencywide information security and infrastructure activities, which are managed in the Information Security and Information Technology (IT)/Data Management programs. These IT support programs also enable video contact among localities, EPA Headquarters, Regional offices, and laboratories in emergency situations.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA's Homeland Security Program will:

- Ensure appropriate Agency representation in various White House and other federal homeland security policy activities.

- Support federal, state, Tribal, and local efforts to prevent, protect, mitigate, respond to, and recover from natural disasters, acts of terrorism, and other emergencies by providing leadership and coordination across the EPA's program offices and regions.

- Ensure a coordinated approach to the EPA's homeland security activities and resources that align with government-wide homeland security priorities and requirements.

- Maintain the Agency's level of preparedness to respond to and recover from a significant event through maintenance of personnel and equipment capabilities and capacities.

- Focus on filling critical knowledge and technology gaps that may be essential for an effective EPA response, including working with our interagency partners to define collective capabilities and resources that may contribute to closing common homeland security gaps.

- Provide the EPA end-user with relevant, accurate, reliable, objective, and timely intelligence bearing on matters of environmental policy and regulation and domestic threats where the EPA functions to preserve or assist in the restoration of human health and the environment.

- Continue phased implementation of Executive Order 13587 (*Structural Reforms to Improve the Security of Classified Networks and the Responsible Sharing and Safeguarding of Classified Information*) to meet the main pillars of classified information protection with a focus on the implementation of an Insider Threat Program (ITP) to address and mitigate threats to national security.

- Track emerging national/homeland security issues, through close coordination with the U.S. Intelligence Community, to anticipate and avoid crisis situations and target the Agency's efforts proactively against threats to the United States.

The EPA's FY 2018 resources support national cybersecurity efforts through monitoring across the agency's IT infrastructure to detect, remediate, and eradicate malicious software or Advanced Persistent Threats (APT) from the EPA's computer and data networks and through improved detection capabilities. The EPA will enhance internal Computer Security Incident Response Capability (CSIRC) to ensure rapid identification and reporting of suspicious activity and will increase training and awareness of cybersecurity threats. The EPA's personnel are active participants in Government Forum of Incident Response Teams (GFIRST), a DHS-led group of experts from incident response and security response teams. Indicators and warnings are shared between the EPA incident responders and their cleared counterparts in other agencies and with the Intelligence Community.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$126.0 / -0.4 FTE) This change reduces resources for activities related to communication, policies, and procedures to support and coordinate homeland security efforts across the agency.

- (-$232.0) This change reduces resources to coordinate IT efforts supporting homeland security across the agency. Savings will be achieved from refocusing on core functions that improve foundational capabilities and close gaps in IT security architecture.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Resource Conservation and Recovery Act (RCRA), §§ 1001, 2001, 3001, 3005; Safe Drinking Water Act (SDWA); Clean Water Act, §§ 101, 102, 103, 104, 105, 107; Clean Air Act, §§ 102, 103, 104, 108; Toxic Substances Control Act (TSCA), §§ 201, 301, 401; Federal Insecticide Fungicide and Rodenticide Act (FIFRA), §§ 136a-136y; Bio Terrorism Act of 2002, §§ 303, 305, 306, 307; Homeland Security Act of 2002; Post-Katrina Emergency Management Reform Act; Defense Against Weapons of Mass Destruction Act; Food Safety Modernization Act, § 208.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$9,807.2	$10,497.0	$0.0	($10,497.0)
Environmental Program & Management	***$627.1***	***$970.0***	***$0.0***	***($970.0)***
Total Budget Authority / Obligations	$10,434.3	$11,467.0	$0.0	($11,467.0)
Total Workyears	23.6	23.1	0.0	-23.1

Program Project Description:

This program supports the EPA's efforts to coordinate the protection of the nation's critical water infrastructure from threats and all-hazard events through effective information sharing and dissemination.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The most critical work will be performed in the S&T Preparedness, Response, and Recovery program.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$970.0 / -1.0 FTE) This reduction eliminates the EPM Homeland Security: Critical Infrastructure Protection program.

Statutory Authority:

Safe Drinking Water Act (SDWA), §§ 1431-1435; Clean Water Act; Public Health Security and Bioterrorism Emergency and Response Act of 2002; Emergency Planning and Community Right-to-Know Act (EPCRA), §§ 301-305.

Homeland Security: Protection of EPA Personnel and Infrastructure

Program Area: Homeland Security

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$4,987.0***	***$5,336.0***	***$4,986.0***	***($350.0)***
Science & Technology	$551.0	$551.0	$500.0	($51.0)
Building and Facilities	$7,366.2	$6,664.0	$6,176.0	($488.0)
Hazardous Substance Superfund	$833.6	$1,084.0	$542.0	($542.0)
Total Budget Authority / Obligations	$13,737.8	$13,635.0	$12,204.0	($1,431.0)
Total Workyears	8.1	12.2	12.2	0.0

Program Project Description:

The EPA Homeland Security Program provides for the operations of a federally mandated Personal Identity Verification (PIV) program, known as the EPA Personnel Access and Security System (EPASS). The EPASS procedures, which adhere to the requirements as set forth in Homeland Security Presidential Directive 12 (HSPD-12), ensure the agency is in compliance with the government-wide standard for the issuance of secure and reliable forms of identification to federal employees and contractors who require access to federally controlled facilities and networks.

The National Security Information (NSI) Program supports the management and oversight of the EPA's classified information for its federal workforce and contractors. The program ensures federal mandates are followed to safeguard national security information, conduct federally mandated training, and conduct NSI inspections.

FY 2018 Activities and Performance Plan:

As part of nationwide protection of buildings and critical infrastructure, the EPA performs vulnerability assessments on its facilities each year. Through this program, the agency also recommends security risk mitigations, oversees access control measures, determines physical security measures for new construction and leases, and manages the lifecycle of security equipment.

The EPASS Program ensures the agency is undertaking every effort to enhance safety, security, and efficiency by more effectively controlling access into EPA controlled physical space and the EPA's networks. EPASS provides the EPA the ability to produce and maintain secure and reliable forms of identification as required per HSPD-12, for all EPA employees and contractors.

The protection of NSI is accomplished through policies and procedures in compliance with applicable federal mandates. Mandatory security education and training is completed including but not limited to NSI and SCI training (initial, refresher, and termination). Oversight of the program is achieved though federally mandated nationwide inspections and assessments of Program Offices, Regions, and Laboratories that handle NSI and SCI. The inspections include the review and

assessment of the security classified infrastructure, classified holdings, and training; overseeing the build-out, and accreditation of Secure Access Facilities (SAFs) for classified operations; work with federal partners on the accreditation of sensitive compartmented information facilities (SCIFs); and responding to data calls.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$350.0) This change focuses the agency on performing the highest priority annual facility assessments.

Statutory Authority:

Intelligence Reform and Terrorism Prevention Act of 2004; Homeland Security Act of 2002; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Information Exchange / Outreach

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$6,252.7***	***$6,535.0***	***$2,018.0***	***($4,517.0)***
Total Budget Authority / Obligations	$6,252.7	$6,535.0	$2,018.0	($4,517.0)
Total Workyears	19.9	21.8	6.9	-14.9

Program Project Description:

The program coordinates and advances the protection of children's environmental health across the EPA to reinforce the agency's mission to protect human health through: assisting with developing regulations; improving risk assessment and science policy; implementing community-level programs; and tracking and communicating measures, indicators, and progress on children's health. The children's health protection effort is directed by the EPA's *Policy on Evaluating Health Risks to Children*, Executive Order 13045 *Protection of Children's Health from Environmental Health Risks and Safety Risks*, the EPA's memorandum *EPA's Leadership in Children's Environmental Health*, and the other existing guidance.[31] Legislative mandates such as the Toxic Substances Control Act, Safe Drinking Water Act, Comprehensive Environmental Response, Compensation, and Liability Act and the Food Quality Protection Act also direct the agency to protect children and other vulnerable life stages.[32]

FY 2018 Activities and Performance Plan:

In FY 2018, the Children's Health program will:

- Continue to serve as co-lead for the interagency efforts of the President's Task Force on Environmental Health Risks and Safety Risks to Children alongside the Department of Health and Human Services. This effort will be limited to co-chairing the Senior Steering Committee – including the *Coordinated Federal Action Plan to Reduce Racial and Ethnic Asthma Disparities,*[33] *Advancing Healthy Housing – A Strategy for Action* (a report from the Federal Healthy Homes Work Group)[34] and *Key Federal Programs to Reduce*

[31] For more information: https://www.epa.gov/children/history-childrens-environmental-health-protection-epa.
[32] The Toxic Substances Control Act (TSCA) directs the EPA to consider potentially exposed or susceptible subpopulations (including infants, children and pregnant women) when evaluating chemicals for risk. The 1996 amendments to the Safe Drinking Water Act (SDWA) requires the EPA to strengthen protection of children by considering the risk to the most vulnerable populations and life stages when setting standards. The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires the Administrator to establish a system for ranking grant applications for "Brownfields revitalization funding" that includes, as one of many criteria, the health or welfare of children and pregnant women. The Food Quality Protection Act (FQPA) of 1996 amended the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA) to include stricter safety standards for pesticides, especially for infants and children, and a complete reassessment of all existing pesticide tolerances.
[33] The Asthma Disparities Action Plan: http://www.epa.gov/childrenstaskforce/federal_asthma_disparities_action_plan.pdf.
[34] The Healthy Housing Strategy for Action: http://portal.hud.gov/hudportal/HUD?src=/program_offices/healthy_homes/advhh.

Childhood Lead Exposures and Eliminate Associated Health Impacts.[35] Implementation efforts associated with federal initiatives may be supported by other Task Force agencies or EPA program offices.

- Address the potential for unique exposures, health effects, and health risks in children during the development of agency regulations and policies with limited participation on regulatory workgroups.

- Coordinate one in-person plenary meeting of the Children's Health Protection Advisory Committee (CHPAC).

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,200.0 / -14.0 FTE) This streamlines activities related to the Children's Health program including: 1) the Pediatric Environmental Health Specialty Units; 2) grants to state or local organizations; 3) IRIS reviews; 4) the President's Task Force on Environmental Health Risks and Safety Risks to Children or initiating any new interagency strategies; 5) regionally-selected community-based projects addressing local children's environmental health issues; and 6) indicators presented in *America's Children and the Environment*[36] and *America's Children: Key National Indicators of Well-Being.*[37]

- (-$317.0 / -0.9 FTE) This change streamlines activities related to Children's Heath program including: implementation of community-based programs, assisting with assessing the needs of children in the regulatory development process, and assessing children's outcomes in research, science policy, and outreach.

Statutory Authority:

Toxic Substances Control Act; Safe Drinking Water Act; Comprehensive Environmental Response, Compensation, and Liability Act; and the Food Quality Protection Act.

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[35] Key Federal Programs to Reduce Childhood Lead Exposures and Eliminate Associated Health Impacts Report: https://ptfceh.niehs.nih.gov/features/assets/files/key_federal_programs_to_reduce_childhood_lead_exposures_and_eliminate_associated_health_impactspresidents_508.pdf.

[36] America's Children and the Environment (ACE) is EPA's report presenting data on children's environmental health: https://www.epa.gov/ace.

[37] The EPA contributes data and analysis of child well-being to the Federal Interagency Forum on Child and Family Statistics' annual report, America's Children: Key National Indicators of Well-Being: https://www.childstats.gov/index.asp.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$10,138.8***	***$8,685.0***	***$0.0***	***($8,685.0)***
Total Budget Authority / Obligations	$10,138.8	$8,685.0	$0.0	($8,685.0)
Total Workyears	10.4	11.1	0.0	-11.1

Program Project Description:

This program ensures that Environmental Education (EE), based on science and effective education practices, is used as a tool to promote the protection of human health and the environment, encourage student engagement through service projects, advance community engagement and empowerment, and support the EPA's priorities and programs.

FY 2018 Activities and Performance Plan:

The agency is eliminating its Environmental Education program in order to focus on core mission environmental work. In recognition of the significant guidance and financial support the EE program has provided to non-profit organizations, local education agencies, universities, community colleges, and state and local environmental agencies, funding for some of the environmental stewardship activities could be leveraged at the state or local level.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,685.0 / -11.1 FTE) This eliminates the Environmental Education program.

Statutory Authority:

National Environmental Education Act (NEEA); Clean Air Act, § 103; Clean Water Act, § 104; Solid Waste Disposal Act (SWDA), § 8001; Safe Drinking Water Act (SDWA), § 1442; Toxic Substances Control Act (TSCA), § 10; Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), § 20.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$47,798.4***	***$46,930.0***	***$37,106.0***	***($9,824.0)***
Total Budget Authority / Obligations	$47,798.4	$46,930.0	$37,106.0	($9,824.0)
Total Workyears	300.5	309.4	223.6	-85.8

Program Project Description:

This program includes various offices and functions that provide executive and logistical support to the EPA's Administrator. In addition to the Administrator's Immediate Office (IO), resources in this program support four headquarters offices that help the agency communicate and coordinate its work to protect human health and the environment, including the Office of Congressional and Intergovernmental Relations (OCIR), Office of Administrative and Executive Services, Office of the Executive Secretariat, and the Office of Public Affairs.

This program also supports the EPA's Regional Administrators' offices. The headquarters and regional offices' activities link the agency's engagement with outside entities, including: Congress, state and local governments, nongovernmental organizations, national and community associations, and the public. These activities include management, coordination, and establishing policy.

Within this program, key functions include: responding to Congressional requests for information; coordinating and providing outreach and liaising with state and local governments, agricultural and rural communities; and maintaining public information and communication with the press. This program also supports administrative management services involving correspondence control and records management systems, human resources management, budget formulation and execution, and information technology management services.

FY 2018 Activities and Performance Plan:

In FY 2018, the IO will continue providing management, leadership and direction to all of the EPA's programs and activities and develop the guidance necessary to ensure achievement of the agency's core statutory responsibilities. In FY 2018, IO resources will primarily support critical needs for staff, including travel and workforce support.

The OCIR (which consists of the Office of Congressional Affairs and the Office of Intergovernmental Relations) serves as the EPA's principal point of contact for Congress, states, and local governments. OCIR serves as a liaison with these constituencies on the agency's major programs (e.g., Air, Water, and Pesticides) and intergovernmental issues. OCIR also serves as the advocate and ombudsman for the regional offices. OCIR and its regional counterparts serve as direct contacts for Congress and state and local government officials during environmental emergencies, keeping these constituencies abreast of the impacts and EPA's response. In FY 2016,

OCIR managed over one thousand letters from members of Congress and governors, processed FOIAs (Freedom of Information Act), and prepared senior leaders for hearings (65 hearings in FY 2016, and 35 hearings in FY 2015) on a wide range of environmental issues.

In FY 2018, OCIR's Office of Congressional Affairs (OCA) will prepare EPA officials for hearings, oversee responses to written inquiries and oversight requests from members of Congress, and coordinate and provide technical assistance and briefings on legislative areas of interest to members of Congress and their staff. In addition, OCA will coordinate with the White House's Office of Legislative and Intergovernmental Affairs and the Council for Environmental Quality on issues related to achieving the agency's goals and priorities.

The Office of Public Affairs (OPA) facilitates the exchange of information between the EPA and the public, media, Congress, and state and local governments; broadly communicates the EPA's mission to protect human health and the environment; assists in public awareness of environmental issues; and informs EPA employees of important issues that affect them. OPA generally responds to approximately 8,900 media inquiries annually, oversees the production of more than 300 videos annually, and manages more than 500,000 webpages on EPA's website.

In FY 2018, OPA will inform the media of agency initiatives and deliver timely, accurate information. The office will continue to update the agency's internet site to provide stakeholders with transparent, accurate and comprehensive information on EPA's activities and policies. OPA will continue using multimedia and new media tools to provide stakeholders with information. The office also will work with EPA's programs to improve employee communications and collaboration, update the agency's intranet site, and use other tools to provide agency information to employees.

As the central administrative management component of the Administrator's Office (AO), the Office of Administrative and Executive Services (OAES) provides advice, tools, and assistance to the AO's programmatic operations, including: human resources management, budget and financial management, information technology and security, and audit management.

The Office of the Executive Secretariat (OEX) manages the AO's correspondence, records management and FOIA activities. The OEX correspondence team processes correspondence for the Administrator and Deputy Administrator and reviews and prepares documents for their signature. The team also manages the Administrator's primary email account. Finally, OEX operates the Correspondence Management System, which provides paperless workflow, tracking, and records management capabilities to more than three thousand registered users agencywide.

In FY 2018, the OEX will maintain critical administrative support to the Administrator, Deputy Administrator, senior agency officials, and staff in order to comply with the statutory and regulatory requirements under the Federal Records Act (FRA), FOIA, and related statutes and regulations. The OEX will complete the development and acquisition of the next-generation correspondence tracking tool and will implement the system agencywide.

Funding and FTE for the Office of Public Engagement are eliminated in FY 2018.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,029.0 / -73.8 FTE) This funding change streamlines the Executive Management program. The agency will focus on the core legal requirements, federal-only and national efforts, providing support to states in implementing environmental laws, and easing regulatory burden.

- (-$1,795.0 / -12.0 FTE) This funding change eliminates the Office of Public Engagement.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Environmental Research, Development, and Demonstration Authorization Act (ERDDAA).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$17,066.5***	***$16,984.0***	***$11,784.0***	***($5,200.0)***
Hazardous Substance Superfund	$1,291.4	$1,325.0	$838.0	($487.0)
Total Budget Authority / Obligations	$18,357.9	$18,309.0	$12,622.0	($5,687.0)
Total Workyears	31.3	30.2	30.2	0.0

Program Project Description:

The EPA's Environmental Information Exchange Network (EN) is a standards-based, secure approach for the EPA and its state, Tribal and territorial partners to exchange and share environmental data over the Internet. Capitalizing on advanced technology, data standards, open-source software, shared and portal services for the E-Enterprise business strategy, and reusable tools and applications, the EN offers its partners tremendous capabilities for managing and analyzing environmental data more effectively and efficiently, leading to improved decision making.

The Central Data Exchange (CDX)[38] is the largest component of the EN program and serves as the point of entry on the Exchange Network for environmental data transactions with the agency. CDX provides a set of core shared services that promote a leaner and more cost-effective enterprise architecture for the agency by avoiding the creation of duplicative services. It also provides a set of value-added features and services that enable faster and more efficient transactions for internal and external clients of the EPA, resulting in reduced burden.

CDX data exchange services are leveraged by the EPA's programs, regions, states, tribes, territories and other federal agencies to meet their different business needs. With CDX, a stakeholder can submit data through one centralized point of access, exchange data with target systems using Web services and utilize publishing services to share information collected by the EPA and other stakeholders. By managing loosely connected and interoperable services, data exchange needs can be met using one or all of the available services such as:

- User registration;
- External user identity management;
- Electronic signature;
- Encryption and transmission;
- Virtual exchange services (VES); and
- Data quality assurance.

[38] For more information on the Central Data Exchange, please visit: http://www.epa.gov/cdx/.

Working in concert with CDX are the EPA's System of Registries, which are centralized shared data services to improve data quality in EPA, state, and Tribal program data, while promoting burden reduction for the reporting community. The registries manage shared data centrally for reuse by the following EN partners:

- Facility Registry Service (FRS);
- Substance Registry Services (SRS);
- TRIBES;
- Laws and Regulations Services (LRS);
- Terminology Services (TS);
- Reusable Component Services (RCS);
- Environmental Dataset Gateway (EDG);
- Registry of EPA Applications, Models, and Databases (READ); and
- Data Element Registry Services (DERS)

These shared data services catalog entities routinely referenced by the EPA and EN partners, from commonly regulated facilities and substances to the current list of federally recognized tribes. They identify the standard or official names for these assets, which when integrated into EPA and partner applications fosters data consistency and data quality as well as enabling data integration. By integrating these shared data services into their online reporting forms, the EPA and its EN partners make it easier for the reporting community to discover the correct information to submit, reducing burden, which enables reuse by partner programs.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will provide baseline functions for the Exchange Network IT systems. Schedules and plans for upgrades and modernization will be adjusted to align with capacity. As part of the E-Enterprise business strategy, the EPA will continue to carry out the following projects under the Exchange Network program: expanding the roll out of Federated Identity Management system for the EPA and its partners; developing shared facility identification services that improve quality and reduce burden on states and tribes; developing initial services for EPA's Laws and Regulations registry, which will standardize identification of and associations between regulations, laws, and EPA's programs; and deploying reusable electronic signature services to streamline Cross-Media Electronic Reporting Regulation (CROMERR) compliance. Advancements in data transport services, such as Virtual Exchange Services, will continue to provide cloud-based solutions for the EPA's state and Tribal partners.

In FY 2018 the EPA will:

- Conduct robust outreach activities to increase awareness of CROMERR services and the savings to states and tribes from using these services; and
- Approve CROMERR applications from authorized programs that propose to use the EPA's shared CROMERR services and assist co-regulators with integrating these services into their systems.

CROMERR activities are intended to assist states and tribes in the development activities associated with establishing a point of presence, exchanging data on the Network, and supporting local electronic reporting programs in a more cost effective way. The proven success of this strategy is illustrated by past improvements in performance measures, which include the number of states, Tribes and territories exchanging data with CDX (from 63 in FY 2011 to 125 in FY 2016) and unique active users (up from 56,200 in FY 2011 to 116,636 in FY 2016).

In addition, the EPA will prioritize areas of support for the System of Registries and partner applications. Keeping the information current in the registries requires constant maintenance and research. This includes:

- An adjusted schedule for priority updates to the EPA's enterprise dataset registry, the Environmental Dataset Gateway, to meet the EPA's priority of improving data accessibility, achieve compliance with Open Data Policy requirements (OMB M-13-13) and pursue the establishment of an administrative dataset registry; and
- Maintaining the list of previously entered IT resources through its catalog of IT services (e.g., widgets, Web services, reusable code). The Reusable Component Services is a resource that enables the EPA and its EN partners to reuse standard system functions in whole or in part, thus saving money and time for states and Tribal governments and the EPA.

The EPA also will continue to work with the Department of Homeland Security's Customs and Border Protection (CBP) to maintain systems that support the importation process of products that are of dual interest to the EPA and CBP. Due to the successful conclusion of the limited pilot test for electronic reporting and processing of EPA-regulated imports for vehicles and engines, pesticides and toxic substances, the EPA will continue to support the program in FY 2018. Such electronic reporting will aid regional enforcement coordinators by automating what is currently a manual review process and allow them to focus on key high-value monitoring and targeting activities for noncompliant imports.

In FY 2018, the Exchange Network program will continue to be a pivotal component of the E-Enterprise for the Environment strategy that supports business process change agencywide. E-Enterprise is a transformative 21st century strategy – jointly governed by states, tribes, and the EPA – that rethinks how government agencies deliver environmental protection. Under this strategy, the agency will streamline its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of environmental programs for the EPA, states and tribes. In this context, the agency will maintain the E-Enterprise Portal that transform the EN to a more open platform of services and make environmental data reporting, sharing and analysis faster, simpler and less expensive.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,200.0) This reduces the collection and exchange of environmental data with states, tribes, and regulated entities; modifies the timeline to address required modifications to the Exchange Network IT systems; reduces quality assurance of registries; and refocuses modernization efforts.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Controlled Substances Act (CSA); The Privacy Act of 1974; Freedom of Information Act (FOIA).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$2,378.0***	***$1,995.0***	***$1,965.0***	***($30.0)***
Total Budget Authority / Obligations	$2,378.0	$1,995.0	$1,965.0	($30.0)
Total Workyears	4.6	4.9	4.6	-0.3

Program Project Description:

The EPA's Small Business Ombudsman program includes both the Asbestos and Small Business Ombudsman (ASBO) and the small business activities located in the Office of Policy's Office of Regulatory Policy and Management. The ASBO serves as the agency's leading advocate for small business regulatory issues through its partnership with the EPA Regional Small Business Liaisons, state Small Business Environmental Assistance Programs (SBEAP) nationwide and hundreds of small business trade associations. These partnerships provide the information and perspective the EPA needs to help small businesses achieve their environmental goals.

The Small Business Ombudsman is a comprehensive program that provides networks, resources, tools, and forums for education and advocacy on behalf of small businesses.[39] The program also assists the EPA's program offices with analysis and consideration of the impacts of its regulatory actions on small businesses, helps identify less burdensome alternatives, and leads the EPA's implementation of the Regulatory Flexibility Act (RFA), as amended by the Small Business Regulatory Enforcement Fairness Act (SBREFA). Under the RFA or SBREFA, the EPA evaluates the effects of its regulations on small businesses and engages with small entity representatives, the Office of Management and Budget and the Small Business Administration to help them understand the potential impacts of rules and identify less burdensome alternatives for rulemakings that may affect small businesses.

The core program functions include participating in the regulatory development process, operating and supporting the program's hotline and homepage, participating in the EPA's program and Regional Offices' small business-related meetings, and supporting internal and external small business activities. The program helps small businesses learn about new actions and developments within the EPA and helps the agency learn about the concerns and needs of small businesses. The program also provides technical assistance through the ASBO in the form of workshops, conferences, hotlines, and training forums designed to help small businesses become better environmental performers.

Beginning in FY 2018, this program will support the required functions of the Small Business Contracting program as mandated under Section 15(k) of the Small Business Act, 15 U.S.C. § 644(k). As prescribed under that section, the program provides expertise ensuring small business

[39]For more information: http://www.epa.gov/resources-small-businesses/asbestos-small-business-ombudsman.

prime and subcontract opportunities to expand the competitive supplier base for carrying out the agency's mission. The program offers statutorily required counselling to the EPA contracting community on all aspects of the acquisition cycle. It also affords statutorily mandated advocacy and technical assistance to the various categories of small businesses, including, disadvantaged and women-owned small businesses; certified small businesses located in Historically Underutilized Business Zones (HUBZones); and service-disabled veteran-owned small businesses (SDVOSBs).

In addition, resources under this program will provide national outreach, education and assistance to increase the utilization of businesses owned and controlled by socially and economically disadvantaged individuals in procurements funded under EPA financial assistance agreements. The underlying enabling statutes establish an 8 percent and 10 percent goal for Disadvantaged Business Enterprise (DBE) participation in certain EPA-funded projects. Specifically, the Clean Air Act Amendments of 1990, 42 U.S.C. § 7601, establishes a 10 percent DBE goal for Clean Air Act research projects. Similarly, Public Law 102-389, 42 U.S. C § 4370d, establishes an 8 percent DBE Goal for prime and subcontracts awarded in support of all other authorized programs. The DBE program services are aimed at guiding the agency and its financial assistance recipients to enhance DBE opportunities consistent with those goals. It further assists in monitoring program compliance.

FY 2018 Activities and Performance Plan:

In FY 2018, the Small Business Ombudsman program will:

- Expand the quality and efficiency of technical and regulatory assistance. The ASBO is implementing a new internal and external outreach program focused on building a knowledge base of EPA and small business community needs and impacts; unifying and coordinating programs and activities by sharing information and leveraging resources; and engaging and expanding small business involvement in the regulatory process.

- Support and promote the EPA's Small Business Strategy by (1) encouraging small businesses, states, and trade associations to comment on the EPA's proposed regulatory actions, and (2) providing updates on the agency's rulemaking activities in the monthly Smallbiz@EPA electronic bulletin;

- Launch a new era of state and local partnerships by working with state SBEAPs and small business trade associations to improve the environmental performance of small businesses. ASBO will continue monitoring its grant issued to the State of Kansas to establish a website which serves as an essential conduit of both communication and education for state small business environmental assistance programs and the small business community;

- Serve as the agency's point of contact for the Small Business Paperwork Relief Act[40] by coordinating efforts with the agency's program offices to further reduce the information collection burden for small businesses with fewer than 25 employees;

[40] For more information: https://www.whitehouse.gov/sites/default/files/omb/assets/omb/inforeg/sbpra-hr327.pdf.

- Assist in carrying out the EPA's implementation of the RFA, including Small Business Advocacy Panels for regulations that might have a significant and potentially adverse economic impact on a substantial number of small entities; and

- Support the EPA's efforts to limit potential adverse impacts on small entities by assisting program offices in characterizing the possible impacts of its regulations and considering alternative requirements.

- Develop a transparent and collaborative process for conducting the important small business training and technical assistance required under Section 15(k) of the Small Business Act. The One EPA process will utilize the EPA's existing collaborative tools to plan and conduct more strategically targeted training and technical assistance that effectively leverage resources to expand the agency's small business supplier pipeline.

- Streamline and increase effectiveness in tracking, analyzing and reporting the agency's small business contracting to strengthen data-driven decision making and compliance with the statutory government-wide small business goal program.

- Simplify the rules and procedures governing the DBE program to clarify program eligibility, compliance and reporting requirements and reduce the administrative burden on grant recipients. The changes will enhance DBE opportunities to compete for contracts funded under EPA assistance agreements.

- Provide DBE training and technical assistance on new program regulations and procedures.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$30.0 / -0.3 FTE) With a limited change in resources, the agency is able to ensure compliance with its statutory obligations under the Small Business Act. This funding change also incorporates the statutory functions of the Office of Small and Disadvantaged Business Utilization into this program.

Statutory Authority:

Toxic Substances Control Act (TSCA); Clean Air Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.); 15 U.S.C § 644(k); 42 U.S.C. § 4370d and 7601 note).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$1,464.0***	***$1,667.0***	***$0.0***	***($1,667.0)***
Total Budget Authority / Obligations	$1,464.0	$1,667.0	$0.0	($1,667.0)
Total Workyears	8.8	8.9	0.0	-8.9

Program Project Description:

The EPA's Office of Small and Disadvantaged Business Utilization (OSDBU) manages the agency's Small Business Contracting and Disadvantaged Business Enterprise (DBE) programs.

The Small Business Contracting program is mandated under Section 15(k) of the Small Business Act, 15 U.S.C. § 644(k). The program provides expertise in expanding small business prime and subcontracting opportunities. The program offers counselling to the EPA contracting community on all aspects of the acquisition cycle. It also provides a range of advocacy, outreach and technical assistance to the various categories of small businesses, including, disadvantaged and women-owned small businesses; businesses located in Historically Underutilized Business Zones (HUBZone); and service-disabled veteran-owned small businesses (SDVOSBs).

The DBE program provides national outreach, education and assistance to increase the utilization of businesses owned and controlled by socially and economically disadvantaged individuals in procurements funded under EPA financial assistance agreements. Under the DBE program, OSDBU issues the governing program eligibility and compliance requirements.

FY 2018 Activities and Performance Plan:

Funding and FTE for this program will be eliminated in FY 2018. The agency will integrate its resources for Small and Disadvantaged Business activities under the Small Business Ombudsman program.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,667.0 / -8.9 FTE) This funding change eliminates the Small Minority Business Assistance program as part of the effort to streamline functions that can be absorbed into other programs. Key portions of this program's activities will be shifted to the Small Business Ombudsman program.

Statutory Authority:

15 U.S.C § 644(k); 42 U.S.C. § 4370d; Clean Air Act Amendments of 1990, Public Law 101-549 (codified at 42 U.S.C. § 7601 note).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$15,044.1***	***$15,289.0***	***$10,011.0***	***($5,278.0)***
Total Budget Authority / Obligations	$15,044.1	$15,289.0	$10,011.0	($5,278.0)
Total Workyears	67.9	74.2	46.9	-27.3

Program Project Description:

The State and Local Prevention and Preparedness program establishes a structure composed of federal, state, local, and Tribal partners who work together with industry to protect emergency responders, local communities, and property from chemical risks through advanced technologies, community and facility engagement, and improved safety systems. This regulatory framework provides the foundation for community emergency responders, facility hazard response planning, and reduction of risk posed from chemical facilities.

Under Section 112(r) of the Clean Air Act, chemical facilities that store a certain amount of extremely hazardous substances are required to implement a Risk Management Plan program. These facilities, known as Risk Management Plan (RMP) facilities, take preventive measures, report data, mitigate and/or respond to chemical releases, and work with communities, response, and planning groups to increase understanding of risks.[41]

FY 2018 Activities and Performance Plan:

In FY 2018, the State and Local Prevention and Preparedness program will perform the following activities:

- Inspect RMP facilities to ensure compliance with accident prevention and preparedness activities. There are approximately 12,500 chemical facilities that are subject to inspections in the RMP program. Of these, approximately 1,900 facilities have been designated as high-risk based upon their accident history, quantity of on-site dangerous chemicals stored, and proximity to large residential populations.

- Provide one basic RMP inspector training for federal and state inspectors as statutorily required.

- Maintain the national Central Data Exchange (CDX) RMP reporting center database, which is the nation's premier source of information on chemical process risks and contains hazard information on all RMP facilities. Industry electronically submits their updated RMPs to this secure database.

[41] For additional information, refer to: https://www.epa.gov/rmp.

- Develop limited updates to the Computer-Aided Management of Emergency Operations (CAMEO) software suite, *i.e.,* the CAMEO Chemicals app, which will provide free and publically available information for firefighting, first aid, and spill response activities.

- Conduct reconsideration of RMP rule as a result of three petitions for reconsideration requested under the Clean Air Act. Reconsideration may result in further amendments to the final rule.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,278.0 / -27.3 FTE) Funding and FTE for technical support and outreach, as well as grant support for certified RMP inspectors, will be eliminated in FY 2018.

Statutory Authority:

The Emergency Planning and Community Right-to-Know Act (EPCRA); the Clean Air Act (CAA), as amended by the Chemical Safety Information, Site Security, and Fuels Regulatory Relief Act, § 112(r).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$13,292.4***	***$13,856.0***	***$8,680.0***	***($5,176.0)***
Total Budget Authority / Obligations	$13,292.4	$13,856.0	$8,680.0	($5,176.0)
Total Workyears	35.6	43.5	28.4	-15.1

Program Project Description:

The EPA's success in carrying out its mission to protect human health and the environment is contingent on collecting timely, high-quality, and relevant information. The Toxics Release Inventory (TRI) program[42] supports the EPA's mission by annually publishing, for the public, release and other waste management (e.g., recycling) and pollution prevention data on over 650 toxic chemicals from approximately 20,000 industrial and federal facilities. The TRI Program is a premiere source of toxic chemical release data for communities, non-governmental organizations, industrial facilities, academia, and government agencies.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will focus on the collection of the chemical release data and making the data available to governments and the public. The TRI program, working with the EPA's Environmental Information program, will continue to provide reporting facilities with an online reporting application, TRI-MEweb, to facilitate the electronic preparation and submission of TRI reports through the EPA's Central Data Exchange (CDX). CDX manages access and authentication services for most EPA reporting systems, including the TRI. In particular, it provides a third-party authentication for reporting facilities using LexisNexis. In addition, TRI data collected by the EPA are shared with states who have an active node on CDX and are partners of the TRI Data Exchange (TDX). Facilities located in states that participate in this exchange submit reports to the EPA through CDX. The data are then downloaded by the states or transferred to their nodes using TDX. The EPA will continue to maintain the TDX used by states, tribes, and territories.

In FY 2018, the TRI program will continue to conduct approximately 600 data quality checks to help ensure the accuracy and completeness of the reported data. The TRI program will continue to publish the annual TRI National Analysis, including describing relevant trends in toxic chemical releases and other waste management and innovative approaches by industry to reduce pollution. Operations and maintenance will be reduced to meet statutory requirements for industry reporting and public access to TRI data.

As required by the Emergency Planning and Community Right-to-Know Act (EPCRA), the agency will respond to EPCRA petitions regarding TRI within 180 days after receipt. Petitions may request

[42] Please see: http://www.epa.gov/tri/

to add or delete chemicals or industry sectors on the TRI. The quantity and complexity of petitions are unknown until submitted to the agency.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,015.0 / -13.1 FTE) This eliminates funding for the TRI National Training Conference, TRI University Challenge, TRI Information Center, TRI Tools, and other TRI communication initiatives.

- (-$2,161.0 / -2.0 FTE) This reduces contractual resources for system data entry enhancements, quality control support, and training and help desk services. Operations and maintenance will be reduced to meet statutory requirements for industry reporting and public access to TRI data.

Statutory Authority:

Emergency Planning and Community Right-to-Know Act (EPCRA), § 313; Pollution Prevention Act of 1990 (PPA), § 6607.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$14,056.3***	***$14,358.0***	***$11,731.0***	***($2,627.0)***
Total Budget Authority / Obligations	$14,056.3	$14,358.0	$11,731.0	($2,627.0)
Total Workyears	87.0	87.9	72.0	-15.9

Program Project Description:

Under federal environmental statutes, the EPA has responsibility for protecting human health and the environment in Indian country. Under the EPA's 1984 Indian Policy,[43] the agency works with federally recognized tribes (tribes) on a government-to-government basis in recognition of the federal government's trust responsibility to tribes to implement federal environmental programs. In the 1984 Indian Policy, the "EPA recognizes tribes as the primary parties for setting standards, making environmental policy decisions, and managing programs for reservations consistent with agency standards and regulations" and therefore, the EPA assists tribes in developing the program to make such decisions. In the absence of a program delegation to a tribe, the EPA directly implements the program.

The EPA's American Indian Environmental program leads the agency-wide efforts to ensure environmental protection in Indian country. Please see http://www.epa.gov/tribal for more information.

FY 2018 Activities and Performance Plan:

Overall, the agency has made steady progress towards strengthening human health and environmental protection on Tribal lands. However, the agency will further its priority of strengthening Tribal partnerships and continue to work toward its goal of building Tribal Capacity through a number of mechanisms in FY 2018.

Capacity Building: The EPA will provide technical assistance to encourage the development of Tribal capacity to implement federal environmental programs through several means, primarily the "treatment in a manner similar to a state" (TAS) process as well as the use of the Direct Implementation Tribal Cooperative Agreement (DITCA) authority. To date, the EPA has approved 110 TAS program delegations to tribes, including 12 with compliance and enforcement authority. The EPA also has awarded 48 DITCAs.

During FY 2018, the agency continues its targeted technical assistance and support in response to requests from Tribal governments to help them build capacity to acquire TAS status for

[43] EPA Policy for the Administration of Environmental Programs on Indian Reservations available at http://www.epa.gov/tribalportal/pdf/indian-policy-84.pdf.

environmental programs. The agency is continuing the process of reviewing and revising how it measures progress tribes have made in developing and implementing environmental protection programs in Indian country. This effort builds on the 2013 Indian General Assistance Program (GAP) Guidance[44] designed to improve Tribal capacity development milestones. In FY 2018, the EPA will continue to work toward the development of an improved set of performance measures to assess and report on Tribal environmental program capacity. The EPA continues the direct implementation assessment effort to better understand the EPA's direct implementation responsibilities and activities on a program-by-program basis in Indian country.

Indian Environmental General Assistance Program (GAP) Capacity Building Support: GAP grants to Tribal governments help build the basic components of a Tribal environmental program. The agency manages GAP grants according to its "*Guidance on the Award and Management of General Assistance Agreements for Tribes and Intertribal Consortia.*"[45] In FY 2018, the EPA will continue to implement this Guidance to build Tribal capacity to address environmental issues in Indian country. The EPA's work in FY 2018 also will continue to enhance the EPA-Tribal partnerships supported by the framework for joint strategic planning set forth in the 2013 Guidance.

GAP Online: In addition to the improved measurement scheme noted above, the EPA will continue to use GAP Online, an internet-based database that assists tribes and the EPA in developing, reviewing, and archiving GAP work plans and progress reports. The EPA and tribes use the database to negotiate and track progress with individual grantees. GAP Online creates an easily accessible record to help mitigate challenges associated with relatively high rates of staff turnover in many Tribal environmental departments.

Tribal Consultation: In working with the tribes, the EPA follows its "*Policy on Consultation and Coordination Policy with Indian Tribes.*[46] The Consultation Policy builds on the EPA's 1984 Indian Policy and establishes clear agency standards for a consultation process promoting consistency and coordination. In FY 2018, the EPA will continue to support the agency's web-based Tribal Consultation Opportunities Tracking System (TCOTS); a publically accessible database used to communicate upcoming and current EPA consultation opportunities to Tribal governments. The system provides a management, oversight, and reporting structure that helps ensure accountability and transparency. Over the past four years, the EPA has provided 372 Tribal consultation opportunities.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,627.0 / -15.9 FTE) This reduces some Tribal capacity building efforts and eliminates grants to Tribal colleges and universities; certain Tribal small-grant programs; contract support for assessing the EPA's direct implementation responsibilities in Indian country; and contract and staff support to the National Tribal Operations Committee.

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[44] Please refer to http://www.epa.gov/tribalportal/GAP-guidance-final.pdf for further information.
[45] https://www.epa.gov/tribal/2013-guidance-award-and-management-general-assistance-agreements-tribes-and-intertribal
[46] Refer to http://www.epa.gov/tribalportal/pdf/cons-and-coord-with-indian-tribes-policy.pdf for further information.

Statutory Authority:

Annual Appropriation Acts; Indian Environmental General Assistance Program Act; PPA; FIFRA; CAA; TSCA; NEPA; CWA; SDWA; RCRA; CERCLA; NAFTA; MPRSA; Indoor Radon Abatement Act; OPA; and additional authorities.

Work within this Tribal Capacity Building Program supports the above authorities, as well as additional statutory authorities that influence environmental protection and affect human health and environmental protection in Indian country.

Program Area: International Programs

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$2,913.7***	***$3,057.0***	***$0.0***	***($3,057.0)***
Total Budget Authority / Obligations	$2,913.7	$3,057.0	$0.0	($3,057.0)
Total Workyears	14.0	14.7	0.0	-14.7

Program Project Description:

The two thousand-mile border between the United States and Mexico is one of the most complex and dynamic regions in the world, where the benefits of the EPA's international programs are perhaps most apparent. This region accounts for three of the ten poorest counties in the U.S., with an unemployment rate 250-300 percent higher than the rest of the United States.[47] In addition, over 430 thousand of the 14 million people in the region live in 1,200 colonias,[48] which are unincorporated communities characterized by substandard housing and unsafe drinking water. The 1983 La Paz Agreement[49] and the adoption of the Border Programs have gone a long way to protect and improve the health and environmental conditions along a border that extends from the Gulf of Mexico to the Pacific Ocean.

The Border 2020 program identifies five long-term strategic goals to address the serious environmental and environmentally-related public health challenges, including the impact of transboundary transport of pollutants in the border region. These goals include: reducing air pollution; improving access to clean and safe water; promoting materials management; waste management; and clean sites; enhancing joint preparedness for environmental response; and enhancing compliance assurance and environmental stewardship.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The budget recognizes that state and local governments, such as communities along the border, can continue to advance environmental and health programs with a local emphasis.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,057.0 / -14.7 FTE) This funding change eliminates the U.S. Mexico Border Program as part of the effort to limit federal investment in lower priority activities and to focus resources on core environmental work under core statutes.

[47] http://hsc.unm.edu/community/toolkit/docs2/10.USMBHC-TheBorderAtAGlance.pdf
[48] http://hsc.unm.edu/community/toolkit/docs2/10.USMBHC-TheBorderAtAGlance.pdf
[49] https://www.epa.gov/sites/production/files/2015-09/documents/lapazagreement.pdf

Statutory Authority:

In conjunction with the National Environmental Policy Act (NEPA), § 102(2)(F); Clean Air Act, § 103(a); Clean Water Act, § 104(a)(1)-(2); Safe Drinking Water Act (SDWA), §§ 1442(a)(1), 8001(a)(1); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), §§ 17(d), 20(a); Toxic Substances Control Act (TSCA), §10(a); Marine Protection, Research, and Sanctuaries Act (MPRSA), § 203(a)(1).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$6,345.0***	***$6,418.0***	***$4,051.0***	***($2,367.0)***
Total Budget Authority / Obligations	$6,345.0	$6,418.0	$4,051.0	($2,367.0)
Total Workyears	35.6	38.2	14.2	-24.0

Program Project Description:

To achieve our domestic environmental and human health objectives, the U.S. works with international partners to address international sources of pollution, as well as the impacts of pollution from the U.S. on other countries and the global environment. Pollution impacts air, water, food crops and food chains, and can accumulate in foods such as fish. Achieving healthy environments, ecosystems, and communities provides the foundation for economic development, food security, and sustainable growth.

The EPA's work with international organizations is essential to successfully addressing transboundary pollution adversely impacting the U.S. Strengthening environmental protection abroad so that it is on par with practices in the United States helps build a level playing field for industry supporting the foreign policy objectives outlined by the White House, the National Security Council, and the Department of State.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to engage both bilaterally and through multilateral institutions to improve international cooperation to prevent and address the transboundary movement of pollution. Specifically, the EPA will engage with key priority countries like China to address air pollution that contributes significant pollution to the domestic and international environment. For example, China is implementing national air quality monitoring, planning, and control strategies with advice and lessons learned from the United States. Environmental policies adopted and implemented in China will improve competitiveness for U.S. businesses, drive demand for U.S. emissions control technologies, and expand exports of U.S. environmental goods and services to China.

The EPA will maintain efforts to reduce environmental threats to U.S. citizens from global contaminants impacting air, water, and food safety. In particular, the EPA will continue technical and policy assistance for global and regional efforts to address international sources of harmful pollutants, such as mercury. Because 70 percent of the mercury deposited in the U.S. comes from global sources,[50] both domestic efforts and international cooperation are important to address mercury pollution. For example, the EPA will continue to work with international partners and key

[50] http://www.epa.gov/international/toxics/mercury/mnegotiations.html; www.mercuryconvention.org;

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countries to fully implement obligations under the Minamata Convention on Mercury in order to protect the U.S. population from mercury emissions originating in other countries. The EPA will maintain a reduced contribution to the North American Commission for Environmental Cooperation (CEC) which provides regional and international leadership to advance environmental protection, human health, and sustainable economic growth.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,367.0 / -24.0 FTE) This reflects a refocus of efforts on highest priority international issues.

- (+$1,000.0) This provides funding to support the Commission for Environmental Cooperation (CEC), previously located in the Trade and Governance program, which provides regional and international leadership to advance environmental protection, human health, and sustainable economic growth.

Statutory Authority:

In conjunction with the National Environmental Policy Act (NEPA), § 102(2)(F); Clean Air Act, § 103(a); Clean Water Act, § 104(a)(1)-(2); Safe Drinking Water Act (SDWA), §§ 1442(a)(1), 8001(a)(1); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), §§ 17(d), 20(a); Toxic Substances Control Act (TSCA), §10(a); Marine Protection, Research, and Sanctuaries Act (MPRSA), § 203(a)(1); E.O. 13547; E.O. 13689.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$6,231.3***	***$5,896.0***	***$0.0***	***($5,896.0)***
Total Budget Authority / Obligations	$6,231.3	$5,896.0	$0.0	($5,896.0)
Total Workyears	18.6	18.0	0.0	-18.0

Program Project Description:

The EPA is a member of the Trade Policy Staff Committee (TPSC) and the Trade Policy Review Group (TPRG) - interagency mechanisms that provide advice, guidance, and clearance to the Office of the U.S. Trade Representative (USTR) in the development of U.S. international trade and investment policy. The EPA's role in trade negotiations is to ensure that agreements have strong environmental provisions.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The U.S. Trade Representative's Office and the Department of State lead trade negotiations and related capacity building and can continue this work.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,896.0 / -18.0 FTE) This funding change eliminates the Trade and Governance program.

Statutory Authority:

In conjunction with the National Environmental Policy Act (NEPA), § 102(2)(F); Clean Air Act, § 103(a); Clean Water Act, § 104(a)(1) -(2); Safe Drinking Water Act (SDWA), §§ 1442(a)(1), 8001(a)(1); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), §§ 17(d), 20(a); Toxic Substances Control Act (TSCA), §10(a); Marine Protection, Research, and Sanctuaries Act (MPRSA), § 203(a)(1); E.O. 12915; E.O. 13141; E.O. 13277, as amended by E.O. 13346.

Program Area: IT / Data Management / Security

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$27,152.6***	***$28,132.0***	***$11,997.0***	***($16,135.0)***
Hazardous Substance Superfund	$6,008.0	$6,071.0	$3,186.0	($2,885.0)
Total Budget Authority / Obligations	$33,160.6	$34,203.0	$15,183.0	($19,020.0)
Total Workyears	12.8	14.3	12.8	-1.5

Program Project Description:

Information is a valuable national resource and a strategic asset to the EPA. It enables the agency to fulfill its mission to protect human health and the environment. The agency's Information Security program is designed to protect the confidentiality, availability and integrity of the EPA's information assets. The information protection strategy includes, but is not limited to:

- Policy, procedure and practice management;
- Information security awareness, training and education; risk-based governance and oversight;
- Weakness remediation;
- Operational security management;
- Incident response and handling; and
- Federal Information Security Modernization Act (FISMA) compliance and reporting.

FY 2018 Activities and Performance Plan:

Cybersecurity is a serious challenge to our nation's security and economic prosperity. The EPA will maintain continuous monitoring of security controls in FY 2018. Effective information security requires vigilance and the ability to adapt to new challenges every day. The EPA will continue to manage information security risk and build upon efforts to protect, defend and sustain its information assets through continued improvements to training and incident response.

In FY 2018, the EPA will continue to sustain multi-year improvements by establishing foundational capabilities and closing gaps in the security architecture. The EPA will close existing gaps by building strong authentication improvements to quickly isolate and remediate suspected or known compromised systems. These areas are cornerstone capabilities in protecting against, responding to, and mitigating risk sources. Also for FY 2018, EPA plans to include capabilities for detecting and protecting against attacks and capturing and integrating threat intelligence sources. In addition to the continued improvements, the agency will need to sustain the tools and processes implemented to date. The security architecture, associated processes and expert personnel comprise an ecosystem with cross dependencies, and the system is strongest when operating as a whole. Neglecting to implement the entire range of efforts makes protections less operational and cost effective.

In FY 2018, the EPA will continue building on progress previously made to automate and advance the information security program by:

- Increasing the use of continuous monitoring tools and processes through the Continuous Diagnostics and Mitigation (CDM) program; and
- Refining incident management capabilities.

The Continuous Diagnostics and Mitigation (CDM) program, centrally managed by the Department of Homeland Security, provides tools that will give near real-time awareness of EPA's networks and environments. CDM consists of four implementation phases when fully implemented. Data from the individual agency dashboards across the federal government will be aggregated into one federal-level dashboard maintained by the CDM program, which allows DHS to monitor and respond to federal cybersecurity threats and incidents much more quickly and efficiently. The operations and support costs of EPA's CDM Phase 1 tools and services will be partially funded by DHS at $736 thousand in FY 2018. The agency will continue to work with DHS to implement future phases based on capacity.

The Information Security program also will continue to detect and remediate the effects of Advanced Persistent Threats to the agency's information and information systems. The agency will continue to focus on training and user-awareness to foster desired behavior, asset definition and management, compliance, incident management, knowledge and information management, risk management and technology management. These efforts will strengthen the agency's ability to adequately protect information assets. The final result will be an information security program that can rely on effective and efficient controls and processes to counter cybersecurity threats.

In FY 2018, the agency will continue Phase II of the implementation of the Homeland Security Presidential Directive 12 (HSPD-12) requirements for logical and physical access as identified in the Federal Information Processing Standards (FIPS) 201, *Personal Identity Verification (PIV) of Federal Employees and Contractors*.[51] This effort ensures only authorized employees have access to federal and federal-controlled facilities and information systems by requiring a higher level of identity assurance.

The EPA will improve its capabilities at the internal Computer Security Incident Response Capability (CSIRC) to support identification, response, alerting and reporting of suspicious activity. CSIRC's mission is to protect the EPA's information assets and respond to security incidents – actual and potential. This includes detecting unauthorized attempts to access, destroy, or alter the EPA's data and information resources. CSIRC will maintain relationships with other federal agencies and law enforcement entities to support the agency's mission. The incident response capability includes components such as detection and analysis; forensics; and containment and eradication activities.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[51] http://www.nist.gov/itl/csd/ssa/piv.cfm

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FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$16,135.0/ -1.5 FTE) This reduces the startup cybersecurity related improvement activities funded in FY 2016. The agency also will prioritize further improvements in the following areas: access controls for accounts that present the greatest risk; capabilities to identify and prevent inappropriate access or transmission, downloading, or use of sensitive information; and ease of regular user login process. Efforts to research and evaluate emerging technologies that enhance the agency's cybersecurity core functions will be deferred.

Statutory Authority:

Federal Information Security Modernization Act (FISMA); Cybersecurity Act of 2015; Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); the Privacy Act of 1974; Freedom of Information Act (FOIA).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$83,883.2***	***$83,790.0***	***$70,069.0***	***($13,721.0)***
Science & Technology	$2,892.6	$3,083.0	$2,725.0	($358.0)
Hazardous Substance Superfund	$14,968.1	$13,776.0	$8,213.0	($5,563.0)
Total Budget Authority / Obligations	$101,743.9	$100,649.0	$81,007.0	($19,642.0)
Total Workyears	441.5	478.8	451.1	-27.7

Program Project Description:

The work performed under the Information Technology/Data Management (IT/DM) program supports human health and environmental protection by providing critical IT infrastructure and data management needed for:

1) Access to scientific, regulatory, policy and guidance information needed by the agency, the regulated community and the public;
2) Analytical support for interpreting and understanding environmental information;
3) Exchange and storage of data, analysis and computation; and
4) Rapid, secure and efficient communication.

These areas are then organized into the following functional areas: information analysis and access; data management and collection; information technology and infrastructure; and geospatial information and analysis.

This program supports the maintenance of the EPA's IT and Information Management (IT/IM) services that enable citizens, regulated facilities, states and other entities to interact with the EPA electronically to get the information they need on demand, to understand what it means, and to submit and share environmental data with the least cost and burden. The program also provides support to other agency IT development projects and essential technology to agency staff, enabling them to conduct their work effectively and efficiently.

With the introduction of the Federal Information Technology Acquisition Reform Act (FITARA), the EPA continues to revise its IT budgeting, acquisition, portfolio review, and governance processes to adopt practices that improve delivery of capability to users, drive down lifecycle costs, and ensure proper leveraging of shared services. The EPA's FITARA implementation plan[52] meets federal guidance and seeks to leverage existing processes to improve efficiency.

[52] Please see: http://www.epa.gov/open/digital-strategy.

FY 2018 Activities and Performance Plan:

The EPA has progressively integrated new and transformative approaches to the way IT is managed across the agency. The goal of the EPA's IT/DM services is to enhance the power of information by delivering on demand data to the right people at the right time. In FY 2018, the program will strive to meet EPA's IT/IM service need while continuously improving customer experiences to allow EPA, its partners and the public to acquire, generate, manage, use and share information as a critical resource to protect human health and the environment. To accomplish this, the program will focus available capacity on the following areas:

- Improve the way EPA supports and manages the lifecycle of information;
- Modernize EPA's IT/IM infrastructure, applications and services;
- Empower a mobile workforce using innovative and agile solutions;
- Empower state and Tribal partnerships using innovative and agile solutions; and
- Align IT/IM resources with EPA's core program priorities.

In FY 2018, the EPA will continue to implement the E-Enterprise business strategy, a transformative 21st century strategy – jointly governed by states, tribes, and the EPA - for modernizing government agencies' delivery of services to support the protection of human health and the environment. Utilizing E-Enterprise, the agency will continue to streamline its business processes and systems to reduce the reporting burden on states, tribes, and regulated facilities, while also improving the effectiveness and efficiency of regulatory programs for the EPA, states and tribes. IT/DM activities will continue to facilitate limited shared services and electronic transactions with the regulated community and external partners who routinely conduct environmental business with the EPA. E-Enterprise provides a structured strategy for continuing to modernize the EPA's publicly facing systems, foundational shared infrastructure and services will continue to be essential.

The FY 2018 budget includes funding to continue to support a Digital Services team that will provide the system design expertise needed for transforming the agency's digital services to make them easier for the public to use and more cost-effective for the agency to build and maintain. The Digital Service team is a key element of the EPA's FITARA Implementation Plan. In accordance with the government wide Digital Services initiative, the EPA's digital experts will work with a limited number of agency projects to support externally facing technology solutions and improve the EPA's existing technology infrastructure. The EPA Digital Service team will continue to simplify the digital experience that people and businesses have with their government.

In FY 2018, the EPA will continue to implement its IT acquisition review process as part of the implementation of federal Common Baseline Controls for FITARA. The EPA's FITARA implementation plan increases the engagement of the agency's Chief Information Officer (CIO) in the budget process to ensure that IT needs are properly planned and resourced. In addition, FITARA controls include an established solid communication and engagement strategy for the CIO with the agency's programs and Regional Offices to ensure that their IT plans are well designed, directly drive agency strategic objectives, and follow best practices. Lastly, the controls ensure the CIO engages closely with key IT decision-makers across the EPA and fosters plans to refresh IT skills within the agency.

In FY 2018, the following IT/DM activities will continue:

- **Data Management and Collection**: Data Management and Collection efforts include support for the agency's Freedom of Information Act (FOIA). FOIA responses will be prioritized to align with available resources. Additionally, the agency enhancements of e-Discovery technology will continue on an adjusted schedule to help meet the significant increase of requests from external stakeholders. The EPA continues to operate a shared service docket processing center, called E-Rulemaking, which supporting the agency's rulemakings and administering the Paperwork Reduction Act, minimizing information collection burden on the public.

- **Geospatial:** In addition to meeting ongoing program needs, Geospatial information and analysis play a critical role in the agency's ability to respond rapidly and effectively in times of emergency. In FY 2018, the agency will continue to support the essential capabilities of GeoPlatform, a shared technology enterprise for geospatial information and analysis. By implementing geospatial data, applications and services, the agency is able to integrate and interpret multiple data sets and information sources to support environmental decisions. Specifically, during FY 2018, the agency will focus on Geoplatform data services, dashboards, and story boards based on provided geographic information to support programmatic analysis and decision making. It also will better inform the public about the EPA's use of grant funding to protect the environment and public health. In FY 2018, the EPA also will continue to use the Geoplatform to publish internal and public mapping tools and make available a number of shareable maps, geodata services, and applications. The EPA will continue to play a leadership role in both the Federal Geographic Data Committee and the National Geospatial Platform, working with partner agencies to share geospatial technology capabilities across government.

- **Information Access and Analysis**: In FY 2018, the EPA will focus on providing core support to agency infrastructure and utilizing tools that will harness the power of data across the agency to drive better environmental results. The EPA Digital Analytics Platform (EDAP) will replace much of the data management functionality in the legacy EnviroFacts data warehouse, which is at capacity, expensive to operate, and built on relational database technologies that do not enable users to meet many of their needs. Using powerful cloud-based infrastructure, and by utilizing existing facility and substance registries, the EDAP will facilitate the integration, enhancement and consistent access of environmental data collected from across EPA programs.

  In addition, the program will be closely aligned with the E-Enterprise business strategy and digital services team to provide support throughout the data lifecycle from data identification and collection through internal and external data presentation (Digital Services). The program will continue to provide analysis of environmental information to the public and the EPA's staff through My Environment, EnviroFacts, OneEPA Web, EPA National Library Network and the EPA Intranet. The program will continue to ensure compliance of the EPA's public systems with Section 508 of the Rehabilitation Act of 1973.

- **Information Technology and Infrastructure**: In FY 2018, the agency will continue to maintain essential information technology and infrastructure. The agency will adjust the schedule for replacement or upgrades to keep up with technology advancement and to align with capacity. The EPA will continue to maintain and provision: desktop computing equipment, network connectivity, e-mail and collaboration tools, application hosting, remote access, telephone services, Web and network services, and other IT-related equipment. In FY 2018, the agency will continue efforts to consolidate the EPA's data centers and computer rooms and to optimize operations within the EPA's remaining data centers. The EPA is committed to using cloud computing technologies and will have an enterprise-wide cloud hosting service in place in FY 2018.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$9,711.0/ -29.3 FTE) This resource and FTE change is a net reduction to enterprise IT systems/tools, emergency response, and agency-wide services including: shared services for Facility Registries, National Environment Policy Act Assist, Geographic Information System platform support for emergency response, and reduced support for regional libraries.

- (-$4,071.0/ -15.5 FTE) This funding change modifies the timeline for development of new technologies to address agency needs such as new assistive technology tools, ability to re-platform legacy applications, and replace end of service IT equipment that provides basic workforce support across the agency.

- (+$61.0) This increases the EPA's contribution to E-Rulemaking line of business as required by the cost allocation methodology governed by this line of business's board.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Food Quality Protection Act (FQPA); Safe Drinking Water Act (SDWA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Freedom of Information Act (FOIA); Controlled Substances Act (CSA).

Program Area: Legal / Science / Regulatory / Economic Review

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$4,984.0***	***$4,765.0***	***$4,141.0***	***($624.0)***
Total Budget Authority / Obligations	$4,984.0	$4,765.0	$4,141.0	($624.0)
Total Workyears	28.2	25.8	23.8	-2.0

Program Project Description:

This program supports the EPA's Administrative Law Judges (ALJ) and the Environmental Appeals Board (EAB). The ALJ preside in hearings and issue initial decisions in cases initiated by the EPA's enforcement program concerning environmental, civil rights, and government program fraud related violations. The Fifth Amendment of the Constitution of the United States of America guarantees the regulated community the right to due process of the law. The ALJ issues orders and decisions under the authority of the Administrative Procedure Act (APA) and the various environmental, civil rights, and anti-fraud statutes that establish administrative enforcement authority and implement the Constitution's guarantee of due process.

By adjudicating disputed matters, the ALJ and the EAB further the agency's mission to promote and protect a strong and healthy environment. The ALJ provides the constitutionally guaranteed legal process and review for hearings and issues initial decisions in cases brought by the agency's enforcement program against those accused of violations under various environmental, civil rights, and anti-fraud statutes. The right of affected persons to appeal those decisions is conferred by various statutes, regulations, and constitutional due process rights. The ALJ also offers an opportunity for alternative dispute resolution.

The EAB is a four-member appellate tribunal established by regulation in 1992 to hear appeals and issue final decisions in environmental adjudications (primarily enforcement and permit-related) under all major environmental statues that the EPA administers. The EAB decides petitions for reimbursement under CERCLA 106(b), hears appeals of pesticide licensing and cancellation proceedings under FIFRA, and serves as the final approving body for proposed settlements of enforcement actions initiated at the EPA headquarters. The EAB issues decisions consistent with the APA and under the authority delegated by the Administrator and pursuant to regulation.

The EAB adjudicates administrative appeals in a fair and timely manner in accord with the APA, ensuring consistency in the application of legal requirements. The EAB also resolves disputes efficiently, avoiding protracted federal court review. In over ninety percent of matters decided by the EAB, no further appeal is taken to federal court, providing a final resolution to the dispute.

FY 2018 Activities and Performance Plan:

In FY 2018, the ALJ will convene formal hearings in the location of the alleged violator or violation, as required by statute. In FY 2017, the ALJ completed the business process map of its electronic filing and case management system, identifying the potential for reductions in: mailing delays for all parties, mailing costs for ALJ and alleged violators, and requests for paper documents from the ALJ in a modernized system. The schedule for modernizing the system will be adjusted in FY 2018 and review of alternatives to system replacement will proceed. In FY 2018, the EAB will continue to implement its streamlined procedures for adjudicating permit appeals under all statutes, and will continue to expedite appeals in Clean Air Act New Source Review cases and in FIFRA licensing proceedings.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$624.0 / -2.0 FTE) This change is a reduction of funds for managing an electronic filing and case docketing system and for travel.

Statutory Authority:

Administrative Procedure Act (APA); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Clean Water Act (CWA); Clean Air Act (CAA); Toxic Substance Control Act (TSCA); Solid Waste Disposal Act (SWDA); Resource Conservation and Recovery Act (RCRA); Safe Drinking Water Act (SDWA); Emergency Planning and Community Right-to-Know Act (EPCRA); Marine Protection, Research, and Sanctuaries Act (MPRSA); Mercury-Containing and Rechargeable Battery Management Act (MCRBMA); the Act to Prevent Pollution From Ships (APPS).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$1,442.1***	***$1,043.0***	***$0.0***	***($1,043.0)***
Hazardous Substance Superfund	$486.5	$674.0	$0.0	($674.0)
Total Budget Authority / Obligations	$1,928.6	$1,717.0	$0.0	($1,717.0)
Total Workyears	6.8	6.7	0.0	-6.7

Program Project Description:

The EPA's General Counsel and Regional Counsel Offices provide environmental Alternative Dispute Resolution (ADR) services and workplace conflict prevention. The EPA utilizes ADR as a method for preventing or resolving conflicts prior to engaging in formal litigation. ADR includes the provision of legal counsel, facilitation, mediation and consensus building advice and support. This program oversees a strategically-sourced contract for these services that that provides mediation, facilitation, public involvement, training, and organizational development support to all headquarters and regional programs.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,043.0 / -5.3 FTE) This eliminates the centralization of conflict prevention and ADR program. Programs across the agency may pursue ADR support services and training individually.

Statutory Authority:

Administrative Dispute Resolution Act (ADRA) of 1996; Negotiated Rulemaking Act of 1996; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §§ 111, 117, 122; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute).

Civil Rights Program
Program Area: Legal / Science / Regulatory / Economic Review

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$11,216.7***	***$10,052.0***	***$8,266.0***	***($1,786.0)***
Total Budget Authority / Obligations	$11,216.7	$10,052.0	$8,266.0	($1,786.0)
Total Workyears	57.5	64.0	48.3	-15.7

Program Project Description:

The EPA's Civil Rights program enforces federal civil rights laws that prohibit discrimination by external recipients of EPA funds. It also enforces civil rights laws that promote equal employment opportunity and protect employees and applicants for employment from discrimination. In addition, the program provides policy guidance and technical assistance on civil rights compliance and equal employment opportunity and is responsible for carrying out the following functions:

- External Civil Rights Compliance (Title VI) functions include the enforcement of several civil rights laws that prohibit discrimination on the basis of race, color, national origin, disability, sex, and age, in programs or activities that receive federal financial assistance from the EPA. The EPA investigates and resolves external complaints, develops policy, conducts compliance reviews, provides technical assistance to recipients, and conducts outreach to communities and other stakeholders.

- Employment Complaints Resolution (Title VII) functions address complaints of employment discrimination, including those filed under Title VII of the Civil Rights Act of 1964, alleging discrimination based on race; color; religion; sex, including pregnancy, sex stereotyping, gender identity or gender expression; national origin; sexual orientation; physical or mental disability; age; protected genetic information; status as a parent marital status; political affiliation; or retaliation based on previous Equal Employment Opportunity (EEO) activity, against federal EPA employees and applicants for federal EPA employment.

- Affirmative Employment Analysis and Accountability (AEAA) functions provide leadership, direction, and advice to managers and supervisors to assist them in carrying out equal opportunity and civil rights responsibilities. In addition, the Civil Rights program oversees the EPA's continuing affirmative activities to promote equal employment opportunity. The program also is responsible for reporting under the Equal Employment Opportunity Commission's Management Directive 715 (MD-715),[53] which provides guidelines for identifying triggers and conducting barrier analysis within the EPA's workforce.

[53] Equal Employment Opportunity Commission, *Equal Employment Opportunity Management Directive 715, October 1, 2013.*

- Reasonable Accommodation functions carry out the EPA's responsibilities under the Rehabilitation Act of 1973, which requires the agency to provide reasonable accommodation for individuals with disabilities, unless it would cause undue hardship for the agency.

FY 2018 Activities and Performance Plan:

The Civil Rights program is developing strategic plans for each of the programs, including specific goals, implementation steps, and benchmarks that will serve as internal performance measures to ensure accountability for all of the functions. In FY 2018, the EPA will continue the strategic planning process with an emphasis on process improvement, internal performance measures, technology resources, and strategic human capital planning. These actions are consistent with measures called for in the EPA Report "Developing a Model Civil Rights Program at the EPA."[54]

External Civil Rights, Including Title VI

In FY 2018 the program will implement the External Compliance Program Strategic Plan for FY 2015-2020 and will support complaint docket management. The program will prioritize compliance reviews, strategic policy development, engagement of partners and stakeholders (e.g., recipients and communities), and the program's workforce planning and training.

Title VII

In FY 2018, the program will focus on process improvements to: 1) ensure prompt, effective, and efficient EEO complaint docket management; 2) enhance the proactive EEO compliance program through strategic policy and training development, and the engagement of critical internal EPA partners and stakeholders; and 3) strengthen the Title VII workforce through strategic human capital planning, training, and the use of organizational development and technology resources to promote a forward looking organization. In addition, the program will:

- Train additional collateral-duty EEO Counselors providing them with at least 32 hours of mediation training. This goal will be accomplished by training the available workforce.
- Identify methods to further reduce, by an additional 10 percent from the prior year's performance, the number of days that complaints are under investigation to less than the regulatory 180 days.
- Enhance the consistency of process-related practices and improve efficiency and effectiveness of the EEO process by identifying and revising EEO complaint and other agency forms.
- Implement the "EEO Settlement Process Standard Operating Procedures" and provide additional related training.

[54] For more information: http://intranet.epa.gov/civilrights/pdfs/training/ecfr-developing-a-model-civil-rights-program.pdf.

Affirmative Employment Analysis and Accountability (AEAA)

In FY 2018, the program will focus on process improvement to: 1) ensure prompt, effective, and efficient development of critical and required reports, such as MD-715; 2) enhance the proactive Affirmative Employment function through development of strategic policy, and, training and the engagement of critical internal EPA partners and stakeholders; and 3) strengthen the AEAA workforce through strategic human capital planning, training, and the use of organizational development and technology resources to promote a forward looking organization. Consistent with this strategic approach, the program will:

- Heighten collaboration among program offices to ensure coordination of related EEO and diversity and inclusion missions.
- Ensure integration of civil rights into the EPA's strategic planning processes, organizational assessments, operating plans, and other relevant reporting vehicles.
- Ensure implementation of training on Transgender Policies and Procedures.
- Develop and implement activities, trainings, and events that assist the EPA's programs in meeting shared goals, missions, and objectives.
- Develop a process for conducting periodic surveys/focus groups in collaboration with EPA partners and through the Equal Employment Opportunity Officers, Program Management Officers, and Deputy Civil Rights Officials to collect information on best practices to ensure effective affirmative employment programs.
- Provide effective support tools for managers and supervisors in carrying out their responsibilities under MD-715 and the Diversity and Inclusion Strategic Plan.
- Develop a Special Emphasis Programs best practices toolkit.
- Develop and implement a critical activities and document management system for AEAA.

Reasonable Accommodations (RA) Program

In FY 2018, the RA program will focus on process and technology improvements to: ensure prompt, effective, and efficient RA complaint docket management. The program also will enhance the proactive RA compliance function through development of strategic policy and training and the engagement of critical internal EPA partners and stakeholders, and 3) strengthen the RA program's workforce through strategic human capital planning, training, and the use of organizational development and technology resources to promote a forward looking organization. The program will:

- Continue to update and enhance the comprehensive, user-friendly electronic case, activity, and document management system.
- Update reasonable accommodation templates to improve the timeliness, efficiency, and consistency of communications.
- Continue to assess, evaluate, and further develop the on-line training curriculum for reasonable accommodation and Section 508 compliance.

In FY 2018, the EPA will reprioritize its resources for the equal employment opportunity programs by dedicating most of its financial resources to the processing of discrimination complaints, including EEO counseling, investigations, and drafting final agency decisions.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,786.0 / -15.7 FTE) This streamlines support for the processing of investigations for Title VII complaints, enhancement of mandatory reporting, and improvements in the overall management of the complaints and reporting processes.

Statutory Authority:

Title VII of the Civil Rights Act of 1964; Equal Pay Act of 1963; Rehabilitation Act of 1973, §§ 501, 504, 505, 508; Americans with Disabilities Act of 1990; ADA Amendments Act of 2008; Age Discrimination in Employment Act (ADEA) of 1967; Genetic Information Nondiscrimination Act (GINA).

Legal Advice: Environmental Program
Program Area: Legal / Science / Regulatory / Economic Review

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$49,227.0***	***$48,473.0***	***$42,565.0***	***($5,908.0)***
Hazardous Substance Superfund	$652.4	$577.0	$349.0	($228.0)
Total Budget Authority / Obligations	$49,879.4	$49,050.0	$42,914.0	($6,136.0)
Total Workyears	263.1	274.6	222.6	-52.0

Program Project Description:

This program provides legal representational services, legal counseling and legal support for all of the agency's environmental activities[55]. The legal support provided by this program is essential to the agency's core mission. The personnel assigned to this program represent essential expertise in these critical fields that the agency relies on for all of its decisions and activities in furtherance of its mission: to protect human health and the environment.

This program provides counsel on every major action the agency takes. It plays a central role in all statutory and regulatory interpretation of new and existing rules and all rule and guidance development under the EPA's environmental authorities. This program provides essential legal advice for every petition response, every judicial response and every emergency response. When the agency acts to protect the public from pollutants or health-threatening chemicals in the air we breathe, in the water we drink, or in the food we eat, this program provides counsel on the agency's authority to take that action; it then provides the advice and support necessary to finalize and implement that action.

FY 2018 Activities and Performance Plan:

This program provides legal representation in approximately 350 defensive judicial cases each year. Because litigation support is essential, the program will prioritize litigation in FY 2018. The program HQ and regional staff will continue to provide legal representation in judicial and administrative litigation for core agency environmental programs and for agency priorities. The program will also provide counseling outside of the litigation context in the highest priority issues arising under all the legal environmental statutes administered by EPA.

Legal counseling resources also continue to be in high demand to support the agency's response to states seeking assistance developing or implementing environmental programs, industrial facilities seeking permits that are required to undertake new economic activity, and citizens seeking actions to protect local environmental quality, among other things. The program will prioritize resources after supporting judicial and administrative litigation to counselling agency clients on these matters.

[55] Resources for legal services for Support programs are included in the Legal Advice: Support program.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,560.0 / -20.0 FTE) This eliminates legal support to the agency and states in implementing the Clean Power Plan under the Clean Air Act.

- (-$2,348.0 / -31.2 FTE) This program change reduces FTE and non-pay resources for lower priority activities as the EPA will focus on litigation support for core environmental programs.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$14,692.6***	***$15,450.0***	***$15,548.0***	***$98.0***
Total Budget Authority / Obligations	$14,692.6	$15,450.0	$15,548.0	$98.0
Total Workyears	73.8	92.8	85.8	-7.0

Program Project Description:

This program provides legal representational services, legal counseling and legal support for all activities necessary for the EPA's operations.[56] It provides legal counsel and support on issues including, but not limited to: appropriations, claims, contracts, employment law, grants, information law, intellectual property law, real property, and all aspects of civil rights law.

For example, if an EPA program office needs to know how to respond to a Freedom of Information Act (FOIA) request, whether it may spend money on a certain activity, or what to do when a plaintiff files a tort claim against the agency, this program is the source of answers, options, and advice. This program supports the EPA in maintaining high ethical standards and in complying with all laws and policies that govern the agency's operations.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to address and manage information requests, legal support for work under the Civil Rights Act, and employment law. There also is an ongoing need for a high level of involvement in questions related to contracts, grants, finance, appropriations, and employment as the agency considers options for workforce reshaping.

In addition to the increase in employee and labor relations matters, litigation and appeals under the Freedom of Information Act (FOIA) has continued to increase steadily in both number and complexity. The agency will focus its resources in FY 2018 on responding to administrative appeals of initial FOIA responses and litigation. While the agency will provide targeted counselling on the most complex and challenging FOIA requests, it will redirect other counselling resources to litigation needs.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[56] Resources for legal services to support Environmental programs are included in the Legal Advice: Environmental program.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$98.0 / -7.0 FTE) Resources and FTE changes represent the net of all changes in this program. The program will focus its counseling and legal advice to the highest agency priorities and focus on litigation support. Funding change represents a recalculation of base workforce costs due to adjustments in salary, essential workforce support, and benefit costs.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$1,602.1***	***$1,529.0***	***$0.0***	***($1,529.0)***
Total Budget Authority / Obligations	$1,602.1	$1,529.0	$0.0	($1,529.0)
Total Workyears	2.3	2.0	0.0	-2.0

Program Project Description:

The Regional Science and Technology (RS&T) program provides assistance to programs implementing the Resource Conservation and Recovery Act; Toxic Substances Control Act; Clean Water Act; Safe Drinking Water Act; Clean Air Act; and Comprehensive Environmental Response, Compensation and Liability Act. The RS&T program performs laboratory analysis, field monitoring, and sampling investigations in order to provide credible scientific data on environmental pollutants and conditions to agency decision makers.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,529.0 / -2.0 FTE) This funding change eliminates the RS&T program. Central approach will be replaced with ad hoc efforts.

Statutory Authorities:

Resource Conservation and Recovery Act; Toxic Substances Control Act; Clean Water Act; Safe Drinking Water Act; Clean Air Act; Comprehensive Environmental Response, Compensation and Liability Act (CERCLA); Pollution Prevention Act; Federal Insecticide, Fungicide and Rodenticide Act (FIFRA); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$13,429.0***	***$11,469.0***	***$9,151.0***	***($2,318.0)***
Total Budget Authority / Obligations	$13,429.0	$11,469.0	$9,151.0	($2,318.0)
Total Workyears	53.0	55.8	46.0	-9.8

Program Project Description:

The Integrated Environmental Strategies (IES) program promotes economic growth from the national level to the community level and provides tools and resources to transform the EPA into a more effective organization. Nationally, IES is focused on growing manufacturing sectors of our economy, streamlining the EPA's permitting processes, and using business process improvement approaches to increase the EPA's efficiency and reduce burden on our customers: states and the regulated community. IES also collaborates with federal, state, and municipal partners, private sector actors, and other stakeholders to implement locally-led, community-driven approaches to environmental protection and economic revitalization through technical assistance, policy analysis, and training.

FY 2018 Activities and Performance Plan:

Strategic Environmental Management: Learning from Industry and States

Industry Sectors
In FY 2018, this program will focus on analyzing the EPA's economic and regulatory impacts on the largest manufacturing sectors of the U.S. economy. To accomplish this, the EPA will collaborate with manufacturing sectors of our economy to help understand the permitting needs of our customers and how the agency may provide better customer service. The EPA will work to identify collaborative and innovative solutions to overcome barriers to job creation and economic growth. This will lead to better-informed rulemakings, reduced burden on the regulated community, increased transparency about environmental performance, and develop efficient, effective, consensus-based solutions to environmental problems.

Permit Streamlining
The EPA will focus on streamlining the environmental permitting processes, which impacts job growth and economic development in many sectors of the economy. This work will be done in conjunction with and in support of the President's "Memorandum Streamlining Permitting and Reducing Regulatory Burdens for Domestic Manufacturing".[57]

[57] For more information: https://www.whitehouse.gov/the-press-office/2017/01/24/presidential-memorandum-streamlining-permitting-and-reducing-regulatory.

Lean
The EPA will continue its use of the Lean concept to increase efficiency and effectiveness in agency operations. This program coordinates the agency's implementation of the Lean concept and includes a network of liaisons in every EPA program and regional office.

The program will continue to advance business process improvements through providing access to process improvement experts, identifying projects of high strategic value, measuring process improvements (e.g., time savings and satisfaction rates), and expanding the transfer of successful approaches across EPA programs and organizations.

The program will continue to build on previous agency investments in the Lean concept by partnering with states, tribes, and local government stakeholders to share Lean results and lessons learned through Lean Action Board summits and web-based communications.

Community-Driven Environmental Protection: Providing Technical Assistance
Technical assistance and training is the cornerstone of the EPA's cooperative approach to addressing development-related environmental challenges in communities, particularly communities that are environmentally overburdened and economically distressed. The objective is to help Tribal, state, and local governments increase their capacity to protect the environment while growing their economies, creating jobs, using public and private sector investments, and other resources more efficiently. Where appropriate, the EPA will partner with other agencies to help achieve locally-led, community-driven approaches to protecting clean air and water, while at the same time supporting economic revitalization.

Community-Driven Environmental Protection: Developing Tools and Delivering Training
The program will continue agency analyses on emerging trends, innovative practices, and tools that support clean air, land, and water outcomes. The EPA will develop tools to help interested communities incorporate innovative approaches to infrastructure and land development policies that deliver multiple economic, community, and quality of life benefits while also managing stormwater, reducing combined sewer overflows, improving local air quality, and achieving other environmental benefits.

Community-Driven Environmental Protection: Increasing Effectiveness of EPA's Assistance to Overburdened, Economically Distressed Communities
In FY 2018, the IES program will continue to lead the existing Cross-Agency Communities team to support the Administrator's theme of national standards and neighborhood solutions. The program will coordinate work with communities and states to identify, develop, and implement locally led solutions that the EPA will support through existing programs. Using technical assistance, existing knowledge and expertise, data, and the replication of known best practices, the program will streamline existing resources to meet the needs of overburdened, economically distressed communities.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,318.0 / -9.8 FTE) This streamlines the community work and eliminates the climate adaptation efforts of the IES program.

Statutory Authority:

Clean Water Act (CWA), § 104(b)(3); Clean Air Act (CAA), § 103; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$15,218.6***	***$14,546.0***	***$15,208.0***	***$662.0***
Total Budget Authority / Obligations	$15,218.6	$14,546.0	$15,208.0	$662.0
Total Workyears	80.7	81.3	74.0	-7.3

Program Project Description:

The Regulatory/Economic, Management and Analysis program is responsible for reviewing agency regulations to ensure that they are developed in accordance with the governing statutes, executive orders, and agency priorities and are based on sound technical, economic and policy assumptions. As part of these responsibilities, the program identifies regulations that are overly burdensome, as well as assesses and considers the impacts of regulations on businesses, jobs, communities, government entities, and the economy more broadly. Further, the program ensures consistent and appropriate economic analysis of regulatory actions, as well as analyzes regulatory and non-regulatory approaches, and considers interactions between regulations across different environmental media. This program also ensures agency regulations comply with statutory and other Executive Order (EO) requirements, such as the Congressional Review Act, the Regulatory Flexibility Act (as amended by the Small Business Regulatory Enforcement Fairness Act), and EOs 12866 and 13563 regarding the Office of Management and Budget (OMB) regulatory review.

FY 2018 Activities and Performance Plan:

The program assists the Administrator and senior agency staff to implement new regulatory policy priorities, including EO 13771 (Reducing Regulation and Controlling Regulatory Costs), EO 13777 (Enforcing the Regulatory Reform Agenda), and EO 13783 (Promoting Energy Independence and Economic Growth).

In FY 2018, the EPA will continue its efforts to assess, review, and improve its regulations while considering costs and burdens to businesses, government entities, and the economy, and maximizing the net benefits to protect human health and the environment. Key program activities planned include:

- Manage the EPA's implementation of new EOs, including management of the regulatory budget and offsetting rules, identifying deregulatory and burden reducing actions, analyzing potential areas of cost savings, staffing the Regulatory Reform Taskforce, and managing regulatory review of regulations impacting the energy sector.

- Manage the agency's internal *Action Development Process*, *Economic Guidelines*, and related requirements (e.g., OMB Circular A-4 on Regulatory Analysis). This program will update the agency's *Guidelines for Preparing Economic Analysis* to provide the

Administrator with quality analysis of costs, economic impacts, jobs changes, and environmental benefits to better inform decision making and the public about the consequences of regulation.[58]

- Apply the best economy-wide modeling tools to assess the economic effects of environmental regulatory options.

- Develop the EPA's Regulatory Agenda, while ensuring the EPA complies with new requirements under EO 13771.

- Expand and upgrade regulatory planning and tracking tools to facilitate timely decisions and coordination across programs.

- Serve as the agency's liaison with the Office of Information and Regulatory Affairs (OIRA) within OMB.

- Serve as the agency's liaison with the Office of the Federal Register by reviewing, editing, and submitting documents for publication so that the public, states, other agencies, and Congress are informed about the EPA's regulatory activities in a timely manner.

- Develop, in conjunction with the EPA's Research and Development programs and other agency programs (i.e., air, water, etc.), improved analytical tools to advance the EPA's risk assessment methods used in quantifying human health benefits.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$237.0) This increase will enable the agency to purchase and deploy tools for economic modeling that better assess job and other economic impacts from regulations.

- (+$150.0) This increase supports the development of a centralized regulatory action management tool that replaces existing outdated systems, streamlines data entry, facilitates electronic workflows and digital signature, incorporates tasking and reporting, and integrates with external systems such as the Federal Docket Management System and the Office of the Federal Register. The new system will improve public access to information about the EPA's regulatory efforts.

- (+$275.0) This increase supports the demands for policy analysis to comply with new Executive Orders on regulatory reform. The increase also will support efforts to evaluate and use economy-wide modeling approaches designed to examine the distribution consequences of regulatory burdens.

[58] For more information: https://www.epa.gov/environmental-economics/guidelines-preparing-economic-analyses.

- (-7.3 FTE) These FTE changes represent the net of all other changes in the program to streamline the agency activities in FY 2018.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$4,203.8***	***$3,875.0***	***$3,567.0***	***($308.0)***
Total Budget Authority / Obligations	$4,203.8	$3,875.0	$3,567.0	($308.0)
Total Workyears	19.4	21.6	18.7	-2.9

Program Project Description:

Congress established the EPA's Science Advisory Board (SAB) in 1978 to advise the Administrator on a wide range of highly visible and important scientific matters. The Clean Air Scientific Advisory Committee (CASAC) was established in 1977 under the Clean Air Act (CAA) Amendments of 1977 to provide independent advice to the EPA Administrator on the technical bases for EPA's National Ambient Air Quality Standards. The SAB and the CASAC, both statutorily-mandated chartered Federal Advisory Committees, draw from a balanced range of non-EPA scientists and technical specialists from academia, communities, states, independent research institutions, and industry. This program provides management and technical support to these advisory committees, which provide the EPA's Administrator with independent advice and peer review on scientific and technical aspects of environmental issues, criteria, standards, regulations, and research planning.[59]

FY 2018 Activities and Performance Plan:

FY 2018 resource levels are a unique opportunity for the EPA's SAB to reprioritize activities. Authorizing legislation and scientific integrity mandates that each peer review meets certain minimum standards for a successful independent review. The SAB and CASAC plan to conduct approximately 1-2 reviews and produce approximately 1-2 reports. Remaining funding will be committed to the ongoing database transition out of Lotus Notes.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$308.0 / -2.9 FTE) This funding change streamlines support for conducting peer reviews, hosting meetings to assess Integrated Risk Information System chemicals, and implementing business process improvements to assure logistical support is provided to help the SAB and CASAC adhere to the provisions of the Federal Advisory Committee Act.

[59] For more information: "http://www.epa.gov/sab/, http://www.epa.gov/casac/".

Statutory Authority:

Environmental Research, Development, and Demonstration Authorization Act (ERDDAA); Federal Advisory Committee Act (FACA); Clean Air Act.

Program Area: Operations and Administration

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$679.6	$583.0	$680.0	$97.0
Environmental Program & Management	***$304,456.9***	***$310,948.0***	***$301,001.0***	***($9,947.0)***
Science & Technology	$71,332.8	$68,209.0	$68,339.0	$130.0
Building and Facilities	$37,184.2	$35,573.0	$33,377.0	($2,196.0)
Leaking Underground Storage Tanks	$785.2	$782.0	$785.0	$3.0
Hazardous Substance Superfund	$69,168.0	$74,137.0	$59,072.0	($15,065.0)
Total Budget Authority / Obligations	$483,606.7	$490,232.0	$463,254.0	($26,978.0)
Total Workyears	332.9	357.7	312.2	-45.5

Program Project Description:

Environmental Program and Management (EPM) resources in the Facilities Infrastructure and Operations program fund the agency's rent, utilities, and security. This program also supports centralized administrative activities and support services, including health and safety, environmental compliance and management, facilities maintenance and operations, space planning, sustainable facilities and energy conservation planning and support, property management, printing, mail, and transportation services. Funding is allocated for such services among the major appropriations for the agency.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to invest to reconfigure the EPA's workspaces, enabling the agency to release office space and reduce long-term rent costs, consistent with HR 4465[60], the *Federal Assets Sale and Transfer Act of 2016*. Since FY 2012 the EPA has released over 517 thousand square feet of office space nationwide, resulting in a cumulative annual rent avoidance of nearly $20 million across all appropriations. These savings help offset the EPA's escalating rent and security costs. Currently planned consolidations will allow the EPA to release another estimated 336 thousand square feet of office space. For FY 2018, the agency is requesting $163.13 million for rent, $9.24 million for utilities, and $25.88 million for security in the EPM appropriation.

At the requested resource levels, the EPA will continue to manage lease agreements with GSA and other private landlords, maintain EPA facilities, fleet, equipment, and fund costs associated with utilities and building security needs. The EPA also will meet regulatory Occupational Safety and Health Administration (OSHA) obligations and provide health and safety training to field staff

[60] For additional information, refer to: https://www.congress.gov/bill/114th-congress/house-bill/4465, *Federal Assets Sale and Transfer Act of 2016*.

(e.g., inspections, monitoring, On-Scene Coordinators), and track capital equipment of $25,000 or more.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,395.0 / -36.4 FTE) This reflects the net change in agency activities in FY 2018 including:
  - support for employee wellness and worklife initiatives such as federal cost sharing for fitness centers, health wellness and CPR/ AED training services, and libraries;
  - preventative maintenance of facilities, equipment, and vehicle fleet;
  - custodial services; and
  - agency's mail delivery services.

- (-$2,385.0) This decreases rent funding as planned space consolidations complete in FY 2018.

- (-$1,811.0) This reflects the consolidation of entry points into facilities, which will decrease the number of security guards required.

- (-$4,106.0) This reduction modifies the timing of the EPA's facility consolidations. Costs associated with moves and consolidations will be limited to supporting core agency operations in an expedited and cost effective manner.

- (-$250.0) This eliminates programs associated with: environmental management systems; comprehensive facility energy audits; re-commissioning; and sustainable building design.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$70,707.8***	***$72,047.0***	***$64,709.0***	***($7,338.0)***
Leaking Underground Storage Tanks	$426.0	$423.0	$423.0	$0.0
Hazardous Substance Superfund	$21,331.2	$22,084.0	$12,226.0	($9,858.0)
Total Budget Authority / Obligations	$92,465.0	$94,554.0	$77,358.0	($17,196.0)
Total Workyears	458.5	493.4	394.1	-99.3

Program Project Description:

Activities under the Central Planning, Budgeting and Finance program support the management of integrated planning, budgeting, financial management, performance and accountability processes, and financial systems to ensure effective stewardship of resources. This includes developing, managing, and supporting a performance management system consistent with the Government Performance and Results Modernization Act for the agency that involves strategic planning and accountability for environmental, fiscal, and managerial results; providing policy, systems, training, reports, and oversight essential for the financial operations of the EPA; managing the agencywide Working Capital Fund; providing financial payment and support services for the EPA through three finance centers, as well as specialized fiscal and accounting services for many of the EPA programs; and managing the agency's annual budget process. This program also implements the Digital Accountability and Transparency (DATA) Act of 2014 and Federal Information Technology Acquisition Reform Act (FITARA) of 2015 requirements.

FY 2018 Activities and Performance Plan:

The EPA will continue to provide resource stewardship to ensure that all agency programs operate with fiscal responsibility and management integrity, are efficiently and consistently delivered nationwide, and demonstrate results. The EPA will maintain key planning, budgeting, and financial management activities. The EPA will sustain basic operations and maintenance of core agency financial management systems: Compass, PeoplePlus (Time and Attendance), Budget Formulation System, and related financial reporting systems.

The program will continue to support the agency's Lean efforts to continue to improve as a high performance organization and business process improvement agencywide. To date, the agency has successfully conducted several Lean events to streamline and improve financial stewardship across the agency, including the interagency agreement management process, the unliquidated obligation or deobligation process, and is proceeding with recommendations from the software applications accounting Lean processes.

In FY 2018, as the agency reprioritizes activities, the program will focus on core responsibilities in the areas of strategic planning and enterprise risk management; budget preparation; financial reporting; and, transaction processing. The EPA will adjust its timeline to modernize and modify the agency's Account Code Structure to improve tracking and reporting capabilities, maximizing the benefits within the Compass financial system. In addition, the DATA Act coordination and implementation will be performed within the defined funding levels.

In FY 2018, the EPA will continue to use the performance metrics and OMB FedStat meetings to answer fundamental business questions to mission-support services and opportunities for service improvements. The program will continue to implement FITARA requirements in accordance with the EPA's Implementation Plan.[61] The Chief Information Officer will continue to be engaged throughout the budget planning process to ensure that IT needs are properly planned and resourced in accordance with FITARA.

The EPA is dedicated to reducing fraud, waste, and abuse and strengthening internal controls over improper payments. Since the implementation of the Improper Payments Information Act of 2002, the EPA has reviewed, sampled, and monitored its payments to protect against erroneous payments. The agency's payment streams are consistently well under the government-wide threshold of 1.5 percent and $10 million of estimated improper payments. The EPA conducts risk assessments in its principal payment streams, including grants, contracts, commodities, payroll, travel, purchase cards, Hurricane Sandy funding, and the Clean and Drinking Water State Revolving Funds. When overpayments are identified, they are promptly recovered. The EPA has expanded its risk assessments, performed statistical sampling, set appropriate reduction/recovery targets, and implemented corrective action plans. The agency conducts these activities to reduce the potential for improper payments and ensure compliance with the Improper Payments Information Act, as amended by the Improper Payments Elimination and Recovery Act of 2010 (P.L. 111-204) and the Improper Payments Elimination and Recovery Act of 2012 (P.L. 112-248).

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,703.0 / -54.0 FTE) This streamlines efforts in the areas of strategic planning, enterprise risk management, budget preparation, financial reporting, and transaction processing.

- (-$3,635.0) This focuses resources on maintenance of the agency's existing financial management systems such as, Account Code Structure, reporting tool (Compass Data Warehouse), and cost allocation.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified as Title 5 App.) (the EPA's organic statute).

[61] For more information: http://www.epa.gov/open/fitara-implementation-plan-and-chief-information-officer-assignment-plan.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$30,174.3***	***$30,406.0***	***$24,978.0***	***($5,428.0)***
Leaking Underground Storage Tanks	$152.5	$145.0	$138.0	($7.0)
Hazardous Substance Superfund	$22,129.0	$22,418.0	$14,036.0	($8,382.0)
Total Budget Authority / Obligations	$52,455.8	$52,969.0	$39,152.0	($13,817.0)
Total Workyears	276.7	304.5	214.2	-90.3

Program Project Description:

Environmental Program and Management (EPM) resources in the Acquisition Management Program support the EPA's contract activities, which is responsible for planning, awarding and administering contracts for the agency, including issuing acquisition policy and interpreting acquisition regulations; administering training for contracting and program acquisition personnel; providing advice and oversight to regional procurement offices; and providing information technology improvements for acquisition.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to process contract actions in accordance with Federal Acquisition Regulation (FAR) and guidance from the Office of Federal Procurement Policy (OFPP). The EPA will maintain the EPA Acquisition System (EAS).

In FY 2018, the EPA will continue to implement its Strategic Sourcing Program (SSP), thereby enhancing purchase coordination, improving price uniformity and knowledge-sharing, and leveraging small business capabilities to meet acquisition goals. The SSP also allows the agency to research, assess, and award contract vehicles that will maximize time and resource savings. The SSP serves as a foundation for effective financial and resource management because it simplifies the acquisition process and reduces costs. Long term implementation of the SSP can potentially transform the agency's acquisition process into a strategically driven function, ensuring maximum value for every acquisition dollar spent. The agency has established a goal of obtaining at least five percent savings for all strategically sourced categories of goods and services. Through FY 2016, the EPA has saved approximately $8 million from strategic sourcing initiatives focused on VoIP, laboratory supplies, print, cellular services, shipping, office supplies, equipment maintenance, and Microsoft software. In FY 2017, the EPA anticipates between $3 to $4 million in savings.

In FY 2018, the EPA will continue to focus on implementing the Financial Information Technology Acquisition Reform Act (FITARA) by:

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- Avoiding vendor lock-in by letting contracts with multiple vendors or confining the scope of the contract to a limited task; and
- Developing acquisition vehicles that support the agency in FITARA implementation.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,428.0 / -31.0 FTE) This streamlines contractor support for: helpdesk services for the EPA Acquisition System; the closeout of contracts; and existing priorities like the Defense Contract Management Agency for Audit Services and the Virtual Acquisition Office (a source for up-to-date government acquisition news, research, and analysis). This reduction also eliminates funding for Contracts Management Assessment Program Reviews which enable the agency to self-identify and remedy internal weaknesses, and the agency's training for its acquisition community.

Statutory Authority:

Office of Federal Procurement Policy Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$27,202.6***	***$25,248.0***	***$18,564.0***	***($6,684.0)***
Hazardous Substance Superfund	$2,845.0	$2,889.0	$1,591.0	($1,298.0)
Total Budget Authority / Obligations	$30,047.6	$28,137.0	$20,155.0	($7,982.0)
Total Workyears	154.8	161.2	108.5	-52.7

Program Project Description:

Environmental Program and Management (EPM) resources in the Financial Assistance Grants and Interagency Agreement (IA) Management program support the management of grants and IAs, and suspension and debarment activities. Grants comprise approximately 40 percent of the EPA's overall budget. Resources in this program ensure that the EPA's management of grants and IAs meet the highest fiduciary standards, that grant/IA funding produces measurable results for environmental programs, and that the suspension and debarment program effectively protects the government's business interest.

FY 2018 Activities and Performance Plan:

In accordance with the overarching 2016-2020 EPA Grants Management Plan (GMP), the EPA will continue to implement activities to achieve efficiencies while enhancing quality and accountability. The EPA will invest to modernize grant and IA IT systems by:

- The EPA will migrate away from aging Lotus Notes technology by deploying the Post-Award and Closeout modules of the Next Generation Grants System (NGGS), which has a low deployment time due to the system's modular architecture. NGGS will demand fewer training resources as the system is based on existing grants system infrastructure. NGGS relies on a flexible platform that will enable it to adapt to changing technology and business processes and will allow it to easily integrate with other agency systems.

- Eliminating reliance on paper grant files, the agency will move to an electronic system for grants management records.

- Strengthening grant decision-making, the EPA will enhance the capability of web-based reporting tools to provide real-time information to grant managers.

In addition to IT-related investments, the GMP focuses on reducing the administrative burden on the EPA and grants recipients, and on improving grants management procedures. Specifically, the agency will continue to: 1) fully implement the streamlining reforms in OMB's Uniform Grants Guidance; 2) streamline the EPA's grants management by developing a comprehensive framework

of effective and efficient policies; 3) review, refine, and streamline (Lean) the processes for Intergovernmental Review; and 4) implement an expanded Grants Place of Performance (POP) policy, supported by a user-friendly mapping interface, to provide more accurate and useful locational grant data.

The EPA is a recognized leader in suspension and debarment. The agency will continue to make aggressive use of discretionary debarments and suspensions as well as statutory debarments under the Clean Air Act and Clean Water Act to protect the government's business interests. In FY 2018, the EPA will focus suspension and debarment activity to the most egregious violations. Congress and federal courts have long recognized federal agencies' inherent authority and obligation to exclude nonresponsible parties from eligibility to receive government contracts and nonprocurement awards (for example: grants, cooperative agreements, loans, and loan guarantees). A number of recent federal statutes, GAO reports, and OMB directives require that federal agencies administer effective suspension and debarment programs in order to protect taxpayers from unscrupulous actors.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,593.0 / -43.1 FTE) This change reflects expected efficiencies in the processing of grant and IA awards, lower requested grant funding levels throughout the agency and a review of unliquidated obligations. The EPA will target funds to core grant and IA activities.

- (-$840.0) The agency will focus on pre-award reviews; post-award monitoring; compliance; administrative advanced monitoring reviews; management effectiveness reviews; baseline monitoring; and audit follow-up activities on the highest risk awards.

- (-$190.0) This funding change streamlines training and development activities for the EPA's grants and IA workforce and recipient training.

- (-$389.0) This funding change reflects a focus on the most egregious suspension and debarment violations.

- (-$672.0) This funding change streamlines efforts to further develop the Grantee Compliance Database System and the Case Application for Debarment and Suspension Management System.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Federal Grant and Cooperative Agreement Act; Federal Acquisition Streamlining Act, § 2455.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$40,756.0***	***$43,185.0***	***$40,512.0***	***($2,673.0)***
Hazardous Substance Superfund	$4,908.5	$6,333.0	$4,580.0	($1,753.0)
Total Budget Authority / Obligations	$45,664.5	$49,518.0	$45,092.0	($4,426.0)
Total Workyears	216.7	247.1	223.0	-24.1

Program Project Description:

Environmental Programs and Management (EPM) resources for the Human Resources (HR) Management program support human capital activities throughout the EPA. To help achieve its mission and maximize employee productivity and job satisfaction, the EPA continually works to improve business processes for critical human capital functions including recruitment, hiring, employee development, performance management, and workforce planning. EPM resources also support advisory committee work aimed at managing programs that address scientific and environmental issues.

FY 2018 Activities and Performance Plan:

Effective workforce management is critical to the EPA's ability to accomplish its mission. The EPA's efforts in HR enterprise risk management include attracting and retaining a high-performing, diverse workforce; implementing training and development programs; delivering employee services; streamlining HR processes; and strengthening performance management, labor, and employee relations programs. The EPA will continue to support efforts that increase the quality of core operations, improve productivity, and achieve cost savings in mission-support functions including human capital management.

In FY 2018, the EPA will focus its workforce planning efforts to strategically reshape the agency based on changes in program priorities and technological advances. The EPA anticipates a spike in workforce planning needs to support the reshaping and organizational restructuring across the agency. The agency also will continue to strengthen its performance management activities, including developing management tools, targeting and providing training, leveraging the First Line Supervisors Advisory Group and performing mentoring on an as-needed basis.

The EPA will focus on delivering statutorily required services associated with the Employee Counseling Assistance Program, the Federal Worker's Compensation Program, the Drug-free Workplace Program, and Unemployment Compensation. The EPA also will continue its focus on Labor and Employee Relations (LER) by administering and/or negotiating national and Headquarters labor agreements and providing advice, guidance, and assistance to regional and local level negotiations. The EPA will continue efforts to strengthen managers' and supervisors' institutional knowledge on LER related matters; provide advisory and counseling support

agencywide; and conduct analysis of human capital information to help managers in their functions.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,673.0/ -24.1 FTE) This reflects a reduction for:
  - Operational support for the following HR programs being utilized agencywide: the EPA's Child Care Subsidies; the agency's recruitment and diversity and inclusion activities; the EPA's Human Resources Council (HRC) and National Partnership Council (NPC); the Phased Retirement; the Leave Bank; and the Workplace Solutions.
  - Enhancements and maintenance of the EPA's HR IT Systems including HR Line of Business (LoB), data management and analysis, troubleshooting, and change requests;
  - Maintenance of the EPA University portal that provides on-line training and professional development;
  - Support for Federal Advisory Committees not mandated by statute; and
  - Centrally-provided, non-mandatory training.

Statutory Authority:

Title 5 of the U.S.C.; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$0.0	$0.0	$10,995.0	$10,995.0
Environmental Program & Management	***$0.0***	***$0.0***	***$46,719.0***	***$46,719.0***
Hazardous Substance Superfund	$0.0	$0.0	$10,437.0	$10,437.0
Total Budget Authority / Obligations	$0.0	$0.0	$68,151.0	$68,151.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Environmental Protection Management (EPM) resources for the workforce reshaping program support organizational restructuring efforts throughout the U.S. Environmental Protection Agency. To help achieve its mission, the EPA will develop, review and analyze mission requirements and implement options to effectively align and redistribute the agency's workforce based on program priorities, resource reallocation, and technological advances.

FY 2018 Activities and Performance Plan:

Effective workforce reshaping is critical to the EPA's ability to accomplish its mission. The EPA will be examining our statutory functions and processes to eliminate inefficiencies and streamline our processes. Primary criteria will include effectiveness and accountability, as the EPA is focused on greater value and real results. These analyses will likely create a need to significantly reshape the workforce. The agency anticipates the need to offer voluntary early out retirement authority (VERA) and voluntary separation incentive pay (VSIP), and potentially relocation expenses, as part of the workforce reshaping effort. The use of VERA/VSIP will increase voluntary attrition and enable more focused support for the agency's highest priority work.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$46,719.0) In support of the reprioritization of agency activities, this increase will support:
  - Voluntary early out retirement authority (VERA)
  - Voluntary separation incentive pay (VSIP)
  - Workforce support costs for relocation of employees as we realign work assignments.

Statutory Authority:

5 U.S.C. 8336(d)(2) includes the statutory VERA provisions for employees covered by the Civil Service Retirement System; 5 U.S.C. 8414(b)(1)(B) includes the statutory VERA provisions for employees covered by the Federal Employees Retirement System; Section 1313(b) of the Chief Human Capital Officers Act of 2002 (Public Law 107-296, approved November 25, 2002) authorized the VSIP option under regulations issued by OPM, as codified in sections 3521 to 3525 of title 5, United States Code (U.S.C.).

Program Area: Pesticides Licensing

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$3,772.1	$3,122.0	$2,274.0	($848.0)
Environmental Program & Management	***$57,708.1***	***$57,699.0***	***$48,568.0***	***($9,131.0)***
Total Budget Authority / Obligations	$61,480.2	$60,821.0	$50,842.0	($9,979.0)
Total Workyears	399.9	418.7	416.5	-2.2

Program Project Description:

Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and the Federal Food, Drug, and Cosmetic Act (FFDCA), as amended by the Food Quality Protection Act (FQPA) of 1996 and the Pesticide Registration Improvement Extension Act of 2012 (known as PRIA3), the EPA is charged with protecting people from the health risks that pesticide use can pose. FIFRA requires the EPA to register pesticide products before they are allowed to be marketed for use in the United States. Registration is based on review of scientific data sufficient to demonstrate that the product can perform its intended function without unreasonable adverse effects on people or the environment.

The statutes above charge the EPA with issuing pesticide registrations and setting tolerances (maximum residue levels) for pesticides in food and animal feed and with periodically reviewing the registrations and tolerances that the agency issues, to ensure that public health is adequately protected. The program addresses these requirements by conducting risk assessments using the latest scientific methods for new and existing pesticides. The agency scientists examine the risks that pesticides pose to human health through the diet and through exposure at work, at home, in school, or at play. The EPA pesticide program also reduces the risks of disease by ensuring the efficacy of public health pesticides (pesticides that control pests or bacteria that vector disease or for other recognized health protection uses). The EPA encourages the development and use of safer pesticides and educates pesticide users and the public in general through labeling as well as public outreach.

Pesticide Registration and Tolerance Setting

Under the FFDCA, if a pesticide is to be used in a manner that may result in pesticide residues in food or animal feed, before it can be registered, the EPA must establish a tolerance, or maximum legal residue level or exemption from the requirement of a tolerance, for each affected food or feed commodity. To establish a tolerance, the EPA must find that the residues are "safe," which, under FFDCA, means that there is a reasonable certainty of no harm to human health from aggregate exposure to the pesticide residue in food and from all other exposure except occupational exposure.

The passage of FQPA in 1996, which amended both FIFRA and FFDCA, not only introduced this stricter safety standard, it also mandated the consideration of a number of other factors including

cumulative and aggregate effects. When assessing a pesticide registration or tolerance, the EPA must consider the cumulative effects of related pesticides with a common mode of toxicity and the potential for endocrine disruption effects and apply an appropriate safety factor to ensure the protection of infants and children as outlined below. In addition, the EPA must include aggregate exposure, including all dietary exposure, drinking water, and non-occupational exposures. All these pesticide exposures from food, drinking water, and home and garden use must be considered when determining allowable levels of pesticides in food. Since the passage of FQPA, the EPA's risk assessment process must incorporate a 10-fold safety factor (10X) for infants and children unless reliable information in the database on the chemical indicates that it can be reduced or removed. Under FQPA, even the limited, temporary use under an emergency exemption may not be allowed without the establishment of a tolerance.

To comply with statutory mandates, the EPA conducts risk assessments using the latest scientific methods to determine the risks that pesticides pose to human health, including reviewing comprehensive toxicity, residue chemistry, and other data submitted by pesticide manufacturers (registrants) as required by the EPA, and consulting public literature or other sources of supporting information regarding the pesticide's effects or exposure. Toxicity data is used to identify the hazard potential of a pesticide. Residue chemistry data is used to determine the identity and amount of pesticide in or on food. The agency reviews all data to make sure they were developed according to standard practices within the discipline and the EPA's test guidelines. In addition to toxicity and residue chemistry data, the EPA also may use other data to refine and make more realistic exposure assessments for residues on food and exposure to workers, bystanders and people who live, work, play, and go to school in treated areas. The result of these assessments could be the need for label restrictions in certain areas to reduce the exposure to safe levels. Risk assessments undergo an internal peer review and regulatory decisions are posted on the Internet for review and comment to ensure that these actions are transparent and stakeholders are engaged in decisions affecting their health and environment. When complex scientific issues arise, the agency consults the FIFRA Scientific Advisory Panel (http://www.epa.gov/scipoly/sap/) for independent scientific advice.

Periodic Review of Registrations and Tolerances

Not only must the EPA conduct risk assessments before the initial registration of each pesticide for each use, but the FQPA amendments introduced the requirement that every pesticide registration be reviewed at least every 15 years. This periodic review is accomplished through our Registration Review Program.[62] In the interest of efficiency and fairness and to facilitate the assessment of cumulative exposures, the agency reviews certain related pesticides (such as the pyrethroids and pyrethrins, the neonicotinoids, or the fumigants) at the same time. Pesticide cases may be related by chemical class or structure, mode of action, use, or for other reasons.

Ensuring Proper Use and Mitigating Risks of Pesticides through Labeling

Under FIFRA, it is illegal to use a registered pesticide in a manner inconsistent with the label instructions and precautions. Therefore, the EPA uses pesticide labels to indicate what uses are appropriate in order to ensure that the pesticide does not cause unreasonable adverse effects on human health or the environment, as determined by the risk assessment. The EPA pesticide product

[62] https://www.epa.gov/pesticide-reevaluation.

registrations include required labeling instructions and precautions. When risks are identified during the initial registration or during registration review, the agency may mitigate those risks by requiring label changes, for example, requiring personal protective equipment for applicators, or changing the application method or rate or the time when the treated area may be reentered. Ensuring the proper use of pesticides prevents unnecessary pesticide exposure to the person applying the pesticide and people working, living, or playing nearby. It also prevents excessive residues in the food people eat and in animal feed.

Reducing Pesticide Risks to People through the Registration of Lower Risk Pesticides

To further protect human health, this program emphasizes the use of reduced risk methods of pest control, including the use of reduced risk pesticides and helping growers and other pesticide users learn about new, safer products and methods of using pesticides. The EPA began promoting reduced risk pesticides in 1993 by giving registration priority to pesticides that have lower toxicity to humans and non-target organisms such as birds, fish, and plants; low potential for contaminating groundwater; lower use rates; low pest resistance potential; and compatibility with Integrated Pest Management (IPM).[63] Biological pesticides and biotechnology often represent lower risk solutions to pest problems.

Several other countries and international organizations also have instituted programs to facilitate registering reduced risk pesticides. The EPA works with the international scientific community and the Organization for Economic Cooperation and Development (OECD) member countries to register new reduced risk pesticides and to establish related tolerances (maximum residue limits). Through these efforts, the EPA can help reduce risks to Americans from foods imported from other countries.

Protecting Workers from On-the-Job Pesticide Risks

Millions of America's workers are exposed to pesticides in occupations such as agriculture, lawn care, food preparation, and landscape maintenance. Protecting workers from potential effects of pesticides is an important role of the pesticide program. Workers in several occupations may be exposed to pesticides when they prepare pesticides for use, such as by mixing a concentrate with water or loading the pesticide into application equipment; applying pesticides, such as in an agricultural or commercial setting; or when they enter an area where pesticides have been applied to perform allowed tasks such as picking crops.

The Worker Protection Standard (WPS) and the certification and training rule are key elements of the EPA's strategy for reducing occupational exposure to agricultural pesticides. The EPA's revised WPS, finalized in 2015, will afford farm workers similar health protections to those already enjoyed by other workers in other jobs.

In FY 2016 and the early part of FY 2017, the EPA provided guidance materials to assist states and agricultural employers to understand the new WPS requirements that went into effect on January 2, 2017. Additional materials are under development to assist states and agricultural employers to

[63] See U.S. Environmental Protection Agency, Pesticides: Health and Safety, Reducing Pesticide Risk internet site: http://www.epa.gov/pesticides/health/reducing.htm.

understand the additional requirements that are targeted to go into effect on January 2, 2018. In early 2017, the National Association of State Departments of Agriculture petitioned the EPA to extend the implementation date for the WPS to allow for additional time for the EPA to work with the states to ensure that sufficient materials were available to the agricultural community to successfully implement the new requirements. In April 2017, the EPA granted this petition and will soon begin the regulatory process to change the implementation date to January 2, 2019. Following signature of the new rule, the EPA immediately began an extensive schedule of trainings for state regulators and state inspectors training, because training our state co-regulators is a top priority. While resource intensive, the agency prioritized providing in-person training to states and regions to allow for face-to-face dialogue on the new requirements in the final rule issued in 2015. The EPA also had success conducting over 30 webinars in less than one year and has plans for additional webinars for the rest of FY 2017 and throughout FY 2018. For more information, see https://www.epa.gov/pesticide-worker-safety/revisions-worker-protection-standard.

Preventing Disease through Public Health Pesticides

Antimicrobial pesticides play an important role in public health and safety by killing germs, bacteria, viruses, fungi, protozoa, algae, and slime. Some of these products are used to sterilize hard surfaces in hospitals. Chemical disinfection of hard, non-porous surfaces such as floors, bed rails, and tables is one component of the infection control systems in hospitals, food processing operations, and other places where disease-causing microorganisms, such as bacteria and viruses, may be present. In reviewing registrations for antimicrobials, the EPA is required to ensure that antimicrobials maintain their effectiveness.[64] The EPA's Antimicrobial Testing Program has been testing hospital sterilants, disinfectants, and tuberculocides since 1991 to help ensure that products in the marketplace meet stringent efficacy standards. Other pesticides also protect public health, such as insecticides and rodenticides that combat insects and other pests that carry diseases such as West Nile virus, Lyme disease, and rabies.

Outreach and Education

Giving priority to reduced risk and Integrated Pest Management (IPM)-friendly pesticides are two steps toward protecting human health. It is important for people using pesticides to be well informed, to understand the importance of reading, and following label directions and the importance of proper disposal, and they also need to understand how to protect themselves from pests that can transmit disease. The Pesticide Program invests in environmental education and training efforts for growers, pesticide applicators, and workers, as well as the public in general. The EPA will continue to work to reduce the number and severity of pesticide exposure incidents by developing effective communication, environmental education, and training programs.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will review and register new pesticides, new uses for existing pesticides, and other registration requests in accordance with statutory requirements. In addition, the agency will be reviewing, under the registration review program, pesticides that are already in the market against current scientific standards for human health. To further advance the EPA's work

[64]FIFRA Section 3(h)(3), 7 U.S.C. 136a(h)(3).

supporting environmental justice and children's health, the EPA will process these registration requests with special consideration for susceptible populations, especially children. Specifically, the EPA will focus on the foods commonly eaten by children in order to reduce children's pesticide exposure where the science identifies potential concerns. The EPA uses data from various sources, including the Pesticide Data Program (PDP) and the National Health and Nutrition Examination Survey (NHANES), to assess children's potential risk from pesticides. Pesticide registration actions focus on the evaluation of pesticide products before they enter the market. The EPA will review pesticide data and impose use restrictions and instructions needed to ensure that pesticides used according to label directions also will not result in unreasonable risk. During its pre-market review, the EPA will consider human health and environmental concerns as well as the pesticide's potential benefits.

The EPA will continue to emphasize the registration of reduced risk pesticides, including biopesticides, in order to provide farmers and other pesticide users with new safer alternatives. In FY 2018, the agency, in collaboration with the United States Department of Agriculture (USDA), will work to ensure that minor use registrations receive appropriate support. The EPA will ensure that needs are met for reduced risk pesticides for minor use crops. Additionally, the EPA will assist farmers and other pesticide users in learning about new, safer products and methods of using existing products through workshops, demonstrations, small grants, and materials available on the website and in print. The EPA also will continue to support biotechnology efforts to educate the American public about pesticides related water quality issues and standards.

During FY 2018, the EPA will continue to review the registrations of existing pesticides and develop work plans for pesticides entering the review pipeline. The priority will be toward reviewing those pesticides where there is indication of a need to mitigate risk. The goal of the registration review process is to review pesticide registrations every fifteen years to ensure that pesticides already in the marketplace meet the most current scientific standards and to address concerns identified after the original registration.[65] The completion of the first round of these reviews is due in FY 2022. This program, as mandated by statute, supports the EPA's priorities including ensuring the safety of chemicals and protecting America's waters.

For pesticides registered before October 1, 2007, the EPA has a statutory mandate to make registration review decisions by October 1, 2022. There are a total of 725 such cases. For each case, the steps in this process include, in this order, opening dockets, developing work plans, completing risk assessments, and making decisions regarding any risk management measures. It is important to open dockets and develop work plans for as many cases as possible early in the process so that there is time to complete the risk assessments and make decisions by the 2022 deadline. The agency planned this ramp down in targets for opening dockets and completing work plans so it could focus its resources on completing risk assessments and making decisions to meet its statutory deadline by 2022. The EPA anticipates having completed the opening of dockets in 2017 (completed all 725). There will be zero (0) dockets in FY 2018.

In FY 2018, the agency will continue to work toward our commitment to environmental justice and protection of children's health. Under the Food Quality Protection Act, the EPA is statutorily

[65] See U.S. Environmental Protection Agency, Registration Review Internet Site: http://www.epa.gov/oppsrrd1/registration_review/index.htm

required to ensure that its regulatory decisions are protective of children's health and other vulnerable subpopulations. The EPA will continue to provide locally-based technical assistance and guidance by partnering with states and tribes on implementation of pesticide decisions. Technical assistance and outreach such as workshops, demonstration projects, briefings, and informational meetings also will continue in areas including pesticide safety training and use of lower risk pesticides.

The EPA will continue to engage the public, the scientific community, and other stakeholders in its policy development and implementation. This will encourage a reasonable transition for farmers and others from the older, potentially more hazardous pesticides, to the newer pesticides that have been registered using the latest available scientific information.

In FY 2018, the EPA will continue implementing improvements to the Pesticide Registration Information System (PRISM). Work on PRISM and other areas will include streamlining operations and merging compatible and related work areas in order to maximize resources through management efficiencies and direct reporting improvements. The focus of the project is to achieve paperwork burden reduction by converting paper-based processes into electronic processes for the Pesticide program's regulated entities, creating a streamlined electronic workflow to support pesticide product registration and chemical review, and creating a centralized repository of regulatory decisions and scientific information. Overall, the project will streamline approximately 150 existing business processes.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$9,131.0 / -32.6 FTE) This reduces funding for pesticide program activities from annual appropriations with the intent to increase utilization of pesticide user fee collections. Proposed legislative language accompanying the President's Budget will expand the EPA's scope of activities that can be funded with user fees. This reduction recognizes the adoption of some process improvements in the registration and registration review processes and the completion of some upgrades to program IT systems.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$39,651.4***	***$37,222.0***	***$31,930.0***	***($5,292.0)***
Science & Technology	$1,737.5	$2,324.0	$2,195.0	($129.0)
Total Budget Authority / Obligations	$41,388.9	$39,546.0	$34,125.0	($5,421.0)
Total Workyears	280.4	269.3	268.4	-0.9

Program Project Description:

The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requires the EPA to register a pesticide if, among other things, when used in accordance with labeling and common practices, the product "will also not generally cause unreasonable adverse effects on the environment." The goal of this program is to protect the environment from the potential risks posed by pesticide use. The EPA must conduct risk assessments before the initial registration of each pesticide for each use, as well as re-evaluate each pesticide at least every 15 years, as required by the Food Quality Protection Act (FQPA). This periodic review is accomplished through the EPA's Pesticide Registration Review program.

In addition to FIFRA responsibilities, the agency has distinct obligations under the Endangered Species Act (ESA). [1]This includes ensuring that pesticide regulatory decisions also will not destroy or adversely modify designated critical habitat or jeopardize the continued existence of species listed as threatened or endangered by the U.S. Fish and Wildlife Service (FWS) or National Marine Fisheries Service (NMFS) (jointly the Services).

Assessing the Risks Pesticides Pose to the Environment

To accomplish the goals set out in the two statutes, the EPA conducts ecological risk assessments[66] to determine what risks are posed by each pesticide to plants, animals, and ecosystems that are not the targets of the pesticide and whether changes are necessary to protect the environment. The EPA has extensive authority to require the submission of data to support its scientific decisions and uses the latest scientific methods to conduct these ecological risk assessments. The agency requires applicants for pesticide registration to conduct and submit a wide range of environmental laboratory and field studies. These studies examine the ecological effects or toxicity of a pesticide and its breakdown products on various terrestrial and aquatic animals and plants, and the chemical fate and transport of the pesticide (how it behaves and where it goes in soil, air, and water resources). The EPA uses these and other data to prepare an environmental fate assessment and a hazard, or ecological effects, assessment that interprets the relevant toxicity information for the pesticide and its degradation products. Using environmental fate data and exposure models, the EPA's scientists estimate exposure of different animals and plants to pesticide residues in the environment. Finally,

[66] http://www.epa.gov/pesticides/ecosystem/ecorisk.htm.

these scientists integrate the toxicity information with the exposure data to determine the ecological risk from the use of the pesticide or whether it is safe for the environment and wildlife. These processes are described more fully below.

Assessing Toxicity to Wildlife and Plants

Toxicology studies are carried out on plants and animals that have been chosen for testing because they broadly represent non-target organisms (living things the pesticide is not intended to kill or otherwise control). Animals and plants are exposed to different amounts of a pesticide to determine short- and long-term responses to varying concentrations. Some of the impacts on animals the EPA evaluates are the short- and long-term effects of varying amounts of pesticide exposure to insects and other invertebrates, fish, and birds. For plants, the EPA scientists assess how poisonous a pesticide is to plants, how the pesticide affects a seed's ability to germinate and emerge, as well as how healthy and vigorous the plant grows to be. Toxicological testing and scientific measurements are conducted under strict guidelines and approved methods.[67] Exacting standards are necessary for consistency in evaluations of pesticide safety and for comparisons among chemicals.

Determining the Environmental Fate of a Pesticide

After determining the toxicity of a pesticide, it is important to find out what happens to it in the environment after it has been applied, and therefore, how it might affect the environment. Required studies measure the interaction of pesticides with soils, air, sunlight, surface water, and ground water. Some of the basic questions that must be answered in these studies are: (1) How fast and by what means does the pesticide degrade? (2) What are the breakdown chemicals? and (3) How much of the pesticide or its breakdown chemicals will travel from the application site and where will they accumulate in the environment? These tests include how the pesticide breaks down in water, soil, and light, how easily it evaporates in air and how quickly it travels through soil. The EPA uses these tests to develop estimates of pesticide concentrations in the environment. The EPA scientists evaluate the role of the drift of spray and dust from pesticide applications on pesticide residues that can cause health and environmental effects and property damage.

Putting the Pieces Together

To evaluate a pesticide's environmental risks, the EPA examines all of the toxicity and environmental fate data together to determine what risks its use may pose to the environment. The process of comparing toxicity information and the amount of the pesticide a given organism may be exposed to in the environment is called risk assessment. A pesticide can be toxic at one exposure level and have little or no effect at another. Thus, the risk assessor's job is to determine the relationship between possible exposure to a pesticide and the resulting harmful effects.

If the ecosystem will not be exposed to levels of a pesticide shown to cause problems, the EPA concludes that the pesticide is not likely to harm plants or wildlife. On the other hand, if the ecosystem exposure levels are suspected or known to produce problems, the program will then work to better understand and reduce the risks to acceptable levels. If the risk assessment indicates a high likelihood of hazard to wildlife, the program may require additional testing, require that the

[67] http://www.epa.gov/raf/publications/guidelines-ecological-risk-assessment.htm.

pesticide be applied only by specially-trained people (restricted use), or decide not to allow its use. In addition, the EPA may require monitoring of environmental conditions, such as effects on water sources, or may require additional data from the registrant. Decisions on risk reduction measures are based on a consideration of both pesticide risks and benefits.

The agency reviews all data to make sure they were developed according to standard practices within the discipline and the EPA's test guidelines. Risk assessments are peer reviewed and regulatory decisions are posted on the Internet for review and comment to ensure that these actions are transparent and stakeholders are engaged in decisions that affect their environment. When complex scientific issues arise, the agency consults the FIFRA Scientific Advisory Panel (http://www.epa.gov/scipoly/sap/) for independent scientific advice.

Risk Mitigation

To ensure unreasonable risks are avoided, the EPA may impose risk mitigation measures such as modifying use rates or application methods, restricting uses, or denying uses. In some regulatory decisions, the EPA may determine that uncertainties in the risk determination need to be reduced and may subsequently require monitoring of environmental conditions, such as effects on water sources or the development and submission of additional laboratory or field study data by the pesticide registrant.

The EPA's Pesticide Program has been actively engaged in a number of initiatives to help prevent problems related to the drift of spray and dust from pesticide applications. These initiatives include: broadening the understanding of the science and predictability of pesticide drift based on many new studies; improving the clarity and enforceability of product label use directions and drift restrictions; facilitating the use of drift-reducing application technologies and best management practices to minimize drift; and promoting applicator education and training programs.

Ensuring Proper Pesticide Use through Labeling

Under FIFRA, it is illegal to use a registered pesticide in a manner inconsistent with the label instructions and precautions. The EPA uses pesticide labels to indicate what uses are appropriate and to ensure that the pesticide is used at the application rates and according to the methods and timing approved as a condition of registration. When the EPA registers a pesticide product, it requires specific labeling instructions and precautions. When risks are identified during the initial registration or during registration review, the agency may mitigate those risks by requiring label changes. For example, the EPA may require buffer zones around water sources to prevent contamination of water or endangering aquatic plants and wildlife. Other examples are changing the application method, or rate or timing of applications when pollinators are not present to prevent risks to pollinators such as bees.

Reducing Risk Through the Use of Safer Pesticides and Methods

To further protect the environment, this program[68] emphasizes the use of reduced risk methods of pest control, including the use of reduced risk pesticides and helping growers and other pesticide

[68] Reducing Pesticide Risk (http://www.epa.gov/pesticides/health/reducing.htm).

users learn about new, safer products and methods of using pesticides. The EPA began promoting reduced risk pesticides in 1993 by giving registration priority to pesticides that have lower toxicity to people and non-target organisms such as birds, fish, and plants; low potential for contaminating groundwater; lower use rates; low pest resistance potential; and compatibility with Integrated Pest Management (http://www.epa.gov/pesticides/ipm/). Biological pesticides and biotechnology often represent lower risk solutions to pest problems.

Protecting Endangered Species

The EPA is responsible for complying with the ESA. Given approximately 1,200 active ingredients in more than 17,000 products – many of which have multiple uses - and approximately 1,200 listed species with diverse biological attributes, habitat requirements, and geographic range, this presents a great challenge. As part of the EPA's determination of whether a pesticide product may be registered for a particular use, the agency assesses whether listed endangered or threatened species or their designated critical habitat may be affected by use of the product. Where risks are identified, the EPA must work with the FWS and the NMFS in a consultation[69] process to ensure these new or existing pesticide registrations also will meet the ESA standard. The EPA's Endangered Species Protection Program (ESPP) helps promote the recovery of listed species by determining whether pesticide use in a certain geographic area may affect any listed species. If limitations on pesticide use are necessary to protect listed species in that area, the information is related through Endangered Species Protection Bulletins. The goal of this program is to carry out the agency's responsibilities under FIFRA in compliance with the ESA, without placing unnecessary burdens on agriculture and other pesticide users.

Minimizing Environmental Impacts through Outreach and Education

Through public outreach, the agency continues to encourage the use of Integrated Pest Management (IPM) and other practices to maximize the benefits pesticides can yield while minimizing the impacts on the environment. The agency develops and disseminates brochures, provides education on potential benefits of IPM, and promotes outreach on the success of IPM to encourage its use.[70] To encourage responsible pesticide use that does not endanger the environment, the EPA reaches out to the public through the Internet and to workers and professional pesticide applicators through worker training programs.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA's activities will involve increased efforts on comprehensive risk assessments to protect the environment. For the 725 cases covering all pesticides registered before October 1, 2007, the EPA has a statutory mandate to make registration review decisions by October 1, 2022. For each case, the steps in this process include, in this order: opening dockets; developing work plans, completing risk assessments, and making decisions regarding any risk management measures. It is important to open dockets and develop work plans for as many cases as possible early in the process so that there is time to complete the risk assessments and make decisions by the 2022 deadline. The agency planned this ramp down in targets for opening dockets and

[69] For additional information, see https://www.epa.gov/endangered-species/assessing-pesticides-under-endangered-species-act
[70] http://www.epa.gov/pesp/ipminschools/implementation.html.

completing work plans so it could focus its resources on completing risk assessments and making decisions to meet its statutory deadline by 2022. The EPA anticipates having completed the opening of dockets in 2017 (completed all 725). There will be zero (0) dockets in FY 2018. In working towards meeting the October 1, 2022 statutory deadline for registration review, the EPA expects to issue approximately 60 risk assessments for public comment during FY 2018.

While review of pesticides currently in the marketplace, and implementation of decisions made as a result of these reviews are a necessary element of meeting the EPA's goals, they are not sufficient. Attaining risk reduction would be significantly hampered without availability of alternative products to these pesticides for consumers. Consequently, the success of the Registration program in ensuring the availability of effective alternative products plays a significant role in meeting the environmental outcome of improved ecosystem protection. The EPA also will continue to assist pesticide users in learning about new, safer products and methods of using existing products. The agency also will continue encouraging the use of IPM tools.

Protection of Endangered Species

Under the ESA, federal agencies must ensure that the "actions" they authorize will not result in jeopardy to species listed as endangered or threatened by the Services or adversely modify designated critical habitat. While the EPA authorizes the sale, distribution, and use of pesticides according to the product labeling, the agency also will do more comprehensive risk assessments for registration activities that are protecting endangered species. During registration review, the EPA will support obtaining risk mitigation earlier in the process by encouraging registrants to agree to changes in uses and applications of a pesticide beneficial to the protection of endangered species prior to completion of the EPA's consultations with FWS and NMFS. In FY 2018, pesticide registration reviews are expected to require comprehensive environmental assessments, including determining potential endangered species impacts. This effort will continue to expand the program's workload due to the necessity of issuing data call-ins and conducting additional environmental assessments for pesticides already in the review pipeline. The EPA has a performance measure that tracks this work: The percent of registration review chemicals with identified endangered species concerns, for which EPA obtains any mitigation of risk prior to consultation with the U.S. FWS and NMFS (jointly the Services).

In FY 2018, in cooperation with the Services and the United States Department of Agriculture (USDA), the agency will continue to work toward improving compliance with the ESA. To this end, the agency continues to consider recommendations from the committee of the National Academy of Sciences (NAS') National Research Council regarding scientific and technical issues related to the methods and assumptions used by the EPA, and the services to carry out their joint responsibilities under the ESA and FIFRA. The four agencies jointly asked the NAS to identify approaches to: collect the best available scientific data and information; consider sub-lethal, indirect and cumulative effects; assess the effects of chemical mixtures and inert ingredients; use models to assist in analyzing the effects of pesticide use; effectively incorporate uncertainties into the evaluations; and use geospatial information and datasets in the course of these assessments. Since receiving the NAS report, the agencies have developed shared scientific approaches and presented those approaches to stakeholders at a virtual nationwide meeting. During FY 2018, the EPA and the Services will jointly apply these approaches to some pesticide risk assessments and,

if necessary, to consultations. These initial assessments will apply and improve the shared scientific approaches.

The EPA and the Services also have been collaborating to resolve litigation brought against the EPA for failure to consult and against the Services for failure to complete consultation. The settlement agreements will give the EPA and the Services an opportunity to pilot and implement recommendations from the 2013 NAS report with identified milestones and timelines for completing work products.

The EPA will continue to impose use limitations through appropriate label statements, referring pesticide users to EPA-developed Endangered Species Protection Bulletins, which are available on the Internet via *Bulletins Live!*[71] These bulletins also will, as appropriate, contain maps of pesticide use limitation areas necessary to ensure protection of listed species and compliance with the ESA. Any such limitations on a pesticide's use will be enforceable under the misuse provisions of FIFRA. Bulletins are a critical mechanism for ensuring protection of listed species from pesticide applications while minimizing the burden on agriculture and other pesticide users by limiting pesticide use in the smallest geographic area necessary to protect the species. In FY 2018, the EPA will continue revising and updating *Bulletins Live!* to provide a more interactive and more geographically discrete platform for pesticide users to understand the use limitations necessary to protect endangered or threatened species.

The agency will continue to provide technical support for compliance with the requirements of the ESA. In FY 2018, the EPA will continue the integration of state-of-the-science models, knowledge bases, and analytic processes to increase productivity and better address the challenge of potential risks of specific pesticides to specific species. Interconnection of the various databases within the program office also will provide improved support to the risk assessment process during registration review by allowing risk assessors to more easily analyze complex scenarios relative to endangered species.

Pollinator Protection

Bees play a critical role in ensuring the production of food. The USDA is leading the federal government's effort to understand the causes of declining pollinator health and identify actions that also will improve pollinator health. The EPA is part of this effort and is focusing on the potential role of pesticides. The EPA's emphasis is to ensure that the pesticides used represent acceptable risks to pollinators and that products are available for commercial bee keepers to manage pests that impact pollinator health. The EPA is working with pesticide registrants to change pesticide labels to reduce acute exposure and ensure that pollinators are protected.

The EPA is implementing a new pollinator risk assessment framework to assess the potential effects that pesticides may have on bees through the registration and registration review programs, in cooperation with Canada and the California Department of Pesticide Regulation. In addition, the EPA is working with several other federal agencies, including USDA and DOI, to increase and improve pollinator habitat. As a part of these activities, the EPA also will assess the effects of pesticides, including neonicotinoids, on bee and other pollinator health and take action, as

[71] http://www.epa.gov/espp/bulletins.htm.

appropriate, to protect pollinators, engage state and Tribal agencies in the development of pollinator protection plans, and expedite review of registration applications for new products targeting pests harmful to pollinators. The EPA also is working with seed companies to develop and implement strategies to reduce the release of pesticide residues during the planting process of treated seed.

Other efforts include working with stakeholders to identify and consolidate Best Management Practices (BMPs) for honey bee health and developing a web page of these BMPs with cooperation from the National Integrated Pest Management Centers and the USDA. The EPA is providing funds to land grant universities to conduct research on alternative pest control methods and BMPs that lower risks to bees while effectively controlling pests.

In 2014, the EPA required changes to pesticide labels for four neonicotinoid insecticides to limit applications to protect bees, as well as provide users of these products with more precise safety information about bees, improving and clarifying the pollinator protection requirements for 240 approved pesticide labels. These changes were made to the pesticide labels for imidacloprid, thiamethoxam, clothianidin, and dinotefuran. In FY 2018, the EPA will continue to require the new pollinator protection labeling for other outdoor foliar products that are acutely toxic to bees.[72]

Protection of Water Resources

Reduced concentration of pesticides in water sources is an indication of the effectiveness of the EPA's risk assessment, management, mitigation, and communication activities. Using sampling data collected under the U.S. Geological Survey (USGS) National Water Quality Assessment (NWQA) program for urban watersheds, the EPA will continue to monitor the impact of our regulatory decisions for three priority chemicals – diazinon, chlorpyrifos, and carbaryl. In agricultural watersheds, the program will monitor the impact of our regulatory decisions on azinphos-methyl and chloropyrifos and consider whether any additional action is necessary.[73] In FY 2018, the agency will continue to work with USGS to develop sampling plans and refine program goals. Water quality is a critical endpoint for measuring exposure and risk to the environment and a measure of the EPA's ability to reduce exposure from these key pesticides of concern.

To measure program effectiveness, the EPA tracks reductions of concentrations of these four organophosphate insecticides that most consistently exceeded the EPA's aquatic life benchmarks for aquatic ecosystems[74] during the last ten years of monitoring by the USGS NWQA program. The agency will use data from 10 specified sites for urban and 10 specified sites for agricultural sites from the USGS national monitoring sites in the future to provide consistency in data reporting. The monitoring sites were selected based on history of monitoring results and anticipated consistency in reporting from these national sampling sites. The exceedances are calculated based on the number of exceedances divided by the total number of watersheds. The USGS NAWQA

[72] For additional information on EPA's role in pollinator protection, see: http://www2.epa.gov/pollinator-protection/epa-actions-protect-pollinators and http://www2.epa.gov/pollinator-protection/new-labeling-neonicotinoid-pesticides .
[73] Gilliom, R.J., et al. 2006. *The Quality of Our Nation's Waters: Pesticides in the Nation's Streams and Ground Water, 1992–2001*. Reston, Virginia: U.S. Geological Survey Circular 1291, p 171. Available on the Internet at: http://pubs.usgs.gov/circ/2005/1291/.
[74] http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm

sites selected are the best long-term source of surface water monitoring data for a large number of pesticides and their degradates, with consistent QA procedures for both sampling and lab analysis, low detection limits, and have been used by the program for risk assessment work for over the last 15 years. The most sensitive aquatic benchmarks for the chemicals are posted on the website: http://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-pesticide-registration.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,292.0 / -18.8 FTE) This reduces funding for pesticide program activities from annual appropriations with the intent to increase utilization of pesticide user fee collections. Proposed legislative language accompanying the President's Budget will expand the EPA's scope of activities that can be funded with user fees.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Endangered Species Act (ESA).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$7,727.5***	***$6,074.0***	***$5,028.0***	***($1,046.0)***
Science & Technology	$427.4	$570.0	$527.0	($43.0)
Total Budget Authority / Obligations	$8,154.9	$6,644.0	$5,555.0	($1,089.0)
Total Workyears	42.0	46.5	46.3	-0.2

Program Project Description:

The primary federal law that governs how the EPA oversees pesticide manufacture, distribution, and use in the United States is the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Originally enacted in 1947, this law has been significantly amended several times, most recently by the Food Quality Protection Act of 1996 (FQPA) and the Pesticide Registration Improvement Extension Act of 2012 (PRIA3). FIFRA requires that the EPA register pesticides based on a finding that they will not cause unreasonable adverse effects on people and the environment, taking into account the economic, social, and environmental costs and benefits of the use of any pesticide. Each time the law has been amended, while Congress has strengthened the safety standards of the act, it continues to recognize the benefits of pesticides.

This program seeks to realize the value of pesticides that can be used safely to yield many benefits, including: to generate the nation's abundant and wholesome food supply, to protect the public from disease-carrying pests, to protect our environment from the introduction of invasive species from other parts of the world, to kill viruses and bacteria in America's hospitals, and to protect the nation's homes and schools from invasive insects, rodents, molds, and other unwelcome guests.

Addressing Special Local Needs

FIFRA Section 24(c) and the EPA's implementing regulations give states the authority to issue their own state-specific registrations under certain conditions, while the EPA is responsible for overseeing the general program.

States may register a new end use product or an additional use of a federally registered pesticide product if the following conditions exist:

- A Special Local Need – an existing or imminent pest problem within a state for which the state lead agency, based on satisfactory supporting information, has determined that an appropriate federally registered pesticide product is not sufficiently available.
- The additional use is covered by any necessary tolerances (maximum legal residue levels) or other clearances under the Federal Food, Drug, and Cosmetic Act (FFDCA).

- Registration for the same use has not previously been denied, disapproved, suspended, or canceled by the EPA or voluntarily canceled by the registrant subsequent to issuance of a notice of intent to cancel because of health or environmental concerns.
- Registration is in accord with the purposes of FIFRA.

These 24(c) registrations become federal registrations in 90 days unless the EPA objects to them. The EPA's role is to ensure that each 24(c) registration meets the requirements of FIFRA.

Emergency, Quarantine, and Crisis Exemptions

FIFRA Section 18, and the EPA's implementing regulations, authorize the EPA, in the event of an emergency, such as a severe pest infestation, to allow an unregistered use of a pesticide for a limited time if the EPA determines that emergency conditions exist which require such an exemption.[75]

An "Emergency Condition" is an urgent, non-routine situation that requires the use of a pesticide(s). Emergency exemptions may be requested by any state or federal agency, but typically come from state lead agricultural agencies. The EPA also must establish any necessary tolerances to cover pesticide residues in food, if applicable. Tolerances established for emergency exemption uses are time-limited, corresponding to the time that commodities treated under the exemption might be found in channels of trade. When needed, the OPP chemistry laboratory evaluates pesticide residues on certain foods. These real-world residue monitoring data can be used to accurately assess the risk and determine whether the risk cup would be exceeded.

A second type of emergency exemption is allowed for "public health" emergencies. A state or federal agency may request a public health emergency exemption to control a pest that will cause a significant risk to human health.

The third type of exemption, the "Quarantine" exemption, is allowed to control the introduction or spread of an invasive pest species not previously known to occur in the United States and its territories.

Finally, when the emergency is so immediate that there is not enough time to go through the normal review for an exemption and there is an immediate need, following communication with clearance by the EPA, a state or federal agency may issue a "crisis exemption" allowing the unregistered use to proceed for up to 15 days. During the consultation before the state or federal agency declares a crisis, the EPA performs a review to determine whether there are any apparent concerns, and whether the appropriate safety findings required by FIFRA likely may be made. If the EPA identifies concerns, the crisis exemption may not be allowed unless those concerns can be resolved.

[75] http://www.epa.gov/opprd001/section18/

Meeting Agriculture's Need for Safe, Effective Pest Control Products

With the passage of FQPA, Congress acknowledged the importance of and need for "reduced-risk pesticides" and supported expedited agency review to help these pesticides reach the market sooner and replace older and potentially riskier chemicals. The law defines a reduced risk pesticide as one that "may reasonably be expected to accomplish one or more of the following: (1) reduces pesticide risks to human health; (2) reduces pesticide risks to non-target organisms; (3) reduces the potential for contamination of valued, environmental resources, or (4) broadens adoption of Integrated Pest Management (IPM)[76] or makes it more effective." The EPA developed procedures and guidelines for expedited review of applications for registration or amendments for a reduced risk pesticide. The agency expanded the reduced risk pesticide program to include consideration of new active ingredients, new uses of active ingredients already deemed to be reduced risk, and amendments to all uses deemed to be reduced risk. The EPA gives priority to review of reduced risk pesticides and works with the regulated community and user groups to refine review and registration procedures.

FIFRA's Version of "Generic" Pesticides

FIFRA authorizes the EPA to register products that are identical to or substantially similar to already registered products (known as "me too" products). Applicants for these substantially similar products may rely on, or "cite" (and offer to pay a fair share for) data already submitted by another registrant. The entry of these new products into the market can cause price reductions resulting from new competition and broader access to products. These price declines generate competition that benefits farmers and other consumers.

"Minor Crops" – Addressing Growers' Need for Pest Control

The FQPA amendments made special provisions for minor uses of pesticides. Minor uses of pesticides are defined as uses for which pesticide product sales do not provide sufficient economic incentive to justify the costs of developing and maintaining its registrations with the EPA. "Minor" crops include many fruits and vegetables. Minor uses also include use on commercially grown flowers, trees and shrubs, certain applications to major crops such as wheat or corn where the pest problem is not widespread, and many public health applications.[77]

Some minor uses have been lost through lack of registrant support during the reregistration process, resulting in grower concerns that adequate pest control tools will no longer be available for many minor crops. The agency works closely with the USDA's Inter-Regional Research Project No. 4 (IR-4)[78] to generate residue data for tolerances on minor crops in order to minimize the burden of data generation for minor uses. The EPA and the USDA operate early alert systems to notify growers when a pesticide use for a minor crop is about to be canceled. The EPA provides advance public notice of a proposed cancellation to allow time for another registrant to consider maintaining the pesticide use.

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[76] http://www.epa.gov/pesticides/factsheets/ipm.htm)
[77] http://www.epa.gov/pesticides/regulating/laws/fqpa/fqpa_accomplishments.htm
[78] http://www.csrees.usda.gov/nea/pest/in_focus/pesticides_if_minor.html)

Meeting the Need for Non-agricultural Pesticides

Farmers are not the only ones who need pesticides. Pest control also is needed in our homes, schools, and workplaces. Pesticides control pests that spread disease like West Nile Virus, malaria and rabies, to name a few. They disinfect our swimming pools and sanitize bathrooms; they combat mold and are essential to sterilize surfaces in hospitals and other health care facilities.

Outreach and Education

The agency will continue to encourage Integrated Pest Management (IPM), which emphasizes minimizing the use of broad spectrum chemicals and maximizing the use of sanitation, biological controls, and selective methods of application, and it relies on pesticide users being well-informed about the pest control options available and how to best use them. It is not enough to have pesticide products registered to control pest infestations. Pesticide users need to know which pesticides to use, how to use them, and how to maintain the site, so pests do not return. The Pesticide Program is invested in outreach and training efforts for people who use pesticides and the public in general.

FY 2018 Activities and Performance Plan:

During FY 2018, the EPA will review and register new pesticides, new uses for existing pesticides, and act on other registration requests in accordance with FIFRA and FFDCA standards as well as PRIA3 timeframes. Many of these actions will be for reduced-risk pesticides, which, once registered and used by consumers, will increase benefits to society. Working together with the affected user communities, through IPM and related activities, the agency plans to accelerate the adoption of these lower-risk products.

The EPA will continue to support implementation of other IPM-related activities. The agency will engage partners in the development of tools and informational brochures to promote IPM efforts and to provide guidance to schools, farmers, other partners, and stakeholders.

Similarly, the agency will continue its work-sharing efforts with its international partners. Through these collaborative activities and resulting international registrations, international trade barriers will be reduced. When nations with whom we trade accept imported crops treated with newer, lower-risk pesticides, domestic users can more readily adopt these newer pesticides into their crop protection programs. Work-sharing efforts also reduce the costs of registration to governments sharing the expenses.

In FY 2018, the EPA will continue to prioritize emergency exemptions. The economic benefit of the Section 18 emergency exemptions program to growers is the avoidance of losses incurred in the absence of pesticides exempted under FIFRA's emergency exemption provisions.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,046.0) This reduces funding for pesticide program activities from annual appropriations with the intent to increase utilization of pesticide user fee collections. Proposed legislative language accompanying the President's Budget will expand the EPA's scope of activities that can be funded with user fees.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$1,362.5***	***$1,172.0***	***$0.0***	***($1,172.0)***
Total Budget Authority / Obligations	$1,362.5	$1,172.0	$0.0	($1,172.0)
Total Workyears	5.0	5.4	0.0	-5.4

Program Project Description:

The Science Policy and Biotechnology program provides scientific and policy expertise, coordinates the EPA's intra/interagency efforts, and facilitates information-sharing related to core science policy issues concerning pesticides and toxic chemicals. In addition, the Science Policy and Biotechnology program provides for independent, external scientific peer review through the Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel (FIFRA SAP), a federal advisory committee and the newly-formed Science Advisory Committee on Chemicals (SACC).

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. Statutory requirements will be absorbed by the pesticides and toxics programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,172.0 / -5.4 FTE) This funding change eliminates the Science Policy and Biotechnology program. The science advisory committee oversight required by FIFRA and TSCA will be conducted by the pesticides and toxics program offices.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA), §408; Toxic Substances Control Act.

Program Area: Resource Conservation and Recovery Act (RCRA)

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Waste Electronic Manifest System Fund	$2,910.2	$3,667.0	$0.0	($3,667.0)
Environmental Program & Management	***$57,022.8***	***$58,986.0***	***$41,146.0***	***($17,840.0)***
Total Budget Authority / Obligations	$59,933.0	$62,653.0	$41,146.0	($21,507.0)
Total Workyears	315.8	332.7	205.9	-126.8

Program Project Description:

Under the Resource Conservation and Recovery Act (RCRA) the EPA sets national standards for managing hazardous wastes. Approximately 60,000 facilities generate and safely manage hazardous waste in the United States.[79] Eighty percent of the U.S. population lives within 3 miles of one of these facilities,[80] making national standards and procedures for managing hazardous wastes a necessity.

The Waste Management program safeguards the American people while facilitating commerce by supporting an effective waste management infrastructure. Cradle-to-grave hazardous waste management regulations help ensure safe management practices through the entire process of generation, transportation, recycling, treatment, storage, and final disposal. The program increases the capacity for proper hazardous waste management in states by providing grant funding and technical support.

The EPA and its state partners issue, update, maintain, and oversee RCRA controls for approximately 20,000 hazardous waste units (*e.g.*, incinerators, landfills, and tanks) located at 6,600 treatment, storage, and disposal facilities. Just as businesses innovate and grow, the waste management challenges they face also evolve; this requires new direction and changes in the federal hazardous waste program through updated regulations, guidance, and other tools. This funding supports these efforts.

The EPA directly implements the entire RCRA program in Iowa and Alaska and provides leadership, work-sharing, and support to the states and territories authorized to implement the permitting program. Additionally, the Toxic Substances Control Act polychlorinated biphenyls (PCB) cleanup and disposal program is implemented under the Waste Management program to reduce PCB exposure from improper disposal, storage, and spills. The program reviews and approves PCB cleanup, storage, and disposal activities. This federal authority is not delegated to state programs. PCBs were banned in 1979, but legacy use and contamination still exists, and can

[79] Memorandum, February 18, 2014, from Industrial Economics to the EPA, Re: Analysis to Support Assessment of Economic Impacts and Benefits under RCRA Programs: Key Scoping Assessment, Initial Findings and Summary of Available Data (Section 1), pages 5-11.
[80] U.S. EPA, Office of Solid Waste and Emergency Response Estimate. 2014. Data collected includes: (1) site information as of the end of FY 2011 from RCRAInfo; and (2) census data from the 2007-2011 American Community Survey.

still be released into the environment from poorly maintained hazardous waste sites that contain them.

FY2018 Activities and Performance Plan:

In FY 2018, the RCRA Waste Management program will:

- Provide hazardous waste technical assistance to regions, states, and tribes regarding the development and implementation of hazardous waste programs.

- Provide technical and implementation assistance, oversight, and support to the generator community and to facilities that treat, store, and dispose of hazardous waste.

- Review and approve PCB cleanup, storage, and disposal activities to reduce exposures, particularly in sensitive areas like schools and other public spaces. The EPA will prioritize PCB cleanup approvals and expedite high priority cleanups or address those unaddressed in a timely fashion.

- Provide technical hazardous waste management assistance to tribes to encourage sustainable practices and reduce exposure to toxins from hazardous waste.[81]

- Directly implement the RCRA program in unauthorized states, on Tribal lands, and other unauthorized portions of state RCRA programs.

- Implement regulations to ensure protective management of coal combustion residuals (CCR). In response to historic management practices, the agency has promulgated regulations specifying improved management and disposal practices to ensure people and ecosystems are protected. The agency will continue to work with our stakeholders through technical assistance and guidance.

- Implement applicable provisions of the Water Infrastructure Improvements Act of 2016, which enables states to submit for EPA approval state CCR permit programs. If approved, the state program would operate in lieu of the federal rules. The agency will work closely with state partners to develop guidance and other materials needed to fully implement this law.

- Managing the Waste Import Export Tracking System (WIETS) system, which provides for the electronic submission of hazardous waste import and export notices. This saves businesses time and effort and makes shipping hazardous waste across borders more efficient. Managing hazardous waste imports and exports is a federal responsibility, non-delegable to states.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[81] Of the 567 federally recognized tribes, as of September 30, 2016, 224 have an integrated waste management plan.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$17,840.0 / -126.8 FTE) This streamlines the Waste Management program. The agency will prioritize work on PCB cleanup and hazardous waste disposal programs, while reducing support for technical assistance to stakeholders and assistance to tribes on solid waste management programs.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), §§ 3004, 3005, 3024, 8001; Toxic Substances Control Act (TSCA), § 6.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$37,967.0***	***$36,860.0***	***$31,947.0***	***($4,913.0)***
Total Budget Authority / Obligations	$37,967.0	$36,860.0	$31,947.0	($4,913.0)
Total Workyears	208.1	205.4	172.0	-33.4

Program Project Description:

To reduce risks from exposure to toxics, the EPA's RCRA Corrective Action program ensures that contaminated facilities subject to RCRA are cleaned up by the responsible party, returns contaminated property to productive use, and keeps costs from being transferred to the largely taxpayer-funded Superfund program. Pursuant to EPA promulgated regulations and administrative orders under RCRA, the EPA will continue to direct financial assurance funds set aside by members of the regulated community to ensure that the funds are used to meet regulated entities' obligations and to protect taxpayers from having to pay the bill. Approximately 108 million Americans live within three miles of a RCRA corrective action facility (roughly 35 percent of the U.S. population),[82] and the total area covered by these corrective action sites is approximately 18 million acres.[83]

The EPA works in close partnership with 44 states and one territory authorized to implement the Corrective Action program[84] to ensure that cleanups are protective of human health and the environment. The Corrective Action program allows for the return of properties to beneficial use, which benefits the surrounding communities, reduces liabilities for facilities, and allows facilities to redirect resources to productive activites. The agency provides program direction, leadership, and support to its state partners. This includes specialized technical and program expertise, policy development for effective program management, national program priority setting, measurement and tracking, training and technical tools, and data collection/management/documentation. In addition, through worksharing, the agency serves as lead or support for a significant number of complex and challenging cleanups in both non-authorized and authorized states.

FY 2018 Activities and Performance Plan:

The program focuses its resources on cleaning up 3,779 priority contaminated facilities (the "2020 Baseline"), which includes highly contaminated and technically challenging sites. Currently, only 31 percent of the 2020 Baseline facilities have completed final and permanent cleanups, leaving

[82] U.S. EPA, Office of Land and Emergency Response Estimate. Data collected includes: (1) site information as of the end of FY 2013 from RCRAInfo; and (2) census data from the 2009-2013 American Community Survey. https://www.epa.gov/aboutepa/population-surrounding-3720-rcra-corrective-action-sites
[83] As compiled by RCRAInfo.
[84] State implementation of the Corrective Action program is funded through the STAG Categorical Grant: Hazardous Waste Financial Assistance and matching state contributions.

over 2,600 facilities still needing oversight and technical support to reach final site-wide cleanup objectives. Additionally, the 2020 Baseline is a subset of approximately six thousand facilities with potential corrective action obligations under the RCRA. The program's goals are to control human exposures, control migration of contaminated groundwater, complete final cleanups for the 2020 Baseline facilities, and assess the non-2020 Baseline facilities.

In FY 2018, the EPA will:

- Prioritize and focus resources on those facilities that present the highest risk to human health and the environment and implement actions to end or reduce these threats.

- Provide technical assistance to authorized states in the areas of site characterization, sampling, remedy selection, and long-term stewardship at 2020 Baseline facilities.

- Prioritize and focus the program on completing site investigations to identify threats, establish interim remedies to reduce and eliminate exposure, and select and construct safe, effective long-term remedies that maintain the economic viability of the operating facility.

- For high priority facilities, perform cleanup work under work-sharing agreements to assist with facilities that have complex issues[85] or special tasks (*e.g*, ecological risk assessments).

- Continue to improve cleanup approaches and share best practices and cleanup innovations, such as the use of the RCRA FIRST[86] toolbox developed to speed up and improve cleanups by eliminating inefficiencies in key procedural steps.

- Contribute to the maintenance of RCRAInfo, which is the the primary data system that many states rely upon to manage their RCRA permitting, corrective action, and hazardous waste generator programs. RCRAInfo receives data from hazardous waste handlers for the National Biennial RCRA Hazardous Waste Report, which is mandated by RCRA Sections 3002 and 3004. The last biennial report showed there were 26,284 generators of over 33 million tons of hazardous waste. As the RCRA Subtitle C system of record, RCRAInfo provides the only national-level RCRA hazardous waste data and statistics to track the environmental progress of approximately 20,000 hazardous waste units at 6,600 facilities.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,913.0 / -33.4 FTE) This reduction modifies the timeline for initiating cleanups and ongoing cleanups. The EPA will prioritize resources on those facilities that present the highest risk to human health and the environment.

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[85] For example, vapor intrusion, wetlands contamination, or extensive groundwater issues.
[86] For more information, visit: https://www.epa.gov/hw/toolbox-corrective-action-resource-conservation-and-recovery-act-facilities-investigation-remedy.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), §§ 3004, 3005, 8001.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$8,510.8***	***$8,832.0***	***$0.0***	***($8,832.0)***
Total Budget Authority / Obligations	$8,510.8	$8,832.0	$0.0	($8,832.0)
Total Workyears	46.9	51.0	0.0	-51.0

Program Project Description:

The Resource Conservation and Recovery Act (RCRA) established the EPA's role as a federal leader in the conservation and recovery of material. Charged to provide federal agencies, state, local governments, and industries with technical assistance on solid waste management, resource recovery, and resource conservation, the EPA established the RCRA Waste Minimization program.

Through the RCRA Waste Minimization program, the EPA collects, maintains, and shares information on the market potential of energy and materials recovered from solid waste, including information regarding the savings potential of conserving resources that go into the waste stream.[87] As a result, industries are able to more efficiently conserve virgin resources, including natural resources, fossil fuels, minerals, and precious metals.

Efforts in Sustainable Materials Management (SMM) seeks to efficiently and effectively minimize environmental impacts throughout the full life cycle of materials—from raw materials extraction, through transportation, processing, manufacturing, and use, as well as reuse, recycling, and disposal. This approach highlights ways to reduce waste throughout the life-cycle and to use waste materials as commodities to grow industries and associated jobs.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. State and local entities or industry groups may elect to continue work to reuse and recycle materials.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,832.0 / -51.0 FTE) This funding change eliminates the RCRA Waste Minimization and Recycling program in FY 2018. The EPA will focus on core environmental work.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA).

[87] For additional information, refer to: https://www.epa.gov/smm.

Program Area: Toxics Risk Review and Prevention

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$6,035.4***	***$7,539.0***	***$0.0***	***($7,539.0)***
Total Budget Authority / Obligations	$6,035.4	$7,539.0	$0.0	($7,539.0)
Total Workyears	8.9	8.9	0.0	-8.9

Program Project Description:

The Endocrine Disruptor Screening Program (EDSP) was established in 1996 under authorities contained in the Federal Food, Drug, and Cosmetic Act (FFDCA) and the Safe Drinking Water Act (SDWA) amendments. Current activities within the EDSP include transitioning to the use of high throughput screening (HTS) and computational toxicology (CompTox) tools to screen thousands of chemicals for endocrine activity, establishing policies and procedures for screening and testing, and evaluating data to ensure chemical safety by protecting public health and the environment from endocrine disrupting chemicals.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will absorb its remaining functions within the pesticides program using the currently available tiered testing battery.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$7,539.0 / -8.9 FTE) This funding change eliminates the Endocrine Disruptors program. The ongoing functions of the program can be absorbed into the pesticides program.

Statutory Authority:

Federal Food, Drug, and Cosmetic Act (FFDCA), § 408(p); Safe Drinking Water Act (SDWA), § 1457.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$56,030.4***	***$58,443.0***	***$65,036.0***	***$6,593.0***
Total Budget Authority / Obligations	$56,030.4	$58,443.0	$65,036.0	$6,593.0
Total Workyears	221.6	238.7	240.7	2.0

Program Project Description:

Under the Toxic Substances Control Act (TSCA), as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, the EPA has significant continuing and new responsibilities for ensuring that chemicals in or entering commerce do not present unreasonable risks to human health or the environment. These responsibilities are executed by the agency through the Chemical Risk Review and Reduction (CRRR) Program, which works to ensure the safety of:

- Existing chemicals (those already in use when TSCA was first enacted in 1976 and those which have gone through review by the TSCA New Chemicals Program since),[88] by obtaining and evaluating chemical data and by taking regulatory and/or non-regulatory action, where appropriate, to prevent any unreasonable risk posed by their use; and

- New chemicals by reviewing and taking action on new chemical notices submitted by industry, including Pre-Manufacture Notices (PMNs), to ensure that no unreasonable risk will be posed by such chemicals upon their entry into U.S. commerce.

The new law, signed on June 22, 2016, substantially amended TSCA by providing the EPA with significant new authorities and obligations:

- *Clear and enforceable deadlines.* The EPA is now required to systematically prioritize and evaluate existing chemicals on a specific schedule, complete specified numbers of chemical risk evaluations within specified time frames, complete risk management actions within specified time frames where warranted by the findings of the evaluations, and review and make determinations on Confidential Business Information (CBI) claims within specified time frames, among other actions.

- *Requirement to address risks.* The EPA is required to take timely action to address identified risks by imposing requirements specified in Section 6(a) which can include: prohibiting, restricting, or modifying the manufacture, processing, distribution in commerce or

[88] These include certain prevalent, high-risk chemicals known generally as "legacy chemicals" (e.g., PCBs, mercury), which were previously covered in a separate Chemical Risk Management (CRM) budget justification. The CRM program area was combined with Chemical Risk Review and Reduction effective FY 2015.

commercial use and modifying the labeling, recordkeeping, and other restrictions so that the chemical will no longer present an unreasonable risk.

- *Increased transparency of chemical data while protecting legitimate confidential information.* The EPA is required to review all chemical identity Confidential Business Information (CBI) claims for certain types of submissions and for 25% of most other CBI claims within 90 days.

- *Requirement that the EPA make an affirmative determination of safety on every new chemical.* Previously, new chemicals were reviewed in 90 days and were allowed to enter the marketplace unless the EPA made a specific determination that regulatory controls were needed. Now, continuing with a mandated 90-day timeframe, an affirmative determination must be made by the EPA that a new chemical substance will present, may present, or is not likely to present an unreasonable risk to human health or the environment; or that the available information is insufficient to enable the agency to make any of the above determinations. Unless the EPA determines that the substance is not likely to present unreasonable risk, the agency must issue an order or rule that imposes conditions sufficient to protect against any such unreasonable risk before the chemical can enter the marketplace.

In addition, the Act provided a sustainable source of funding for the EPA to carry out its new responsibilities. The agency will now be able to collect user fees from chemical manufacturers and processers to defray up to 25% of its costs for administering certain sections[89] of TSCA, as amended, subject to an overall cap of $25 million a year in effect for the first three years after enactment.[90] Fee levels may be adjusted on a recurring three-year basis for inflation and to ensure that fees are sufficient to defray up to 25% of the costs to carry out certain sections of TSCA, as amended.

A rule to implement the fee collection provisions of the new law is currently under development. The statute allows the EPA to consider collecting fees from chemical manufacturers (including importers) and processors who:

- Are required to submit test data (TSCA Section 4);
- Submit notification of or information related to intent to manufacture a new chemical or significant new use of a chemical (TSCA Section 5);
- Manufacture or process a chemical substance that is subject to a risk evaluation (TSCA Section 6); or
- Request that the EPA conduct risk evaluation on an existing chemical (TSCA Section 6), subject to the agency's approval of the request.

The agency expects to finalize this rule and collect fees beginning in February 2018.

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[89] The costs of implementing TSCA (as amended) Sections 4, 5, and 6 are defrayable up to the statutory caps, as are the costs of collecting, processing, reviewing, and providing access to and protecting from disclosure, as appropriate, chemical information under Section 14.

[90] The authority to assess fees is conditioned on appropriations for the CRRR Program, excluding fees, being held at least equal to the amount appropriated for FY 2014.

FY 2018 Activities and Performance Plan:

In FY 2018, the resources requested by the EPA will support continued implementation of the new TSCA law, with emphasis on meeting the critical mandates and timelines applicable to chemical testing, pre-market review of new chemicals, chemical risk evaluation and management, review and determinations on incoming CBI claims and other statutory priorities. At the same time, the agency will continue to carry out ongoing base program activities.

The agency already has made considerable progress in carrying out work activities required to be completed within one year after enactment of the new law. Key achievements include: the identification of the first 10 chemicals to be evaluated under the new law for potential risks to human health and the environment, identification of five mercury compounds to be subject to export restrictions, completion of proposals for several framework rules needed to implement provisions of the law (Inventory Rule, Risk Evaluation Rule, Prioritization Process Rule), and determinations have been made under the new law on 565 New Chemical notifications from enactment of the Lautenberg Chemical Safety Act (LCSA) in June 2016 through February 2017.[91] Future implementation activities will expand on the considerable progress already made.

Primary TSCA Implementation Activities – TSCA Sections 4, 5, 6, 8, and 14

The new law, amending several elements of TSCA, provided mandates and authorities to the EPA for implementation responsibilities in the following primary areas: mandatory requirement for the EPA to evaluate existing chemicals with clear and enforceable deadlines; new risk-based safety standard; new requirement that the EPA must make an affirmative finding on the safety of a new chemical or significant new use of an existing chemical before it is allowed into the marketplace; and increased public transparency for chemical information. This section describes activities associated with these primary mandates and authorities.

The EPA is responsible for reviewing all new chemical submissions to determine whether the chemicals may pose unreasonable risk to human health or the environment if they were to enter U.S. commerce, and to take steps, where needed, to prevent such risks. Each year, the EPA assesses and manages, as necessary, the potential risks from approximately 1,000 new chemicals, including nanoscale materials and products of biotechnology, prior to their entry into the marketplace.

The law's new requirements resulted in changes to the new chemical review process. The new law requires that an affirmative determination be made by the EPA on whether a new chemical substance will present, may present, or is not likely to present an unreasonable risk (or that available information is insufficient to enable any of these determinations to be made) before the chemical substance can proceed to the marketplace. Since enactment, the program has been developing and implementing a process for administering the "not likely to present an unreasonable risk" finding (including new documentation and publication requirements), and administering the provision of the new law which requires that EPA make an affirmative determination for both intended and reasonably foreseen uses of new chemicals as well as the new finding of "insufficient information to make a reasoned evaluation." As a result, the workload involved in new chemical review has increased. In FY 2018, the agency expects to review over 1,000 new chemical submissions, take

[91] https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/frank-r-lautenberg-chemical-safety-21st-century-act-5

appropriate testing and risk management actions, and make affirmative determinations. The program also will evaluate the data submitted under requirements of existing Section 5 Consent Orders and address submitted Notices of Commencement (NOCs) when a new chemical is about to enter commerce. In FY 2018, the agency will continue to effectuate improvements to internal data and tracking systems to address the new mandates under TSCA as amended.

Under TSCA Section 6, as amended, the EPA is required to maintain an ambitious schedule for initiating and completing chemical risk evaluations of existing chemicals and, where risks are identified, for initiating and completing regulatory actions to address those risks.

(a) Risk Evaluations: On December 19, 2016, the EPA identified the first 10 chemicals that will undergo risk evaluation under the new law (Designation of Ten Chemical Substances for Initial Risk Evaluations Under the Toxic Substances Control Act, 81 FR 91927), triggering a statutory deadline to issue documents identifying the scope of those evaluations within six months and to complete the risk evaluations within three years. In FY 2018, the agency will be working to advance these risk evaluations through the draft, peer review/public comment, and final stages, with a goal of completion no later than December 2019.

For the EPA-initiated risk evaluations beyond the first 10 chemicals noted above, the EPA must establish and implement a risk-based prioritization process to determine which chemicals will be evaluated, identifying them as either "high" or "low" priority substances as set forth in TSCA Section 6(b)(1)(A). A high priority designation is required when the EPA determines, without consideration of cost or other non-risk factors, that the chemical may present an unreasonable risk of injury to health or the environment due to potential hazard and a route of exposure, including to susceptible subpopulations [TSCA Section 6(b)(1)(B)]. High priority designation triggers a requirement that the EPA conduct a risk evaluation to determine whether a chemical substance presents an unreasonable risk of injury to health or the environment, without consideration of costs or other non-risk factors, including an unreasonable risk to a potentially exposed or susceptible subpopulations [TSCA Section 6(b)(4)(F)]. The statute also expands the scope of the EPA's risk evaluations to include all conditions of use of the chemical intended, known, or reasonably foreseen and requires that they be completed within 3 years (with a possibility of 6-month extension) [TSCA Section 6(b)(4)(G)].

The EPA is required to begin a risk evaluation for another chemical each time a risk evaluation is completed such that the EPA maintains the pace of 20 EPA-initiated risk evaluations underway from the end of calendar year 2019 forward [TSCA Section 6(b)(2)]. In FY 2018, the agency plans to commence the process for identifying an additional 10 chemicals for which risk evaluation will be initiated during 2018-2019, in order to ramp up to having twenty risk evaluations underway by the end of 2019. The agency expects to initiate up to 5 new risk evaluations by the end of FY 2018 to begin to build the base to have 20 EPA-initiated risk evaluations underway by the end of 2019. The law also directs the agency to designate at least 20 chemicals as low-priority substances by the end of calendar year 2019. In FY 2018, the agency intends to commence the process for identifying these low-priority substances.

The law includes provisions allowing manufacturers to request the EPA to conduct evaluations of specific chemicals. The EPA may undertake manufacturer-requested risk evaluations that

meet the agency's acceptance criteria at levels up to 50% of the number of the EPA-initiated evaluations underway. Manufacturers requesting evaluations of chemicals that are on the TSCA Work Plan must pay fees defraying 50% of the agency's costs for conducting those evaluations. Manufacturers requesting evaluations of chemicals that are not on the TSCA Work Plan must pay fees covering 100% of the agency's costs for conducting those evaluations.

(b) Risk Reduction Actions: When unreasonable risks are identified through the risk evaluations, the EPA must finalize risk management actions to address the unreasonable risk within two years, or up to four years if an extension is needed. Costs and availability of alternatives will be considered when determining appropriate action to address risks. Implementation must begin as quickly as possible, but no later than five years after the final regulation in the case of bans and phase-outs of chemicals.

TSCA section 6(h) establishes a fast process to address certain PBT chemicals on the 2014 TSCA Work Plan. For these chemicals, unless a manufacturer requests that they undergo a risk evaluation, a risk evaluation is not required, and action to reduce exposure to the extent practicable must be proposed no later than three years after enactment of the Lautenberg amendments (by June 2019) and finalized 18 months later. The EPA determined that seven chemicals met the PBT criteria set forth in the new law and subsequently received a request that two be evaluated under TSCA Section 6. The EPA has begun section 6 exposure reduction work on the remaining five PBT chemicals.

In FY 2018, the EPA plans to continue to consider comments received for two proposed Section 6(a) rules to address risks identified in chemical assessments, for specific uses of trichloroethylene (TCE) (spot cleaning and aerosol degreasing, vapor degreasing) and for methylene chloride and N-methylpyrrolidine (NMP) use in paint removers, completed prior to enactment of the TSCA amendments, as authorized by Section 26(l).

The agency receives and analyzes Substantial Risk Notifications submitted by industry pursuant to Section 8(e), which requires the EPA to be notified immediately when a company learns that a substance or mixture presents a substantial risk of injury to health or the environment. The EPA may use the information it receives in 8(e) notices in determining whether to take further action.

TSCA Section 4 authorizes the EPA to require testing of a chemical substance or mixture by manufacturers (including importers). The 2016 TSCA amendments provided new test order and consent agreement authorities which are designed to expedite the agency's collection of testing information for prioritizing and conducting chemical risk evaluations for new and existing chemicals. In FY 2018, the EPA may utilize these authorities to require testing on approximately 12 chemicals in connection with the prioritization and risk evaluation processes, where such testing is needed. The agency will continue to review test data submitted from prior test rules and enforceable consent agreements. As in past years, the EPA will make use of Toxics Release Inventory (TRI) data in prioritizing chemicals for collection of testing information and evaluation of potential risks.

The amendments to TSCA also promote the use of non-animal alternative testing methodologies. The agency will publish an Alternative Testing Methods Strategy by June 2018, two years after the date of enactment, as required by the new law.

In addition, in FY 2018, the EPA will continue to issue Significant New Use Rules (SNURs) for existing chemicals, where applicable. This will be a priority for certain uses no longer ongoing that are identified through the scoping activities conducted as part of the risk evaluations for the first 10 priority chemicals. The agency has the authority to monitor and control significant new uses of existing chemical substances where other uses are no longer ongoing. With a notification of a new use, the agency initiates an evaluation focusing on the health and environmental effects of the substance's significant new use.

The TSCA amendments establish new substantiation requirements for certain types of confidentiality (CBI) claims from submitters, require the EPA to review and make determinations on most new CBI claims for the identity of chemicals and a subset of other types of CBI claims, direct the EPA to develop policies and procedures for sharing TSCA CBI with states, tribes, health and medical professionals, first responders, and others; require the EPA to review CBI claims for chemical identity relating to active chemical substances in commerce to determine if they are still warranted; and direct the EPA to establish guidance for structurally descriptive generic names that must be provided when specific chemical identity is claimed as CBI. In addition, any CBI claim made for a chemical identity by manufacturers or processors during reporting to establish the active TSCA Inventory must be reviewed and determinations made no later than five years after the establishment of the active inventory listing. The current Inventory has over 17,000 chemicals on the confidential portion. In order to comply with these new provisions, the EPA is developing new or enhanced information systems to accommodate tracking of CBI reviews and changes to electronic reporting applications.

Under the amendments to TSCA, the EPA is required to designate chemical substances on the TSCA Chemical Substance Inventory as either "active" or "inactive" in U.S. commerce. To facilitate this, the EPA is required to promulgate a rule, by one year after enactment, requiring industry to report chemical substances on the TSCA Inventory that were manufactured (including any that were imported) for non-exempt commercial purposes during the ten-year time period prior to enactment. Reporting is expected to occur during the last quarter of FY 2017 and the first quarter of FY 2018 for manufacturers, and up to the first half of FY 2018 for processors. The EPA will use notices received to identify reported substances as active on the TSCA Inventory. Substances for which no notices are received will be identified as inactive on the Inventory. The EPA expects to publish the first TSCA Inventory with active and inactive designations in the fourth quarter of FY 2018.

The law also requires both manufacturers and processors to notify the EPA in the future when they anticipate re-introducing into U.S. commerce substances listed as inactive on the TSCA Inventory. This future reporting will commence after the publication of the TSCA Inventory in the fourth quarter of FY 2018.

Other TSCA Mandates and Activities

In April 2017, as required under the new law, the EPA published, in the Federal Register, an inventory of supply, use, and trade of mercury and mercury compounds in the U.S., to be updated every three years. By June 2018, the agency must promulgate a rule establishing reporting requirements for persons who manufacture or import mercury and mercury-added products, or intentionally use mercury in a manufacturing process. In FY 2018, the EPA will develop an electronic reporting interface and database within CDX, and activities and material needed for outreach to instruct potentially affected stakeholders on how to report required information.

The Mercury Export Ban Act prohibits the export of certain specific mercury compounds, the TSCA 2016 amendments direct the EPA to publish a list of additional mercury compounds that will be subject to export bans. The agency completed this step in 2016. Every five years, the agency also must submit a report to Congress addressing any continuing export of those mercury compounds, with recommendations as to whether further regulation is warranted.

Section 21 of TSCA authorizes citizen petitions for the issuance, amendment, or repeal of a rule promulgated under TSCA Sections 4 (rules requiring chemical testing), 6 (rules imposing risk mitigation controls on chemicals), 8 (rules requiring submission of information), 5 (or orders under Section 4 or 5). Since September 2007, 20 citizen petitions have been filed with the EPA under this authority. The agency must grant or deny a Section 21 petition within 90 days; if the EPA grants a petition, the requested action must be initiated in a timely fashion.

Other Business Lines in Support of TSCA Implementation

- Continuing enhancement of the TSCA Chemical Information System (CIS) to reduce manual handling of data, increase accessibility of data relevant to chemical assessments, and expedite review of chemicals;

- Continuing integration of TSCA information management, e-Reporting and public access systems with the agency's E-Enterprise business strategy, leveraging the E-Enterprise portal to provide better customer service for external users;

- Developing new tools for hazard and exposure identification assessment and characterization, while improving existing tools to better assess risks from both new and existing chemicals; and

- Maintaining and enhancing the functionality of ChemView and expanding the information it makes available to the public to include newly completed chemical assessments, as well as other new data reported to the EPA under TSCA (e.g., Section 5 Premanufacture Notices (PMNs), Section 12(b) data, and Section 8 (d), 8(e), and 8(c) submissions).

In FY 2018, the agency will continue implementation of required TSCA activities not affected by the Frank R. Lautenberg Chemical Safety for the 21st Century Act amendment. These activities include:

- Implementing regulations under the TSCA Title VI Formaldehyde Standards for Composite Wood Products Act (Public Law 111-199). Title VI establishes national emission standards for formaldehyde in new composite wood products;[92]

- Continuing to implement the Mercury Export Ban Act (MEBA);[93] and providing responses to any requests for exemption from applicable export prohibitions. Continuing to carry out work necessary to support compliance with the Minimata Treaty on Mercury, to which the U.S. is a party.

- Providing firm and individual certifications for safe work practices for lead-based paint abatement and renovation and repair efforts, as well as provide for operation and maintenance of the online database (FLPP)[94] that supports the processing of applications for training providers, firms, and individuals.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,601.0 / -53.6 FTE) This shifts funding for 53.6 FTE from annual appropriations to new TSCA fee collections. Fee collections are expected to begin in quarter two of FY 2018.

- (+53.6 FTE) This shifts 53.6 FTE to new TSCA fee collections from annual appropriations.

- (+$14,364.0) This provides funding to support implementation of new responsibilities required by the Frank R. Lautenberg Chemical Safety for the 21st Century Act.

- (+$830.0 / +2.0 FTE) This provides funding for firm and individual certifications for safe work practices for lead-based paint abatement and renovation and repair efforts, as well as provides for operation and maintenance of the online database (FLPP) that supports the processing of applications for training providers, firms, and individuals.

Statutory Authority:

Toxic Substances Control Act (TSCA), Sections 2-30, as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act (enacted June 2016).

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[92] See http://www2.epa.gov/formaldehyde/formaldehyde-emission-standards-composite-wood-products

[93] MEBA prohibits the export of elemental mercury as of January 1, 2013, among other requirements for the EPA, DOE, and other federal agencies.

[94] https://ssoprod.epa.gov/sso/jsp/flppLogin.jsp

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$11,982.4***	***$13,115.0***	***$0.0***	***($13,115.0)***
Total Budget Authority / Obligations	$11,982.4	$13,115.0	$0.0	($13,115.0)
Total Workyears	53.1	58.1	0.0	-58.1

Program Project Description:

The Pollution Prevention (P2) program is a tool for advancing environmental stewardship and sustainability by federal, state, and Tribal governments; businesses; communities and individuals. The P2 program seeks to alleviate environmental problems by achieving reductions in the generation of hazardous releases to air, water, and land; reductions in the use of hazardous materials; reductions in the generation of greenhouse gases; and reductions in the use of water. The P2 program also helps businesses and others reduce costs as a result of implementing these preventative approaches.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. Based on previous investments in P2 solutions made under this program/project, partners are expected to be able to continue to share best practices and seek additional pollution prevention solutions.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$13,115.0 / -58.1 FTE) This funding change eliminates the Pollution Prevention program.

Statutory Authority:

Pollution Prevention Act of 1990 (PPA), §§ 6602-6610; Toxic Substances Control Act (TSCA), § 10.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$13,051.2***	***$13,250.0***	***$0.0***	***($13,250.0)***
Total Budget Authority / Obligations	$13,051.2	$13,250.0	$0.0	($13,250.0)
Total Workyears	68.9	72.8	0.0	-72.8

Program Project Description:

The EPA is working to reduce the number of children with blood lead levels of five micrograms per deciliter or higher through multiple programs.[95] The Lead Risk Reduction program has worked to reduce the disparities in blood lead levels between low-income children and non-low-income children.[96]

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. Lead paint certifications will continue under the Chemical Risk Review and Reduction program. Other forms of lead exposure are addressed through other targeted programs, such as lead pipe replacement with the SRFs.

The EPA will continue to provide firm and individual certifications for safe work practices for lead-based paint abatement and renovation and repair efforts, as well as provide for operation and maintenance of the online database (FLPP) that supports the processing of applications for training providers, firms, and individuals, through the Chemical Risk Review and Reduction program.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$13,250.0 / -72.8 FTE) This funding change eliminates the Lead Risk Reduction program. Firm and individual certifications for safe work practices for lead-based paint abatement and renovation and repair efforts will be funded through the Chemical Risk Review and Reduction program.

Statutory Authority:

Toxic Substances Control Act (TSCA), §§ 401-412.

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[95] Jacobs, D.E.; Clickner, R.P.; Zhou, J.Y.; Viet, S.M.; Marker, D.A.; Rogers, J.W.; Zeldin, D.C.; Broene, P.; and Friedman, W. (2002). The prevalence of lead-based paint hazard in U.S. housing. Environmental Health Perspectives, 110(10): A599-A606

[96] Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (September 2012). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. http://www.cdc.gov/exposurereport/

Program Area: Underground Storage Tanks (LUST / UST)

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$11,083.4***	***$11,273.0***	***$5,612.0***	***($5,661.0)***
Leaking Underground Storage Tanks	$9,159.3	$9,222.0	$6,364.0	($2,858.0)
Total Budget Authority / Obligations	$20,242.7	$20,495.0	$11,976.0	($8,519.0)
Total Workyears	100.6	108.1	68.8	-39.3

Program Project Description:

Releases of petroleum from underground storage tanks (UST) can contaminate groundwater, the drinking water source for many Americans. Environmental Program and Management (EPM) resources in the Leaking Underground Storage Tank (LUST) /Underground Storage Tank (UST) program help prevent releases by providing states[97] and tribes with technical assistance training, and guidance.

The EPA partners with tribes to maintain information on Tribal USTs and is the primary implementer of the UST program in Indian country. With few exceptions, tribes do not have independent UST program resources. This funding supports direct implementation of UST program in Indian country.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will:

- Implement a targeted UST Tribal program, including inspections, enforcement, compliance assistance, and data management.
- Within available resources, provide technical assistance, compliance help, and expert consultation to state, Tribal, and other agency partners on both policy and technical matters. This support strives to strengthen our network of federal, state, Tribal, and local partners (specifically communities and people living and working near UST sites) and assists implementation of the UST regulations.
- Provide guidance, training and assistance to the regulated community to improve understanding and compliance.
- Work with states and tribes regarding UST compatibility with alternative fuels. Work in this area is important given the national growth in biofuels and other emerging fuels, and

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

the significant findings regarding the increasing prevalence of corrosion of UST system equipment containing ethanol or diesel fuels.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,661.0 / -27.2 FTE) This change reflects a reduced workload due to the proposed elimination of the LUST Prevention and the Categorical Grant Underground Storage Tanks programs. With remaining resources, the program will continue to directly implement a targeted compliance and release prevention program in Indian country and work with any state partners who choose to maintain an UST program after the elimination of the federal grant funds.

Statutory Authority:

Resource Conservation and Recovery Act, § 8001, 9001-9011.

Program Area: Water: Ecosystems

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$25,862.3***	***$26,672.0***	***$0.0***	***($26,672.0)***
Total Budget Authority / Obligations	$25,862.3	$26,672.0	$0.0	($26,672.0)
Total Workyears	38.8	43.6	0.0	-43.6

Program Project Description:

The National Estuary Program (NEP)/Coastal Waterways program works to restore the physical, chemical, and biological integrity of estuaries of national significance and coastal watersheds to protect and restore water quality, habitat, and living resources.[98]

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$26,672.0 / -43.6 FTE) This funding change eliminates the National Estuary Program/Coastal Waterways program. The EPA will encourage states to continue this work and continue to implement conservation management plans.

Statutory Authority:

Great Lakes Legacy Reauthorization Act of 2008; Clean Water Act, Section 320; Estuaries and Clean Waters Act of 2000; Protection and Restoration Act of 1990; North American Wetlands Conservation Act.

[98] For more information, visit https://www.epa.gov/nep.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$21,065.5***	***$21,025.0***	***$18,115.0***	***($2,910.0)***
Total Budget Authority / Obligations	$21,065.5	$21,025.0	$18,115.0	($2,910.0)
Total Workyears	136.4	137.3	115.0	-22.3

Program Project Description:

The EPA's Wetlands program has two primary components: the Clean Water Act (CWA) Section 404 regulatory program and the state and Tribal development program. Major activities of the program include improving management and public understanding of wetland programs and legal requirements; reviewing Section 404 permit applications submitted to the U.S. Army Corps of Engineers (USACE) or authorized states; and assisting in the development of state and Tribal wetland protection programs under the CWA.

FY 2018 Activities and Performance Plan:

The EPA will work with states and tribes to target the Wetlands Protection program funds to core statutory requirements while providing states and tribes with flexibility to best address their particular priorities.

Clean Water Act Section 404:

USACE is responsible for managing the day-to-day permit processes nationwide under Section 404 of the CWA. The EPA is statutorily required to provide input to the USACE as it develops proposed permits. The EPA and USACE will work together to evaluate options for improving efficiencies in federal CWA permitting that could help reduce potential costs and delays, increase consistency and predictability, and improve protection of public health and the environment.

In FY 2018, the EPA also will conduct activities pursuant to responsibilities as a member of the Gulf Coast Ecosystem Restoration Council authorized under the RESTORE Act.

Build State and Tribal Wetlands Program:

In addition, the EPA will continue to work with states and tribes interested in assuming administration of the CWA Section 404 program. The EPA will continue to administer Wetland Program Development Grants in support of state and Tribal wetland programs, with a focus on working more efficiently with states and tribes to achieve specific program development outcomes.[99]

[99] For more information, visit http://www.epa.gov/owow/wetlands/ or http://www.cfda.gov.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,910.0 / -22.3 FTE) This streamlines the Wetlands program. The EPA will work with states and tribes to target funds to core requirements while providing flexibility to address particular priorities.

Statutory Authority:

Clean Water Act, § 404.

Program Area: Water: Human Health Protection

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$1,779.8***	***$1,978.0***	***$0.0***	***($1,978.0)***
Total Budget Authority / Obligations	$1,779.8	$1,978.0	$0.0	($1,978.0)
Total Workyears	3.2	3.8	0.0	-3.8

Program Project Description:

The Fish component of the Beach/Fish Program provides up-to-date science, guidance, technical assistance, and nationwide information to state, Tribal, and federal agencies on the human health risks associated with eating locally caught fish with contaminants at levels of concern.

The Beach component of the Beach/Fish Program provides up-to-date science, guidance, technical assistance, and nationwide information to state, Tribal, and federal agencies on the human health risks of swimming in pathogen contaminated waters.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The agency will encourage states to continue this work within ongoing core programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,978.0 / -3.8 FTE) This funding change eliminates the Beach/Fish Program, which is a mature, well-established program that can continue to be implemented at the local level.

Statutory Authority:

Clean Water Act, § 104.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$96,372.2***	***$96,341.0***	***$80,044.0***	***($16,297.0)***
Science & Technology	$3,975.8	$3,512.0	$3,657.0	$145.0
Total Budget Authority / Obligations	$100,348.0	$99,853.0	$83,701.0	($16,152.0)
Total Workyears	511.4	522.7	443.3	-79.4

Program Project Description:

The EPA's Drinking Water Program is based on a multiple-barrier and source-to-tap approach to protecting public health from contaminants in drinking water. The EPA protects public health through: (1) source water assessment and protection programs; (2) promulgation of new or revised, scientifically sound National Primary Drinking Water Regulations (NPDWRs); (3) training, technical assistance, and financial assistance programs to enhance public water system capacity to comply with existing and new regulations; (4) underground injection control (UIC) programs; (5) supporting implementation of NPDWRs by state and Tribal drinking water programs through regulatory, non-regulatory, and voluntary programs and policies; and (6) providing states and tribes with resources and tools to support the financing of water infrastructure improvements.[100]

FY 2018 Activities and Performance Plan:

Safe drinking water is critical for protecting human health and the economic vitality of the nation. Approximately 320 million Americans rely on the safety of tap water provided by public water systems (PWSs) that are subject to national drinking water standards.[101] In FY 2018, the EPA will continue its core mission to protect the public from contaminants in drinking water by: (1) developing new and revising existing drinking water standards; (2) supporting states, tribes, and water systems in implementing standards; (3) enabling financing of infrastructure projects while promoting sustainable management of drinking water systems; and (4) implementing the underground injection control (UIC) program.

In FY 2016, 91 percent of the population served by Community Water Systems (CWSs) received drinking water that met all applicable health-based drinking water standards. Ongoing compliance challenges include violations related to the Total Coliform Rule, the Lead and Copper Rule, the Stage 2 Disinfectants and Disinfection Byproducts Rule, and the Nitrates regulation.

[100] For more information, please see https://www.epa.gov/ground-water-and-drinking-water and https://www.cfda.gov
[101] U.S. Environmental Protection Agency Safe Drinking Water Information System (SDWIS/FED), http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/index.cfm.

Water Infrastructure

With the aging of the nation's critical water infrastructure and a growing need for investment, the drinking water and wastewater sectors face a significant challenge to maintain and advance the achievements attained in protecting public health and the environment. The EPA's water and wastewater sustainability efforts are designed to promote more effective management of water systems to continuously improve their performance and achieve long-term sustainability.

In addition, the EPA's FY 2018 budget includes resources for continued operation of the Water Infrastructure and Resiliency Finance Center to help communities across the country improve their wastewater, drinking water, and stormwater systems, particularly through innovative financing and building resiliency. These investments are designed to enhance system capacity and ultimately increase the efficiency and effectiveness of available water infrastructure funding. The FY 2018 budget also continues to provide funding for the Environmental Finance Centers which deliver financial outreach services, such as technical assistance, training, expert advice, and full cost pricing analysis to states, local communities, and small businesses.

The EPA will continue to support financing and construction of drinking water infrastructure and encourage public water systems to adopt sustainable management practices by doing the following:

- Provide states with funds, through the Drinking Water State Revolving Fund (DWSRF) capitalization grants, for low-interest loans to assist utilities with financing drinking water infrastructure needs and to support utility compliance with Safe Drinking Water Act (SDWA) standards;
- Encourage states to consider using the set-asides in the DWSRF to build water system technical and managerial capacity;
- Provide effective oversight of the DWSRF funds;
- Advise states on maintaining their capacity development and operator certification programs to support compliance by public water systems with the SDWA and to enable water systems, especially small systems, to meet statutory prerequisites for receiving infrastructure financing; and
- Encourage states to develop state-centric tools, in lieu of national tools, to assist water systems with capacity development.

Drinking Water Implementation

In FY 2018, the agency will continue to work with states to implement requirements for all NPDWRs to ensure that systems install, operate, and maintain appropriate levels of treatment and effectively manage their distribution systems. In particular, the EPA will continue to focus on working with states to optimize corrosion control treatment to minimize exposure to lead. The EPA also will continue to require states to report violations data at all public water systems for all rules, including requirements to protect against Cryptosporidium, to control disinfection byproducts, and to implement the Revised Total Coliform Rule.

While most small systems consistently provide safe and reliable drinking water to their customers, many small systems face challenges with aging infrastructure, complying with regulatory

requirements, workforce shortages and high staff turnover, increasing costs, and declining rate bases. In FY 2016, small community water system violations made up 94 percent of overall violations;[102] however, in Indian Country, only 88 percent of the population served by CWSs received drinking water that met all applicable health-based standards. The EPA will continue to focus on small systems by strengthening and targeting financial assistance, in coordination with state infrastructure programs, to support rehabilitation of the nation's infrastructure. The agency also will look for ways to promote partnerships among water systems to build capacity and work with states and tribes, as well as with utility associations, third-party technical assistance providers, and other federal partners, to promote the sustainability practices that are the foundation for building technical, managerial, and financial capacity, known as Capacity Development.[103]

In FY 2018, the agency will continue to streamline its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states, and tribes.

Key to addressing the most pressing public water system issues is being able to identify which systems have the greatest need and then efficiently interacting with those systems. In FY 2018, the EPA will continue work with states to develop SDWIS Prime, the management and reporting tool used by the majority of state drinking water programs. SDWIS Prime is a centralized infrastructure technology system that will replace SDWIS State and other systems that are hosted and operated separately by each primacy agency. Benefits of this transition to SDWIS Prime include improvements in program efficiency and data quality, greater public access to drinking water data, facilitation of electronic reporting, reductions in reporting burdens on laboratories and water utilities, reductions in data management burden for states, and ultimately reduction in public health risk. In FY 2018, the EPA will complete SDWIS modernization with the release of SDWIS Prime. SDWIS Prime will be a centralized infrastructure technology system that replaces SDWIS State and other systems that are currently hosted and operated separately by each primacy agency.

In FY 2016, the EPA released the Compliance Monitoring Data Portal (CMDP) enabling drinking water utilities and laboratories to report data electronically to primacy agencies with fewer errors and in a more efficient manner. The portal increases data accuracy and completeness and once fully implemented, could decrease the overall reporting burden for primacy agencies by hundreds of thousands of hours. Primacy agencies can use the portal-reported data to make more informed decisions about water system compliance and focus their limited resources on preventing and responding to public health problems. In FY 2017, the EPA is assisting primacy agencies in transitioning to and utilizing CMDP, and will continue this assistance in FY 2018.

In FY 2018, the EPA also will conduct the following activities to facilitate compliance with rules:

- Oversee the national Public Water System Supervision (PWSS) program by administering the PWSS grants to states and measuring program results based on state reporting of health-based rule violations at public water systems for over 90 drinking water contaminants (i.e., microbial pathogens and disinfection byproducts, other chemicals, and radiological contaminants);

[102] https://www.epa.gov/waterdata/drinking-water-tools.
[103] Read more on Capacity Development at http://water.epa.gov/type/drink/pws/smallsystems/index.cfm.

- Offer training and technical assistance on a prioritized basis, using materials developed in prior years, to states, tribes, and public water systems for the Lead and Copper Rule (LCR);
- Directly implement the Aircraft Drinking Water Rule, designed to protect millions of people who travel on over five thousand aircraft in the U.S., if necessary to address identified significant risks; and
- Directly implement the drinking water program where states do not have primacy (*e.g.*, Wyoming, the District of Columbia, and Tribal lands), focused on actions that are under court order or address significant identified risks.

Drinking Water Standards

To assure the American people that their water is safe to drink, the EPA's drinking water regulatory program monitors for a broad array of contaminants, evaluates whether contaminants are of public health concern, and regulates contaminants when there is a meaningful opportunity for health risk reduction for persons served by public water systems. In addition, the EPA will work to reduce lead risks through revisions to the Lead and Copper Rule (LCR), and regulations to implement the Water Infrastructure Improvement for the Nation Act and the Reduction of Lead in Drinking Water Act. The EPA will continue its communication with states, tribes, and communities, to understand local perspectives on the quality of drinking water.

The agency also will continue to evaluate and address drinking water risks in FY 2018, including:

- Preparing a proposed national primary drinking water regulation for perchlorate by October 2018 in accordance with a consent decree. Conducting analyses to establish a health based goal for the regulation, evaluating costs and benefits of alternative regulatory requirements, and consulting with stakeholders.
- Proposing revisions to the LCR and evaluating public comments on the proposed revisions. The EPA received comprehensive recommendations from the National Drinking Water Advisory Council (NDWAC) and other concerned stakeholders on potential steps to strengthen the LCR. The agency will propose regulatory revisions based upon this input and based upon the Water Infrastructure Improvement for the Nation Act. The EPA will conduct an evaluation of the costs and benefits of potential revisions. The EPA will evaluate the public comments on the proposed revisions and begin development of final rule revisions to the LCR.
- Evaluating the public comments and any additional data received on the proposed rule that makes changes to existing regulations based on the Reduction of Lead in Drinking Water Act (RLDWA) and the Community Fire Safety Act that prohibits the use and introduction into commerce of lead pipes, plumbing fittings or fixtures, and solder and flux. In developing the final rule, the EPA will consider public comments and additional data received. The EPA plans to publish the final rule in FY 2019.
- Collecting and analyzing health effects and occurrence data to assess contaminants on the fourth contaminant candidate list (CCL 4), that includes Perfluorooctanoic Acid (PFOA), Perfluorooctanesulfonic acid (PFOS), and 1-4 Dioxane, for regulatory determinations. Evaluation of these contaminants in FY 2018 is critical for the Agency to publish preliminary determinations, consider comments, and publish final regulatory determinations by the SDWA deadline (January 2021).
- Collecting information on microbial pathogens (e.g., *Legionella)* and disinfection byproducts.

Source Water Protection

The EPA will continue to partner with states, drinking water utilities, and other stakeholders to identify and address current and potential sources of drinking water contamination. These efforts are integral to the sustainable infrastructure effort because source water protection can reduce the need for additional drinking water treatment and the associated additional infrastructure costs and energy usage, while better protecting public health. In the past three years, states of emergency have been declared due to source water contamination from harmful algal blooms on Lake Erie, and a leaking chemical storage tank leak on the Elk River that lead to "do not drink" and "do not use" advisories in Toledo, OH and Charleston, WV respectively, that prevented access to safe drinking water for residents, hospitals, schools, and businesses in these communities, causing economic impacts in the tens of millions of dollars. These events highlight the importance of safe drinking water to public health and local economies, and, in particular, the need to prioritize threats and protect drinking water sources.

In FY 2018, the agency will:

- Work with stakeholder organizations to encourage continuing engagement in the Source Water Collaborative,[104] which works to leverage resources, support efforts to assist communities in source water protection activities and projects, and promote ongoing efforts to protect drinking water sources.
- Develop new and revised drinking water health advisories that will support state needs for information for their own standards setting processes. Where data is not available, the EPA will leverage resources from states and international bodies on chemical safety. The EPA's health advisories provide information to water quality managers on the human health effects of and methods to sample and treat water contaminants, but are not enforceable national drinking water standards.
- Continue to support users of the existing data-layers of the Drinking Water Mapping Application for Protecting Source Waters (DWMAPS)[105] through the EPA's geoplatform. This online GIS-based application enables states, utilities, and others to combine national datasets previously integrated with DWMAPS with their own datasets, such as chemical storage facilities and sensitive drinking water intakes, to evaluate threats to drinking water. DWMAPS also allows users to leverage CWA data to analyze and coordinate water quality assessments, impaired waters, and point source permit information to protect drinking water sources.

Underground Injection Control (UIC)

In order to safeguard current and future underground sources of drinking water from contamination, the UIC program regulates the construction, operation, permitting, and closure of injection wells that place fluids underground for storage, disposal, enhanced recovery of oil and gas, and minerals recovery. The number of UIC wells, especially Class II oil- and gas-related wells, has risen significantly in recent years, and this trend is expected to continue. Additionally, as population growth, land use changes, and drought exacerbate water supply challenges in many areas of the

[104] https://www.epa.gov/sourcewaterprotection/source-water-collaborative.
[105] https://www.epa.gov/sourcewaterprotection/dwmaps.

country, management of water availability has become increasingly important in providing safe and reliable drinking water to communities.

In FY 2018, the EPA will continue to provide some technical support to states and tribes in making permitting decisions, evaluating approaches to providing oversight related to implementation of underground injection regulations, and directly implement the UIC regulations where the EPA has primary authority. Activities include:

- Working with the Ground Water Protection Council, Interstate Oil and Gas Compact Commission, and the National Rural Water Association to identify best practices in oil and gas development, such as reuse and recycling of produced water, that can help safeguard public health, recognizing the important role that energy extraction, including natural gas development, plays in our energy future;
- Working with authorized state and Tribal agencies in their efforts to effectively manage Class II enhanced oil and gas recovery wells and oil and gas-related disposal wells in a rapidly growing energy sector to prevent endangerment of underground sources of drinking water;
- Working towards transferring primary enforcement authority for Class II and Class VI Geologic Sequestration wells from the EPA direct implementation to state programs that apply for primacy. For example, the EPA approved primary enforcement responsibility of Class II wells for the State of Kentucky, which took effect on March 21, 2017. The EPA also will continue working with the State of Michigan on its draft application to assume Class II primacy, and with North Dakota on its application to assume Class VI primacy;
- Promoting implementation of a nationally consistent and predictable approach to reviewing and approving aquifer exemption requests;
- Promoting voluntary strategies for improving compliance with Class II regulations, including risks from induced seismic events from disposal wells;
- Working with Region 9 and the State of California to review and approve aquifer exemptions so that the state program is consistent with the Safe Drinking Water Act and UIC regulations;
- Continuing to identify aquifer exemption records to add to the national aquifer exemption data set;
- Providing technical assistance, tools, and strategies to states for improving implementation of UIC programs, including approaches to reduce the number of earthquake events related to underground injection activities; and
- Using national UIC data to assist with program oversight of state and the EPA UIC programs.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$6,303.0) This program reduction reflects a refocus on core work in the SDWA for FY 2018.

- (-$9,994.0 / -77.3 FTE) Resources and FTE changes represent the net of all other changes in the program and streamlining of activities.

Statutory Authority:

Safe Drinking Water Act (SDWA); Clean Water Act.

Program Area: Water Quality Protection

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$10,757.8***	***$10,142.0***	***$0.0***	***($10,142.0)***
Total Budget Authority / Obligations	$10,757.8	$10,142.0	$0.0	($10,142.0)
Total Workyears	37.5	37.4	0.0	-37.4

Program Project Description:

The EPA's Marine Pollution Program partners with other agencies, including the Department of Defense, the National Oceanic and Atmospheric Administration (NOAA), and others to integrate management of oceans and coasts. This program aims to:1) ensure marine ecosystem protection; 2) manage ocean dumping of dredged material and limit and prevent disposal of wastes and other materials in the ocean; 3) address emerging environmental threats to the marine and coastal water quality; 4) protect sensitive marine habitats; and 5) gather data and undertake research to inform policy and program decisions for protection of the marine and near coastal environment.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will seek opportunities to continue to meet statutory mandates through the national water program.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$10,142.0 / -37.4 FTE) This funding change eliminates the Marine Pollution program. Other federal agencies may continue to support these efforts.

Statutory Authority:

Clean Water Act; Marine Protection, Research, and Sanctuaries Act (Ocean Dumping Act); Marine Debris Research, Prevention, and Reduction Act of 2006; Marine Plastic Pollution Research and Control Act of 1987.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$202,080.5***	***$199,875.0***	***$174,975.0***	***($24,900.0)***
Total Budget Authority / Obligations	$202,080.5	$199,875.0	$174,975.0	($24,900.0)
Total Workyears	986.8	1,023.9	937.1	-86.8

Program Project Description:

The Surface Water Protection Program, under the Clean Water Act (CWA), directly supports efforts to protect, improve, and restore the quality of our nation's rivers, lakes, and streams. The EPA works with states and tribes to make continued progress toward clean water goals.

FY 2018 Activities and Performance Plan:

The EPA will work with states and tribes to target funds to core requirements while providing states and tribes with flexibility to best address their particular priorities for Surface Water Protection.

Program Implementation

In FY 2018, the EPA will continue to provide scientific water quality criteria information, review and approve state water quality standards, and review and approve state lists of impaired waters. Water quality criteria and standards provide the scientific and regulatory foundation for water quality protection programs under the CWA. The EPA will continue to support state and Tribal programs by providing scientific water quality criteria information as required by CWA Section 304. The EPA also will continue to support states and authorized tribes in adopting and implementing water quality standards in accordance with the water quality standards regulation at 40 CFR part 131.

The EPA will continue to establish or revise effluent guidelines as required under the CWA, as well as complete an annual review and biennial plan. As required under CWA Section 304(h), the EPA will revise existing and adopt new analytical test methods for measuring pollutants in wastewater to incorporate cheaper, safer, faster, more sensitive and/or more accurate analytical test methods.

The EPA will work with states and other partners on Total Maximum Daily Loads (TMDLs) as required by CWA Section 303(d) and on other waterbody restoration plans for listed impaired waterbodies. TMDLs focus on clearly defined environmental goals and establish a pollutant budget, which is then implemented through local, state, and federal watershed plans and programs to restore waters. The EPA will work with states and tribes on strengthening their Section 303(d) programs so they strengthen Section 303(d) plans and ensure they are effective. Support also will be provided to control nonpoint sources of pollution and ensure the protection of high-quality waters.

The EPA will continue working with states and tribes to support the statistically valid National Aquatic Resource Surveys (NARS) of the condition of the nation's waters which support CWA Section 305(b). The EPA will continue working with states and tribes to implement base water quality monitoring and enhancements to develop data that serve multiple CWA programs in a cost-efficient and effective manner. The EPA will continue supporting state and Tribal water quality data exchange and tools to maximize use of data from multiple organizations to support water quality management decisions.

The EPA and the Army Corps of Engineers are implementing the President's Executive Order[106] directing the Administrator of the EPA and the Assistant Secretary of the Army for Civil Works to review the 2015 Clean Water Rule and publish for notice and comment a proposed rule rescinding or revising the rule, as appropriate and consistent with law.

In FY 2018, the EPA will continue to implement and support the core water quality programs that control point source discharges through permitting and pretreatment programs. The National Pollutant Discharge Elimination System (NPDES) program, under the CWA, works with states to structure the permit program to better support comprehensive protection of water quality on a watershed basis.

Infrastructure

The EPA will continue its robust support of the nation's infrastructure. The EPA will focus efforts to leverage and encourage public and private collaborative efforts and investments in improving the Nation's water infrastructure.

This program/project supports the policy and fiduciary oversight of the Clean Water State Revolving Fund program, which provides low-interest loans to help finance wastewater treatment facilities and other water quality projects. The program supports work toward ensuring the good financial condition of the State Revolving Funds.

The FY 2018 budget continues to provide funding for the Environmental Finance program which will help communities across the country improve their wastewater and stormwater systems, particularly through innovative financing.

Program Oversight/Accountability

States and tribes are important partners for implementing the CWA. For programs where states and tribes have primacy, the agency will focus on providing oversight and assistance. In addition, as required under the CWA and Executive Orders 12866, 135638, and 13771, the EPA will continue to support cost/benefit analysis for CWA regulatory and deregulatory actions.

The agency will continue to develop and work with states to use the updated Assessment and TMDL Tracking Implementation System (ATTAINS) to track improvements in impaired waters.

[106] Presidential Executive Order on Restoring the Rule of Law, Federalism, and Economic Growth by Reviewing the "Waters of the United States" Rule available at: https://www.whitehouse.gov/the-press-office/2017/02/28/presidential-executive-order-restoring-rule-law-federalism-and-economic

This tool will reduce burden on states to track and report progress in meeting water quality standards in waters targeted for local action and greatly improve evidence-based tracking of local actions to improve water quality.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$24,900.0 / -86.8 FTE) This streamlines the Surface Water Protection program, including the elimination of the $3.075 million WaterSense program and also activities under the Urban Waters program.

Statutory Authority:

Clean Water Act; Marine Protection, Research, and Sanctuaries Act (Ocean Dumping Act); Marine Debris Research, Prevention, and Reduction Act of 2006; Marine Plastic Pollution Research and Control Act of 1987.

Program Area: Indoor Air and Radiation

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$378.9	$172.0	$0.0	($172.0)
Environmental Program & Management	***$2,759.3***	***$2,904.0***	***$0.0***	***($2,904.0)***
Total Budget Authority / Obligations	$3,138.2	$3,076.0	$0.0	($3,076.0)
Total Workyears	8.5	10.6	0.0	-10.6

Program Project Description:

Title III of the Toxic Substances Control Act (TSCA) authorizes the EPA to undertake a variety of activities to address the public health risk posed by exposure to indoor radon. Under the statute, the EPA studies the health effects of radon, assesses exposure levels, sets an action level, provides technical assistance, and advises the public of steps they can take to reduce exposure. For over 29 years, the EPA's radon program has provided important guidance and significant funding to help states establish their own programs.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. This is a mature program where states have the technical capacity to continue this work.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,904.0 / -10.6 FTE) This funding change eliminates the Indoor Air: Radon program.

Statutory Authority:

Title III of the Toxic Substances Control Act (TSCA); Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA); Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$12,972.9***	***$13,707.0***	***$0.0***	***($13,707.0)***
Science & Technology	$260.4	$209.0	$0.0	($209.0)
Total Budget Authority / Obligations	$13,233.3	$13,916.0	$0.0	($13,916.0)
Total Workyears	37.6	40.7	0.0	-40.7

Program Project Description:

Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA) authorizes the EPA to conduct and coordinate research on indoor air quality, develop and disseminate information, and coordinate risk reduction efforts at the federal, state, and local levels. The EPA utilizes a range of strategies, including partnerships with non-governmental, professional, federal, state and local organizations, to educate and prepare individuals, school districts, industry, the health care community, and others to take action to reduce health risks from poor indoor air quality in homes, schools, and other buildings.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. This is a mature program where states have the technical capacity to continue this work.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$13,707.0 / -39.1 FTE) This funding change eliminates the Reduce Risks from Indoor Air program.

Statutory Authority:

Title III of the Toxic Substances Control Act (TSCA); Title IV of the Superfund Amendments and Reauthorization Act of 1986 (SARA); Clean Air Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	***$8,371.0***	***$8,427.0***	***$0.0***	***($8,427.0)***
Science & Technology	$2,064.5	$1,831.0	$0.0	($1,831.0)
Hazardous Substance Superfund	$2,194.2	$1,981.0	$0.0	($1,981.0)
Total Budget Authority / Obligations	$12,629.7	$12,239.0	$0.0	($12,239.0)
Total Workyears	52.9	59.1	0.0	-59.1

Program Project Description:

The EPA has general and specific duties to protect human health and the environment from harmful and avoidable exposure to radiation under the Atomic Energy Act; Clean Air Act; Comprehensive Environmental Response, Compensation, and Liability Act; Energy Policy Act; Nuclear Waste Policy Act; Public Health Service Act; Safe Drinking Water Act; Uranium Mill Tailings Radiation Control Act; Waste Isolation Pilot Plant Land Withdrawal Act; Marine Protection, Research, and Sanctuaries Act; and Clean Water Act.

The EPA's Radiation Protection Program carries out these responsibilities through its federal guidance and standard-setting activities, including: regulatory oversight at the Department of Energy's Waste Isolation Pilot Plant (WIPP);[107] the regulation of airborne radioactive emissions; and the development and determination of appropriate methods to measure radioactive releases and exposures under Section 112 of the Clean Air Act.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018.

The EPA will explore alternatives to continue to meet its statutory obligation to implement its regulatory oversight responsibilities for Department of Energy (DOE) activities at the Waste Isolation Pilot Plant (WIPP) facility, as mandated by Congress in the WIPP Land Withdrawal Act of 1992.

The EPA also will explore alternatives for its requirement, under the Atomic Energy Act, to establish health and environmental protection standards for exposures to radiation.

[107] Additional information at: http://www.epa.gov/radiation/wipp/background.html.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,427.0 / -36.8 FTE) This funding change eliminates the Radiation: Protection program.

Statutory Authority:

Atomic Energy Act of 1954; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute); Clean Air Act; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Energy Policy Act of 1992; Nuclear Waste Policy Act of 1982; Public Health Service Act; Safe Drinking Water Act; Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978; Waste Isolation Pilot Plant Land Withdrawal Act of 1992; Marine Protection, Research, and Sanctuaries Act; Clean Water Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$3,716.5	$3,774.0	$3,339.0	($435.0)
Environmental Program & Management	***$2,047.1***	***$2,545.0***	***$2,257.0***	***($288.0)***
Total Budget Authority / Obligations	$5,763.6	$6,319.0	$5,596.0	($723.0)
Total Workyears	35.5	39.2	31.5	-7.7

Program Project Description:

The EPA generates policy guidance and procedures for the agency's radiological emergency response under the National Response Framework (NRF) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). The agency maintains its own Radiological Emergency Response Team (RERT) and is a member of the Federal Radiological Preparedness Coordinating Committee (FRPCC) and the Federal Advisory Team for Environment, Food, and Health (the "A-Team"). The EPA continues to respond to radiological emergencies and conducts essential national and regional radiological response planning and training and develops response plans for radiological incidents or accidents.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will evaluate its resources and streamline across radiological emergency response activities and assets to focus on essential preparedness work. The RERT will maintain essential readiness to support federal radiological emergency response and recovery operations under the NRF and NCP. The EPA will design essential training and exercises to enhance the RERT's ability to fulfill the EPA's responsibilities and improve overall radiation response preparedness.[108]

In FY 2018, the EPA will streamline efforts to work with interagency partners under the FRPCC to revise federal radiation emergency response plans and develop radiological emergency response protocols and standards as resources dictate. The agency will continue to use guidance addressing lessons learned from incidents and exercises to ensure the effective delivery of EPA support in coordination with other federal and state response agencies.

The EPA will continue to participate in essential planning and implementing international and federal table-top and field exercises, including radiological anti-terrorism activities with the Nuclear Regulatory Commission (NRC), the Department of Energy (DOE), the Department of Defense (DOD), and the Department of Homeland Security (DHS). The agency also will continue to train state, local, and federal officials and provide technical support on priority

[108] For additional information, see: https://www.epa.gov/radiation/radiological-emergency-response-expertise-and-equipment.

issues to federal and state radiation, emergency management, solid waste and health programs responsible for radiological emergency response and the development of preparedness programs.

The EPA will continue to develop and use both laboratory and field measurement methods, procedures, and quality systems to support expedited assessment and characterization of outdoor and indoor areas impacted with radiological contamination. These methods and procedures will support rapid assessment and triage of impacted areas (including buildings, indoor environments, and infrastructure) and the development of cleanup strategies.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$288.0 / -3.4 FTE) This streamlines technical support for programs that are responsible for radiological emergency response and development of their own preparedness programs. The EPA will evaluate its resources and streamline across radiological emergency response activities and assets to focus on the most essential preparedness work.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Homeland Security Act of 2002; Atomic Energy Act of 1954; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute); Clean Air Act; Post-Katrina Emergency Management Reform Act of 2006 (PKEMRA); Public Health Service Act (PHSA); Robert T. Stafford Disaster Relief and Emergency Assistance Act; Safe Drinking Water Act (SDWA).

Program Area: Congressional Priorities

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$10,378.5	$14,073.0	$0.0	($14,073.0)
Environmental Program & Management	***$12,678.0***	***$12,676.0***	***$0.0***	***($12,676.0)***
Total Budget Authority / Obligations	$23,056.5	$26,749.0	$0.0	($26,749.0)
Total Workyears	4.1	4.0	0.0	-4.0

Program Project Description:

The purpose of these cooperative agreements is to provide training and technical assistance for small public water systems to help such systems achieve and maintain compliance with the Safe Drinking Water Act (SDWA) and to provide training and technical assistance for small publicly-owned wastewater systems, communities served by onsite/decentralized wastewater systems, and private well owners to improve water quality under the Clean Water Act (CWA).

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. States have the ability to develop technical assistance plans for their water systems using Public Water System Supervision funds and set-asides from the Drinking Water State Revolving Fund (DWSRF).

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$12,676.0) This funding change eliminates the Water Quality competitive grant program since resources are available through other existing programs and states are best positioned to develop technical assistance plans for their water systems.

Statutory Authority:

SDWA, 42 U.S.C. §300j-1c, Section 1442. CWA104(b)(3).

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Environmental Protection Agency
FY 2018 Annual Performance Plan and Congressional Justification

APPROPRIATION: Inspector General

Resource Summary Table

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inspector General				
Budget Authority	$39,802.3	$41,410.0	$37,475.0	($3,935.0)
Total Workyears	225.0	268.0	201.4	-66.6

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Bill Language: Inspector General

For necessary expenses of the Office of Inspector General in carrying out the provisions of the Inspector General Act of 1978, $37,475,000, to remain available until September 30, 2019.

Program Projects in IG

(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Audits, Evaluations, and Investigations				
Audits, Evaluations, and Investigations	$39,802.3	$41,410.0	$37,475.0	($3,935.0)
Subtotal, Audits, Evaluations, and Investigations	$39,802.3	$41,410.0	$37,475.0	($3,935.0)
TOTAL, EPA	$39,802.3	$41,410.0	$37,475.0	($3,935.0)

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Sierra Club v. EPA 18cv3472 NDCA Tier 3/4 ED_002061_00157988-00321

Program Area: Audits, Evaluations and Investigations

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inspector General	***$39,802.3***	***$41,410.0***	***$37,475.0***	***($3,935.0)***
Hazardous Substance Superfund	$8,975.4	$9,920.0	$3,900.0	($6,020.0)
Total Budget Authority / Obligations	$48,777.7	$51,330.0	$41,375.0	($9,955.0)
Total Workyears	271.1	318.1	213.4	-104.7

Program Project Description:

The EPA's Office of Inspector General provides independent audit, program evaluation, inspection and investigative services and products that fulfill the requirements of the Inspector General Act, as amended, by identifying fraud, waste, and abuse in agency, grantee and contractor operations, and by promoting economy, efficiency, and effectiveness in the operations of the agency's programs. Although the OIG is a part of the EPA, to ensure its independence, as specified in the IG Act (as amended), the OIG is funded with a separate appropriation within the agency. The OIG activities add value and enhance public trust and safety by providing the agency, the public, and Congress with independent analyses and recommendations that help the EPA management resolve risks and challenges, achieve opportunities for savings, and implement actions for safeguarding the EPA resources and accomplishing the EPA's environmental goals. The OIG activities also prevent and detect fraud in the EPA's programs and operations, including financial fraud, laboratory fraud, and cybercrime. The OIG consistently provides a significant positive return on investment to the public in the form of recommendations for improvements in the delivery of the EPA's mission, reduction in operational and environmental risks, costs savings and recoveries, and improvements in program efficiencies and integrity.

In addition, the EPA Inspector General was designated by Congress in 2004 to serve as the IG for the U.S. Chemical Safety and Hazard Investigation Board and provides the full range of audit, evaluation and investigative services specified by the Inspector General Act, as amended. Specifically, the OIG conducts required audits of the CSB's financial statements and of CSB's compliance with the Federal Information Security Management Act. In addition, the OIG performs audits and evaluations of the CSB's programmatic and management activities and follow-up on prior audit recommendations. The FY 2018 President's Budget proposes elimination of the U.S. Chemical Safety and Hazard Investigation Board.

Sierra Club v. EPA 18cv3472 NDCA Tier 3/4 ED_002061_00157988-00323

FY 2018 Activities and Performance Plan:

The EPA OIG will assist the agency in its efforts to reduce environmental and human health risks by making recommendations to improve program operations; save taxpayer dollars; reduce potential for fraud, waste and abuse; respond to cybercrimes; and resolve previously identified major management challenges and internal control weaknesses. In FY 2018, the OIG will continue recommending improvements to operating efficiency, transparency, secured and trustworthy systems, and the cost effective attainment of the EPA's strategic goals and positive environmental impacts.

OIG's plans will continue to be implemented through audits, evaluations, investigations, inspections, and follow-up reviews in compliance with the Inspector General Act (as amended), applicable professional standards of the U. S. Comptroller General, and the Quality Standards for Federal Offices of Inspector General of the Council of Inspectors General on Integrity and Efficiency.

OIG will conduct the following types of assignments focused on efficiency and program operations: program performance, including a focus on the award and administration of grants and contracts; statutorily mandated audits; financial reviews of grantees and contractors; and information resources management. In addition, program performance evaluations will be conducted in the areas of the EPA's mission objectives for improving and protecting the environment and public health, including: air; water; land cleanup and waste management; toxics, chemical management and pollution prevention; environmental research; and special program reviews.

The investigative mission of the OIG continues to evolve in conducting criminal, civil, and administrative investigations into fraud and serious misconduct within the EPA programs and operations that undermine the organization's integrity and public trust, or create an imminent risk or danger. The OIG investigations are coordinated with the Department of Justice and other federal, state, and local law enforcement entities. These investigations often lead to successful prosecution and civil judgments wherein there is a recovery and repayment of financial losses. Major areas of investigative focus include: financial fraud, program integrity, threats to the agency's resources, employee integrity, cyber-crimes, and theft of intellectual or sensitive data.

A significant portion of audit resources will be devoted to statutorily mandated work assessing the financial statements of the EPA, as required by the Chief Financial Officers Act and the Accountability of Tax Dollars Act of 2002, respectively. The OIG will review the possibility of contracting out for the financial statements audit. The OIG work also will include assessing the information security practices of the EPA as required by the Federal Information Security Management Act. The OIG will examine the delivery and performance of national programs, as well as specific cross-regional and single region or place based issues that represent a risk to public health and the environment in response to stakeholder concerns.

The OIG continues to balance its workload with the capacity of a smaller workforce, while meeting statutorily-mandated requirements and delivering a strong return on investment.

Based on prior work, cross-agency risk assessment, agency challenges, future priorities, and extensive stakeholder input, the OIG will concentrate its resources on efforts in the following strategic objectives and continuing or prospective assignment areas during FY 2018:

Sound and Economical Financial Management

- Annual mandated improper payments audit
- Internal controls
- Annual mandated financial statements audits
- Audits of costs claimed by grantees and contractors
- Grant and contract administration
- Lean government initiative
- Maximizing cost efficiencies
- Information technology capital investments
- Technological changes create transformation opportunities
- Annual mandated travel card program, including risk assessment
- Annual mandated purchase card and convenience check program, including risk assessment
- Oversight of Chief Information Officer's responsibilities under the Federal Information Technology Acquisition Reform Act
- Annual mandated audit of compliance with the Federal Information Security Modernization Act
- Invoice Payment Process

Efficient Processes and Use of Resources

- Management of Brownfield Revolving Loan Funds after grant closeout
- Review of EPA process on reducing taxpayer environmental liabilities
- Partnering or coordination with other agencies to maximize efficiencies
- Opportunities to reduce duplication, overlap and fragmentation within the EPA
- Grant, Interagency Agreement Grant, and Interagency Agreement Close-Out (per the Grants Oversight and New Efficiency Act)
- Senior Environmental Employment (SEE) Program
- Working Capital Fund efficiencies
- Review of city of Atlanta combined sewer overflow program

Ensuring the Integrity of EPA Information

- Protection from advanced persistent threats to steal/modify data
- Agency efforts to enhance its capability to respond to cyber-attacks
- Cybersecurity/infrastructure development; and assessment of processes to ensure protection and security of information systems from fraud, waste and abuse
- File Server Security
- Processes for Managing Background Investigations and POA&Ms

Addressing At-Risk Populations, Chronic and Emerging Environmental Health Challenges

- Determine the effectiveness of the EPA's audit process for ensuring (1) the performance of air quality laboratories, and (2) the proper siting of air monitors
- Evaluation of process for prioritizing and funding cleanup of abandoned uranium mines on Navajo Nation

- Evaluation of the EPA's protection of public health from landfill fires
- Evaluation of compliance inspections in schools to reduce asbestos exposure
- Process and controls for public notification of drinking water quality

Assessing Risk Management and Performance Measurement

- Implementation of Federal Managers Financial Integrity Act, Federal Information Security Management Act and Government Performance and Results Act
- Disaster response and homeland security and emergency preparedness and response
- Construction grants awarded to the District of Columbia Water and Sewer Authority
- Review of CGI federal performance
- Amendment Process for Assistance Agreements Related to Brownfields

Reviewing Effectiveness of Stewardship, Sustainability and Prevention

- Permitting of emissions for startup, shutdown and malfunctions
- Mandated readiness reviews of agency DATA act implementation efforts
- Evaluation of internal controls of the EPA's vehicle and fuel emissions laboratory testing program to detect vehicle emissions fraud
- Evaluation of the effectiveness of internal controls for EPA's Integrated Risk Information System program

Assessing Program Integrity, Oversight, Enforcement and Efficient Rulemaking

- Evaluation of the Management Audit Tracking System
- Oversight of role in rail car spill incident
- Review of workforce restructuring under VERA/VSIP
- Oversight of Clean Water State Revolving Loan Funds
- The EPA progress on meeting RCRA statutory mandate for minimum frequency of inspections at hazardous waste disposal facilities
- Accessing the EPA's policy, procedures, and internal controls to prevent or reduce improper computer use

Investigations

The Office of Investigations' (OI) mission is to conduct criminal, civil, and administrative investigations of fraud, waste and abuse and serious misconduct within the EPA's programs, projects, and resources. The OI investigations are worked in conjunction with the Department of Justice for criminal and civil litigation or EPA management for administrative action. The OI currently investigates the following: 1) fraudulent practices in awarding, performing, and paying the EPA contracts, grants, or other assistance agreements; 2) program fraud or other acts that undermine the integrity of, or confidence in agency programs, and create imminent environmental risks; 3) laboratory fraud relating to data, and false claims for erroneous laboratory results that undermine the basis for decision-making, regulatory compliance, or enforcement actions; 4) threats directed against EPA employees or facilities; 5) criminal conduct or serious administrative misconduct by EPA employees; and 6) intrusions into and attacks against the EPA's network supporting program data, as well as incidents of computer misuse and theft of intellectual property or sensitive/proprietary data. Special attention will be directed towards identifying the tactics, techniques, and procedures that are being utilized by cyber criminals to obtain EPA information.

Finally, the OI develops recommendations or "lessons learned" for the EPA's management to reduce the agency's vulnerability to criminal activity. The OI's investigations provide measurable results wherein recovery and restitution of financial losses are achieved and administrative actions are taken to prevent those involved from further participation in any of the EPA's programs or operation.

Follow-up and Policy/Regulatory Analysis

To further promote economy, efficiency and effectiveness, the OIG will conduct follow-up reviews of agency responsiveness to the OIG's recommendations to determine if appropriate actions have been taken and intended improvements have been achieved. This process will serve as a means for keeping Congress and the EPA leadership apprised of accomplishments and opportunities for needed corrective actions, and facilitate greater accountability for results from the OIG operations.

Additionally, as directed by the IG Act (as amended), the OIG also conducts reviews and analysis of proposed and existing policies, rules, regulations and legislation to identify vulnerability to waste, fraud and abuse. These reviews also consider possible duplication, gaps or conflicts with existing authority, leading to recommendations for improvements in their structure, content and application.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,935.0 / -73.0 FTE) This funding change reflects a number of items reduced or eliminated including audits/investigation from hotline complaints; congressionally requested work products; OIGs self-initiated evaluations of high-risk program areas in EPA statutory programs; discretionary work products; reviews of FY 2018 zeroed-out programs and activities; development and maintenance of the Active Shooter Program; and the planning and implementation of the continuity capability for the OIG. This reduction in OIG workload also reflects the elimination of the CSB.

- (+$1,000.0 / +6.4 FTE) This realignment is a shift in resources from the Superfund account to the IG Management account in order to ensure adequate resources for the OIG's high risk audits, evaluations, and investigations.

Statutory Authority:

Inspector General Act, as amended; Inspector General Reform Act.

Inspector General Reform Act:

The following information is provided pursuant to the requirements of the Inspector General Reform Act:

- the aggregate budget request from the Inspector General for the operations of the OIG is $62 million ($53 million Inspector General; $9 million Superfund Transfer);
- the aggregate President's Budget for the operations of the OIG is $41 million ($37 million Inspector General; $4 million Superfund Transfer);
- the portion of the aggregate President's Budget needed for training is $700 thousand ($574 thousand Inspector General; $126 thousand Superfund Transfer);
- the portion of the aggregate President's Budget needed to support the Council of the Inspectors General on Integrity and Efficiency is $179 thousand ($143.2 thousand Inspector General; $35.8 thousand Superfund Transfer).

"I certify as the Inspector General of the Environmental Protection Agency that the amount I have requested for training satisfies all OIG training needs for FY 2018".

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Environmental Protection Agency
FY 2018 Annual Performance Plan and Congressional Justification

APPROPRIATION: Building and Facilities
Resource Summary Table
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Building and Facilities				
Budget Authority	$44,550.4	$42,237.0	$39,553.0	($2,684.0)
Total Workyears	0.0	0.0	0.0	0.0

Bill Language: Building and Facilities

For construction, repair, improvement, extension, alteration, and purchase of fixed equipment or facilities of, or for use by, the Environmental Protection Agency, $39,553,000, to remain available until expended.

Program Projects in B&F
(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Homeland Security				
Homeland Security: Protection of EPA Personnel and Infrastructure	$7,366.2	$6,663.0	$6,176.0	($487.0)
Operations and Administration				
Facilities Infrastructure and Operations	$37,184.2	$35,573.0	$33,377.0	($2,196.0)
Subtotal, Facilities Infrastructure and Operations	$37,184.2	$35,573.0	$33,377.0	($2,196.0)
TOTAL, EPA	$44,550.4	$42,236.0	$39,553.0	($2,683.0)

Program Area: Homeland Security

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$4,987.0	$5,336.0	$4,986.0	($350.0)
Science & Technology	$551.0	$551.0	$500.0	($51.0)
Building and Facilities	***$7,366.2***	***$6,664.0***	***$6,176.0***	***($488.0)***
Hazardous Substance Superfund	$833.6	$1,084.0	$542.0	($542.0)
Total Budget Authority / Obligations	$13,737.8	$13,635.0	$12,204.0	($1,431.0)
Total Workyears	8.1	12.2	12.2	0.0

Program Project Description:

This Physical Security and Preparedness program supports the protection of federal employees, contractors, grantees, and private citizens (occupants) who work within or visit EPA facilities. The EPA occupies spaces nationwide. Our buildings are a combination of headquarters and regional administrative offices, program and research laboratories, and support facilities/warehouses. These facilities are either EPA owned/leased or GSA owned/leased. This funding ensures federal mandates for physical security (listed below) are met as it relates to physical security and local emergency preparedness for our locations nationwide. These funds support the physical security protection equipment and mechanisms required to protect occupants during facility relocation (moves, new leases, consolidations), physical equipment upgrades/modernization, or corrective actions required to address security vulnerabilities identified during security assessments.

FY 2018 Activities and Performance Plan:

With this funding, in FY 2018, the EPA will ensure the following security projects protect our occupants and comply with federal mandates for physical security: (1) Installation of new security equipment/systems at our Region 8 headquarters in Denver, CO (consolidation project); (2) Relocation of the Region 3 headquarters office in Philadelphia, PA; (3) Relocation of the Region 6 headquarters in Dallas, TX; (4) Installation of Closed-Circuit Television (CCTV) at our facility in Ft. Meade, MD; (5) Installation of Physical Access Control Systems at Denver, CO, Philadelphia, PA, and Dallas, TX; and (6) various CCTV and physical security upgrades in response to vulnerabilities identified by previously conducted physical security assessments.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$488.0) This reduction will delay moving facility Physical Access Control Systems to an enterprise ePAC solution.

Statutory Authority:

Intelligence Reform and Terrorism Prevention Act of 2004; Homeland Security Act of 2002; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Operations and Administration

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$679.6	$583.0	$680.0	$97.0
Environmental Program & Management	$304,456.9	$310,948.0	$301,001.0	($9,947.0)
Science & Technology	$71,332.8	$68,209.0	$68,339.0	$130.0
Building and Facilities	***$37,184.2***	***$35,573.0***	***$33,377.0***	***($2,196.0)***
Leaking Underground Storage Tanks	$785.2	$782.0	$785.0	$3.0
Hazardous Substance Superfund	$69,168.0	$74,137.0	$59,072.0	($15,065.0)
Total Budget Authority / Obligations	$483,606.7	$490,232.0	$463,254.0	($26,978.0)
Total Workyears	332.9	357.7	312.2	-45.5

Program Project Description:

The EPA's Buildings and Facilities (B&F) appropriation supports the design, construction, repair, and improvement of the EPA's federally owned and leased land and structures in accordance with applicable codes and standards. Construction renovation and alteration projects costing more than $150 thousand must use B&F funding.

B&F resources ensure that the agency complies with various mandates and goals including: the Energy Policy Act of 2005, the Energy Independence and Security Act of 2007 (EISA), Executive Order (EO) 13693,[1] *Planning for Federal Sustainability in the Next Decade,* and regulatory mandates associated with soil and water pesticides testing.

FY 2018 Activities and Performance Plan:

In accordance with the National Strategy for the Efficient Use of Real Property 2015-2020, OMB Memorandum M-17-08 Section 3,[2] and HR 4465,[3] the *Federal Assets Sale and Transfer Act of 2016*, the agency will continue to review its space needs. The EPA is implementing a long-term space consolidation plan that will reduce the number of occupied facilities, consolidate space within remaining facilities, and reduce square footage wherever practical. B&F resources support facility-related construction and the repair and improvement (R&I) of the EPA's aging real estate inventory. Good stewardship practices demand that the physical conditions, functionality, safety and health, security, and research capabilities of our facilities are adequately maintained to ensure successful completion of the EPA's mission requirements and goals.

[1] For additional information, refer to: https://www.fedcenter.gov/programs/eo13693/.
[2] For additional information, refer to: https://www.doi.gov/sites/doi.gov/files/uploads/m-17-08_amending_omb_memorandum_m-12-12_promoting_efficient_spending_to_support_agency_operations.pdf.
[3] For additional information, refer to: https://www.congress.gov/bill/114th-congress/house-bill/4465, *Federal Assets Sale and Transfer Act of 2016.*

The B&F appropriation is under significant strain in response to the massive demand for its resources that include GSA imposed leasing requirements. In any given year, the EPA's programs and Regional Offices submit approximately $80 to $100 million in requests for B&F projects, which is well above the funding available. Almost every project is important to the long-term condition or efficiency of the buildings. Furthermore, the agency projects that the need for B&F resources will increase in response to new GSA leasing practices which now require agencies to pay for B&F projects including sustainable features[4] as tenant improvements (TI) or up front and ongoing project costs.

This requirement significantly increases TI cost for new leases at the same time that GSA and the agency are consolidating space and moving into new locations to reduce the agency's footprint. Projections indicate that in some cases, TI costs associated with leasing a new office could absorb close to all of the B&F resources appropriated in a given fiscal year. For example, according to GSA estimates, TI above the amount amortized in the rent for a new lease for the Region 6 office in Dallas is projected to cost $15 million in B&F resources alone. Further, in FY 2018, the TI for a new lease for the Region 3 office in Philadelphia, is projected to cost $11 million.

In FY 2018, the agency will continue to explore opportunities to reconfigure the EPA's workplaces with the goal of reducing long-term rent costs. During FY 2018, space consolidation (i.e. releasing floors or portions of leased space) in Regions 3, 6 and 8 will cumulatively release over 156 thousand square feet and save approximately $5.3 million in rent and facility operation cost after the moves have been completed. Also during FY 2018, space consolidation activity at the Andrew W. Breidenbach Environmental Research Center will result in releasing 28,883 square feet of commercial leased space and save $681 thousand annually. Space consolidation and reconfiguration enables the EPA to reduce its footprint to create a more efficient, collaborative, and technologically sophisticated workplace, but even if modifications are kept to a minimum, each move requires B&F funding.

The FY 2018 request also includes resources for ongoing projects that will provide critical support to aging laboratory facilities and are key to ensuring that the agency has access to preeminent laboratory science. These projects maintain a safe workplace, provide for high quality science, support agency priorities, and advance the agency mission. Delaying essential repairs results in the deterioration of the EPA's facilities, which increases long-term repair costs and presents safety risks.

In line with the Laboratory Study completed in 2014, the EPA will focus on facility repairs in those laboratories that are critical to the agency's mission. These labs will need infrastructure upgrades to maintain an acceptable Facility Condition Index and to allow for potential future consolidations from leased facilities. With respect to infrastructure upgrades, the agency will consolidate its lab in Willamette, OR contingent on an infrastructure replacement project at the Corvallis, OR lab.

In FY 2018, the agency proposes to initiate space optimization projects with the potential for the greatest long-term cost and energy savings, including the following:

[4] Many of these features are required by EISA or executive orders.

- **Optimizing space at the Athens, GA laboratory.** The EPA is in the process of consolidating employees in leased lab space into owned space. Prior to optimizing the agency's space footprint in Athens, however, the EPA must first invest in the design for the optimized layout. The EPA requests $4 million in FY 2018 for this design work, which must occur prior to any space optimization work.

- **Willamette Consolidation to the Corvallis laboratory.** The EPA will reconfigure lab modules to meet the needs of Willamette employees. Before the EPA consolidates the Willamette laboratory, the agency must modify swing space in Corvallis to accommodate employees from Willamette while the main infrastructure replacement project is underway. This project will reduce the space footprint by 20,918 rentable square feet.

In FY 2018, the EPA will continue its phased approach to accomplish major B&F projects across the country involving mechanical systems nearing the end of their useful life that also will ultimately result in energy savings. A few examples are listed below.

- **Replacement of air handlers at the Air and Radiation Lab, Montgomery, AL, Phase 3.** This phase of the project will replace the air handler systems within the laboratory and complete the infrastructure replacement project. Phase 2 was delayed so Phase 3 will not take place until FY 2018. This investment, which will produce energy and related resource savings, represents a major priority as it is necessary to maintain operability at the Montgomery, AL lab.

- **Implementation of Phase 2 of the Infrastructure Replacement Project at the Research and Development laboratory in Corvallis, OR.** After the EPA completes Phase 1 construction in FY 2017, Phase 2 will commence in FY 2018 to replace the ductwork and reduce the number of fume hoods by more than 40 percent. A reduction in the number of fume hoods will result in a 20 percent reduction in energy consumption. New energy efficient equipment, procedures, and methods will incorporate reliability, sustainability, and safety while meeting mission requirements.

- **New Region 3 office Tenant Improvements in Philadelphia, PA.** Region 3 has occupied its current leased location for nearly 25 years and significant changes and upgrades are required. A new lease in a new location will require construction of new special purpose spaces such as an emergency operations center, a CID secure space, a conference center for public meetings, and records storage for required Superfund documents. The GSA estimate for these costs above what will be amortized in the rent is $11 million. A new lease will allow the EPA to meet new space standards for offices and will reduce the agency's footprint by 56,000 square feet and avoid an estimated $1.6 million in annual lease costs.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,196.0) This reduces funding based on the agency's planned progress in its space optimization projects and laboratory upgrades at the NEIC/Region 8 laboratory.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

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APPROPRIATION: Hazardous Substance Superfund
Resource Summary Table
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Substance Superfund				
Budget Authority	$1,159,064.2	$1,092,089.0	$762,063.0	($330,026.0)
Total Workyears	2,674.8	2,662.6	2,060.1	-602.5

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Bill Language: Hazardous Substance Superfund

For necessary expenses to carry out the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), including sections 111(c)(3), (c)(5), (c)(6), and (e)(4) (42 U.S.C. 9611) $762,063,000, to remain available until expended, consisting of such sums as are available in the Trust Fund on September 30, 2017, as authorized by section 517(a) of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and up to $762,063,000 as a payment from general revenues to the Hazardous Substance Superfund for purposes as authorized by section 517(b) of SARA: Provided, That funds appropriated under this heading may be allocated to other Federal agencies in accordance with section 111(a) of CERCLA: Provided further, That of the funds appropriated under this heading, $3,900,000 shall be paid to the "Office of Inspector General" appropriation to remain available until September 30, 2019, and $12,435,000 shall be paid to the "Science and Technology" appropriation to remain available until September 30, 2019.

Program Projects in Superfund
(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Indoor Air and Radiation				
Radiation: Protection	$2,194.2	$1,981.0	$0.0	($1,981.0)
Audits, Evaluations, and Investigations				
Audits, Evaluations, and Investigations	$8,975.4	$9,920.0	$3,900.0	($6,020.0)
Compliance				
Compliance Monitoring	$844.1	$993.0	$605.0	($388.0)
Enforcement				
Criminal Enforcement	$6,883.7	$7,110.0	$4,161.0	($2,949.0)
Environmental Justice	$681.7	$544.0	$0.0	($544.0)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Forensics Support	$1,739.3	$1,087.0	$708.0	($379.0)
Superfund: Enforcement	$154,117.5	$150,342.0	$94,418.0	($55,924.0)
Superfund: Federal Facilities Enforcement	$6,217.9	$6,976.0	$0.0	($6,976.0)
Subtotal, Enforcement	$169,640.1	$166,059.0	$99,287.0	($66,772.0)
Homeland Security				
Homeland Security: Preparedness, Response, and Recovery	$36,411.9	$35,209.0	$16,457.0	($18,752.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	$833.6	$1,084.0	$542.0	($542.0)
Subtotal, Homeland Security	$37,245.5	$36,293.0	$16,999.0	($19,294.0)
Information Exchange / Outreach				
Exchange Network	$1,291.4	$1,325.0	$838.0	($487.0)
IT / Data Management / Security				
Information Security	$6,008.0	$6,071.0	$3,186.0	($2,885.0)
IT / Data Management	$14,968.1	$13,776.0	$8,213.0	($5,563.0)
Subtotal, IT / Data Management / Security	$20,976.1	$19,847.0	$11,399.0	($8,448.0)
Legal / Science / Regulatory / Economic Review				
Alternative Dispute Resolution	$486.5	$674.0	$0.0	($674.0)
Legal Advice: Environmental Program	$652.4	$577.0	$349.0	($228.0)
Subtotal, Legal / Science / Regulatory / Economic Review	$1,138.9	$1,251.0	$349.0	($902.0)
Operations and Administration				
Central Planning, Budgeting, and Finance	$21,331.2	$22,084.0	$12,226.0	($9,858.0)
Facilities Infrastructure and Operations	$69,168.0	$74,137.0	$59,072.0	($15,065.0)
Acquisition Management	$22,129.0	$22,418.0	$14,036.0	($8,382.0)
Human Resources Management	$4,908.5	$6,333.0	$4,580.0	($1,753.0)
Financial Assistance Grants / IAG Management	$2,845.0	$2,889.0	$1,591.0	($1,298.0)
Workforce Reshaping	$0.0	$0.0	$10,437.0	$10,437.0
Subtotal, Operations and Administration	$120,381.7	$127,861.0	$101,942.0	($25,919.0)
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	$13,622.3	$14,005.0	$5,655.0	($8,350.0)
Research: Chemical Safety and Sustainability				

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Human Health Risk Assessment	$2,751.4	$2,838.0	$5,305.0	$2,467.0
Superfund Cleanup				
Superfund: Emergency Response and Removal	$210,668.5	$180,961.0	$147,212.0	($33,749.0)
Superfund: EPA Emergency Preparedness	$8,148.1	$7,621.0	$7,216.0	($405.0)
Superfund: Federal Facilities	$21,799.4	$21,085.0	$19,553.0	($1,532.0)
Superfund: Remedial	$539,387.1	$500,048.0	$341,803.0	($158,245.0)
Subtotal, Superfund: Remedial	$539,387.1	$500,048.0	$341,803.0	($158,245.0)
Subtotal, Superfund Cleanup	$780,003.1	$709,715.0	$515,784.0	($193,931.0)
TOTAL, EPA	$1,159,064.2	$1,092,088.0	$762,063.0	($330,025.0)

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Program Area: Indoor Air and Radiation

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$8,371.0	$8,427.0	$0.0	($8,427.0)
Science & Technology	$2,064.5	$1,831.0	$0.0	($1,831.0)
Hazardous Substance Superfund	***$2,194.2***	***$1,981.0***	***$0.0***	***($1,981.0)***
Total Budget Authority / Obligations	$12,629.7	$12,239.0	$0.0	($12,239.0)
Total Workyears	52.9	59.1	0.0	-59.1

Program Project Description:

This program addresses potential radiation risks found at some Superfund and hazardous waste sites. Through this program, the EPA ensures that Superfund site cleanup activities reduce and/or mitigate the health and environmental risk of radiation to include support of removal actions, as needed.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. The EPA will explore alternatives to manage potential radiation risks at Superfund and hazardous waste sites to meet necessary requirements.

The EPA will explore alternatives to continue to meet its statutory obligation to implement its regulatory oversight responsibilities for Department of Energy (DOE) activities at the Waste Isolation Pilot Plant (WIPP) facility, as mandated by Congress in the WIPP Land Withdrawal Act of 1992.

The EPA also will explore alternatives for its requirement, under the Atomic Energy Act, to establish health and environmental protection standards for exposures to radiation.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,981.0 / -10.0 FTE) This funding change eliminates the Radiation: Protection program.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Program Area: Audits, Evaluations and Investigations

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inspector General	$39,802.3	$41,410.0	$37,475.0	($3,935.0)
Hazardous Substance Superfund	***$8,975.4***	***$9,920.0***	***$3,900.0***	***($6,020.0)***
Total Budget Authority / Obligations	$48,777.7	$51,330.0	$41,375.0	($9,955.0)
Total Workyears	271.1	318.1	213.4	-104.7

Program Project Description:

The EPA's Office of Inspector General provides audit, program evaluation, and investigative services and products that fulfill the requirements of the Inspector General Act, as amended, by identifying fraud, waste, and abuse in agency, grantee and contractor operations, and by promoting economy, efficiency, and effectiveness in the operations of the agency's Superfund program. Although the OIG is a part of the EPA, to ensure its independence, as specified in the IG Act (as amended), the OIG is funded with a separate appropriation within the agency. The OIG activities add value and enhance public trust and safety by providing the agency, the public, and Congress with independent analyses and recommendations that help the EPA management resolve risks and challenges, achieve opportunities for savings, and implement actions for safeguarding the EPA resources and accomplishing the EPA's environmental goals. The OIG activities also prevent and detect fraud in the EPA's programs and operations, including financial fraud, laboratory fraud, and cybercrime. The OIG consistently provides a significant positive return on investment to the public in the form of recommendations for improvements in the delivery of the EPA's mission, reduction in operational and environmental risks, costs savings and recoveries, and improvements in program efficiencies and integrity.

FY 2018 Activities and Performance Plan:

The EPA's OIG will assist the agency in its efforts to reduce environmental and human health risks by making recommendations to improve Superfund program operations; save taxpayer dollars, reduce potential for fraud, waste and abuse; respond to cybercrimes; and resolve previously identified major management challenges and internal control weaknesses. In FY 2018, the OIG will continue recommending improvements to operating efficiency, transparency, secured and trustworthy systems, and the cost effective attainment of the EPA's strategic goals and positive environmental impacts related to the Superfund program.

The OIG's plans will continue to be implemented through audits, evaluations, investigations, inspections, and follow-up reviews in compliance with the Inspector General Act (as amended), applicable professional standards of the U. S. Comptroller General, and the Quality Standards for Federal Offices of Inspector General of the Council of Inspectors General on Integrity and Efficiency.

The OIG will conduct the following types of assignments focused on efficiency and program operations: program performance, including a focus on the award and administration of grants and contracts; statutorily mandated audits; financial reviews of grantees and contractors; and information resources management. In addition, program performance evaluations will be conducted in the areas of the EPA's mission objectives for improving and protecting the environment and public health via reviews of Superfund and other land issues.

The investigative mission of the OIG continues to evolve in conducting criminal, civil, and administrative investigations into fraud and serious misconduct within the EPA's Superfund program and operations that undermine the organization's integrity and public trust, or create an imminent risk or danger. The OIG investigations are coordinated with the Department of Justice and other federal, state, and local law enforcement entities. These investigations often lead to successful prosecution and civil judgments wherein there is a recovery and repayment of financial losses. Major areas of investigative focus include: financial fraud, program integrity, threats to the agency's resources, employee integrity, cyber-crimes, and theft of intellectual or sensitive data.

The OIG continues to balance its workload with the capacity of a smaller workforce while meeting statutorily mandated requirements and delivering a strong return on taxpayer investment.

Audits and Evaluations

The OIG audits and program evaluations and inspections related to Superfund will identify program and management risks and determine if the EPA is efficiently and effectively reducing human health risks; taking effective enforcement actions; cleaning up hazardous waste; managing waste, restoring previously polluted sites to appropriate uses; and ensuring long-term stewardship of polluted sites. The OIG assignments will include: assessing the adequacy of internal controls in the EPA and its grantees and contractors to protect resources and achieve program results; project management to ensure that the EPA and its grantees and contractors have clear plans and accountability for performance progress; enforcement to evaluate whether there is consistent, adequate and appropriate application of the laws and regulations across jurisdictions with coordination between federal, state, and local law enforcement activities; and grants and contracts to verify that such awards are made based upon uniform risk assessment, and that grantees and contractors perform with integrity.

Prior audits and evaluations of the Superfund program have identified numerous barriers to implementing effective resource management and program improvements. Therefore, the OIG will concentrate its resources on efforts in the following assignment areas:

- Human and Environmental Exposure from Superfund Site Contaminants
- Impact of using Special Account Funds on cleaning up Superfund sites
- Optimization of Superfund financed Pump and Treat Systems
- Siting renewable energy on potentially contaminated land and mine sites
- The EPA's progress in ensuring private party Superfund liabilities are adequately covered by sufficient financial assurance mechanisms.
- Determine if EPA has demonstrated that imminent and substantial environmental threats to public health have been addressed under the Superfund removal program.

- Superfund portion of the EPA's financial statement and FISMA audit sampling, monitoring, communication and opportunities for cleanup efficiencies
- Review of the EPA's Working Capital Fund background investigations services
- Oversight of Superfund State Contract for Remedial Activities

The OIG also will evaluate ways to minimize fraud, waste, and abuse, with emphasis on identifying opportunities for cost savings and reducing risk of resource loss, while maximizing results achieved from Superfund contracts and assistance agreements.

Investigations

The Office of Investigations (OI) mission is to conduct criminal, civil, and administrative investigations of fraud, waste and abuse and serious misconduct within the EPA's Superfund Program. The OI investigations are worked in conjunction with the Department of Justice for criminal and civil litigation or the EPA's management for administrative action. OI currently investigates the following: 1) fraudulent practices in awarding, performing, and paying Superfund contracts, grants, or other assistance agreements; 2) program fraud or other acts that undermine the integrity of, or confidence in the Superfund program and create imminent environmental risks; 3) laboratory fraud relating to data, and false claims or erroneous laboratory results that undermine the basis for decision-making, regulatory compliance, or enforcement actions in the Superfund program; 4) threats directed against Superfund program employees or facilities; 5) criminal conduct or serious administrative misconduct by EPA employees involved in the Superfund program; and 6) intrusions into and attacks against the EPA's network supporting Superfund program data, as well as incidents of computer misuse and theft of intellectual property or sensitive/proprietary Superfund data. Special attention will be directed towards identifying the tactics, techniques, and procedures that are being utilized by cyber criminals to obtain Superfund program information.

Finally, OI develops recommendations or "lessons learned" for the EPA's management which works on the Superfund program to reduce the agency's vulnerability to criminal activity. The OI's investigations provide measurable results wherein recovery and restitution of financial losses are achieved and administrative actions are taken to prevent those involved from further participation in any Superfund program or operation.

Follow-up and Policy/Regulatory Analysis

To further promote economy, efficiency and effectiveness, the OIG will conduct follow-up reviews of agency responsiveness to the OIG recommendations for the Superfund program to determine if appropriate actions have been taken, and intended improvements have been achieved. This process will serve as a means to keep Congress and EPA leadership apprised of accomplishments, and opportunities for needed corrective actions, and will facilitate greater accountability for results from the OIG operations.

Additionally, as directed by the IG Act (as amended), the OIG also conducts reviews and analysis of proposed and existing policies, rules, regulations and legislation pertaining to the Superfund program to identify vulnerability to waste, fraud and abuse. These reviews also consider possible

duplication, gaps or conflicts with existing authority, leading to recommendations for improvements in their structure, content and application.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$5,020.0 / -31.7 FTE) This funding change reflects a number of items reduced or eliminated including audits/investigation from hotline complaints; congressionally requested work products; OIGs self-initiated evaluations of high-risk program areas in EPA statutory programs; discretionary work products; reviews of FY 2018 zeroed-out programs and activities; development and maintenance of the Active Shooter Program; and the planning and implementation of the continuity capability for the OIG.

- ($-1,000.0 / -6.4 FTE) This realignment is a shift in resources from the Superfund account to the IG account in order to ensure adequate resources for the OIG's high risk audits, evaluations, and investigations.

Statutory Authority:

Inspector General Act, as amended; Inspector General Reform Act; Comprehensive Environmental Response, Compensation, and Liability Act § 111(k).

Inspector General Reform Act:

The following information is provided pursuant to the requirements of the Inspector General Reform Act:

- the aggregate budget request from the Inspector General for the operations of the OIG is $62 million ($53 million Inspector General; $9 million Superfund Transfer);
- the aggregate President's Budget for the operations of the OIG is $41 million ($37 million Inspector General; $4 million Superfund Transfer);
- the portion of the aggregate President's Budget needed for training is $700 thousand ($574 thousand Inspector General; $126 thousand Superfund Transfer);
- the portion of the aggregate President's Budget needed to support the Council of the Inspectors General on Integrity and Efficiency is $179 thousand ($143.2 thousand Inspector General; $35.8 thousand Superfund Transfer).

"I certify as the Inspector General of the Environmental Protection Agency that the amount I have requested for training satisfies all OIG training needs for FY 2018".

Sierra Club v. EPA 18cv3472 NDCA Tier 3/4 ED_002061_00157988-00351

Program Area: Compliance

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$143.3	$139.0	$124.0	($15.0)
Environmental Program & Management	$103,713.4	$101,472.0	$86,431.0	($15,041.0)
Hazardous Substance Superfund	***$844.1***	***$993.0***	***$605.0***	***($388.0)***
Total Budget Authority / Obligations	$104,700.8	$102,604.0	$87,160.0	($15,444.0)
Total Workyears	510.4	539.6	432.4	-107.2

Program Project Description:

The Compliance Monitoring program promotes compliance with the nation's environmental laws. Compliance monitoring is comprised of a variety of tools and activities that states and the EPA use to identify whether regulated entities are in compliance with environmental laws enacted by Congress, as well as applicable regulations and permit conditions. In addition, compliance monitoring activities, such as inspections and investigations, are conducted to determine whether conditions exist that may present imminent and substantial endangerment to human health and the environment. The program focuses on providing information and system support for monitoring compliance with Superfund-related environmental regulations and contaminated site clean-up agreements. The agency also ensures the security and integrity of its compliance information systems. Superfund-related regulatory enforcement program activities are tracked in the agency's Integrated Compliance Information System (ICIS).

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will streamline its Superfund-related compliance monitoring activities.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$388.0 / -0.7 FTE) This streamlines system support for Superfund compliance monitoring.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Enforcement

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$7,347.6	$6,724.0	$0.0	($6,724.0)
Hazardous Substance Superfund	***$681.7***	***$544.0***	***$0.0***	***($544.0)***
Total Budget Authority / Obligations	$8,029.3	$7,268.0	$0.0	($7,268.0)
Total Workyears	35.8	40.3	0.0	-40.3

Program Project Description:

The EPA Environmental Justice program fosters environmental and public health and sustainability in communities disproportionately burdened by pollution by integrating and addressing issues of environmental justice in our programs and policies. The Superfund portion of the program focuses on issues that affect low income and minority communities at or near Superfund sites. The Environmental Justice program complements the agency's community outreach and other work done under the Superfund program at affected sites.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. EJ work impacting the entire agency will be incorporated into future policy work within the Integrated Environmental Strategy program, which is a part of the EPA's Office of the Administrator.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$544.0 / -3.5 FTE) This funding change eliminates the Environmental Justice program. Environmental Justice will continue to be supported in the work done at the EPA, as applicable.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Substance Superfund	***$154,117.5***	***$150,342.0***	***$94,418.0***	***($55,924.0)***
Total Budget Authority / Obligations	$154,117.5	$150,342.0	$94,418.0	($55,924.0)
Total Workyears	759.7	771.3	546.1	-225.2

Program Project Description:

The EPA's Superfund Enforcement program protects communities by ensuring that responsible parties conduct cleanups, preserving federal dollars for sites where there are no viable contributing parties. The EPA's Superfund Enforcement program ensures prompt site cleanup and reuse by maximizing the participation of liable and viable parties in performing and paying for cleanups. In both the Superfund Remedial and Superfund Emergency Response and Removal programs, the Superfund Enforcement program obtains potentially responsible parties commitments to perform and pay for cleanups through civil, judicial, and administrative site actions. To do this, the Superfund Enforcement program works closely with the Superfund program and the Department of Justice (DOJ) to combine litigation, legal, and technical skills to bring enforcement actions and address emerging issues.

The Superfund Enforcement program:

- develops hazardous waste cleanup enforcement policies;
- provides guidance and tools that clarify potential environmental cleanup liability, with specific attention to the cleanup, reuse and revitalization of contaminated properties;
- ensures that responsible parties cleanup sites to reduce direct human exposure to hazardous substances, thereby providing long-term human health protections and making contaminated properties available for reuse;
- negotiates cleanup agreements with Potentially Responsible Parties (PRPs) at hazardous waste sites and, where negotiations fail, either initiates enforcement actions to require cleanup or initiates cost recovery if the EPA expends Superfund appropriated dollars to remediate the sites; and
- ensures that federal entities perform needed, timely and protective cleanup responses on contaminated sites owned and/or operated by the federal government thereby promoting cleanup and potential redevelopment of the federal facilities.

The DOJ support is statutorily mandated for settlements related to remedial action cleanups, most cost recovery settlements, and is required for all judicial enforcement matters. The EPA has implemented various reforms to increase fairness, reduce transaction costs, promote economic development, and make sites available for appropriate reuse. The EPA also works to ensure that required legally enforceable institutional controls and financial assurance requirements are in place at Superfund sites to ensure the long-term protectiveness of Superfund cleanup remedies. In FY

2016, the EPA reached a settlement or took an enforcement action at 100 percent of non-federally owned Superfund sites with viable, liable parties.[1]

Special accounts are created when funds are received as part of a settlement to fund a site cleanup. Funds received in settlements with PRPs are used to clean up the specific Superfund sites that were the subject of the settlement agreement. Having the ability to use special accounts provides needed cleanup dollars at many sites that otherwise may not have received funding absent the EPA's enforcement efforts. In FY 2016, the EPA created 27 special accounts, collected $165.6 million for response work and accrued $0.9 million in interest for a total of $166.5 million in new funding.[2] The agency disbursed or obligated $306.7 million for response work (excluding reclassifications). In FY 2016, the Superfund Enforcement program secured private party commitments exceeding $1.15 billion.

Pursuant to CERCLA Section 120, the EPA must enter into interagency agreements, also commonly referred to as Federal Facility Agreements (FFAs), with responsible federal entities to ensure protective and timely cleanup of their National Priorities List (NPL) sites. The agreements provide that the EPA oversee the cleanups to ensure they protect public health and the environment. These FFAs govern cleanups at 174 federal facility Superfund sites, which include many of the nation's largest and most complex cleanup projects totaling between $4.0 billion and $7.0 billion annually.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA is requesting to merge the Superfund Federal Facilities Enforcement program with the Superfund Enforcement program. The agency will optimize the resources between the two programs.

Within our resource levels, the agency will prioritize its efforts on the most significant sites in terms of environmental impact (particularly those that may present an imminent and/or substantial endangerment) and potential cost liability to the government.

In FY 2018, the agency will continue its efforts to establish special accounts to facilitate cleanup. As special account funds may only be used for sites and uses specified in the settlement agreement, both special account resources and annually appropriated resources are critical to the Superfund program to clean up Superfund sites.

Due to resource levels within the FY 2018 budget request, DOJ support for Superfund enforcement will need to come from DOJ's base resources. The EPA may seek to increase use of unilateral administrative orders to achieve cleanups to account for a potential limited ability to sue PRPs in federal court. To the extent DOJ resources are available, DOJ's support will be used to negotiate and enter consent decrees with PRPs to perform remedial actions, to pursue judicial actions to compel PRP cleanup, and to pursue judicial actions to recover monies spent in cleaning up contaminated sites.

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[1] For additional information, refer to: http://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-fy-2016.

[2] In FY 2016, $26.4 million in interest was earned on the special account funds invested in the Superfund Trust Fund. However, there was a time lag for those funds to be captured in the agency's system and made available for use.

In terms of federal facility work in FY 2018, the EPA will focus its resources on resolving formal disputes under the Federal Facility Agreements (FFAs).

Cost Recovery Support

The agency will streamline the financial management aspects of Superfund cost recovery and the collection of related debt to the federal government. The EPA's financial, programmatic, and legal offices will continue to maintain the accounting and billing of Superfund oversight costs attributable to responsible parties. These costs represent the EPA's cost of overseeing Superfund site cleanup efforts by responsible parties as stipulated in the terms of settlement agreements. In FY 2016, the agency collected $165.6 million in cost recoveries, of which $1.3 million were returned to the Superfund Trust Fund and $164.3 million were deposited in site-specific, interest bearing special accounts.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$40,229.0 / -251.9 FTE) This change reflects the streamlining of the agency's identification of Potentially Responsible Parties (PRPs), settlement negotiations for cleanup and recovery costs when the agency has expended funds for cleanups. This change extends the timeline of support and modernization of the Superfund Cost Recovery Package Imaging and On-Line System (SCORPIOS).

- (-$20,145.0) This eliminates the EPA's financial support to the Department of Justice (DOJ) to assist the EPA in initiating and prosecuting civil, judicial, and administrative site remediation cases and ensure that responsible parties perform cleanup actions at sites where they are liable.

- (+$4,450.0 / +26.7 FTE) This merges the Superfund Federal Facility Enforcement program into the Superfund Enforcement program.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended, §120.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Substance Superfund	***$6,217.9***	***$6,976.0***	***$0.0***	***($6,976.0)***
Total Budget Authority / Obligations	$6,217.9	$6,976.0	$0.0	($6,976.0)
Total Workyears	34.9	40.9	0.0	-40.9

Program Project Description:

The EPA's Superfund Federal Facilities Enforcement program ensures that sites where federal entities are performing Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) responses and/or CERCLA sites with federal ownership are monitored and that appropriate enforcement responses are pursued. After years of service and operation, some federal facilities contain environmental contamination such as hazardous wastes, unexploded ordnance, radioactive wastes, or other toxic substances.

Pursuant to CERCLA Section 120, the EPA must enter into interagency agreements, also commonly referred to as Federal Facility Agreements (FFAs), with responsible federal entities to ensure protective cleanup of their National Priorities List (NPL) sites at a timely pace. The agreements provide that the EPA oversee the cleanups to ensure that they protect public health and the environment. These FFAs govern cleanups at 174 federal facility Superfund sites, which include many of the Nation's largest and most complex cleanup projects.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA is requesting to merge this program with the Superfund Enforcement program. A description of planned FY 2018 activities can be found under that program.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,526.0 / -14.2 FTE) This streamlines Superfund Federal Facility Enforcement.
- (-$4,450.0 / -26.7 FTE) This merges the Superfund Federal Facility Enforcement program into the Superfund Enforcement program.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended, §120.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$47,844.7	$46,225.0	$40,341.0	($5,884.0)
Hazardous Substance Superfund	***$6,883.7***	***$7,110.0***	***$4,161.0***	***($2,949.0)***
Total Budget Authority / Obligations	$54,728.4	$53,335.0	$44,502.0	($8,833.0)
Total Workyears	247.8	268.9	194.4	-74.5

Program Project Description:

The EPA's Criminal Enforcement program investigates and helps prosecute violations of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and associated violations of Title 18 of the United States Code such as fraud, conspiracy, false statements, and obstruction of justice. The EPA's criminal enforcement agents (Special agents) do this through targeted investigation of criminal conduct, committed by individual and corporate defendants, that threatens public health and the environment.

Within the Criminal Enforcement program, forensic scientists, attorneys, technicians, engineers, and other program experts assist Special Agents. The EPA's criminal enforcement attorneys provide legal and policy support for all of the program's responsibilities, including forensics and expert witness preparation, information law, and personnel law to ensure that program activities are carried out in accordance with legal requirements and agency policies. These efforts support environmental crimes prosecutions primarily by the United States Attorneys and the Department of Justice's Environmental Crimes Section. In FY 2016, the conviction rate for criminal defendants was 94 percent.[3]

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will streamline its Criminal Enforcement program. The program will focus its resources on the most egregious cases (e.g., significant human health, environmental, and deterrent impacts), while balancing its overall case load across all environmental statutes.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,949.0 / -15.2 FTE) This streamlines the EPA's Criminal Enforcement program.

[3] For additional information, refer to: http://www.epa.gov/enforcement/enforcement-annual-results-fiscal-year-fy-2016.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Emergency Planning and Community Right-To-Know Act; Pollution Prosecution Act; Title 18 General Federal Crimes (e.g., false statements, conspiracy); Power of Environmental Protection Agency (18 U.S.C. 3063); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$13,949.7	$13,643.0	$10,444.0	($3,199.0)
Hazardous Substance Superfund	***$1,739.3***	***$1,087.0***	***$708.0***	***($379.0)***
Total Budget Authority / Obligations	$15,689.0	$14,730.0	$11,152.0	($3,578.0)
Total Workyears	78.3	80.3	49.7	-30.6

Program Project Description:

The Forensics Support program provides expert scientific and technical support for Superfund civil and criminal enforcement cases, as well as technical expertise for agency compliance efforts. The EPA's National Enforcement Investigations Center (NEIC) is an environmental forensic center accredited for both laboratory and field sampling operations that generate environmental data for law enforcement purposes. It is fully accredited under International Standards Organization (ISO) 17025, the main standard used by testing and calibration laboratories, as recommended by the National Academy of Sciences.[4] The NEIC maintains a sophisticated chemistry laboratory and a corps of highly trained inspectors and scientists with expertise across media. The NEIC works closely with the EPA's Criminal Investigation Division to provide technical support (e.g., sampling, analysis, consultation and testimony) to criminal investigations. The NEIC also works closely with the EPA's Headquarters and Regional Offices to provide technical assistance, consultation, on-site inspection, investigation, and case resolution services in support of the agency's Superfund Enforcement program.

FY 2018 Activities and Performance Plan:

In FY 2018, for the EPA, NEIC will provide high-quality forensics work.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$379.0 / -2.9 FTE) This streamlines the Forensics Support program.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Emergency Planning and Community Right-to-Know Act (EPCRA); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

[4]Strengthening Forensic Science in the United States: A Path Forward, National Academy of Sciences, 2009, available at http://www.nap.edu/catalog.php?record_id=12589.

Program Area: Homeland Security

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$26,800.2	$26,004.0	$22,597.0	($3,407.0)
Hazardous Substance Superfund	***$36,411.9***	***$35,209.0***	***$16,457.0***	***($18,752.0)***
Total Budget Authority / Obligations	$63,212.1	$61,213.0	$39,054.0	($22,159.0)
Total Workyears	132.4	127.4	113.0	-14.4

Program Project Description:

The EPA leads or supports many aspects of preparing for and responding to a nationally significant incident involving possible chemical, biological, radiological, and nuclear (CBRN) agents.

The Homeland Security Preparedness, Response, and Recovery Program implements a broad range of activities for a variety of federal efforts, including those involving laboratory analysis of environmental samples and site decontamination projects. This work is consistent with the Department of Homeland Security's (DHS') National Response Framework.

This program also is supported by the Homeland Security Research Program (HSRP) in the EPA's Research and Development program which develops and evaluates environmental sampling, analysis, and human health risk assessment methods. These methods address known and emerging biological, chemical, and radiological threat agents. This Research Program also develops and assesses decontamination and waste management technologies and methods.

FY 2018 Activities and Performance Plan:

In FY 2018, the Homeland Security Preparedness, Response, and Recovery Program will:

- Participate with federal response partners (such as DHS, DOD, and the Department of Justice) on inter-agency workgroups;
- Carry out and participate in training and exercises on CBRN preparedness and response topics;
- Maintain operational support for the Emergency Management Portal and WebEOC response systems;
- Continue to focus on assessing the persistence and transport of biological agents in indoor and outdoor areas and the effectiveness of decontamination options for sites contaminated with biological agents;

- Continue development of sample collection protocols for inclusion in the Selected Analytical Methods for Environmental Remediation and Recovery (SAM) sample collection compendium document. The SAM methods are a repository for pre-selected methods to use in a response and all Environmental Response Lab Networks (ERLN) labs are directed to use these methods; and

- Continue development and assessment of methods for treating waste generated during remediation activities. These methods are expected to reduce both the timeline and cost of the response by reducing the volume of waste that requires final disposal.

The EPA will explore alternatives for meeting its various obligations under Homeland Security Presidential Directives and Orders to ensure that the agency can maintain its preparedness and response capacity.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$7,801.0 / -7.9 FTE) This change reduces support for several national trainings; participation in national inter-agency exercises with federal and state partners; support for headquarters and regional Emergency Operations Centers; support for the agency's continuity of operations devolution site in the EPA Colorado office; and enhancements for national information technology systems.

- (-$8,855.0 / -6.2 FTE) This includes the reduction of support for the Environmental Response Laboratory Network. This also includes reassessing the need to specifically use PHILIS and ASPECT for emergency response activities.

- (-$1,600.0) This change reduces secure warehouse space.

- (-$496.0) This change decreases research related to analysis of chemical agents, decision support for chemical agent remediation, fate and transport of chemical, biological, or radiological (CBR) agents in the environment as well as research related to the treatment of decontamination wash water.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §§ 104, 105, and 106; Clean Water Act; Oil Pollution Act; Homeland Security Act of 2002.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$4,987.0	$5,336.0	$4,986.0	($350.0)
Science & Technology	$551.0	$551.0	$500.0	($51.0)
Building and Facilities	$7,366.2	$6,664.0	$6,176.0	($488.0)
Hazardous Substance Superfund	***$833.6***	***$1,084.0***	***$542.0***	***($542.0)***
Total Budget Authority / Obligations	$13,737.8	$13,635.0	$12,204.0	($1,431.0)
Total Workyears	8.1	12.2	12.2	0.0

Program Project Description:

The federal government develops and maintains Continuity of Operations (COOP) plans and procedures that provide for the continued performance of its essential functions. The Homeland Security COOP program works with other government and non-government organizations to ensure that Mission Essential Functions (MEFs) and Primary Mission Essential Functions (PMEFs) continue to be performed during emergency situations. The Department of Homeland Security/Federal Emergency Management Agency's (FEMA) Federal Continuity Directive (FCD)-1 requires the EPA to develop a continuity plan that ensures that its ability to accomplish its MEFs from an alternate site during a national disaster continues and that the agency be able to do so with limited staffing and without access to resources available during normal activities.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will undertake the following:

- Conduct selected annual reviews of regional COOP plans, PMEFs, and MEFs and make updates as needed;
- Monitor the continuity programs across the agency, focusing on testing, training, and exercises as related to general COOP awareness and procedures; and
- Undergo a monthly evaluation of the headquarters COOP program, including Program Plans and Procedures, Risk Management, Budgeting, and Essential Functions. Further, FEMA performs an in-person biannual review of the EPA's COOP program and provides the results to the Administrator and to the Executive Office of the President.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$300.0) This change reduces support for COOP exercises and Core COOP assessments at Headquarters and the regions.

- (-$242.0) This decision reduces availability of secure communications equipment for agency staff.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §§ 104, 105, 106; Intelligence Reform and Terrorism Prevention Act of 2004; Homeland Security Act of 2002; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute).

Program Area: Information Exchange / Outreach

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$17,066.5	$16,984.0	$11,784.0	($5,200.0)
Hazardous Substance Superfund	***$1,291.4***	***$1,325.0***	***$838.0***	***($487.0)***
Total Budget Authority / Obligations	$18,357.9	$18,309.0	$12,622.0	($5,687.0)
Total Workyears	31.3	30.2	30.2	0.0

Program Project Description:

The EPA's Environmental Information Exchange Network (EN) is a standards-based, secure approach for the EPA and its state, Tribal and territorial partners to exchange and share environmental data over the Internet. Previous provision of new technology and data standards, open-source software, shared and portal services and reusable tools and applications have enabled EN partners to manage and analyze environmental data more effectively and efficiently, leading to improved decision-making.

The Central Data Exchange (CDX)[5] is the largest component of the EN program and serves as the point of entry on the EN for environmental data submissions to the agency. CDX provides a set of core shared services that promote a leaner and more cost-effective enterprise architecture for the agency by avoiding the creation of duplicative services. It also provides a set of value-added features and services that enable faster and more efficient transactions for internal and external clients of the EPA, resulting in reduced burden.

CDX data exchange services are leveraged by the EPA's programs, regions, states, tribes, territories and other federal agencies to meet their different business needs. With CDX, a stakeholder can submit data through one centralized point of access, exchange data with target systems using Web services and utilize publishing services to share information collected by the EPA and other stakeholders. By managing loosely connected and interoperable services, data exchange needs can be met using one or all of the available services such as:

- User registration;
- External user identity management;
- Electronic signature;
- Encryption and transmission;
- Virtual exchange services (VES); and
- Data quality assurance.

[5] For more information on the Central Data Exchange, please visit: http://www.epa.gov/cdx/.

Working in concert with CDX are the EPA's System of Registries, which are centralized shared data services to improve data quality in EPA, state, and Tribal program data, while promoting burden reduction for the reporting community. The registries manage shared data centrally for reuse by the following EN partners:

- Facility Registry Service (FRS);
- Substance Registry Services (SRS);
- Tribes;
- Laws and Regulations Services (LRS);
- Terminology Services (TS);
- Reusable Component Services (RCS);
- Environmental Dataset Gateway (EDG);
- Registry of EPA Applications, Models, and Databases (READ); and
- Data Element Registry Services (DERS).

These shared data services catalog the EPA and EN partner assets, from commonly regulated facilities and substances to the current list of federally recognized tribes. They identify the standard or official names for these assets, which when integrated into EPA and partner applications fosters data consistency and data quality as well as enabling data integration. By integrating these shared data services into their online reporting forms, the EPA and its EN partners make it easier for the reporting community to discover the correct information to submit, reducing burden, which enables reuse by partner programs.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will provide baseline functions for the Exchange Network IT systems. Schedules and plans for upgrades and modernization will be adjusted to align with capacity. As part of the E-Enterprise business strategy, the EPA will continue to carry out the following projects under the Exchange Network program: expanding the roll out of Federated Identity Management system for the EPA and its partners; developing shared facility identification services that improve quality and reduce burden on states and tribes; developing initial services for EPA's Laws and Regulations (LRS) registry, which will standardize identification of and associations between regulations, laws, and EPA's programs; and deploying reusable electronic signature services to streamline Cross-Media Electronic Reporting Regulation (CROMERR) compliance. Advancements in data transport services, such as Virtual Exchange Services (VES), will continue to provide cloud-based solutions for the EPA's state and Tribal partners.

In FY 2018 the EPA will:

- Conduct robust outreach activities to increase awareness of CROMERR services and the savings to states and tribes from using these services; and
- Approve CROMERR applications from authorized programs that propose to use the EPA's shared CROMERR services and assist co-regulators with integrating these services into their systems.

CROMERR activities are intended to assist states and tribes in the development activities associated with establishing a point of presence, exchanging data on the Network, and supporting local electronic reporting programs in a more cost effective way. The proven success of this strategy is illustrated by past improvements in performance measures, which include the number of states, Tribes and territories exchanging data with CDX (from 63 in FY 2011 to 125 in FY 2016) and unique active users (up from 56,200 in FY 2011 to 116,636 in FY 2016).

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$487.0) This reduces the collection and exchange of environmental data with states, tribes, and regulated entities, modifies the timeline to address required modifications to the Exchange Network IT systems, reduces quality assurance of registries, and refocuses modernization efforts.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Controlled Substances Act (CSA); The Privacy Act of 1974; Freedom of Information Act (FOIA).

Program Area: IT / Data Management / Security

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$27,152.6	$28,132.0	$11,997.0	($16,135.0)
Hazardous Substance Superfund	***$6,008.0***	***$6,071.0***	***$3,186.0***	***($2,885.0)***
Total Budget Authority / Obligations	$33,160.6	$34,203.0	$15,183.0	($19,020.0)
Total Workyears	12.8	14.3	12.8	-1.5

Program Project Description:

Information is a valuable national resource and a strategic asset to the EPA. It enables the agency to fulfill its mission to protect human health and the environment. The agency's Information Security program is designed to protect the confidentiality, availability and integrity of the EPA's information assets. The information protection strategy includes, but is not limited to:

- Policy, procedure and practice management;
- Information security awareness, training and education; risk-based governance and oversight;
- Weakness remediation;
- Operational security management;
- Incident response and handling; and
- Federal Information Security Modernization Act (FISMA) compliance and reporting.

FY 2018 Activities and Performance Plan:

Cybersecurity is a serious challenge to our nation's security and economic prosperity. The EPA will maintain continuous monitoring of security controls in FY 2018 and address increasing security threats and risks. Effective information security requires vigilance and the ability to adapt to new challenges every day. The EPA will continue to manage information security risk and build upon efforts to protect, defend and sustain its information assets through continued improvements to training and incident response.

In FY 2018, the EPA will continue to sustain multi-year improvements by establishing foundational capabilities and closing gaps in the security architecture. The EPA will close existing gaps by building strong authentication improvements to quickly isolate and remediate suspected or known compromised systems. These areas are cornerstone capabilities in protecting against, responding to, and mitigating risk sources. Also for FY 2018, EPA plans to include capabilities for detecting and protecting against attacks and, capturing and integrating threat intelligence sources. In addition to the continued improvements, the agency will need to sustain the tools and processes implemented to date. The security architecture, associated processes and expert personnel comprise an ecosystem

with cross dependencies, and the system is strongest when operating as a whole. Neglecting to implement the entire range of efforts makes protections less operational and cost effective.

In FY 2018, the EPA will continue building on progress previously made to automate and advance the information security program by:

- Increasing the use of continuous monitoring tools and processes through the Continuous Diagnostics and Mitigation (CDM) program; and
- Refining incident management capabilities.

The Continuous Diagnostics and Mitigation (CDM) program, centrally managed by the Department of Homeland Security, provides tools that will give near real-time awareness of EPA's networks and environments. CDM consists of four implementation phases when fully implemented. Data from the individual agency dashboards across the federal government will be aggregated into one federal-level dashboard maintained by the CDM program which allows DHS to monitor and respond to federal cybersecurity threats and incidents much more quickly and efficiently. The operations and support costs of EPA's CDM Phase 1 tools and services will be partially funded by DHS at $736 thousand in FY 2018. The agency will continue to work with DHS to implement future phases based on capacity.

The Information Security program also will continue to detect and remediate the effects of Advanced Persistent Threats to the agency's information and information systems. The agency will continue to focus on training and user-awareness to foster desired behavior, asset definition and management, compliance, incident management, knowledge and information management, risk management and technology management. These efforts will strengthen the agency's ability to adequately protect information assets. The final result will be an information security program that can rely on effective and efficient controls and processes to counter cybersecurity threats.

In FY 2018, the agency will continue Phase II of the implementation of the Homeland Security Presidential Directive 12 (HSPD-12) requirements for logical and physical access as identified in the Federal Information Processing Standards (FIPS) 201, *Personal Identity Verification (PIV) of Federal Employees and Contractors*.[6] This effort ensures only authorized employees have access to federal and federal-controlled facilities and information systems by requiring a higher level of identity assurance.

The EPA will improve its capabilities at the internal Computer Security Incident Response Capability (CSIRC) to support identification, response, alerting and reporting of suspicious activity. CSIRC's mission is to protect the EPA's information assets and respond to security incidents – actual and potential. This includes detecting unauthorized attempts to access, destroy, or alter the EPA's data and information resources. CSIRC will maintain relationships with other federal agencies and law enforcement entities to support the agency's mission. The incident response capability includes components such as detection and analysis; forensics; and containment and eradication activities.

[6] For more information, please see: http://www.nist.gov/itl/csd/ssa/piv.cfm.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,885.0) This reduces the startup cybersecurity related improvement activities funded in FY 2016. The agency also will prioritize further improvements in the following areas: access controls for accounts that present the greatest risk; capabilities to identify and prevent inappropriate access or transmission, downloading, or use of sensitive information; and ease of regular user login process. Efforts to research and evaluate emerging technologies that enhance the agency's cybersecurity core functions will be deferred.

Statutory Authority:

Federal Information Security Modernization Act (FISMA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); the Privacy Act of 1974; Freedom of Information Act (FOIA).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$83,883.2	$83,790.0	$70,069.0	($13,721.0)
Science & Technology	$2,892.6	$3,083.0	$2,725.0	($358.0)
Hazardous Substance Superfund	***$14,968.1***	***$13,776.0***	***$8,213.0***	***($5,563.0)***
Total Budget Authority / Obligations	$101,743.9	$100,649.0	$81,007.0	($19,642.0)
Total Workyears	441.5	478.8	451.1	-27.7

Program Project Description:

The work performed under the Superfund appropriated Information Technology/Data Management (IT/DM) program supports human health and the environment by providing critical IT infrastructure and data management needed for:

1) Access to scientific, regulatory, policy and guidance information needed by the agency, the regulated community and the public;
2) Analytical support for interpreting and understanding environmental information;
3) Exchange and storage of data, analysis and computation; and
4) Rapid, secure and efficient communication.

These areas are then organized into the following functional areas: information analysis and access; data management and collection; information technology and infrastructure; and geospatial information and analysis.

This program supports the maintenance of the EPA's IT and Information Management (IT/IM) services that enable citizens, regulated facilities, states and other entities to interact with the EPA electronically to get the information they need on demand, to understand what it means, and to submit and share environmental data with the least cost and burden. The program also provides support to other agency IT development projects and essential technology to agency staff, enabling them to conduct their work in support of Superfund programs effectively and efficiently.

With the introduction of the Federal Information Technology Acquisition Reform Act (FITARA), the EPA continues to revise its IT budgeting, acquisition, portfolio review, and governance processes to adopt practices that improve delivery of capability to users, drive down lifecycle costs, and ensure proper leveraging of shared services. The EPA's FITARA Implementation Plan[7] meets federal guidance and seeks to leverage existing processes to improve efficiency.

[7] Please see: http://www.epa.gov/open/digital-strategy.

FY 2018 Activities and Performance Plan:

The EPA has progressively integrated new and transformative approaches to the way IT is managed across the agency. The goal of the EPA's IT/DM services is to enhance the power of information by delivering on demand data to the right people at the right time. In FY 2018, the program will strive to meet EPA's IT/IM service need while continuously improving customer experiences to allow EPA, its partners and the public to acquire, generate, manage, use and share information as a critical resource to protect human health and the environment. To accomplish this, the program will focus available capacity on the following areas:

- Improve the way EPA supports and manages the lifecycle of information;
- Modernize EPA's IT/IM infrastructure, applications and services;
- Empower a mobile workforce using innovative and agile solutions;
- Empower state and Tribal partnerships using innovative and agile solutions; and
- Align IT/IM resources with EPA's core program priorities.

In FY 2018, the EPA will continue to implement the E-Enterprise business strategy, a transformative 21st century strategy – jointly governed by states, tribes, and the EPA - for modernizing government agencies' delivery of services to support the protection of human health and the environment. Under this strategy, the agency will continue to streamline its business processes and systems to reduce the reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of regulatory programs for the EPA, states and tribes. IT/DM activities will continue to facilitate limited shared services and electronic transactions with the regulated community and external partners who routinely conduct environmental business with the EPA. While E-Enterprise provides a structured strategy for modernizing the EPA's publicly facing systems, foundational shared infrastructure and services will continue to be essential.

The FY 2018 budget includes funding to continue support a Digital Services team that will provide the system design expertise needed for transforming the agency's digital services to make them easier for the public to use and more cost-effective for the agency to build and maintain. The Digital Service team is a key element of the EPA's FITARA Implementation Plan. In accordance with the government wide Digital Services initiative, the EPA's digital experts will work with a limited number of agency projects to support externally facing technology solutions and improve the EPA's existing technology infrastructure. The EPA Digital Service team will continue to simplify the digital experience that people and businesses have with their government.

In FY 2018, the EPA will continue to implement its IT acquisition review process as part of the implementation of federal Common Baseline Controls for FITARA. The EPA's FITARA implementation plan increases the engagement of the agency's Chief Information Officer (CIO) in the budget process to ensure that IT needs are properly planned and resourced. In addition, FITARA controls include an established solid communication and engagement strategy for the CIO with the agency's programs and Regional Offices to ensure that their IT plans are well designed, directly drive agency strategic objectives, and follow best practices. Lastly, the controls ensure the CIO engages closely with key IT decision-makers across the EPA and fosters plans to refresh IT skills within the agency.

In FY 2018, the following IT/DM activities will continue to be provided for the Superfund program:

- **Data Management and Collection:** Data Management and Collection efforts include support for the agency's Freedom of Information Act (FOIA). FOIA responses will be prioritized to align with available resources. Additionally, the agency enhancements of e-Discovery technology will continue on an adjusted schedule to help meet the significant increase of requests from external stakeholders. The EPA continues to operate a shared service docket processing center, called E-Rulemaking, providing support to the agency's rulemakings and administer the Paperwork Reduction Act to minimize information collection burden on the public.

- **Geospatial:** In addition to meeting ongoing program needs, Geospatial information and analysis play a critical role in the agency's ability to respond rapidly and effectively in times of emergency. In FY 2018, the agency will continue to support the essential capabilities of GeoPlatform, a shared technology enterprise for geospatial information and analysis. By implementing geospatial data, applications and services, the agency is able to integrate and interpret multiple data sets and information sources to support environmental decisions. Specifically, during FY 2018, the agency will focus on Geoplatform data services, dashboards and story boards based on provided geographic information to support programmatic analysis and decision making. It also will better inform the public about the EPA's use of grant funding to protect the environment and public health. In FY 2018, the EPA also will continue to use the Geoplatform to publish internal and public mapping tools and make available a number of shareable maps, geodata services, and applications. The EPA will continue to play a leadership role in both the Federal Geographic Data Committee and the National Geospatial Platform, working with partner agencies to share geospatial technology capabilities across government.

- **Information Access and Analysis**: In FY 2018, the EPA will focus on providing core support to agency infrastructure and utilizing tools that will harness the power of data across the agency to drive better environmental results. The EPA Digital Analytics Platform (EDAP)will replace much of the data management functionality in the legacy EnviroFacts data warehouse, which is at capacity, expensive to operate, and built on relational database technologies that do not enable users to meet many of their needs. Using powerful cloud-based infrastructure, and by utilizing existing facility and substance registries, the EDAP will facilitate the integration, enhancement and consistent access of environmental data collected from across EPA programs.

  In addition, the program will be closely aligned with the E-Enterprise business strategy and digital services team to provide support throughout the data lifecycle from data identification and collection through internal and external data presentation (Digital Services). The program will continue to provide analysis of environmental information to the public and the EPA's staff through My Environment, EnviroFacts, OneEPA Web, EPA National Library Network and the EPA Intranet. The program will continue to ensure compliance of the EPA's public systems with Section 508 of the Rehabilitation Act of 1973.

- **Information Technology and Infrastructure**: In FY 2018, the agency will continue to maintain essential information technology and infrastructure. The agency will adjust the schedule for replacement or upgrades to keep up with technology advancement and to align with capacity. The EPA will continue to maintain and provision desktop computing equipment, network connectivity, e-mail and collaboration tools, application hosting, remote access, telephone services, Web and network services, and IT-related maintenance. In FY 2018, the agency will continue efforts to consolidate the EPA's data centers and computer rooms and to optimize operations within the EPA's remaining data centers. The EPA is committed to using cloud computing technologies and will have an enterprise-wide cloud hosting service in FY 2018.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,705.0 / -3.4 FTE) This resource and FTE change is a net reduction to funding for enterprise IT systems/tools, agency-wide services including Geographic Information System platform support for emergency response, reduced support for regional libraries, and IT system modernization.

- (-$3,858.0 / -6.7 FTE) This program change modifies the timeline for development of new technologies to address agency needs such as new assistive technology tools, ability to re-platform legacy applications, and replace end of service IT equipment that provides basic workforce support across the agency.

Statutory Authority:

Federal Information Security Management Act (FISMA); Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA); Clean Water Act (CWA); Toxic Substances Control Act (TSCA); Federal Insecticide Fungicide and Rodenticide Act (FIFRA); Food Quality Protection Act (FQPA); Safe Drinking Water Act (SDWA); Resource Conservation and Recovery Act (RCRA); Government Performance and Results Act (GPRA); Government Management Reform Act (GMRA); Clinger-Cohen Act (CCA); Paperwork Reduction Act (PRA); Freedom of Information Act (FOIA); Controlled Substances Act (CSA).

Program Area: Legal / Science / Regulatory / Economic Review

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$1,442.1	$1,043.0	$0.0	($1,043.0)
Hazardous Substance Superfund	***$486.5***	***$674.0***	***$0.0***	***($674.0)***
Total Budget Authority / Obligations	$1,928.6	$1,717.0	$0.0	($1,717.0)
Total Workyears	6.8	6.7	0.0	-6.7

Program Project Description:

The EPA's General Counsel and Regional Counsel Offices provide environmental Alternative Dispute Resolution (ADR) services and workplace conflict prevention. The EPA utilizes ADR as a method for preventing or resolving conflicts prior to engaging in formal litigation. ADR includes the provision of legal counsel, facilitation, mediation and consensus building advice and support. This program oversees a strategically-sourced contract for these services that provides mediation, facilitation, public involvement, training, and organizational development support to all headquarters and regional programs.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$674.0 / -1.4 FTE) This eliminates the centralization of conflict prevention and ADR program. Programs across the agency may pursue ADR support services and training individually.

Statutory Authority:

Administrative Dispute Resolution Act (ADRA) of 1996; Negotiated Rulemaking Act of 1996; Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §§ 111, 117, 122; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$49,227.0	$48,473.0	$42,565.0	($5,908.0)
Hazardous Substance Superfund	***$652.4***	***$577.0***	***$349.0***	***($228.0)***
Total Budget Authority / Obligations	$49,879.4	$49,050.0	$42,914.0	($6,136.0)
Total Workyears	263.1	274.6	222.6	-52.0

Program Project Description:

This program provides legal representation, legal counseling and legal support for environmental activities under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Funding supports legal advice needed in the Superfund program's extensive work with Potentially Responsible Parties (PRPs) and other entities and landowners. For example, this program provides legal analysis and advice to help inform the EPA's decisions regarding the assessment of certain contaminants at a given Superfund site under federal law, and a party's potential liability under CERCLA.

This program supports the EPA's Superfund work, including thousands of cleanups costing billions of dollars, controlling high exposures to toxins that threaten the public with disease and mortality, the enforcement of the necessary cleanups, and challenges to the EPA's actions. This program is essential to providing the high quality legal work to ensure that the EPA's decisions are defensible and upheld by the courts against judicial challenges.

FY 2018 Activities and Performance Plan:

In FY 2018, the program will prioritize its legal support capabilities to focus support on high profile and critical CERCLA cases for the Superfund program. The FY 2018 the program will work within available resources to support the programs CERCLA activities will include analyzing defensibility of agency actions, drafting significant portions of agency actions, and participating in litigation in defense of agency actions.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$228.0 / - 0.8 FTE) The program will reduce its legal counseling and focus on litigation support for the Superfund program's highest priority issues.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Operations and Administration

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$679.6	$583.0	$680.0	$97.0
Environmental Program & Management	$304,456.9	$310,948.0	$301,001.0	($9,947.0)
Science & Technology	$71,332.8	$68,209.0	$68,339.0	$130.0
Building and Facilities	$37,184.2	$35,573.0	$33,377.0	($2,196.0)
Leaking Underground Storage Tanks	$785.2	$782.0	$785.0	$3.0
Hazardous Substance Superfund	***$69,168.0***	***$74,137.0***	***$59,072.0***	***($15,065.0)***
Total Budget Authority / Obligations	$483,606.7	$490,232.0	$463,254.0	($26,978.0)
Total Workyears	332.9	357.7	312.2	-45.5

Program Project Description:

Superfund resources in the Facilities Infrastructure and Operations program fund the agency's rent, utilities, and security. This program also supports centralized administrative activities and support services, including health and safety, environmental compliance and management, facilities maintenance and operations, space planning, sustainable facilities and energy conservation planning and support, property management, printing, mail, and transportation services. Funding is allocated for such services among the major appropriations for the agency.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to invest to reconfigure the EPA's workspaces, enabling the agency to release office space and reduce long-term rent costs, consistent with HR 4465[8], the *Federal Assets Sale and Transfer Act of 2016*. Since FY 2012 the EPA has released over 517 thousand square feet of office space nationwide, resulting in a cumulative annual rent avoidance of nearly $20 million across all appropriations. These savings help offset the EPA's escalating rent and security costs. Currently planned consolidations will allow the EPA to release another estimated 336 thousand square feet of office space. For FY 2018, the agency is requesting $32.67 million for rent, $2.99 million for utilities, and $7.33 million for security in the Superfund appropriation.

At the requested resource levels, the EPA will continue to manage lease agreements with GSA and other private landlords, maintain EPA facilities, fleet, equipment, and fund costs associated with utilities and building security needs. The EPA also will meet regulatory Occupational Safety and Health Administration (OSHA) obligations and provide health and safety training to field staff

[8] For additional information, refer to: https://www.congress.gov/bill/114th-congress/house-bill/4465, *Federal Assets Sale and Transfer Act of 2016*.

(e.g., inspections, monitoring, On-Scene Coordinators), and track capital equipment of $25,000 or more.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$6,543.0 / -9.1 FTE) This reduction to agency activities in FY 2018 includes:
  - support for employee wellness and worklife initiatives such as federal cost sharing for fitness centers, health wellness and CPR/ AED training services, and libraries;
  - preventative maintenance of facilities, equipment, and vehicle fleet;
  - custodial services; and
  - agency's mail delivery services.

- (-$1,930.0) This reduction modifies the timing of EPA's facility consolidations. Costs associated with moves and consolidations will be limited to the minimum needs to support core agency operations in an expedited and cost effective manner.

- (-$3,592.0) This decreases rent funding as planned space consolidations complete in FY 2018.

- (-$1,000.0) This reflects the consolidation of entry points into facilities, which will decrease the number of security guards required.

- (-$2,000.0) This reduces funding for Transit Subsidy based on decreased level of needs under the Superfund appropriation.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$27,202.6	$25,248.0	$18,564.0	($6,684.0)
Hazardous Substance Superfund	***$2,845.0***	***$2,889.0***	***$1,591.0***	***($1,298.0)***
Total Budget Authority / Obligations	$30,047.6	$28,137.0	$20,155.0	($7,982.0)
Total Workyears	154.8	161.2	108.5	-52.7

Program Project Description:

Superfund resources in the Financial Assistance Grants and Interagency Agreement (IA) Management program support the management of grants and IAs, and suspension and debarment activities. Resources in this program ensure that the EPA's management of grants and IAs meets the highest fiduciary standards, that grant/IA funding produces measurable results for environmental programs, and that the suspension and debarment program effectively protects the government's business interest. These objectives are critically important for the Superfund program, as a substantial portion of the program is implemented through IAs with the U.S. Army Corps of Engineers and the Coast Guard.

FY 2018 Activities and Performance Plan:

In accordance with the overarching 2016-2020 EPA Grants Management Plan (GMP), the EPA will continue to implement activities to achieve efficiencies while enhancing quality and accountability. The EPA will invest to modernize grant and IA IT systems by:

- The EPA will migrate away from aging Lotus Notes technology by deploying the Post-Award and Closeout modules of the Next Generation Grants System (NGGS), which has a low deployment time due to the system's modular architecture. NGGS will demand fewer training resources as the system is based on existing grants system infrastructure. NGGS relies on a flexible platform that will enable it to adapt to changing technology and business processes and will allow it to easily integrate with other agency systems.

- Eliminating reliance on paper grant files, the agency will move to an electronic system for grants management records.

- Strengthening grant decision-making, the EPA will enhance the capability of web-based reporting tools to provide real-time information to grant managers.

In addition to IT-related investments, the GMP focuses on reducing the administrative burden on the EPA and grants recipients, and on improving grants management procedures. Specifically, the agency will continue to: 1) fully implement the streamlining reforms in OMB's Uniform Grants

Guidance; 2) streamline the EPA's grants management by developing a comprehensive framework of effective and efficient policies; 3) review, refine, and streamline (Lean) the processes for Intergovernmental Review; and 4) implement an expanded Grants Place of Performance (POP) policy, supported by a user-friendly mapping interface, to provide more accurate and useful locational grant data.

The EPA is a recognized leader in suspension and debarment. The agency will continue to make aggressive use of discretionary debarments and suspensions as well as statutory debarments under the Clean Air Act and Clean Water Act to protect the government's business interests. In FY 2018, EPA will focus suspension and debarment activity to the most egregious violations. Congress and federal courts have long recognized federal agencies' inherent authority and obligation to exclude nonresponsible parties from eligibility to receive government contracts and nonprocurement awards (for example: grants, cooperative agreements, loans, and loan guarantees). A number of recent federal statutes, GAO reports, and OMB directives require that federal agencies administer effective suspension and debarment programs in order to protect taxpayers from unscrupulous actors.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,298.0 / -9.6 FTE) This change reflects expected efficiencies in the processing of grant and Interagency Agreement (IA) awards, lower requested grant funding levels throughout the agency and a review of unliquidated obligations. The EPA will target funds to core grant and IA activities.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Federal Grant and Cooperative Agreement Act; Federal Acquisition Streamlining Act, § 2455.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$30,174.3	$30,406.0	$24,978.0	($5,428.0)
Leaking Underground Storage Tanks	$152.5	$145.0	$138.0	($7.0)
Hazardous Substance Superfund	***$22,129.0***	***$22,418.0***	***$14,036.0***	***($8,382.0)***
Total Budget Authority / Obligations	$52,455.8	$52,969.0	$39,152.0	($13,817.0)
Total Workyears	276.7	304.5	214.2	-90.3

Program Project Description:

Superfund resources in the Acquisition Management program support the agency's contracts activities for Superfund Emergency Response and Removal, Remedial, Emergency Preparedness, and Federal Facilities Response programs. These resources enable the agency to assess, cleanup, prepare and respond to natural disasters and terrorist incidents, and to provide financial and technical assistance to state, local, and Tribal governments and other federal agencies.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to process contract actions in accordance with Federal Acquisition Regulation (FAR) and guidance from the Office of Federal Procurement Policy (OFPP). The EPA will maintain the EPA Acquisition System (EAS).

In FY 2018, the EPA will continue to implement its Strategic Sourcing Program (SSP), thereby enhancing purchase coordination, improving price uniformity and knowledge-sharing, and leveraging small business capabilities to meet acquisition goals. The SSP also allows the agency to research, assess, and award contract vehicles that will maximize time and resource savings. The SSP serves as a foundation for effective financial and resource management because it simplifies the acquisition process and reduces costs. Long term implementation of the SSP can potentially transform the agency's acquisition process into a strategically driven function, ensuring maximum value for every acquisition dollar spent. The agency has established a goal of obtaining at least five percent savings for all strategically sourced categories of goods and services. Through FY 2016, the EPA has saved approximately $8 million from strategic sourcing initiatives focused on VoIP, laboratory supplies, print, cellular services, shipping, office supplies, equipment maintenance, and Microsoft software. In FY 2017, the EPA anticipates between $3 to $4 million in savings.

In FY 2018, the EPA will continue to focus on implementing the Financial Information Technology Acquisition Reform Act (FITARA) by:

- Avoiding vendor lock-in by letting contracts with multiple vendors or confining the scope of the contract to a limited task; and

- Developing acquisition vehicles that support the agency in FITARA implementation.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,382.0 / -59.3 FTE) This streamlines contractor support for: helpdesk services for the EPA Acquisition System; the closeout of contracts; and existing priorities like the Defense Contract Management Agency for Audit Services and the Virtual Acquisition Office (a source for up-to-date government acquisition news, research, and analysis). This reduction also eliminates funding for Contracts Management Assessment Program Reviews which enable the agency to self-identify and remedy internal weaknesses, and the agency's training for its acquisition community.

Statutory Authority:

Office of Federal Procurement Policy Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$40,756.0	$43,185.0	$40,512.0	($2,673.0)
Hazardous Substance Superfund	***$4,908.5***	***$6,333.0***	***$4,580.0***	***($1,753.0)***
Total Budget Authority / Obligations	$45,664.5	$49,518.0	$45,092.0	($4,426.0)
Total Workyears	216.7	247.1	223.0	-24.1

Program Project Description:

Superfund resources for the Human Resources (HR) Management program support human capital activities throughout the EPA. As requirements and initiatives change, the EPA continually evaluates and improves the Superfund program's human resource functions in recruitment, hiring, and workforce development to help the agency achieve its mission and maximize employee productivity and job satisfaction.

FY 2018 Activities and Performance Plan:

Effective workforce management is critical to the EPA's ability to accomplish its mission. The EPA's efforts in HR enterprise risk management include: attracting and retaining a high-performing, diverse workforce; implementing training and development programs; delivering employee services; streamlining HR processes; and strengthening performance management, labor, and employee relations programs. The EPA will continue to support efforts that increase the quality of core operations, improve productivity, and achieve cost savings in mission-support functions including human capital management.

In FY 2018, the EPA will focus its workforce planning efforts to strategically reshape the agency based on changes in program priorities and technological advances. The EPA anticipates a spike in workforce planning needs to support the reshaping and organizational restructuring across the agency. The agency also will continue to strengthen its performance management activities, including developing management tools, targeting and providing training, leveraging the First Line Supervisors Advisory Group and performing mentoring on an as-needed basis.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,753.0) This reflects a reduction for:
  - Enhancements and maintenance of the EPA's HR IT Systems including HR Line of Business (LoB), data management and analysis, troubleshooting, and change requests;

- Maintenance of the EPA University portal that provides on-line training and professional development; and
- Centrally-provided, non-mandatory training.

Statutory Authority:

Title 5 of the U.S.C.; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$70,707.8	$72,047.0	$64,709.0	($7,338.0)
Leaking Underground Storage Tanks	$426.0	$423.0	$423.0	$0.0
Hazardous Substance Superfund	***$21,331.2***	***$22,084.0***	***$12,226.0***	***($9,858.0)***
Total Budget Authority / Obligations	$92,465.0	$94,554.0	$77,358.0	($17,196.0)
Total Workyears	458.5	493.4	394.1	-99.3

Program Project Description:

The EPA's financial management community maintains a strong partnership with the Superfund program. The EPA's OCFO recognizes and supports this continuing partnership by providing a full array of financial management support services necessary to pay Superfund bills and recoup cleanup and oversight costs for the Trust Fund. The EPA's OCFO manages Superfund activities under the Central Planning, Budgeting and Finance program in support of integrated planning, budget formulation and execution, financial management, performance and accountability processes, financial cost recovery, and the systems to ensure effective stewardship of Superfund resources. This program also implements the requirements of the Digital Accountability and Transparency (DATA) Act of 2014 and the Federal Information Technology Acquisition Reform Act (FITARA) of 2015.

FY 2018 Activities and Performance Plan:

The EPA will continue to provide resource stewardship to ensure that all agency programs operate with fiscal responsibility and management integrity, are efficiently and consistently delivered nationwide, and demonstrate results. The EPA will continue to provide direction and support for the Superfund program in financial management activities; implementing cost accounting requirements; financial payment and support services; and Superfund-specific fiscal and accounting services. The EPA will maintain key planning, budgeting, and financial management activities. The EPA will sustain basic operations and maintenance of core agency financial management systems--Compass, PeoplePlus (Time and Attendance), Budget Formulation System--and related financial reporting systems.

The program will support the agency's Lean efforts to continue to improve as a high performance organization to support business process changes agencywide. To date, the agency has conducted several Lean events that will streamline and improve financial stewardship across the agency, including the interagency agreement management process, and the unliquidated obligation or deobligation process. The agency is proceeding with recommendations from the software applications Lean processes. The EPA also will continue to improve accessibility to data to support

accountability, cost accounting, budget and performance integration, and management decision-making.

In FY 2018, the program will adjust and reprioritize efforts in the areas of strategic planning and budget preparation; financial reporting; transaction processing and Superfund Cost Recovery. In addition, the DATA Act coordination and implementation will be performed within the defined funding levels.

In FY 2018, the EPA will continue to use the performance metrics and OMB FedStat meetings to answer fundamental business questions to mission-support services and opportunities for service improvements. The program will continue to implement FITARA requirements in accordance with the EPA's Implementation Plan.[9] The Chief Information Officer will continue to be engaged throughout the budget planning process to ensure that IT needs are properly planned and resourced in accordance with FITARA.

The EPA is dedicated to reducing fraud, waste, and abuse and strengthening internal controls over improper payments. Since the implementation of the Improper Payments Information Act of 2002, the EPA has reviewed, sampled, and monitored its Superfund contract payments to protect against erroneous payments. The agency's payment streams are consistently well under the government-wide threshold of 1.5 percent and $10 million of estimated improper payments. The EPA conducts risk assessments in its principal payment streams, including grants, contracts, commodities, payroll, travel, and purchase cards. When overpayments are identified, they are promptly recovered. The EPA has expanded its risk assessments, performed statistical sampling, set appropriate reduction/recovery targets, and implemented corrective action plans. The agency conducts these activities to reduce the potential for improper payments and ensure compliance with the Improper Payments Information Act, as amended by the Improper Payments Elimination and Recovery Act of 2010 (P.L. 111-204) and the Improper Payments Elimination and Recovery Act of 2012 (P.L. 112-248).

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$6,407.0 / -44.6 FTE) This streamlines efforts in the areas of strategic planning, budget preparation, financial reporting, and transaction processing.

- (-$3,451.0) This will modify the schedule for modernizing and modifying the agency's Account Code Structure to improve tracking and reporting capabilities. In addition, this focuses on maintenance of the agency's financial management systems, such as Compass Core, Compass Data Warehouse, and PeoplePlus.

[9] For more information: http://www.epa.gov/open/fitara-implementation-plan-and-chief-information-officer-assignment-plan.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified as Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$0.0	$0.0	$10,995.0	$10,995.0
Environmental Program & Management	$0.0	$0.0	$46,719.0	$46,719.0
Hazardous Substance Superfund	***$0.0***	***$0.0***	***$10,437.0***	***$10,437.0***
Total Budget Authority / Obligations	$0.0	$0.0	$68,151.0	$68,151.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Superfund (SF) resources for the workforce reshaping program support organizational restructuring efforts throughout the U.S. Environmental Protection Agency. To help achieve its mission, the EPA will develop, review and analyze mission requirements and implement options to effectively align and redistribute the agency's workforce based on program priorities, resource reallocation, and technological advances.

FY 2018 Activities and Performance Plan:

Effective workforce reshaping is critical to the EPA's ability to accomplish its mission. The EPA will be examining our statutory functions and processes to eliminate inefficiencies and streamline our processes. Primary criteria will include effectiveness and accountability, as the EPA is focused on greater value and real results. These analyses will likely create a need to significantly reshape the workforce. The agency anticipates the need to offer voluntary early out retirement authority (VERA) and voluntary separation incentive pay (VSIP), and potentially relocation expenses, as part of the workforce reshaping effort. The use of VERA/VSIP will increase voluntary attrition and enable more focused support for the agency's highest priority work.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$10,437.0) In support of the reprioritization of agency activities, this increase will support:
  - Voluntary early out retirement authority (VERA)
  - Voluntary separation incentive pay (VSIP)
  - Workforce support costs for relocation of employees as we realign work assignments.

Statutory Authority:

5 U.S.C. 8336(d)(2) includes the statutory VERA provisions for employees covered by the Civil Service Retirement System; 5 U.S.C. 8414(b)(1)(B) includes the statutory VERA provisions for employees covered by the Federal Employees Retirement System; Section 1313(b) of the Chief Human Capital Officers Act of 2002 (Public Law 107-296, approved November 25, 2002) authorized the VSIP option under regulations issued by OPM, as codified in sections 3521 to 3525 of title 5, United States Code (U.S.C.).

Program Area: Research: Sustainable Communities

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$862.0	$663.0	$503.0	($160.0)
Science & Technology	$154,349.4	$139,709.0	$54,211.0	($85,498.0)
Leaking Underground Storage Tanks	$315.5	$319.0	$320.0	$1.0
Hazardous Substance Superfund	***$13,622.3***	***$14,005.0***	***$5,655.0***	***($8,350.0)***
Total Budget Authority / Obligations	$169,149.2	$154,696.0	$60,689.0	($94,007.0)
Total Workyears	460.3	476.3	265.1	-211.2

Program Project Description:

This area of the EPA's Sustainable and Healthy Communities (SHC) research program responds directly to the Superfund law requirements[10] for a comprehensive and coordinated federal "program of research, evaluation, testing, development, and demonstration of alternative or innovative treatment technologies…which may be utilized in response actions to achieve more permanent protection of human health and welfare and the environment."

SHC's research under the Superfund appropriation provides federal, regional, and community decision-makers with: engineering tools, methods, and information to assess current conditions at Superfund sites; decision support tools to evaluate the implications of alternative remediation approaches and technologies, and reuse of sites; and the latest science to support policy development and implementation.

FY 2018 Activities and Performance Plan:

In FY 2018, resources will be used to support EPA research personnel and associated support staff who will analyze existing research data and publish scientific journal articles to disseminate findings associated with the data.

The EPA has established a standing subcommittee under the EPA's Board of Scientific Counselors (BOSC) for the SHC program to evaluate its performance and provide feedback to the agency. In addition, the EPA meets with the BOSC and Science Advisory Board (SAB) annually for input on topics related to research program design, science quality, innovation, relevance, and impact. The EPA will be advised on its strategic research direction as part of the review of the Research and Development program's recently-released Strategic Research Action Plans (StRAPs).[11]

The EPA collaborates with the National Institutes of Health (NIH), National Science Foundation (NSF), Department of Energy (DOE), U.S. Department of Agriculture (USDA), and the White

[10] 42 U.S.C. § 9660(b).
[11] EPA Strategic Research Action Plans, http://www.epa.gov/research/strategic-research-action-plans-2016-2019.

House's Office of Science and Technology Policy (OSTP) to assess research performance. The EPA supports the interagency Science and Technology in America's Reinvestment, Measuring the Effect of Research on Innovation, Competitiveness, and Science (STAR METRICS) efforts.[12]

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,350.0 / -33.8 FTE) This streamlines the agency's scientific and engineering expertise provided to address environmental problems via the three Technical Support Centers.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §§ 102, 104(i), 105(a)(4), 311(c); Superfund Amendments Reauthorization Act of 1986, §§ 209(a), 403.

[12] STAR METRICS, https://www.starmetrics.nih.gov/

Program Area: Research: Chemical Safety and Sustainability

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Science & Technology	$36,007.0	$37,530.0	$22,516.0	($15,014.0)
Hazardous Substance Superfund	***$2,751.4***	***$2,838.0***	***$5,305.0***	***$2,467.0***
Total Budget Authority / Obligations	$38,758.4	$40,368.0	$27,821.0	($12,547.0)
Total Workyears	160.7	178.9	111.6	-67.3

Program Project Description:

The EPA's Human Health Risk Assessment (HHRA) research program supports the risk assessment needs of the agency's Superfund programs and regional risk assessors by providing Provisional Peer-Reviewed Toxicity Values (PPRTVs), rapid risk assessments to respond to emergent scenarios, and technical guidance on their application. These assessment tools and activities support risk-based management decisions at contaminated Superfund and hazardous waste sites. Scientists in the HHRA program synthesize the available scientific information on the potential health and environmental impacts of exposures to individual chemicals and chemical mixtures that are in the environment to assist in the agency's chemical safety work. Implications include:

- improvements in environmental and human health in the vicinity of Superfund sites
- reduction or reversal of damages to natural resources
- reduction of harm in emergency situations
- improved economic conditions and quality of life in communities affected by hazardous waste sites
- improved environmental practices by industry
- advances in science and technology

Priorities for PPRTV development are based on the needs of the EPA's Land and Emergency Management Program and are evaluated annually. Applying new data streams, read-across approaches, and computational tools to enhance the supporting data/knowledge bases and efficiency of derivation for PPRTV values is an active area of research in the HHRA program. Lessons learned will be leveraged and applied to other assessments in support of the Toxic Substances Control Act (TSCA) implementation.

Communities near Superfund sites or in emergence situations also are faced with an urgent need for coordinated assistance to assess and address issues of chemical and other environmental contamination. Additionally, they are now presented with new sensing or monitoring information that is difficult to interpret. The HHRA program develops approaches to respond to these emerging, often crisis-level, chemical/substance issues with scientific information that supports quick action, decisions and effective solutions. The HHRA program anticipates developing new assessment

approaches by means of an expanded product line to enhance rapid response and screening capabilities and to augment toxicity value derivation procedures for health assessments. The program also is pursuing emerging science related to epigenetics and considerations of susceptibility to characterize and assess cumulative risk.

Recent accomplishments include:

- Completed 12 PPRTV documents based on needs and priorities of the EPA's Superfund program.
- Fielded more than 180 requests for scientific support on human and ecological assessment via the Superfund Health Risk Technical Support Center (STSC) and Ecological Risk Assessment Support Center (ERASC).
- Worked with the EPA's Region 3 on the West Virginia spill of 4-methylcyclohexanemethanol (MCHM) to develop an inhalation value in anticipation of tank removal at the Elk River chemical spill site.
- Provided analyses to support decisions regarding the release of contaminated water into the Animas River from the Gold King mine site, in consultation with the EPA's Region 8.
- Provided modeling support to characterize the lead levels in drinking water of Flint, MI and on-going modeling to estimate blood lead levels from multiple routes of exposure to support decisions on the Lead and Copper Rule for the Water Program.

FY 2018 Activities and Performance Plan:

- Assessments that support policy and regulatory decisions for EPA's programs and regions, and state agencies, will be consolidated into a portfolio of C*hemical Evaluation* products that optimize the application of best available science and technology. These tailored 'fit-for-purpose' products will be shaped for use by partners, including the EPA's program and Regional Offices, states, and other federal agencies.

- In terms of updated Health Assessments, using realigned resources, IRIS will develop case studies of accelerated systematic review methodologies/protocols and related automation tools. For this pilot, existing assessments will be updated to meet focused high-priority needs for EPA program and regional offices.

- HHRA also will collaborate with the Chemical Safety for Sustainability (CSS) research program to link the architecture of assessment databases and literature management tools, including *Health and Environmental Research Online* (HERO), with the RapidTox Dashboard being developed by the National Center for Computational Toxicology in CSS. This integration can be used to inform assessment development and fill gaps in assessments, especially for data poor chemicals.

- Provide additional PPRTV assessments as prioritized by the Land and Emergency Management Program to support risk-based decision making at Superfund sites and hazardous waste sites, as resources allow. This work improves the EPA's ability to make decisions and address site-related environmental health problems.

- Continue essential technical assistance across the EPA to provide rapid risk assessments as resources allow. This will combine problem formulation and state-of-the-art exposure information and tools with hazard information, chiefly through the continued improvement of the derivation basis for PPRTVs for evaluating chemical specific exposures at Superfund sites, and by evaluating case-specific information related to emergent situations.

The EPA has established a standing subcommittee under the EPA's Board of Scientific Counselors for the CSS area that will be utilized to evaluate the research dimensions of the HHRA program as part of its performance and provide feedback to the agency. In addition, the EPA will meet regularly with both the Board of Scientific Counselors and the Science Advisory Board to seek their input on topics related to research program design, science quality, innovation, relevance, and impact. This includes advising the EPA on its strategic research direction with the review of the agency Research and Development program's recently released Strategic Research Action Plans (StRAPs).[13]

The EPA collaborates with several science agencies and the research community to assess our research performance. For instance, the EPA is partnering with the National Institutes of Health, the National Science Foundation, the DOE, and the USDA. The agency also will work with the White House's Office of Science and Technology Policy. The EPA supports the interagency Science and Technology in America's Reinvestment—Measuring the Effect of Research on Innovation, Competitiveness, and Science (STAR METRICS) effort. This interagency effort is helping the EPA to more effectively measure the impact federal science investments have on society, the environment, and the economy.[14]

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$497.0 / -0.5 FTE) This reallocates resources from the Superfund Health Risk Technical Support Center and the Ecological Risk Assessment Support Center.

- (+$2,964.0 / +15.2 FTE) This realigns resources from the S&T appropriation for work related to IRIS Assessments.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); Clean Air Act (CAA) §§ 103, 108, 109, 112; Clean Water Act (CWA) §§ 101(a)(6), 104, 105; Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) § 3(c)(2)(A); Food Quality Protection Act (FQPA); Safe Drinking Water Act (SDWA); Toxic Substances Control Act (TSCA), §§ 4(b)(1)(B), 4(b)(2)(B).

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[13] EPA Strategic Research Action Plans, http://www.epa.gov/research/strategic-research-action-plans-2016-2019.
[14] STAR METRICS, https://www.starmetrics.nih.gov/.

Program Area: Superfund Cleanup

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Substance Superfund	***$210,668.5***	***$180,961.0***	***$147,212.0***	***($33,749.0)***
Total Budget Authority / Obligations	$210,668.5	$180,961.0	$147,212.0	($33,749.0)
Total Workyears	263.9	243.7	225.6	-18.1

Program Project Description:

The Emergency Response and Removal program (SF Removal) is responsible for the agency's only Primary Mission Essential Function. In the case of a national emergency, the EPA is charged with preventing limiting, mitigating, or containing chemical, oil, radiological, biological, or hazardous materials released during and in the aftermath of an incident. The SF Removal program is the foundation of federal emergency response and is essential to managing risks from releases of hazardous substances, pollutants, or contaminants. Typical situations requiring emergency response and removal actions vary greatly in size, nature, and location, and include chemical releases, fires or explosions, natural disasters, and other threats to people from exposure to hazardous substances. The EPA's 24-hour-a-day response capability is a cornerstone element of the National Contingency Plan (NCP).[15]

The SF Removal program provides technical assistance and outreach to industry, states, tribes, and local communities as part of the agency's effort to ensure national safety and security for chemical and oil responses. The EPA trains, equips, and deploys resources in order to manage, contain, and remove contaminants. These substances, until contained or removed, have the potential to significantly damage property, endanger public health and have critical environmental impact on communities.

Agency On-Scene Coordinators (OSCs) make up the core of the SF Removal program. These trained and equipped EPA personnel respond to, assess, mitigate, and cleanup up environmental releases regardless of the cause. States, local, and Tribal communities rely upon the OSC's expertise and support to deal with environmental emergencies that are beyond their capabilities and resources.

FY 2018 Activities and Performance Plan:

In FY 2018, the SF Removal program will:

- Respond to, and provide technical assistance for, emergency responses, removal assessments, and limited time critical response actions (non-emergency responses).

[15] For additional information, refer to: https://www.epa.gov/emergency-response/national-oil-and-hazardous-substances-pollution-contingency-plan-ncp-overview.

- Conduct and participate in selected multi-media training and exercises for emergency responders. These events ensure readiness by focusing on necessary coordination and consistency across the agency, enhance specialized technical skills and expertise, and strengthen partnerships with state, local, Tribal, and other federal responders.

- Support the Environmental Response Team (ERT), which provides nationwide assistance and consultation for emergency response actions, including unusual or complex incidents. In such cases, the ERT supplies the OSC, or lead responder, with special equipment and technical or logistical assistance.

- Identify program efficiencies and reduce administrative costs to maximize resources for response work.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$33,749.0 / -18.1 FTE) The EPA will prioritize its resources on sites which pose an immediate threat to human health and the environment.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Sections 104, 105, 106; Clean Water Act (CWA); and Oil Pollution Act (OPA).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Substance Superfund	***$8,148.1***	***$7,622.0***	***$7,216.0***	***($406.0)***
Total Budget Authority / Obligations	$8,148.1	$7,622.0	$7,216.0	($406.0)
Total Workyears	37.1	37.4	35.7	-1.7

Program Project Description:

The Superfund Emergency Preparedness program provides for the EPA's engagement on the National Response Team (NRT) and Regional Response Teams (RRT) where it ensures federal agencies are prepared to respond to national incidents, threats, and major environmental emergencies. The EPA implements the Emergency Preparedness program in coordination with the Department of Homeland Security and other federal agencies in order to deliver federal hazard assistance to state, local, and Tribal governments.

The agency carries out its responsibility under multiple statutory authorities as well as the National Response Framework (NRF), which provides the comprehensive federal structure for managing national emergencies. The EPA is the designated lead for the NRF's Oil and Hazardous Materials Response Annex - Emergency Support Function #10 which covers responsibilities for responding to releases of hazardous materials, oil, and other contaminants that are a threat to human health and the environment. As such, the agency participates and leads applicable interagency committees and workgroups to develop national planning and implementation policies at the operational level.

FY 2018 Activities and Performance Plan:

The EPA continuously works to improve its management of emergency response assets to be better prepared to handle large unprecedented incidents in order to increase cost effectiveness and avoid costly cleanup actions. The Superfund Emergency Preparedness program participates in national and local exercises and drills, coordinates with stakeholders to develop Area and Regional Contingency Plans (ACPs), and provides technical assistance to industry, states, tribes, and local communities. Specific activities include:

- Chair the NRT[16] and co-chair the 13 RRTs. The NRT and RRTs are the only active environmentally-focused interagency executive committees addressing oil and hazardous substance emergencies. They serve as multi-agency coordination groups supporting emergency responders when convened as incident specific teams.

[16] For additional information, refer to: https://www.nrt.org/.

- Participate in the development of limited, scenario-specific, full scale exercises and regional drills designed to assess national emergency response management capabilities. These activities will involve the RRTs, NRT, and/or principal level participants.

- Continue to implement the National Incident Management System (NIMS)[17] which provides the approach to manage incidents and works hand in hand with the NRF.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$406.0 / -1.7 FTE) This will result in a reprioritization on how the EPA's Emergency Preparedness program supports interagency programs at the federal, state, Tribal, and local levels in conjunction with the National Response System. This streamlines NRT and RRT activities such as coordination, logistics, exercises, and outreach with response partners.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), §§ 104, 105, 106; Robert T. Stafford Disaster Relief and Emergency Assistance Act.

[17] For additional information, refer to: http://www.fema.gov/national-incident-management-system

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Substance Superfund	***$21,799.4***	***$21,085.0***	***$19,553.0***	***($1,532.0)***
Total Budget Authority / Obligations	$21,799.4	$21,085.0	$19,553.0	($1,532.0)
Total Workyears	105.0	111.7	106.3	-5.4

Program Project Description:

The Superfund Federal Facilities program oversees and provides technical assistance for the protective and efficient cleanup and reuse of Federal Facility National Priorities List (NPL) sites, as mandated by law. Program responsibilities include: 1) inventory and assess potentially contaminated sites; 2) implement protective remedies; 3) facilitate early transfer of property; and 4) ensure ongoing protectiveness of completed cleanups.

The Federal Facility NPL sites are among the largest in the Superfund program and can encompass specialized environmental contaminants such as munitions and radiological waste, and emerging contaminants such as per-and polyfluoralkyl substances (PFAS). To ensure efficiencies and consistent approaches to cleanup, the program collaborates with the other federal agencies and states.

The Federal Facilities program will continue to work with our federal partners to target high priority sites, to consider best practices, to develop innovative solutions to emerging and unique contaminants, to implement strategies to reach cleanup completion at sites, and to bring contaminated land into beneficial reuse.[18]

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to oversee the complex cleanups at Federal Facility NPL sites, such as hazardous substances in groundwater, munitions and explosives of concern (MEC), and contamination from legacy nuclear weapons development and energy research.

Since 1989, the Department of Energy (DOE) has completed cleanup work at 90 percent of its sites. DOE estimates that the 16 remaining legacy Cold War sites will take decades to complete, due to groundwater, soil, and waste processing. Similarly, the Department of Defense's (DoD's) inventory includes over 300 operable units containing MECs that still require investigation. These sites contain chemical and explosive compounds which require special handling, storage, and disposal practices, as well as cleanup challenges. The EPA will continue to strengthen oversight and technical assistance at DoD's military munitions response sites and support DoD's development of new technologies to streamline cleanups.

[18] For additional information, refer to: https://www.epa.gov/fedfac.

As of September 30, 2016, the EPA no longer receives resources from the DoD to support accelerated cleanup and reuse at Base Realignment and Closure (BRAC) sites. The EPA will continue oversight work at BRAC sites that are on the NPL with appropriated resources.

In FY 2018, the Federal Facilities program will prioritize the highest risk sites and focus on activities that bring human exposure and groundwater migration under control. In addition, pursuant to Section 120(d) of CERCLA, the EPA manages Federal Agency Hazardous Waste Compliance Docket (Docket) which contains information reported by federal facilities that manage hazardous waste or from which hazardous substances, pollutants, or contaminants have been or may be released. The Docket 1) identifies all federal facilities that must be evaluated through the site assessment process; 2) determines whether they pose a risk to human health and the environment sufficient to warrant inclusion on the NPL; and 3) provides a mechanism to make the information available to the public.[19] The Docket is updated semiannually and has over 2,300 facilities listed.

To ensure the long-term protectiveness of the cleanup remedies, the EPA will continue monitoring, overseeing progress, and improving the quality and consistency of five-year reviews (FYRs) conducted at NPL sites where waste has been left in place and land use is restricted. FYRs are required under Section 121(c) of CERCLA and the EPA's role is to review the protectiveness determination to ensure the long-term protectiveness of remedies.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,532.0 / -5.4 FTE) The EPA will continue to work with our federal partners to prioritize efforts at federal facilities on the NPL.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), § 120.

[19] The EPA developed a website called FEDFacts, where all sites are mapped and linked to available environmental information, https://www.epa.gov/fedfac/fedfacts.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Substance Superfund	***$539,387.1***	***$500,048.0***	***$341,803.0***	***($158,245.0)***
Total Budget Authority / Obligations	$539,387.1	$500,048.0	$341,803.0	($158,245.0)
Total Workyears	916.6	868.8	805.1	-63.7

Program Project Description:

The Superfund Remedial program addresses many of the worst contaminated areas in the United States by conducting investigations and then implementing long term cleanup remedies, as well as overseeing response work conducted by potentially responsible parties (PRPs) at National Priorities List (NPL) sites. Cleanup actions can take from a few months for relatively straight-forward soil excavation or capping remedies to several decades for complex, large area-wide groundwater, sediment, or mining remedies.

By addressing the risks posed by Superfund sites, the Superfund Remedial program strengthens the economy and spurs economic growth by returning Superfund sites to productive use. While conducting cleanup at NPL sites, Superfund construction projects can have a direct impact on enhancing our national infrastructure while addressing harmful exposure. Cleanup work under the Superfund Remedial program also improves property values. A study conducted by researchers at Duke University and University of Pittsburgh found that residential property values within three miles of Superfund sites increased between 18.6-24.5 percent when sites were cleaned up and deleted from the NPL.[20]

FY 2018 Activities and Performance Plan:

In FY 2018 the EPA will prioritize resources to execute its federal, non-delegable responsibility to clean up Superfund sites and protect human health and the environment. The Superfund Remedial program will endeavor to maximize the use of special account resources collected from settlement agreements with PRPs for response work at specific sites. As special account funds may only be used for sites and uses specified in the settlement agreement, both special account resources and annually appropriated resources are critical to the Superfund program to clean up Superfund sites. More than half of non-federal sites on the final NPL do not have an associated special account and must rely on annually appropriated funds to address those sites.

In FY 2018, the EPA is looking to identify efficiencies and reduce administrative costs to accelerate the pace of cleanups. The EPA will prioritize ongoing fund-lead investigation, design, and construction projects to bring human exposure and groundwater migration under control, and to

[20] Gamper-Rabindran, Shanti and Christopher Timmons. 2013. "Does cleanup of hazardous waste sites raise housing values? Evidence of spatially localized benefits," Journal of Environmental Economics and Management 65(3): 345-360.

facilitate reuse and redevelopment of Superfund sites while scaling back assessment activities, grants to communities and states, and revisions to existing guidance documents. The EPA will continue its statutory responsibility to provide oversight of PRP-lead activities at Superfund sites, consistent with legal settlement documents, and five-year review activities required by CERCLA.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$158,245.0 / -63.7 FTE) The EPA will prioritize resources on NPL sites that present the highest risk to human health and the environment, while modifying timelines for completing RI/FS, remedial design and new construction projects for other sites, and reducing discretionary activities.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

Program Area: Superfund Special Accounts

Superfund Special Accounts

Background

Superfund special accounts help pay for cleanup at the sites designated in individually negotiated settlement agreements. Each account is set up separately and distinctly and may only be used for the sites and uses outlined in the settlement(s) with the potentially responsible party(ies) (PRP). Section 122(b)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) authorizes the EPA to retain and use funds received pursuant to a settlement agreement with a PRP to carry out the purpose of that agreement. Special accounts are sub-accounts in the Superfund Trust Fund. Pursuant to the specific agreements, which typically take the form of an Administrative Order on Consent or Consent Decree, the EPA uses special account funds to finance site-specific CERCLA response actions at the site for which the account was established. Through the use of special accounts, the EPA ensures responsible parties pay for cleanup so that annually appropriated resources from the Superfund Trust Fund are generally conserved for sites where no viable or liable PRPs can be identified. Of the 1,337 Superfund sites listed as final on the National Priorities List, more than half do not have special account funds available for use. As special account funds may only be used for sites and uses specified in the settlement agreement, both special account resources and annually appropriated resources are critical to the Superfund program to clean up Superfund sites.

Special account funds are used to conduct many different site-specific CERCLA response actions, including, but not limited to, investigations to determine the nature and extent of contamination and the appropriate remedy, design, construction and implementation of the remedy, enforcement activities, and post-construction activities. The EPA also may provide special account funds as an incentive to another PRP(s) who agrees to perform additional work beyond the PRP's allocated share at the site, which the EPA might otherwise have to conduct using appropriated resources. Because response actions may take many years, the full use of special account funds also may take many years. Pursuant to the settlement agreement and in accordance with EPA policy, once site-specific work is complete and site risks are addressed, special account funds may be used to reimburse the EPA for site-specific costs incurred using appropriated resources (i.e., reclassification), allowing the latter resources to be allocated to other sites. Any remaining special account funds are transferred to the Superfund Trust Fund in accordance with the settlement agreement and EPA policy, where they are available for future appropriation by Congress to further support response work.

FY 2016 Special Account Activity

Since the inception of special accounts through the end of FY 2016, the EPA has collected more than $6.5 billion from PRPs and earned approximately $446.1 million in interest. Approximately 53 percent of the funds have been disbursed or obligated for response actions at sites and plans have been developed to guide the future use of the remaining 47 percent of available special account funds. In addition, at sites with no additional work planned or costs to be incurred by the EPA, the EPA has transferred approximately $29.1 million to the Superfund Trust Fund. As of the end of FY 2016, approximately $3.2 billion has been disbursed for site response actions and $464.6 million has been obligated but not yet disbursed.

The cumulative amount available in special accounts decreased from $3.45 billion available at the end of FY 2015 to $3.28 billion available at the end of FY 2016. The agency continues to receive site-specific settlement funds that are placed in special accounts each year, so progress on actual obligation and disbursement of funds may not be apparent upon review solely of the cumulative available balance. In FY 2016, the EPA received nearly $166 million for deposit into special accounts and disbursed and obligated over $300 million.

Special accounts vary in size. A limited set represent the majority of the funds available. At the end of FY 2016, 4 percent of open accounts had greater than $10 million available and hold more than 74 percent of all available funds at open accounts. There are many accounts with lower available balances. 74 percent of all open accounts have up to $1 million available and represent only 5 percent of available funds at all open accounts.

The balance of more than $3.28 billion is not equivalent to an annual appropriation. The funds collected under settlements are intended to finance future cleanup work at particular sites for the length of the project. The EPA is carefully managing those funds that remain available for site response work and develops plans to utilize the available balance. The EPA will continue to plan the use of funds received to conduct site-specific response activities, or reclassify and/or transfer excess funds to the Superfund Trust Fund to make annually appropriated funds available for use at other Superfund sites.

For some Superfund sites, although funds are readily available in a special account, remedial action may take time to initiate and complete. This is due to site specific conditions such as the specific requirements for special account use set forth in the settlement agreement, the stage of site cleanup, the viability of other responsible parties to conduct site cleanup, and the nature of the site contamination. The EPA has plans to spend more than $1.3 billion of currently available special account funds over the next 5 years, but funds also are planned much further into the future to continue activities such as conducting five year reviews or remedy optimization where waste has been left in place.

In FY 2016, the EPA disbursed and obligated approximately $306.7 million from special accounts for response work at more than 690 Superfund sites. Some examples include more than $65.5 million to support work at the Bunker Hill Mining & Metallurgical Complex in Idaho, at least $23.7 million for the New Bedford site in Massachusetts, approximately $29.3 million for the Libby Asbestos Site in Montana, and $20.8 million for the Welsbach & General Gas Mantle (Camden Radiation) site in New Jersey. In addition, a special account was established in FY 2016 for the Gorst Creek – Bremerton Auto Wrecking Landfill site and approximately $19.2 million of the $24.8 million deposited was obligated and/or disbursed for site response work. Without special account funds being available, appropriated funds would have been necessary for these response actions to be funded. In other words, the EPA was able to fund $306.7 million in response work at sites in addition to the work funded through appropriated funds obligated or disbursed in FY 2016.

The summary charts below provide additional information on the status of special accounts. Exhibit 1 illustrates the cumulative status of open and closed accounts, FY 2016 program activity, and planned multi-year uses of the available balance. Exhibit 2 provides the prior year (FY 2016), current year (FY 2017), and estimated future budget year (FY 2018) activity for special accounts. Exhibit 3 provides prior year data (FY 2016) by the EPA Regional Offices to exhibit the geographic use of the funds.

Exhibit 1: Summary of FY 2016 Special Account Transactions and Cumulative Multi-Year Plans for Using Available Special Account Funds

Account Status[1]	Number of Accounts
Cumulative Open	1,014
Cumulative Closed	321
FY 2016 Special Account Activity	**$ in Thousands**
Beginning Available Balance	$3,450,650.4
FY 2016 Activities	
+ Receipts	$165,557.7
- Transfers to Superfund Trust Fund (Receipt Adjustment)	($1,290.3)
+ Net Interest Earned	$881.3
- Net Change in Unliquidated Obligations	($70,555.3)
- Disbursements - For EPA Incurred Costs	($231,522.8)
- Disbursements - For Work Party Reimbursements under Final Settlements	($4,595.3)
- Reclassifications	($26,009.2)
End of Fiscal Year (EOFY) Available Balance[2]	$3,283,116.4
Multi-Year Plans for EOFY 2016 Available Balance[3]	**$ in Thousands**
2016 EOFY Available Balance	$3,283,116.4
- Estimates for Future EPA Site Activities based on Current Site Plans[4]	$3,120,862.9
- Estimates for Potential Disbursement to Work Parties Identified in Final Settlements[5]	$45,591.6
- Estimates for Reclassifications for FYs 2017-2019[6]	$72,661.8
- Estimates for Transfers to Trust Fund for FYs 2017-2019[6]	$33,498.4
- Available Balance to be Planned for Site-Specific Response[7]	$10,501.8

[1] FY 2016 data is as of 10/01/2016. The Beginning Available Balance is as of 10/01/2015.

[2] Numbers may not add up precisely due to rounding.

[3] Planning data were recorded in the Superfund Enterprise Management System (SEMS) as of 11/04/2016 in reference to special account available balances as of 10/01/2016.

[4] "Estimates for EPA Future Site Activities" includes all response actions that the EPA may conduct or oversee in the future, such as removal, remedial, enforcement, post-construction activities as well as allocation of funds to facilitate a settlement to encourage PRPs to perform the cleanup. Planning data are multi-year and cannot be used for annual comparisons.

[5] "Estimates for Potential Disbursements to Work Parties Identified in Finalized Settlements" includes those funds that have already been designated in a settlement document, such as a Consent Decree or Administrative Order on Consent, to be available to a PRP for reimbursements but that have not yet been obligated.

[6] "Reclassifications" and "Transfers to the Trust Fund" are estimated for three FYs only. These amounts are only estimates and may change as the EPA determines what funds are needed to complete site-specific response activities.

[7] These include resources received by the EPA at the end of the fiscal year and will be assigned for site-specific response activities.

Exhibit 2: Actual and Estimated Special Account Transactions FY 2016 – FY 2018

	FY 2016 actual	FY 2017 estimate	FY 2018 estimate
	$ in Thousands		
Beginning Available Balance	$3,450,650.4	$3,283,116.4	$3,266,371.4
Receipts[1]	$165,557.7	$250,000.0	$250,000.0
Transfers to Trust Fund (Receipt Adjustment)[2]	($1,290.3)	($1,775.0)	($1,775.0)
Net Interest Earned[3]	$881.3	$30,000.0	$33,000.0
Net Obligations[2,4]	($306,673.5)	($262,600.0)	($262,600.0)
Reclassifications[2]	($26,009.2)	($32,370.0)	($32,370.0)
End of Year Available Balance[5]	$3,283,116.4	$3,266,371.4	$3,252,626.4

[1]The estimates for Receipts are in line with typical averages.

[2]The estimates for Transfers to Trust Fund, Net Obligations, and Reclassifications are based on a 3-year historical average.

[3]Net interest earned projections for FY 2017 and FY 2018 are estimated utilizing economic assumptions for the FY 2018 President's Budget. At the end of FY 2015, the agency worked with the Department of Treasury to create a new point account for Superfund special accounts in the Superfund Trust Fund. In FY 2016, $26.4 million in interest was earned on the special account funds invested in the Superfund Trust Fund. However, there was a time lag for those funds to be captured in the agency's system and made available for use.

[4]Net Obligations reflect special account funds no longer available for obligation, excluding reclassifications and receipts transferred to the Trust Fund.

[5]Numbers may not add up precisely due to rounding.

Exhibit 3: FY 2016 Special Account Transactions by EPA Regional Offices

$ in Thousands

	Beginning Available Balance[1]	Receipts	Transfers to Trust Fund (Receipt Adjustment)	Net Interest Earned[2]	Net Obligations	Reclassifications	End of Year Available Balance[3]
Region 1	$364,337.7	$9,514.6	($42.7)	$158.7	($32,902.3)	($3,818.7)	$337,247.2
Region 2	$501,685.9	$36,474.5	($75.7)	$67.8	($52,755.3)	($3,842.4)	$481,554.8
Region 3	$112,825.2	$12,661.8	($334.1)	$51.9	($6,182.3)	($4,629.9)	$114,392.6
Region 4	$67,554.8	$5,402.3	($416.1)	($28.9)	($3,237.6)	($1,034.1)	$68,240.5
Region 5	$388,432.0	$16,161.4	($420.3)	$127.2	($11,654.1)	($1,081.0)	$391,565.3
Region 6	$73,334.7	$16,045.6	$0.0	$30.5	($8,732.2)	($795.0)	$79,883.7
Region 7	$154,425.3	$2,670.3	($1.1)	$90.7	($8,793.1)	($251.5)	$148,140.6
Region 8	$247,453.3	$14,333.2	($0.2)	$115.6	($46,066.1)	($525.3)	$215,310.5
Region 9	$1,300,269.3	$17,888.6	$0.0	$151.0	($26,964.1)	($10,031.3)	$1,281,313.5
Region 10	$240,332.3	$34,405.4	$0.0	$116.6	($109,386.4)	$0.0	$165,467.9
Total	$3,450,650.4	$165,557.7	($1,290.3)	$881.3	($306,673.5)	($26,009.2)	$3,283,116.4

[1] FY 2016 data is as of 10/01/2016. The Beginning Available Balance is as of 10/01/2015.

[2] Negative interest is a result of a transfer of interest to the Superfund Trust Fund when funds in an account are no longer needed for future site response work. Due to the time lag in posting of the agency's FY 2016 earned interest of $26.4 million, interest earned was not applied to the site or regional level resulting in this anomaly.

[3]Numbers may not add due to rounding.

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APPROPRIATION: Leaking Underground Storage Tanks
Resource Summary Table
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Leaking Underground Storage Tanks				
Budget Authority	$93,702.6	$91,766.0	$47,429.0	($44,337.0)
Total Workyears	50.4	54.1	40.7	-13.4

Bill Language: Leaking Underground Storage Tanks

For necessary expenses to carry out leaking underground storage tank cleanup activities authorized by subtitle I of the Solid Waste Disposal Act, $47,429,000 to remain available until expended, of which $47,429,000 shall be for carrying out leaking underground storage tank cleanup activities authorized by section 9003(h) of the Solid Waste Disposal Act: Provided, That the Administrator is authorized to use appropriations made available under this heading to implement section 9013 of the Solid Waste Disposal Act to provide financial assistance to federally recognized Indian tribes for the development and implementation of programs to manage underground storage tanks.

Program Projects in LUST
(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Enforcement				
Civil Enforcement	$758.0	$619.0	$559.0	($60.0)
Operations and Administration				
Central Planning, Budgeting, and Finance	$426.0	$423.0	$423.0	$0.0
Facilities Infrastructure and Operations	$785.2	$782.0	$785.0	$3.0
Acquisition Management	$152.5	$145.0	$138.0	($7.0)
Subtotal, Operations and Administration	$1,363.7	$1,350.0	$1,346.0	($4.0)
Underground Storage Tanks (LUST / UST)				
LUST / UST	$9,159.3	$9,222.0	$6,364.0	($2,858.0)
LUST Cooperative Agreements	$55,832.9	$54,935.0	$38,840.0	($16,095.0)
LUST Prevention	$26,273.2	$25,321.0	$0.0	($25,321.0)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Subtotal, Underground Storage Tanks (LUST / UST)	$91,265.4	$89,478.0	$45,204.0	($44,274.0)
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	$315.5	$319.0	$320.0	$1.0
Subtotal, Research: Sustainable and Healthy Communities	$315.5	$319.0	$320.0	$1.0
TOTAL, EPA	$93,702.6	$91,766.0	$47,429.0	($44,337.0)

Program Area: Enforcement

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$2,444.0	$2,408.0	$2,266.0	($142.0)
Environmental Program & Management	$174,120.9	$171,051.0	$140,470.0	($30,581.0)
Leaking Underground Storage Tanks	***$758.0***	***$619.0***	***$559.0***	***($60.0)***
Total Budget Authority / Obligations	$177,322.9	$174,078.0	$143,295.0	($30,783.0)
Total Workyears	1,064.6	1,080.4	858.7	-221.7

Program Project Description:

To protect our nation's groundwater and drinking water from petroleum releases from Underground Storage Tanks (UST), the Civil Enforcement program provides guidance, technical assistance, and training to promote and enforce cleanups at sites with UST systems.[1] The Enforcement and Compliance Assurance program uses its Leaking Underground Storage Tanks (LUST) resources to oversee cleanups by responsible parties.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will work with states and tribes on a case-by-case basis to prioritize LUST enforcement goals for cleanup.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$60.0 / -0.6 FTE) The EPA will target funds to highest priority sites.

Statutory Authority:

Pollution Prevention Act; Community Environmental Response Facilitation Act; National Environmental Policy Act; Atomic Energy Act; Uranium Mill Tailings Radiation Control Act; Resource Conservation and Recovery Act.

[1] For more information, refer to: www.epa.gov/swerust1/cat/index.htm.

Program Area: Operations and Administration

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$679.6	$583.0	$680.0	$97.0
Environmental Program & Management	$304,456.9	$310,948.0	$301,001.0	($9,947.0)
Science & Technology	$71,332.8	$68,209.0	$68,339.0	$130.0
Building and Facilities	$37,184.2	$35,573.0	$33,377.0	($2,196.0)
Leaking Underground Storage Tanks	***$785.2***	***$782.0***	***$785.0***	***$3.0***
Hazardous Substance Superfund	$69,168.0	$74,137.0	$59,072.0	($15,065.0)
Total Budget Authority / Obligations	$483,606.7	$490,232.0	$463,254.0	($26,978.0)
Total Workyears	332.9	357.7	312.2	-45.5

Program Project Description:

The EPA's Facilities Infrastructure and Operations program in the Leaking Underground Storage Tank (LUST) appropriation supports the agency's rent, transit subsidy, and facilities management services. Funding is allocated for such services among the major appropriations for the agency.

FY 2018 Activities and Performance Plan:

The agency will continue to conduct rent reviews and verify monthly billing statements for its lease agreements with the General Services Administration and other private landlords. For FY 2018, the EPA is requesting a total of $0.60 million for rent in the LUST appropriation.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$3.0) This increases funding to support basic operations and maintenance costs for the EPA facilities nationwide. While the resources are minimal, the funds are essential to support the agency, its mission, and its workforce.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$30,174.3	$30,406.0	$24,978.0	($5,428.0)
Leaking Underground Storage Tanks	***$152.5***	***$145.0***	***$138.0***	***($7.0)***
Hazardous Substance Superfund	$22,129.0	$22,418.0	$14,036.0	($8,382.0)
Total Budget Authority / Obligations	$52,455.8	$52,969.0	$39,152.0	($13,817.0)
Total Workyears	276.7	304.5	214.2	-90.3

Program Project Description:

Leaking Underground Storage Tanks (LUST) resources in the Acquisition Management program support the agency's contract activities.

FY 2018 Activities and Performance Plan:

Acquisition Management resources in LUST support information technology needs and the training and development of the EPA's acquisition workforce.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$7.0) Resource changes reflect a minimal reduction in contractual resources from more effective business practices in the Acquisition Management program.

Statutory Authority:

Office of Federal Procurement Policy Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$70,707.8	$72,047.0	$64,709.0	($7,338.0)
Leaking Underground Storage Tanks	***$426.0***	***$423.0***	***$423.0***	***$0.0***
Hazardous Substance Superfund	$21,331.2	$22,084.0	$12,226.0	($9,858.0)
Total Budget Authority / Obligations	$92,465.0	$94,554.0	$77,358.0	($17,196.0)
Total Workyears	458.5	493.4	394.1	-99.3

Program Project Description:

The EPA's financial management community maintains a strong partnership with the Leaking Underground Storage Tanks (LUST) program. Activities under the Central Planning, Budgeting and Finance program support the management of integrated planning, budgeting, financial management, performance and accountability processes, and systems to ensure effective stewardship of LUST resources. This includes developing, managing, and supporting a performance management system consistent with the Government Performance and Results Modernization Act for the agency that involves strategic planning and accountability for environmental, fiscal, and managerial results; providing policy, systems, training, reports, and oversight essential for the financial operations of the EPA; managing the agencywide Working Capital Fund; providing financial payment and support services for the EPA through three finance centers, specialized fiscal and accounting services for the LUST programs; and managing the agency's annual budget process.

FY 2018 Activities and Performance Plan:

The EPA will continue to ensure sound financial and budgetary management of the LUST program through the use of routine and ad hoc analysis, statistical sampling, and other evaluation tools. Building on the work begun in previous years, the EPA will continue to monitor and strengthen internal controls with a focus on sensitive payments and property. In addition, structured and targeted use of financial systems that include funds control and oversight of expenses in the LUST program has led to a better understanding of program impacts as well as increased efficiencies.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-0.7 FTE) This reduces ad hoc analyses as part of LUST financial management efforts.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98-80, 97 Stat. 485 (codified as Title 5, App.) (the EPA's organic statute).

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Program Area: Underground Storage Tanks (LUST / UST)

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Environmental Program & Management	$11,083.4	$11,273.0	$5,612.0	($5,661.0)
Leaking Underground Storage Tanks	***$9,159.3***	***$9,222.0***	***$6,364.0***	***($2,858.0)***
Total Budget Authority / Obligations	$20,242.7	$20,495.0	$11,976.0	($8,519.0)
Total Workyears	100.6	108.1	68.8	-39.3

Program Project Description:

The Leaking Underground Storage Tank (LUST) resources in the LUST / Underground Storage Tank (UST) program ensure that petroleum contamination is properly assessed and cleaned up which is different from the LUST/UST program in the Environmental Program and Management account which helps prevent releases of petroleum from UST. Under this program, the EPA issues, monitors, and oversees LUST cleanup cooperative agreements to states.[2] The EPA also provides technical assistance and training to states and tribes on how to conduct cleanups and improve the efficiency of state programs. In addition, the EPA has direct implementation authority and responsibilities in Indian country. In that role, the EPA oversees cleanups by responsible parties, conducts site assessments, remediates contaminated water and soil, and provides alternative sources of drinking water when needed.

The EPA's funding for Indian country is the primary source of money for these activities. With few exceptions, tribes do not have independent program resources to pay for assessing and cleaning up UST releases, and in many cases, there are no responsible parties available to pay for the cleanups at sites in Indian country.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will:

- Work with states and tribes within available resources to implement strategies to reduce the number of sites that have not reached cleanup completion, and to address new releases as they continue to be confirmed.
- Provide targeted training to states and tribes, such as remediation process optimization and rapid site assessment techniques.
- Monitor the soundness of financial mechanisms, in particular insurance and state cleanup funds that serve as financial assurance for LUST releases. The EPA works with states to seek ways to cover and control remediation costs.

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

- Provide support in Indian country for site assessments, investigations, and remediation of high priority sites; enforcement against responsible parties; cleanup of soil and groundwater; alternate water supplies; cost recovery against UST owners and operators; oversight of responsible party lead cleanups; and technical expertise and assistance to Tribal governments.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,858.0 / -12.1 FTE) This reduction will focus cleanups of LUST sites in Indian country on the highest priority sites and streamline our efforts to provide subject matter and technical expertise to states and tribes.

Statutory Authority:

Resource Conservation and Recovery Act, § 8001, 9001-9014.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Leaking Underground Storage Tanks	***$55,832.9***	***$54,935.0***	***$38,840.0***	***($16,095.0)***
Total Budget Authority / Obligations	$55,832.9	$54,935.0	$38,840.0	($16,095.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Leaking Underground Storage Tank (LUST) program ensures that petroleum contamination is properly assessed and cleaned up by providing states[3] with funding to assess and clean up these releases. Releases of petroleum from underground storage tanks (UST) can contaminate groundwater, the drinking water source for many Americans.

LUST funding supports states in managing, overseeing, and enforcing cleanups at LUST sites. This is achieved by focusing on increasing the efficiency of LUST cleanups nationwide, leveraging private and state resources, and enabling community redevelopment. Cleaning up LUST sites, which are often located along heavily travelled roads, makes them available for redevelopment opportunities and can return abandoned, blighted sites to productive uses such as retail, restaurants, pharmacies, and health clinics.

FY 2018 Activities and Performance Plan:

The Energy Policy Act (EPAct) of 2005 requires that states receiving LUST Cooperative Agreements funding meet certain release prevention requirements, such as inspecting every facility at least once every three years. With the proposed elimination of the LUST Prevention and UST STAG funding, the EPA may prioritize LUST Cleanup Cooperative Agreements with states that maintain compliance with EPAct requirements.

In FY 2018 some states may perform a more limited version of their core cleanup work. Some states also may be able to pursue strategies to maximize the effectiveness or efficiency in protectively completing cleanups and reducing their backlogs.

Approximately 71,000 releases remain that have not reached cleanup completion. In addition, thousands of new releases are discovered each year.[4] The EPA and state programs will consider best practices and implement strategies to reduce the backlog by targeting high priority sites and examining caseloads to look for sites that are ready for closure.

[3] States as referenced here also include the District of Columbia and five territories as described in the definition of state in the Solid Waste Disposal Act.
[4] For more information, visit: http://www.epa.gov/ust/ust-performance-measures.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$16,095.0) This change reflects a focus on cleaning up the highest priority sites.

Statutory Authority:

Resource Conservation and Recovery Act, § 9003(h)(7).

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Leaking Underground Storage Tanks	***$26,273.2***	***$25,321.0***	***$0.0***	***($25,321.0)***
Total Budget Authority / Obligations	$26,273.2	$25,321.0	$0.0	($25,321.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Leaking Underground Storage Tank (LUST) Prevention program works to ensure that groundwater is protected from petroleum and associated chemicals leaking from underground storage tanks (USTs), while the LUST Cooperative Agreement program provides funding to states to assess and clean up LUST sites. This program has provided funding to states,[5] tribes, and/or intertribal consortia to inspect, prevent releases, ensure compliance with federal and state laws, and enforce these laws for the 561,000 federally regulated active USTs. The Energy Policy Act (EPAct) of 2005 requires the EPA or states to inspect every UST once every three years.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. States could elect to maintain core program work with state resources rather than federal.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$25,321.0) This funding change eliminates the LUST Prevention grant program.

Statutory Authority:

Solid Waste Disposal Act of 1976, as amended by the Superfund Amendments and Reauthorization Act of 1986, § 2007(f); Energy Policy Act, § 9011.

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

Program Area: Research: Sustainable Communities

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	$862.0	$663.0	$503.0	($160.0)
Science & Technology	$154,349.4	$139,709.0	$54,211.0	($85,498.0)
Leaking Underground Storage Tanks	***$315.5***	***$319.0***	***$320.0***	***$1.0***
Hazardous Substance Superfund	$13,622.3	$14,005.0	$5,655.0	($8,350.0)
Total Budget Authority / Obligations	$169,149.2	$154,696.0	$60,689.0	($94,007.0)
Total Workyears	460.3	476.3	265.1	-211.2

Program Project Description:

The EPA's Sustainable and Healthy Communities (SHC) research program under the Leaking Underground Storage Tanks (LUST) appropriation provides federal, regional, and community decision-makers with tools, methods, and information to prevent and control pollution at LUST sites. Specifically, this research enables decision-makers to better:

- Assess sites and evaluate the implications of alternative remediation techniques, policies, and management actions to assess and cleanup leaks at fueling stations.
- Identify the environmental impacts and unintended consequences of existing and new biofuels available in the marketplace.
- Protect America's land and groundwater resources and drinking water supplies that could be impacted by the nation's approximately 560,000 underground fuel storage tanks[6].

Recent accomplishments include:

- **Developing Field Screening Methodology to Assess Petroleum Vapor Intrusion:** The SHC program has developed field screening methods to assist in the implementation of the EPA Office of Land and Emergency Response's (OLEM) guide for petroleum vapor intrusion. The screening methodology and software tool provides site managers with an economical and practical approach for addressing petroleum vapor intrusion in their site cleanup plans.

- **Analyzing Three National Databases to Assess Variability in Fuel Composition**: In recent years, varying fuel composition has been associated with vapor and liquid releases from underground storage tanks and corrosion of tank components. SHC's study increases the EPA's understanding on the fate and transport of contaminants from LUST sites and their potential impact on groundwater contamination and vapor intrusion.

[6] For more information, please visit: https://www.epa.gov/ust.

- **Estimating Site Densities of Private Domestic Wells (PDWs)**: PDWs are not subject to the testing requirements of the Safe Drinking Water Act and are therefore more susceptible to contamination. For public health and planning purposes, it is important to determine the locations of high density PDW use. This information on PDWs assists states in evaluating the degree of urgency in their inspections to address potential vulnerabilities to communities that are reliant on these drinking water supplies.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue to conduct research on contaminated sites to assist the agency and the states in addressing the backlog of sites for remediation. This research will help communities characterize and remediate contaminated sites at an accelerated pace and lower costs while reducing human health and ecological impacts. Resulting methodologies and tools will help localities and states return properties to productive use, thus supporting the agency mission of protecting human health and the environment in the context of communities.

Also, in FY 2018, the EPA's scientists will continue to work with the Underground Storage Tanks program to deliver improved characterization and remediation methods for fuels released from leaking underground storage tanks. Research also will address contaminant plume elongation and the associated risks to communities from the many underground storage tanks at fueling stations located near residences and residential water supplies. This research will inform tool development to assist communities and states to determine what remediation is needed to protect local ground water resources and reduce the potential for vapor intrusion into buildings. These tools will ultimately reduce costs to communities while better protecting future drinking water resources and preventing vapor intrusion.

The EPA has established a standing subcommittee under the EPA's Board of Scientific Counselors (BOSC) for the SHC program to evaluate its performance and provide feedback to the agency. In addition, the EPA meets with the BOSC and the Science Advisory Board (SAB) annually for input on topics related to research program design, science quality, innovation, relevance, and impact. The EPA will be advised on its strategic research direction as part of the review of the Research and Development program's recently-released Strategic Research Action Plans (StRAPs).[7]

The EPA collaborates with the National Institutes of Health (NIH), National Science Foundation (NSF), Department of Energy (DOE), U.S. Department of Agriculture (USDA), and the White House's Office of Science and Technology Policy (OSTP) to assess research performance. The EPA supports the interagency Science and Technology in America's Reinvestment, Measuring the Effect of Research on Innovation, Competitiveness, and Science (STAR METRICS) efforts.[8]

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

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[7] EPA Strategic Research Action Plans, https://www.epa.gov/research/strategic-research-action-plans-2016-2019.
[8] STAR METRICS, https://www.starmetrics.nih.gov/.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$1.0) This increases research to characterize and remediate contaminated leaking underground storage tank sites.

Statutory Authority:

Resource Conservation and Recovery Act, §§ 1002, 1006, 8001; Safe Drinking Water Act, § 1442.

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APPROPRIATION: Inland Oil Spill Programs
Resource Summary Table
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs				
Budget Authority	$18,682.8	$18,175.0	$15,717.0	($2,458.0)
Total Workyears	93.1	98.3	76.5	-21.8

Bill Language: Inland Oil Spill Programs

For expenses necessary to carry out the Environmental Protection Agency's responsibilities under the Oil Pollution Act of 1990, $15,717,000, to be derived from the Oil Spill Liability trust fund, to remain available until expended.

Program Projects in Oil Spills
(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Compliance				
Compliance Monitoring	$143.3	$139.0	$124.0	($15.0)
Enforcement				
Civil Enforcement	$2,444.0	$2,408.0	$2,266.0	($142.0)
Oil				
Oil Spill: Prevention, Preparedness and Response	$14,553.9	$14,382.0	$12,144.0	($2,238.0)
Operations and Administration				
Facilities Infrastructure and Operations	$679.6	$583.0	$680.0	$97.0
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	$862.0	$663.0	$503.0	($160.0)
Subtotal, Research: Sustainable and Healthy Communities	$862.0	$663.0	$503.0	($160.0)
TOTAL, EPA	$18,682.8	$18,175.0	$15,717.0	($2,458.0)

Program Area: Compliance

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	***$143.3***	***$139.0***	***$124.0***	***($15.0)***
Environmental Program & Management	$103,713.4	$101,472.0	$86,431.0	($15,041.0)
Hazardous Substance Superfund	$844.1	$993.0	$605.0	($388.0)
Total Budget Authority / Obligations	$104,700.8	$102,604.0	$87,160.0	($15,444.0)
Total Workyears	510.4	539.6	432.4	-107.2

Program Project Description:

The Compliance Monitoring program promotes compliance with the nation's environmental laws. Compliance monitoring is comprised of a variety of tools and activities that states and the EPA use to identify whether regulated entities are in compliance with environmental laws enacted by Congress, as well as applicable regulations and permit conditions. In addition, compliance monitoring activities, such as inspections and investigations, are conducted to determine whether conditions exist that may present imminent and substantial endangerment to human health and the environment.

The EPA maintains and oversees the Compliance Monitoring program by integrating the data from the Facility Response Plans (FRP) and Spill Prevention, Control, and Countermeasure (SPCC) systems into the EPA Integrated Compliance Information System. As a result of this data integration, the EPA is able to focus compliance monitoring resources on areas of highest risk and increase transparency to the public. It also provides a more complete set of information for this program and improves data quality.

The Clean Water Act Section 311 compliance monitoring program for SPCC is designed to assure compliance with the governing spill prevention regulations. The Section 311 FRPs compliance monitoring program uses tools and strategies to verify that regulated facilities prepare for and are able to respond to any oil spill affecting the inland waters of the United States.

FY 2018 Activities and Performance Plan:

In FY 2018 the agency will streamline its Compliance Monitoring program.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$15.0 / -0.1 FTE) This streamlines the Compliance Monitoring program.

Statutory Authority:

Clean Water Act; Oil Pollution Act; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Enforcement

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	***$2,444.0***	***$2,408.0***	***$2,266.0***	***($142.0)***
Environmental Program & Management	$174,120.9	$171,051.0	$140,470.0	($30,581.0)
Leaking Underground Storage Tanks	$758.0	$619.0	$559.0	($60.0)
Total Budget Authority / Obligations	$177,322.9	$174,078.0	$143,295.0	($30,783.0)
Total Workyears	1,064.6	1,080.4	858.7	-221.7

Program Project Description:

The EPA Civil Enforcement program's goal is to ensure compliance with the nation's environmental laws to protect human health and the environment. The program collaborates with the United States Department of Justice, states, local agencies, and Tribal governments to ensure consistent and fair enforcement of environmental laws and regulations. The Civil Enforcement program develops, litigates, and settles administrative and civil judicial cases against serious violators of environmental laws.

The Civil Enforcement program's enforcement of Section 311 of the Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (OPA), is designed to ensure compliance with the prohibition against oil and hazardous substance spills, as well as the oil spill prevention, response planning, and other regulatory requirements. The EPA's Civil Enforcement program develops policies, issues administrative orders or penalty actions, and/or refers civil judicial actions to the Department of Justice to address spills, violations of spill prevention, response planning regulations and other violations (e.g., improper dispersant use or noncompliance with orders). The program also assists in the recovery of cleanup costs expended by the government. The program provides support for field investigations of spills, Spill Prevention, Control, and Countermeasure (SPCC), Facility Response Plan (FRP) and other requirements.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will streamline the Civil Enforcement program, prioritize resources to achieve regulatory compliance, and address oil or hazardous substance spills in violation of the statute and prevent future spills. Civil Enforcement efforts will focus on facilities where enforcement will promote deterrence, require action to address spill causes, and confirm that spills are cleaned up and mitigated.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

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FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$142.0 / -0.9 FTE) This streamlines enforcement efforts under the Oil Pollution Act of 1990.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute); Clean Water Act; Oil Pollution Act.

Program Area: Oil

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	***$14,553.9***	***$14,382.0***	***$12,144.0***	***($2,238.0)***
Total Budget Authority / Obligations	$14,553.9	$14,382.0	$12,144.0	($2,238.0)
Total Workyears	79.0	83.1	62.3	-20.8

Program Project Description:

The Oil Spill Prevention, Preparedness and Response program protects the American people by preventing, preparing for, responding to, and monitoring inland oil spills. The EPA is the lead federal responder for inland oil spills, including transportation related spills from pipelines, trucks, railcars, and other transportation systems. In addition, the program may provide technical assistance, assets, and outreach to industry, states, and local communities as part of the agency's effort to ensure national safety and security for chemical and oil incidents.[1]

There are approximately 540,000 Spill Prevention, Control, and Countermeasure (SPCC) facilities, including a subset of 4,600 Facility Response Plan (FRP) facilities identified as high risk due to their size and location. The Oil Pollution Act requires certain facilities that store and use oil to prepare response plans that are reviewed by the EPA to ensure availability of response resources in the event of a discharge.

To minimize the potential impacts to human health and the environment, the agency will target facilities that pose the highest risk. The agency currently inspects approximately 0.1 percent of SPCC facilities per year. In FY 2016, the EPA found that 64 percent of FRP facilities and 91 percent of SPCC facilities inspected were out of compliance due to inadequate prevention and response plans. Inspections are essential in ensuring that facility staff is knowledgeable about prevention and response plans, and quickly able to put these plans into action.

FY 2018 Activities and Performance Plan:

In FY 2018, the Oil Spill Prevention, Preparedness and Response program will:

- Inspect oil facilities to ensure compliance with preventive measures. Inspections involve reviewing the facility's preparedness and response plans, discussing key aspects of these plans with facility staff, and conducting unannounced exercises that test the facility owner's ability to put these preparedness and response plans into action. The EPA will focus inspections at high risk FRP facilities.

[1] For additional information, refer to: https://www.epa.gov/oil-spills-prevention-and-preparedness-regulations.

- Maintain the National Contingency Plan's Subpart J product schedule, which identifies a list of products that may be used to clean oil spills.

- Maintain the National Oil Database, which compiles data for the program. The database manages information obtained from new and historical inspections and has streamlined the process for assisting facilities with compliance and equip inspectors with more efficient inspection processes.

- Deliver required annual oil spill inspector training to federal and state inspectors.

The EPA's responsibility to respond to inland oil spills within 12 hours cannot be delegated or shared with any other federal agency, state, or local government. The EPA accesses the Oil Spill Liability Trust Fund, administered by the U.S. Coast Guard, to obtain reimbursement funds for site specific oil spill response activities. In FY 2016, the EPA responded to approximately 110 oil spills across the nation.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,238.0 / -20.8 FTE) This decision focuses SPCC and FRP facility inspections on facilities that pose the highest risk, reduces specialized training opportunities for agency federal On Scene Coordinators, and reduces updates to regional Area Contingency Plans.

Statutory Authority:

The Clean Water Act, § 311 and the Oil Pollution Act.

Program Area: Operations and Administration

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	***$679.6***	***$583.0***	***$680.0***	***$97.0***
Environmental Program & Management	$304,456.9	$310,948.0	$301,001.0	($9,947.0)
Science & Technology	$71,332.8	$68,209.0	$68,339.0	$130.0
Building and Facilities	$37,184.2	$35,573.0	$33,377.0	($2,196.0)
Leaking Underground Storage Tanks	$785.2	$782.0	$785.0	$3.0
Hazardous Substance Superfund	$69,168.0	$74,137.0	$59,072.0	($15,065.0)
Total Budget Authority / Obligations	$483,606.7	$490,232.0	$463,254.0	($26,978.0)
Total Workyears	332.9	357.7	312.2	-45.5

Program Project Description:

The EPA's Facilities Infrastructure and Operations program in the Inland Oil Spill Response appropriation supports the agency's rent, transit subsidy, and facility operations. Funding is allocated for such services among the major appropriations for the agency.

FY 2018 Activities and Performance Plan:

The agency will continue to conduct rent reviews and verify monthly billing statements for its lease agreements with the General Services Administration and other private landlords. For FY 2018, the EPA is requesting $0.496 million for rent in the Inland Oil Spills appropriation.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$97.0) This change to fixed and other costs is an increase due to the recalculation of rent charging by appropriation.

Statutory Authority:

Federal Property and Administration Services Act; Public Building Act; Robert T. Stafford Disaster Relief and Emergency Assistance Act; Clean Water Act; Clean Air Act; Resource Conservation and Recovery Act (RCRA); Toxic Substances Control Act (TSCA); National Environmental Policy Act (NEPA); Community Environmental Response Facilitation Act (CERFA); Energy Policy Act of 2005; Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (the EPA's organic statute).

Program Area: Research: Sustainable Communities

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Inland Oil Spill Programs	***$862.0***	***$663.0***	***$503.0***	***($160.0)***
Science & Technology	$154,349.4	$139,709.0	$54,211.0	($85,498.0)
Leaking Underground Storage Tanks	$315.5	$319.0	$320.0	$1.0
Hazardous Substance Superfund	$13,622.3	$14,005.0	$5,655.0	($8,350.0)
Total Budget Authority / Obligations	$169,149.2	$154,696.0	$60,689.0	($94,007.0)
Total Workyears	460.3	476.3	265.1	-211.2

Program Project Description:

The EPA is the lead federal on-scene coordinator for inland oil spills and provides technical assistance, when needed, for coastal spills. The EPA is therefore charged with responsibilities for oil spill preparedness and response and associated research. The EPA's research, planned in concert with partner agencies (the U.S. Coast Guard, Department of the Interior, Department of Transportation, and Department of Commerce) supports the EPA's lead role in developing protocols for testing spill response products and agents.

The Sustainable and Healthy Communities (SHC) research program for inland oil spills, funded through the Oil Spill Liability Trust Fund,[2] provides federal, regional, state, and community decision-makers with analysis and tools to protect human and ecosystem health from the negative impacts of oil spills. The EPA is making a visible difference in communities by supporting local officials in their response to a spill. As a result of this research, oil spill responders can make better decisions on approaches and methods to reduce the spread and impact of coastal and inland oil spills, including pipeline and railway spills. Additionally, the EPA's remediation expertise is critical in addressing potential impacts to communities and their environmental resources associated with pipeline and railway oil spills.

In support of these response efforts, the EPA conducts research in support of the agency's National Contingency Plan (NCP) Product Schedule.[3] The NCP is used nation-wide by emergency responders and federal agencies in responding to oil spills. The EPA's role is to develop and evaluate response approaches involving bioremediation, dispersants, and other additives, and to assess impacts to surface water and groundwater, especially as they affect drinking water supplies. The EPA's Land and Emergency Management Program and Regional Offices rely on this research to provide testing procedures that inform cleanup decisions during an emergency spill response.

[2] http://www.uscg.mil/ccs/npfc/About_NPFC/osltf.asp.
[3] http://www2.epa.gov/emergency-response/national-contingency-plan-subpart-j.

Recent accomplishments include:

- **Developing an Oil Surface Washing Agent Protocol**: Surface Washing Agents (SWAs), also known as shoreline cleaning agents, are listed in the NCP and can be used following an oil spill event to enhance the removal of stranded oil from shoreline surfaces. The EPA has been developing a laboratory effectiveness test for SWA that will serve as a basis for proposed new listing criteria for the SWA products in the NCP.

- **Providing OLEM with Information on Biodegradability for Crude Oils and Dispersants:** EPA's research results in this area inform decision makers on how long surfactant chemicals can potentially persist in the environment after use in responding to an oil spill, thus supporting the agency's goal of protecting communities.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA's oil spill research will prioritize efforts. These efforts include:

- Developing or revising protocols to test oil spill control agents or products for listing on the National Contingency Plan (NCP) Product Schedule and conducting other research, as needed by the EPA's Emergency Management Program.
- Conducting studies on the effectiveness of bioremediation of petroleum-based oil, vegetable oil, and biodiesel.
- Researching dispersants' performance and behavior in deep water and arctic spills, in collaboration with the Department of the Interior's Bureau of Safety and Environmental Enforcement and Canada's Department of Fisheries and Oceans.

The EPA has established a standing subcommittee under the EPA's Board of Scientific Counselors (BOSC) for the SHC program to evaluate its performance and provide feedback to the agency. In addition, the EPA meets with the BOSC and Science Advisory Board (SAB) annually for input on topics related to research program design, science quality, innovation, relevance, and impact. The EPA will be advised on its strategic research direction as part of the review of the Research and Development program's recently-released Strategic Research Action Plans (StRAPs).

The EPA collaborates with the National Institutes of Health (NIH), National Science Foundation (NSF), Department of Energy (DOE), U.S. Department of Agriculture (USDA), and the White House's Office of Science and Technology Policy (OSTP) to assess research performance. The EPA supports the interagency Science and Technology in America's Reinvestment, Measuring the Effect of Research on Innovation, Competitiveness, and Science (STAR METRICS) efforts.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$160.0) This streamlines research to study the performance and behavior of oil dispersants in deep water and arctic spills as well as revised protocols for testing oil spill control agents pursuant to the National Contingency Plan Product Schedule.

Statutory Authority:

Oil Pollution Act; Clean Water Act, § 311.

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APPROPRIATION: State and Tribal Assistance Grants

Resource Summary Table

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants				
Budget Authority	$3,484,836.2	$3,611,473.0	$2,933,467.0	($678,006.0)
Total Workyears	5.7	0.0	0.0	0.0

Bill Language: STAG

For environmental programs and infrastructure assistance, including capitalization grants for State revolving funds and performance partnership grants, $2,933,467,000, to remain available until expended, of which—

(1) $1,393,887,000 shall be for making capitalization grants for the Clean Water State Revolving Funds under title VI of the Federal Water Pollution Control Act; and of which $863,233,000 shall be for making capitalization grants for the Drinking Water State Revolving Funds under section 1452 of the Safe Drinking Water Act: Provided, That notwithstanding section 603(d)(7) of the Federal Water Pollution Control Act, the limitation on the amounts in a State water pollution control revolving fund that may be used by a State to administer the fund shall not apply to amounts included as principal in loans made by such fund in fiscal year 2018 and prior years where such amounts represent costs of administering the fund to the extent that such amounts are or were deemed reasonable by the Administrator, accounted for separately from other assets in the fund, and used for eligible purposes of the fund, including administration:

Provided further, That for fiscal year 2018, notwithstanding the provisions of subsections (g)(1), (h), and (l) of section 201 of the Federal Water Pollution Control Act, grants made under title II of such Act for American Samoa, Guam, the commonwealth of the Northern Marianas, the United States Virgin Islands, and the District of Columbia may also be made for the purpose of providing assistance: (1) solely for facility plans, design activities, or plans, specifications, and estimates for any proposed project for the construction of treatment works; and (2) for the construction, repair, or replacement of privately owned treatment works serving one or more principal residences or small commercial establishments:

Provided further, That for fiscal year 2018, notwithstanding the provisions of such subsections (g)(1), (h), and (l) of section 201 and section 518(c) of the Federal Water Pollution Control Act, funds reserved by the Administrator for grants under section 518(c) of the Federal Water Pollution Control Act may also be used to provide assistance: (1) solely for facility plans, design activities, or plans, specifications, and estimates for any proposed project for the construction of treatment works; and (2) for the construction, repair, or replacement of privately owned treatment works serving one or more principal residences or small commercial establishments:

Provided further, That for fiscal year 2018, notwithstanding any provision of the Federal Water Pollution Control Act and regulations issued pursuant thereof, up to a total of $2,000,000 of the funds reserved by the Administrator for grants under section 518(c) of such Act may also be used for grants for training, technical assistance, and educational programs relating to the operation and management of the treatment works specified in section 518(c) of such Act:

Provided further, That for fiscal year 2018, funds reserved under section 518(c) of such Act shall be available for grants only to Indian tribes, as defined in section 518(h) of such Act and former Indian reservations in Oklahoma (as determined by the Secretary of the Interior) and Native Villages as defined in Public Law 92–203:

Provided further, That for fiscal year 2018, notwithstanding the limitation on amounts in section 518(c) of the Federal Water Pollution Control Act, up to a total of 2 percent of the funds appropriated, or $30,000,000, whichever is greater, and notwithstanding the limitation on amounts in section 1452(i) of the Safe Drinking Water Act, up to a total of 2 percent of the funds appropriated, or $20,000,000, whichever is greater, for State Revolving Funds under such Acts may be reserved by the Administrator for grants under section 518(c) and section 1452(i) of such Acts:

Provided further, That for fiscal year 2018, notwithstanding the amounts specified in section 205(c) of the Federal Water Pollution Control Act, up to 1.5 percent of the aggregate funds appropriated for the Clean Water State Revolving Fund program under the Act less any sums reserved under section 518(c) of the Act, may be reserved by the Administrator for grants made under title II of the Federal Water Pollution Control Act for American Samoa, Guam, the Commonwealth of the Northern Marianas, and United States Virgin Islands:

Provided further, That for fiscal year 2018, notwithstanding the limitations on amounts specified in section 1452(j) of the Safe Drinking Water Act, up to 1.5 percent of the funds appropriated for the Drinking Water State Revolving Fund programs under the Safe Drinking Water Act may be reserved by the Administrator for grants made under section 1452(j) of the Safe Drinking Water Act:

Provided further, That not less than 10 percent but not more than 20 percent of the funds made available under this title to each State for Clean Water State Revolving Fund capitalization grants and not less than 20 percent but not more than 30 percent of the funds made available under this title to each State for Drinking Water State Revolving Fund capitalization grants shall be used by the State to provide additional subsidy to eligible recipients in the form of forgiveness of principal, negative interest loans, or grants (or any combination of these), and shall be so used by the State only where such funds are provided as initial financing for an eligible recipient or to buy, refinance, or restructure the debt obligations of eligible recipients only where such debt was incurred on or after the date of enactment of this Act;

(2) $69,000,000 shall be to carry out section 104(k) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), including grants, interagency agreements, and associated program support costs: Provided, That not more than 25 percent of the amount appropriated to carry out section 104(k) of CERCLA shall be used for site

characterization, assessment, and remediation of facilities described in section 101(39)(D)(ii)(II) of CERCLA;

(3) $10,000,000 shall be for grants under title VII, subtitle G of the Energy Policy Act of 2005; and

(4) $597,347,000 shall be for grants, including associated program support costs, to States, federally recognized tribes, interstate agencies, tribal consortia, and air pollution control agencies for multi-media or single media pollution prevention, control and abatement and related activities, including activities pursuant to the provisions set forth under this heading in Public Law 104–134, and for making grants under sections 103 and 105 of the Clean Air Act for particulate matter monitoring and data collection activities subject to terms and conditions specified by the Administrator, of which: $33,358,000 shall be for carrying out section 128 of CERCLA; $6,739,000 shall be for Environmental Information Exchange Network grants, including associated program support costs; $12,470,000 of the funds available for grants under section 106 of the Federal Water Pollution Control Act shall be for State participation in national- and State-level statistical surveys of water resources and enhancements to State monitoring programs.

Program Projects in STAG
(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants (STAG)				
Infrastructure Assistance: Alaska Native Villages	$19,499.9	$19,962.0	$0.0	($19,962.0)
Brownfields Projects	$88,874.4	$79,848.0	$69,000.0	($10,848.0)
Infrastructure Assistance: Clean Water SRF	$1,350,884.4	$1,391,237.0	$1,393,887.0	$2,650.0
Infrastructure Assistance: Drinking Water SRF	$853,752.7	$961,592.0	$863,233.0	($98,359.0)
Infrastructure Assistance: Mexico Border	$10,345.6	$9,981.0	$0.0	($9,981.0)
Diesel Emissions Reduction Grant Program	$53,750.5	$49,905.0	$10,000.0	($39,905.0)
Targeted Airshed Grants	$9,934.4	$19,962.0	$0.0	($19,962.0)
Subtotal, State and Tribal Assistance Grants (STAG)	$2,387,041.9	$2,532,487.0	$2,336,120.0	($196,367.0)
Categorical Grants				
Categorical Grant: Nonpoint Source (Sec. 319)	$166,177.0	$164,601.0	$0.0	($164,601.0)
Categorical Grant: Public Water System Supervision (PWSS)	$100,104.1	$101,769.0	$71,238.0	($30,531.0)
Categorical Grant: State and Local Air Quality Management	$227,533.6	$227,785.0	$159,450.0	($68,335.0)
Categorical Grant: Radon	$8,114.2	$8,036.0	$0.0	($8,036.0)
Categorical Grant: Pollution Control (Sec. 106)				
Monitoring Grants	$18,838.3	$0.0	$12,470.0	$12,470.0

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Categorical Grant: Pollution Control (Sec. 106) (other activities)	$214,316.1	$230,367.0	$148,787.0	($81,580.0)
Subtotal, Categorical Grant: Pollution Control (Sec. 106)	$233,154.4	$230,367.0	$161,257.0	($69,110.0)
Categorical Grant: Wetlands Program Development	$13,562.2	$14,633.0	$10,243.0	($4,390.0)
Categorical Grant: Underground Injection Control (UIC)	$10,053.6	$10,486.0	$7,340.0	($3,146.0)
Categorical Grant: Pesticides Program Implementation	$12,841.3	$12,677.0	$8,874.0	($3,803.0)
Categorical Grant: Lead	$14,694.6	$14,022.0	$0.0	($14,022.0)
Categorical Grant: Hazardous Waste Financial Assistance	$98,994.1	$99,503.0	$69,652.0	($29,851.0)
Categorical Grant: Pesticides Enforcement	$17,845.0	$18,016.0	$11,050.0	($6,966.0)
Categorical Grant: Pollution Prevention	$5,417.7	$4,756.0	$0.0	($4,756.0)
Categorical Grant: Toxics Substances Compliance	$5,220.0	$4,910.0	$3,437.0	($1,473.0)
Categorical Grant: Tribal General Assistance Program	$67,888.7	$65,352.0	$45,746.0	($19,606.0)
Categorical Grant: Underground Storage Tanks	$1,495.4	$1,495.0	$0.0	($1,495.0)
Categorical Grant: Tribal Air Quality Management	$13,104.5	$12,805.0	$8,963.0	($3,842.0)
Categorical Grant: Environmental Information	$9,696.4	$9,628.0	$6,739.0	($2,889.0)
Categorical Grant: Beaches Protection	$9,487.0	$9,531.0	$0.0	($9,531.0)
Categorical Grant: Brownfields	$48,465.8	$47,654.0	$33,358.0	($14,296.0)
Categorical Grant: Multipurpose Grants	$20,642.7	$20,960.0	$0.0	($20,960.0)
Subtotal, Categorical Grants	$1,084,492.3	$1,078,986.0	$597,347.0	($481,639.0)
Congressional Priorities				
Congressionally Mandated Projects	$13,302.0	$0.0	$0.0	$0.0
Subtotal, Congressionally Mandated Projects	$13,302.0	$0.0	$0.0	$0.0
TOTAL, EPA	$3,484,836.2	$3,611,473.0	$2,933,467.0	($678,006.0)

Program Area: Categorical Grants

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$9,487.0***	***$9,531.0***	***$0.0***	***($9,531.0)***
Total Budget Authority / Obligations	$9,487.0	$9,531.0	$0.0	($9,531.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA's Beaches Protection program awards grants to eligible coastal states, territories, and tribes to monitor water quality at beaches and to notify the public, through beach advisories and closures, when water quality exceeds applicable standards.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. The EPA will encourage states to continue beach monitoring and notification programs.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$9,531.0) This funding change eliminates the Beaches Protection grant program, which is a mature, well-established program that can continue to be implemented at the local level.

Statutory Authority:

Clean Water Act; Beach Act of 2000.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$48,465.8***	***$47,654.0***	***$33,358.0***	***($14,296.0)***
Total Budget Authority / Obligations	$48,465.8	$47,654.0	$33,358.0	($14,296.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA Brownfields program works cooperatively with states, tribes, local governments, and other agencies to help communities oversee, plan, assess, and cleanup brownfield properties. State and Tribal response programs address contaminated sites that do not require federal action but need assessment and/or cleanup before they can be considered ready for reuse. This program allocates funding to states and tribes to establish core capabilities, enhance their response programs, and provide cleanup oversight based on the EPA's allocation methodology, while the agency's Brownfields Projects program awards competitive grants for Brownfields assessment, cleanup, revolving loans, and environmental job training to eligible entities which also may include states and tribes.

Approximately 104 million people (roughly 33 percent of the U.S. population) live within three miles of a Brownfield site that received EPA funding.[1] A recent study by the Oklahoma Department of Commerce showed the state's Brownfields program, in conjunction with the EPA and other funding sources, has leveraged over 10,000 jobs, increased retail sales taxes of more than $85 million on remediated sites and more than $260 million when bordering properties are included. Brownfields and bordering sites generated over $11.7 million in local sales taxes and $11.5 million in state sales taxes in 2015.[2]

In Wisconsin, a recent study indicated that the state Brownfields program, in conjunction with the EPA and other funding sources, has assessed or cleaned up 4,713 acres, and businesses built on brownfields have resulted in $1.77 billion in state tax revenues and local governments have gained $88.5 million in annual tax revenues. In addition, property values have increased 3.5 times following redevelopment, and the program has directly and indirectly created or retained 54,483 permanent Wisconsin jobs.[3]

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[1] U.S. EPA, Office of Land and Emergency Management Estimate 2015. Data collected includes: (1) site information as of the end of FY13; and (2) census data from the 2007-2013 American Community Survey. https://www.epa.gov/aboutepa/population-surrounding-12216-brownfield-sites-received-epa-funding

[2] Chiappe, Jon et.al. Oklahoma Department of Commerce. 2015. "The Economic Impact of Oklahoma's Brownfields Program."

[3] Kashian, Russ and Evans Paull. 2015. "The Economic and Fiscal Impact of Wisconsin's Brownfields Investments." University of Wisconsin Whitewater Fiscal and Economic Research Center.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will allocate funding support to approximately 160 state and Tribal response programs. Grant supported state and Tribal response programs will oversee the cleanup at approximately 26,032 properties making over 90,000 acres ready for reuse.

States and tribes may use categorical grant funding provided under this program in the following ways:

- Conducting site-specific activities, such as assessments and cleanups at brownfields sites;[4]
- Developing mechanisms and resources to provide meaningful opportunities for public participation;
- Developing mechanisms for approval of cleanup plans, and verification and certification that cleanup efforts are complete;
- Creating an inventory of brownfields sites;
- Capitalizing a Revolving Loan Fund for brownfields-related work;
- Developing a public record;
- Developing oversight and enforcement authorities, or other mechanisms and resources;
- Purchasing environmental insurance;
- Developing state and Tribal tracking and management systems for land use, institutional and engineering controls; and
- Conducting public education and outreach efforts to ensure that Tribal communities are informed and able to participate in environmental decision-making.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$14,296.0) This change in funding reduces cleanup oversight by states and tribes. The EPA will work with states and tribes to prioritize funds to establish core capabilities, enhance their response programs, and identify program efficiencies.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Small Business Liability Relief and Brownfields Revitalization Act, § 128.

[4] For more information, see Brownfields State & Local Tribal Information.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$14,694.6***	***$14,022.0***	***$0.0***	***($14,022.0)***
Total Budget Authority / Obligations	$14,694.6	$14,022.0	$0.0	($14,022.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA's Lead Paint Program is working to reduce the number of children with blood lead levels of five micrograms per deciliter or higher. The Lead program also works to reduce the disparities in blood lead levels between low-income children and non-low-income children.[5] The Lead Categorical Grant Program provides support to authorized states and Tribal programs that administer training and certification programs for lead professionals and contractors.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. Lead paint certification will continue under the Chemical Risk Review and Reduction program.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$14,022.0) This funding change eliminates the Categorical Grant: Lead Program.

Statutory Authority:

Toxic Substances Control Act (TSCA), §§ 401-412.

[5] Centers for Disease Control and Prevention. Fourth Report on Human Exposure to Environmental Chemicals, Updated Tables, (September 2012). Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. http://www.cdc.gov/exposurereport/.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$9,696.4***	***$9,628.0***	***$6,739.0***	***($2,889.0)***
Total Budget Authority / Obligations	$9,696.4	$9,628.0	$6,739.0	($2,889.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Funds provided under this categorical grant support the Environmental Information Exchange Network (EN) which is a critical component of the agency's strategy. The EN is a standards-based, secure approach for the EPA and its state, Tribal and territorial partners to exchange and share environmental data over the Internet. Through its use of technology and data standards, open-source software, shared services and reusable tools and applications, the EN, in tandem with the agency's E-Enterprise efforts, offers its partners tremendous potential for managing, accessing, and analyzing environmental data more effectively and efficiently. As a part of E-Enterprise it is a priority to further enhance portal compatibility and shared services provided by the EN. This will lead to improved decision making and reduced regulatory burden by making data more accessible, eliminating redundant data collection, resolving issues with data validation, streamlining processes, and avoiding development and operational costs for redundant IT systems and components.

EN grants provide funding to states, territories, federally recognized Indian tribes, and Tribal consortia to support their participation in the EN. These grants help EN partners acquire and develop the hardware and software needed to connect to the Network; use the EN to collect, report and access the data they need with greater efficiency; and integrate environmental data across programs. In collaboration with the EPA, the Environmental Council of the States (ECOS) agreed upon the EN as the standard approach for the EPA, state, tribe and territorial data sharing. The grant program has provided the funding to make this approach a reality.

The EPA plays a critical role in program planning, management and evaluation for the Exchange Network. Specifically, the EPA supports the Exchange Network and E-Enterprise governance which oversees strategic planning, administers the Network's grant program (approximately 155 grants), partners with tribes to expand Tribal participation in the Exchange Network and implements the Cross-Media Electronic Reporting Regulation. The EPA also conducts return on investment analyses on specific electronic data exchange projects in partnership with programs and Regional Offices.

FY 2018 Activities and Performance Plan:

In FY 2018, the Environmental Information programs and activities will continue focus on state, local, and Tribal partnerships in supporting government agencies' delivery of environmental

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protection. Under this strategy, the agency will continue implementing its business processes and systems to reduce reporting burden on states and regulated facilities, and improve the effectiveness and efficiency of environmental protection programs for the EPA, states, and tribes. EPA and states are making progress on implementing the E-Enterprise business strategy and will adjust schedules and prioritization to align with capacity. The EPA anticipates awarding 15 EN grants in FY 2018 that will assist states, tribes, and territories implement the following activities:

- Data Access and Availability: These activities create services and tools that make state or Tribal data available on demand to other partners. Providing data through Web services and application programming interfaces (APIs) helps facilitate the sharing of information with the public, with private sector entities, and among state, Tribal, and territorial agencies and the EPA. The development of an API and Web services approach, in collaboration with Exchange Network partners, advances the Network's Phase 2 goals of expanding access to environmental data and enhancing inter- and intra-partner data sharing. Emphasis will be placed on projects that develop Web services, APIs, and tools that support access, analysis and integration of environmental data. Grant activities may include mobile and desktop applications, executive and program dashboards and publishing environmental information to public sites.

- New EPA Reporting Data Flows: Grant projects will support developing and implementing new Exchange Network data flows that enable automated reporting to EPA systems (e.g., e-Permitting or NPDES).

- Partner Data Sharing: These activities support the partners' ability to share cross-state, cross-Tribal or state-Tribal data, such as institutional controls at contamination sites, data on cleanup sites, and datasets of national significance to tribes (e.g., open dumps).

- Virtual Exchange Services (VES) support for states, tribes and territories: This program supports Exchange Network Partners transitioning from using individually-operated nodes to leveraging the EPA-hosted VES. Moving to VES supports the transition to a cloud-based network infrastructure, which provides more cost-efficient ways for EN partners to manage nodes, thereby decreasing development and operational costs (including licensing, server, and administration costs). This new cloud-based model provides a simplified and standardized development environment, creates greater economies of scale and reduces the administration burden on partners.

- Sharing Cross-Media Electronic Reporting Rule (CROMERR) services and components: This supports state and Tribal adoption and implementation of a suite of CDX services that the EPA has centrally developed for CROMERR functions. Specific Shared Services include electronic signature for submissions from regulated entities, Copy of Record management and identity management within the registration process. States and tribes will use these services that are centrally hosted by the EPA, replacing individually developed system functions. The use of shared services will reduce states and tribes' time to prepare and review applications and develop systems, and the cost to develop, operate, and maintain CROMERR-compliant e-reporting systems.

- Support for the Exchange Network program and E-Enterprise business strategy through a cooperative agreement with ECOS under the associated program support cost authority (Public Law 113-76). This includes direct support to both Exchange Network and E-Enterprise joint governance, each of which represents a cross-section of the EPA, state and Tribal organizations. The cooperative agreement assists state, Tribal and territorial organizations in fulfilling the missions of both programs by providing programmatic, policy, technical and administrative support; promoting information-sharing amongst state/Tribal/territorial/federal partners; enhancing communication and outreach; and convening national user meetings.

The "National Environmental Information Exchange Network Grant Program Solicitation Notice" sets forth the process for awarding grant funding to states, tribes, and territories.[6] It is an annual guidance document that describes eligibility requirements, the process for application preparation and submission, evaluation criteria, award administration information, and post-award monitoring procedures.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$2,889.0) This focuses funding for states and tribes to maintain existing tools, services and capabilities. The EPA will work with states and tribes to target funds to core requirements while providing flexibility to address particular priorities.

Statutory Authority:

Reorganization Plan No. 3 of 1970, 84 Stat. 2086, as amended by Pub. L. 98–80, 97 Stat. 485 (codified at Title 5, App.) (EPA's organic statute); Appropriation Acts: FY 2002 (Public Law 107-73), FY 2003 (Public Law 108-7), FY 2004 (Public Law 108-199), FY 2005 (Public Law 108-447),FY 2006 (Public Law 109-54), FY 2007 (Public Law 110-5), FY 2008 (Public Law 110-161), FY 2009 (Public Law 111-8), FY 2010 (Public Law 111-88), FY 2011 (Public Law 112-10), FY 2012 (Public Law 112-74), FY 2013 (Public Law 113-6), FY 2014 (Public Law 113-76); and FY 15 (Public Law 113-235).

[6] Please see: https://www.epa.gov/exchangenetwork/exchange-network-grant-program.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$98,994.1***	***$99,503.0***	***$69,652.0***	***($29,851.0)***
Total Budget Authority / Obligations	$98,994.1	$99,503.0	$69,652.0	($29,851.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Hazardous Waste Financial Assistance Grants help states[7] implement the Resource Conservation and Recovery Act (RCRA). Through RCRA, the EPA and states protect human health and the environment by minimizing waste generation, preventing the release of millions of tons of hazardous wastes, and cleaning up land and water. Authorized states conduct the direct implementation of permitting, corrective action, and enforcement components of the RCRA hazardous waste management program.

This grant funding supports all 50 states and 6 territories. Currently, 48 states and 2 territories are authorized to implement the RCRA program. In addition, the EPA directly implements the RCRA program in the states of Iowa and Alaska. To ensure statutory requirements are successful, the EPA partners with state and local governments, as well as American businesses and non-governmental organizations, to significantly improve waste and material management practices.

FY 2018 Activities and Performance Plan:

In FY 2018, the agency (and authorized states) will:

- Issue and renew permits to a portion of the 6,600 hazardous waste treatment, storage and disposal (TSD) facilities. This includes working with industry, the public, and states to address issues related to management of hazardous waste through development and application of standards, permits, guidance, and training;

- Process permit modifications to keep pace with evolving business practices, technology, market conditions, and cleanup decisions;

- Update controls to encourage facilities to modernize technological systems, expand waste management capability, improve hazardous waste management practices, and make timely cleanup decisions;

[7] When appropriate, these grants also are used to support tribes in conducting hazardous waste work in Indian Country. For additional information, refer to: https://www.epa.gov/tribal/solid-and-hazardous-waste-indian-country-resource-conservation-and-recovery-act-rcra.

- Inspect facilities to ensure compliance and safety;

- Oversee cleanups at hazardous waste management facilities, and focus on completing cleanup of the 3,779 priority 2020 Baseline facilities;

- Oversee cleanups at high priority contaminated hazardous waste management facilities and return cleaned up property to productive use. This includes working with state partners to ensure that responsible parties conduct effective and efficient cleanups that are protective of human health and the environment, and reduce the burden on federal taxpayers;

- Draft implementation documents such as permits and orders, review site assessment plans and results, review remedy selection documents, oversee remedy implementation, oversee public participation, and track progress of cleanups;

- Continue to improve cleanup approaches, share best practices and cleanup innovations, such as RCRA FIRST,[8] and address issues of emerging science.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$29,851.0) This change in funding modifies timelines for reaching cleanup milestones, reviews of facility data, cleanup plans, permit modifications, and assistance to Tribal communities.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act, § 3011.

[8] For more information, visit: https://www.epa.gov/hw/toolbox-corrective-action-resource-conservation-and-recovery-act-facilities-investigation-remedy.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$20,642.7***	***$20,960.0***	***$0.0***	***($20,960.0)***
Total Budget Authority / Obligations	$20,642.7	$20,960.0	$0.0	($20,960.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

In FY 2016, this program provided $21 million for grants to states and tribes to assist with the implementation of high priority activities under established environmental statutes, complementing other funding programs.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. States can continue to fund work through the EPA's core grant programs and statutes. The agency will work with states to target funds to address their priorities.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$20,960.0) This funding change eliminates the Multipurpose Grants program.

Statutory Authority:

P-L. 114-113.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$166,177.0***	***$164,601.0***	***$0.0***	***($164,601.0)***
Total Budget Authority / Obligations	$166,177.0	$164,601.0	$0.0	($164,601.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Section 319 of the Clean Water Act (CWA) broadly authorizes states, territories, and tribes to use a range of tools to implement their Nonpoint Source Programs.[9] Grants under Section 319 are provided to states, territories, and tribes to help them implement their EPA approved Nonpoint Source Management Programs.

FY 2018 Activities and Performance Plan:

Resources for this program have been eliminated in FY 2018. The agency will continue to coordinate with the United States Department of Agriculture (USDA) on targeting funding, where appropriate, to address nonpoint sources.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$164,601.0) This funding change eliminates the Nonpoint Source grant program. There are funds for this type of work across government, and the agency will partner with USDA to target their efforts.

Statutory Authority:

Clean Water Act, § 319.

[9] For more information, see: https://www.cfda.gov

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$17,845.0***	***$18,016.0***	***$11,050.0***	***($6,966.0)***
Total Budget Authority / Obligations	$17,845.0	$18,016.0	$11,050.0	($6,966.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Pesticides Compliance Monitoring and Enforcement Cooperative Agreement Program supports pesticide product and user compliance with provisions of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through cooperative agreements[10] with states and tribes. The cooperative agreements support state and Tribal compliance and enforcement activities under FIFRA. Enforcement and pesticides program cooperative agreement guidance is issued to focus regional, state, and Tribal efforts on the highest priorities.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will prioritize and award state and Tribal pesticides cooperative agreements for implementing the compliance monitoring and enforcement provisions of FIFRA within our resource levels.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$6,966.0) This reduction in funding streamlines the pesticides compliance monitoring and enforcement cooperative agreement program. The EPA will work with state and tribes to target funds to core requirements while providing flexibility to address particular priorities.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).

[10] For additional information, refer to: http://www2.epa.gov/compliance/federal-insecticide-fungicide-and-rodenticide-act-state-and-tribal-assistance-grant.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$12,841.3***	***$12,677.0***	***$8,874.0***	***($3,803.0)***
Total Budget Authority / Obligations	$12,841.3	$12,677.0	$8,874.0	($3,803.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The purpose of the pesticide program implementation grants is to translate pesticide regulatory decisions made at the national level into results at the local level. Under the pesticide statutes, responsibility for ensuring proper pesticide use is in large part delegated to states and tribes. Grant resources allow states and tribes to be more effective regulatory partners.

The EPA's mission, as related to pesticides, is to protect human health and the environment from pesticide risk and to realize the value of pesticide availability by considering the economic, social, and environmental costs and benefits of the use of pesticides.[11] The agency provides grants to states, tribes, and other partners, including universities, non-profit organizations, other federal agencies, pesticide users, environmental groups, and other entities, as necessary, to assist in strengthening and implementing the EPA's pesticide programs. This STAG program focuses on areas such as worker safety activities (including worker protection and certification and training of pesticide applicators), protection of endangered species,[12] protection of water resources from pesticides, protection of pollinators, and promotion of environmental stewardship and Integrated Pest Management related activities. These agency activities are achieved through implementation of EPA statutes and regulatory actions by states and tribes.

The EPA supports implementation of Tribal pesticide programs through grants. Tribal program outreach activities support Tribal capacity to protect human health by reducing risks from pesticides in Indian country. This task is challenging given that certain aspects of Native Americans' lifestyles, such as subsistence fishing or consumption of plants that were not grown as food and possibly exposed to pesticides not intended for food use, may increase exposure to some chemicals or create unique chemical exposure scenarios. For additional information, please see http://www.epa.gov/pesticide-advisory-committees-and-regulatory-partners/tribal-pesticide-programs.

[11] Federal Insecticide, Fungicide, and Rodenticide Act, as amended January 23, 2004. Section 3(a), Requirement of Registration (7 U.S.C. 136a). Available online at http://www.epa.gov/opp00001/regulating/laws.htm.
[12] The Endangered Species Act of 1973, Sections 7(a)1 and 7 (a)2; Federal Agency Actions and Consultations, as amended (16 U.S.C. 1536(a)). Available at U.S. Fish and Wildlife Service, Endangered Species Act of 1973 internet site: http://www.fws.gov/endangered/laws-policies/section-7.html.

The agency also funds a multi-year grant in support of the State Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Issues Research and Evaluation Group, which provides common services to states and ensures the close coordination of states and the EPA on pesticide issues.

FY 2018 Activities and Performance Plan:

Worker Protection Standard and Certification and Training Program

Through the Certification and Training Program and the Worker Protection Standard, the EPA protects workers, pesticide applicators and handlers, employers, and the public from the potential risks posed by pesticides in their work environments. In FY 2018, the EPA will continue to provide assistance and grants to implement the Certification and Training Program and Worker Protection Standard, and to address changes to the federal regulations for these programs. In FY 2018, states, territories, and tribes will review and respond to the proposed changes to the Certification and Training regulations and begin to assess what changes to their certification programs may be needed when the changes to the Certification and Training rule are finalized. For worker protection, the states, territories, and tribes also will train their program and inspection staff on the final revisions to the Worker Protection Standard, conduct outreach and training programs, and plan for inspections under the new rule. See http://www.epa.gov/pesticide-worker-safety/how-epa-protects-workers-pesticide-risk for more information.

Endangered Species Protection Program

The Endangered Species Protection Program (ESPP) protects federally listed, threatened, or endangered animals and plants whose populations are threatened by risks associated with pesticide use.[13] The EPA complies with Endangered Species Act (ESA) requirements to ensure that its regulatory decisions will not likely jeopardize the continued existence of species listed as endangered and threatened, or destroy or adversely modify habitat designated as critical to those species' survival. The EPA will provide grants to states, tribes, and other partners, as described above, for projects supporting endangered species protection. Program implementation includes outreach, communication, education related to use limitations, review and distribution of endangered species protection bulletins, and mapping and development of endangered species protection plans. These activities support the agency's mission to protect the environment from pesticide risk.

Protection of Water Sources from Pesticide Exposure

Protecting the nation's water sources from possible pesticide contamination is another component of the EPA's environmental protection efforts. The EPA provides funding, through cooperative agreements, to states, tribes, and other partners to investigate and respond to water resource contamination by pesticides. Stakeholders and partners, including states and tribes, are expected to evaluate local pesticide uses that have the potential to contaminate water resources and take steps to prevent or reduce contamination where pesticide concentrations approach or exceed levels of concern.

[13] http://www.epa.gov/oppfead1/endanger/species-info.htm.

Integrated Pest Management

Within available resources, the EPA will continue to support risk reduction by providing assistance to promote the use of safer alternatives to traditional chemical pest control methods including Integrated Pest Management (IPM) techniques.[14] The EPA supports the development and evaluation of new pest management technologies that contribute to reducing both health and environmental risks from pesticide use.

Pollinator Health

The EPA will continue to work with state and Tribal agencies to promote the development of locally-based plans to help improve pollinator health. State pollinator protection plans in place in several states have been an effective communication and collaboration mechanism between stakeholders at the local level that can lead to reduced pesticide exposure and protection of honey bees, while maintaining the flexibility needed by growers. The EPA believes that these plans, developed through a robust stakeholder engagement process at the local level, serve as good models for enhanced local communication and also can help accomplish the EPA's overall goal of mitigating exposure of bees to acutely toxic pesticides.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,803.0) Due to this change, renewed focus will be placed on streamlining core activities and reducing duplication. The EPA will work with states and tribes to target funds to core requirements while providing flexibility to address particular priorities.

Statutory Authority:

Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA); Federal Food, Drug, and Cosmetic Act (FFDCA); Food Quality Protection Act (FQPA) of 1996; Endangered Species Act (ESA).

[14] For additional information, see http://www.epa.gov/pesp/.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$233,154.4***	***$230,367.0***	***$161,257.0***	***($69,110.0)***
Total Budget Authority / Obligations	$233,154.4	$230,367.0	$161,257.0	($69,110.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Section 106 of the Clean Water Act authorizes the EPA to provide federal assistance to states (including territories and the District of Columbia), tribes qualified under Clean Water Act Section 518(e), and interstate agencies to establish and maintain adequate programs for the prevention and control of surface and groundwater pollution from point and nonpoint sources. Prevention and control activities supported through these grants include providing National Pollutant Discharge Elimination System (NPDES) permits, conducting ambient water quality monitoring and assessment, listing impaired waters, developing water quality standards and Total Maximum Daily Loads (TMDLs), surveillance, and enforcement. Section 106 grants also may be used to provide support through an EPA contract, if requested by a state or tribe.

FY 2018 Activities and Performance Plan:

The Section 106 Grant Program supports prevention and control measures that improve water quality. In FY 2018, the EPA will focus on core statutory requirements while continuing to provide states and tribes with flexibility to best address their particular priorities.

Monitoring and Assessment:
The EPA is working with states to provide monitoring and assessment information to support multiple Clean Water Act programs in a cost-efficient and effective manner. The goal is to have scientifically defensible monitoring data that is needed to address priority problems at state, national, and local levels and to track national water quality improvements over time.

In FY 2018, the EPA will continue working with states and tribes to support their water quality monitoring programs. Monitoring Initiative funds for states and tribes will support the statistically valid National Aquatic Resource Surveys (NARS) of national and regional water conditions and the enhancement of state and Tribal monitoring programs. In FY 2018, the Monitoring Initiative will be funded at $12.5 million, with $5.9 million allocated for participation in the NARS and $6.6 million for monitoring program priority enhancements. Through the Monitoring and Assessment Partnership, the EPA will work with states to develop and apply innovative and efficient monitoring tools and techniques to optimize availability of high-quality data to support priority Clean Water Act program needs.

Review and Update Water Quality Standards:
States and authorized tribes will review and update their water quality standards as required by the Clean Water Act and the EPA regulation at 40 CFR part 131. The regulations place a focus on states and tribes keeping water quality criteria in their standards up-to-date to reflect the latest science. The EPA will work with tribes that want to establish water quality standards.

Develop Total Maximum Daily Loads:
The EPA will work with states and other partners to develop and implement TMDLs for Clean Water Act 303(d) listed impaired waterbodies as a tool for meeting water quality restoration goals. TMDLs focus on clearly defined environmental goals and establish a pollutant budget, which is then implemented via permit requirements and through local, state, and federal watershed plans and programs to restore waters. The EPA will work with states to facilitate accurate, comprehensive, and geo-referenced water quality assessment decisions made available to the public via the Assessment Total Maximum Daily Load Tracking and Implementation System. In addition, the EPA and states will implement a performance measure that looks more comprehensively at the 303(d) program by measuring the extent of state priorities addressed by TMDLs, alternative restoration plans, or protection plans.

Issue Permits:
The NPDES program requires point source dischargers to be permitted and pretreatment programs to control discharges from industrial and other facilities to the nation's wastewater treatment plants. The EPA will work with states to balance competing priorities, identify opportunities to enhance the integrity and effectiveness of NPDES permits, set schedules to address significant action items, and map out program revisions.

Conducting Compliance Monitoring and Enforcement:
The EPA will work with NPDES-authorized states to implement the 2014 Clean Water Act NPDES Compliance Monitoring Strategy (CMS). The NPDES CMS establishes national goals for allocation of inspection resources across all NPDES regulated entities in order to best protect water quality.

The EPA works with states on advanced technologies such as remote water monitoring sensors to collect discharge data and to more efficiently identify problem areas. The agency expects that these technologies will improve the EPA's and state's analytical capabilities and enhance the public's knowledge about the quality of their environment.

Currently, the EPA and states are implementing the NPDES Electronic Reporting Rule through the Integrated Compliance Information System.[15] Phase 1 of the rule was implemented in FY 2017 for NPDES Discharge Monitoring Reports and Phase 2 will begin cooperatively with our state partners in FY 2018. Also, in FY 2018, the EPA will work with additional states in the development of electronic reporting tools. For example, approximately 20 states currently use the EPA's electronic reporting tool to collect DMRs. This saves the states a significant amount of resources in development and operations and maintenance costs.

[15] For more information, refer to: https://www.epa.gov/compliance/npdes-ereporting.

Working with Tribal Water Pollution Control Programs:
In FY 2018, the EPA will work with Tribal programs on activities that address water quality and pollution problems on Tribal lands. Tribes will implement the *Clean Water Act Section 106 Tribal Guidance*, which forms a framework for tribes to establish, implement, and expand their Water Pollution Control Programs.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$69,110.0) This streamlines the Section 106 Pollution Control grant program. The EPA will work with states and tribes to target funds to core requirements while providing flexibility to address particular priorities.

Statutory Authority:

Clean Water Act, § 106.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$5,417.7***	***$4,756.0***	***$0.0***	***($4,756.0)***
Total Budget Authority / Obligations	$5,417.7	$4,756.0	$0.0	($4,756.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Pollution Prevention (P2) Categorical Grants program augments the counterpart P2 program under the Environmental Program and Management (EPM) account.

FY 2018 Activities and Performance Plan:

Resources and FTE have been eliminated for this program in FY 2018. Based on previous investments in P2 solutions made under this program/project, partners are expected to be able to continue to share best practices and seek additional pollution prevention solutions.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,756.0) This funding change eliminates the Categorical Grant: Pollution Prevention program in FY 2018.

Statutory Authority:

Pollution Prevention Act of 1990; Toxic Substances Control Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$100,104.1***	***$101,769.0***	***$71,238.0***	***($30,531.0)***
Total Budget Authority / Obligations	$100,104.1	$101,769.0	$71,238.0	($30,531.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Public Water System Supervision (PWSS) program provides grants to states and tribes with primary enforcement authority (primacy) to implement and enforce the National Primary Drinking Water Regulations under the Safe Drinking Water Act. These grants support the safety of the nation's drinking water resources. The states are the primary implementers of the national drinking water program and work with the public water systems, within their jurisdiction, to protect public health by achieving and maintaining compliance with drinking water rules.

The National Primary Drinking Water Regulations set forth health-based standards, monitoring, reporting and recordkeeping, sanitary survey, compliance tracking, and enforcement elements to ensure that the nation's drinking water supplies do not pose adverse health effects. The PWSS program supports the states' role in a federal/state partnership to ensure safe drinking water supplies to the public. States use these grant funds to fund drinking water program personnel who:

- Provide technical assistance to owners and operators of public water systems;
- Manage public water system data, facilitate electronic reporting of compliance monitoring data, and submit that data into the Safe Drinking Water Information System (SDWIS);
- Share sampling results with the public;
- Respond to violations;
- Certify laboratories;
- Conduct laboratory analyses;
- Conduct sanitary surveys (i.e., on-sight reviews conducted to determine and support a facility's capacity to deliver safe drinking water) and other site visits;
- Respond to questions from the public;
- Train and certify public water system operators; and
- Provide training and technical assistance to small system staff and management to build water system technical, managerial, and financial capacity.

Some states and tribes do not have primary enforcement authority. Funds allocated to the state of Wyoming, the District of Columbia, and Indian tribes without primacy are used to support direct

implementation activities by the EPA or for developmental grants to Indian tribes to develop capacity for primacy.[16]

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will work with states and tribes to target funds to core statutory requirements while providing states and tribes with flexibility to best address their particular priorities.

In FY 2018, the EPA will provide funds to support state and Tribal efforts to assist water systems in meeting existing drinking water regulations and in working to develop financial and managerial capacity needed to protect federal investments that remedy aging or inadequate infrastructure (e.g., pipe replacement to prevent failures in distribution systems; installation of treatment to remove harmful drinking water contaminants). The EPA will encourage states to use grant funds to focus, to the extent possible, on the most immediate challenges public water systems are facing today.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$30,531.0) This streamlines the Public Water System Supervision grant program. The EPA will work with states and tribes to target funds to core requirements while providing flexibility to address particular priorities.

Statutory Authority:

Safe Drinking Water Act, § 1443.

[16] For more information, see:
http://www.epa.gov/dwreginfo/public-water-system-supervision-pwss-grant-program
https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=cca066b833c552bdf3c9ff011e576c7f.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$8,114.2***	***$8,036.0***	***$0.0***	***($8,036.0)***
Total Budget Authority / Obligations	$8,114.2	$8,036.0	$0.0	($8,036.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA's non-regulatory radon program promotes public action to reduce the health risk from indoor radon. The EPA has assisted states and tribes through technical support and the State Indoor Radon Grants (SIRG) program, which provided categorical grants to develop, implement, and enhance programs that assess and mitigate radon risk. For over 29 years, the EPA's radon program has provided important guidance and significant funding to help states establish their own programs. The EPA supplemented grant dollars with technical support to transfer "best practices" among states that promote effective program implementation across the nation.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$8,036.0) This funding change eliminates the Radon Grant program.

Statutory Authority:

CAA Amendments of 1990; Radon Gas and Indoor Air Quality Research Act; Title IV of the SARA of 1986; TSCA, Section 6, Titles II and Title III (15 U.S.C. 2605 and 2641-2671); and IRAA, Section 306.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$227,533.6***	***$227,785.0***	***$159,450.0***	***($68,335.0)***
Total Budget Authority / Obligations	$227,533.6	$227,785.0	$159,450.0	($68,335.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

This program provides funding for state air programs, as implemented by multi-state, state, and local air pollution control agencies. Section 103 of the Clean Air Act (CAA) provides the EPA with the authority to award grants to a variety of agencies, institutions, and organizations, including the air pollution control agencies funded from the STAG appropriation, to conduct and promote certain types of research, investigations, experiments, demonstrations, surveys, studies, and training related to air pollution. Section 105 of the CAA provides the EPA with the authority to award grants to state and local air pollution control agencies to develop and implement continuing environmental programs for the prevention and control of air pollution, for the implementation of National Ambient Air Quality Standards (NAAQS) set to protect public health and the environment, and for improving visibility in our national parks and wilderness areas (Class I areas). The continuing activities, funded under Section 105, include development and implementation of emission reduction measures, development and operation of air quality monitoring networks, and a number of other air program activities. Section 106 of the CAA provides the EPA with the authority to fund interstate air pollution transport commissions to develop or carry out plans for designated air quality control regions.

FY 2018 Activities and Performance Plan:

In FY 2018, states will continue to be responsible for State Implementation Plans (SIPs) which provide a blueprint for the programs and activities that states carry out to attain and maintain the NAAQS and comply with visibility obligations. There are several events that trigger SIP obligations. For example, when the EPA promulgates a new or revises an existing NAAQS, affected states must update certain parts of their SIPs within three years. In addition, whenever EPA completes a designation or reclassification of a nonattainment area for a particular pollutant, an affected state must update their SIP within three years or 18 months, depending on the pollutant. In FY 2018, states will be reviewing their SIPs for implementing ozone standards revised in 2015. Also, affected states will be completing development or revision of attainment SIPs for areas designated nonattainment or reclassified to Serious for the 2006 and/or 2012 fine particle ($PM_{2.5}$) NAAQS and the 2010 sulfur dioxide (SO_2) NAAQS. States also have SIP obligations associated with visibility requirements, among other requirements identified in the CAA.

States will continue implementing the 2008 and 2015 8-hour ozone NAAQS, the 2008 lead NAAQS, the 2010 1-hour nitrogen dioxide (NO_2) NAAQS, and the 2010 1-hour SO_2 NAAQS. As

appropriate, states also will continue implementing the previous $PM_{2.5}$ and ozone NAAQS, including the 1997 annual and 24-hour $PM_{2.5}$ NAAQS, the 2006 24-hour $PM_{2.5}$ NAAQS, the 2012 annual $PM_{2.5}$ NAAQS, and the 1-hour and 1997 8-hour ozone NAAQS (through anti-backsliding requirements). SIP preparation for some pollutants is complicated due to the regional nature of air pollution that requires additional and more detailed modeling, refined emissions inventories, and greater stakeholder involvement. In FY 2018, states will prioritize activities needed to meet obligations for SIP development and in implementing their plans for the NAAQS and regional haze, adjusting schedules, and identifying streamlining options.

States will operate and maintain their existing monitoring networks at baseline levels. This is typically the largest part of a state's air program, supporting the quality and availability of data that states are required to submit. In 2015, the EPA finalized its review of the ozone NAAQS monitoring requirements, and extended the ozone monitoring season in 33 states and revised monitoring requirements for the Photochemical Assessment Monitoring Stations (PAMS). Any PAMS revised monitoring requirements are required to be operational in 2019. The EPA also finalized the Data Requirements Rule for the 2010 1-hour SO_2 NAAQS and states will continue operating new monitoring networks in certain locations in FY 2018.

The multi-pollutant monitoring site network (NCore) serves multiple objectives such as measuring long-term trends of air pollution, validating models, and providing input to health and atmospheric science studies. The EPA will provide assistance to states to operate this network of approximately 80 stations across the nation. Funding for priority updates to the NCore stations, which provide measurements for particles, including filter-based and continuous mass for $PM_{2.5}$; chemical speciation for $PM_{2.5}$; and PM_{10} - $PM_{2.5}$ mass, will be provided. Stations also measure gases such as carbon monoxide (CO), SO_2, NO_2, and ozone, and record basic meteorology. In FY 2018, the EPA will continue its review of the monitoring requirements supporting the NO_2 NAAQS. States and the EPA will adjust the schedule of any relocation of existing CO and $PM_{2.5}$ monitors where states have asked the EPA to help them address near road environments – a source of concentrated mobile source emissions. Data collected from monitoring sites, implemented under phases 1 and 2 of the near-road monitoring network, will be considered as part of this review for the determination of the appropriate network design.

In FY 2018, states with approved or delegated permitting programs will continue to implement permitting requirements as part of their programs. The EPA will continue to undertake actions required as a result of the Supreme Court's 2014 decision on the EPA's Tailoring Rule as well as the April 2015 D.C. Circuit Amended Judgment implementing the Supreme Court decision.

The development of a complete emission inventory is an important step in an air quality management process. Emission inventories are used to help determine significant sources of air pollutants and establish emission trends over time, target regulatory actions, and estimate air quality through dispersion and photo-chemical modeling. An emission inventory includes estimates of the emissions from various pollution sources in a specific geographical area. In FY 2018, states will continue to develop inventories and submit data to the EPA under an adjusted schedule for the next release of the National Emissions Inventory.

This program supports state and local agency capabilities to provide air quality forecasts for ozone and $PM_{2.5}$ that provide the public with information they can use to make daily lifestyle decisions to protect their health. This information allows people to take precautionary measures to avoid or limit their exposure to unhealthy levels of air quality. In addition, many communities use forecasts for initiating air quality "action" or "awareness" days, which seek voluntary participation from the public to reduce pollution and improve local air quality. Data will be updated on an adjusted schedule to sustain some ability of state and local agencies to provide important public health information to the public.

This program also supports state and local efforts to characterize air toxics problems and take measures to reduce health risks from air toxics, most often through implementation of EPA regulations. For example, this funding supports enforcement of new and revised New Source Performance Standards (NSPS) and Maximum Achievable Control Technology (MACT) standards for major sources (and area sources) by delegated air agencies. This funding also supports characterization work that includes collection and analysis of emissions data and monitoring of ambient air toxics. In FY 2018, funds for air toxic ambient monitoring also will support the National Air Toxics Trends Stations (NATTS), consisting of 27 air toxics monitoring sites operated and maintained by state and local air pollution control agencies across the country, including the associated quality assurance, data analysis, and methods support. States will balance the requirements of the different components of their monitoring enterprise in FY 2018.

Under the visibility requirements of the CAA, FY 2018 work includes base supports for states as they complete first planning period obligations for regional haze and work collaboratively to support SIP submissions associated with the second planning period. In addition, states will be implementing control measures required from their first planning period SIPs. Remaining first planning period obligations include submittal of progress report SIP revisions to ensure that states are making progress toward their visibility improvement goals. Comprehensive regional haze SIP revisions are due 2021 and states will initiate planning for that deadline in 2018.

In FY 2018, the EPA will transition the funding of the $PM_{2.5}$ monitoring network from Section 103 authority of the CAA, which provides 100 percent federal funding, to Section 105 authority of the CAA, which provides a maximum federal share of 60 percent.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$68,335.0) This refocuses support for continuing environmental state programs responsible for carrying out air quality implementation activities. The EPA will work with states to target funds to core requirements while providing flexibility to address particular priorities.

    - A major component of this program is air monitoring which is used for providing information to the public, states, and researchers; and
    - States will refocus resources to incorporate any new recommendations as a result

of updated NAAQS monitoring guidance.

Statutory Authority:

Clean Air Act, §§ 103, 105.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$5,220.0***	***$4,910.0***	***$3,437.0***	***($1,473.0)***
Total Budget Authority / Obligations	$5,220.0	$4,910.0	$3,437.0	($1,473.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Toxic Substances Control Act (TSCA) Compliance program builds environmental partnerships with states and tribes to strengthen their ability to address environmental and public health threats from toxic substances. This State and Tribal Assistance Grant is used to prevent or eliminate unreasonable risks to health or the environment and to ensure compliance with toxic substance regulations. The compliance monitoring activities conducted by the states will be a cooperative endeavor addressing the priorities of the federal Toxic Substances Control Act program and state issues.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will continue, within our resource levels, to award state and Tribal assistance grants to assist in the implementation of compliance and enforcement provisions of TSCA.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,473.0) This streamlines the Toxic Substances Compliance grants. The EPA will work with states and tribes to target funds to core requirements while providing flexibility to address particular priorities.

Statutory Authority:

Toxic Substances Control Act.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$13,104.5***	***$12,805.0***	***$8,963.0***	***($3,842.0)***
Total Budget Authority / Obligations	$13,104.5	$12,805.0	$8,963.0	($3,842.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

This program includes funding for Tribal air pollution control agencies and/or tribes. Through Clean Air Act (CAA) Section 105 grants, tribes may develop and implement programs for the prevention and control of air pollution and implementation of national primary and secondary National Ambient Air Quality Standards (NAAQS). Through CAA Section 103 grants, Tribal air pollution control agencies or tribes, colleges, universities, and multi-tribe jurisdictional air pollution control agencies may conduct and promote research, investigations, experiments, demonstrations, surveys, studies, and training related to ambient or indoor air pollution in Indian country.

FY 2018 Activities and Performance Plan:

Tribes will assess environmental and public health conditions in Indian country by developing emission inventories and, where appropriate, siting and operating air quality monitors. Tribes will continue to develop and implement air pollution control programs for Indian country to prevent and address air quality concerns. The EPA will continue to fund organizations for the purpose of providing technical support, tools, and training for tribes to build capacity to develop and implement programs at reduced levels. A key activity is to work to reduce the number of days in violation of the NAAQS. This program supports the agency's priority of building strong partnerships with individual tribes and with the National Tribal Air Association (NTAA), whose priorities include tribes' ability to collect and provide monitoring data and to protect the health of their Tribal members.

In FY 2018, the EPA will continue to implement the Tribal New Source Review (NSR) rule, under which tribes may opt to take an active role in implementation by developing a Tribal Implementation Plan (TIP), managing the program under the EPA's authority, or by actively participating in the permit review and outreach process.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,842.0) This streamlines federal support for CAA grants provided to tribes. The EPA will work with tribes to target funds to core requirements while providing flexibility to best address priorities.

Statutory Authority:

Clean Air Act, §§ 103, 105.

Categorical Grant: Tribal General Assistance Program
Program Area: Categorical Grants

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$67,888.7***	***$65,352.0***	***$45,746.0***	***($19,606.0)***
Total Budget Authority / Obligations	$67,888.7	$65,352.0	$45,746.0	($19,606.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

In calendar year 1992, Congress established the Indian Environmental General Assistance Program (GAP) which provides grants and technical assistance to tribes to cover the costs of planning, developing, and establishing Tribal environmental protection programs consistent with other applicable provisions of law administered by the EPA, providing for enforcement of such laws by tribes on Indian lands. The EPA works collaboratively with Tribal partners on mutually identified envrionmental and health priorities to achieve these aims. Funding provided under GAP is for the administrative, technical, legal, enforcement, communication, and outreach capacities tribes need to effectively administer environmental regulatory programs that the EPA may delegate to tribes. Please see http://www.epa.gov/aieo/gap.htm for more information.

Some uses of GAP funds include:

- Assessing the status of a tribe's environmental conditions;
- Developing appropriate environmental programs and ordinances;
- Developing the capacity to administer environmental regulatory programs that the EPA may delegate to a tribe;
- Conducting public education and outreach efforts to ensure that Tribal communities (including non-members residing in Indian country) are informed and able to participate in environmental decision-making;
- Promoting communication and coordination among federal, state, local, and Tribal environmental officials; and
- Promoting effective consultation activities on environmental actions and issues.

GAP supports Tribal capacity development through financial assistance to more than 530 Tribal governments and inter-tribal consortia. GAP has helped tribes receive 110 program delegations for tribes to administer a variety of programs across a number of statutes, including the Clean Water Act, Safe Drinking Water Act, and the Clean Air Act. Tribes also have developed their capacity to assist the EPA in implementing federal environmental programs in the absence of an EPA approved Tribal program through Direct Implementation Tribal Cooperative Agreements (DITCAs). In FY 2016, there were 16 active DITCAs supporting the EPA's direct implementation activities. Similarly, the EPA also has been able to certify 23 Tribal employees as inspectors for various federal compliance programs. GAP also supports tribes with the development of their waste

management programs with over 220 tribes having established Integrated Waste Management Plans.

FY 2018 Activities and Performance Plan:

In FY 2018, GAP grants will continue to assist Tribal governments in developing environmental protection program capacity to assess environmental conditions; using relevant environmental information to improve long-range strategic environmental program development planning; and developing environmental programs tailored to Tribal needs consistent with those long-range strategic plans.

The agency's "*Guidance on the Award and Management of General Assistance Agreements for Tribes and Inter-Tribal Consortia*"[17] establishes an overall framework for tribes and the EPA to follow in developing Tribal environmental program capacity under GAP. Specifically, the guidance requires strengthening joint strategic planning through EPA-Tribal Environmental Plans (ETEPs) to document long-range Tribal environmental program development priorities. These strategic planning documents inform funding decisions by linking ETEP goals to annual GAP assistance agreement work plans and providing a mechanism to measure Tribal progress in meeting their program development goals. In FY 2018, the EPA will continue to implement GAP under this national framework and expand the number of ETEPs. The EPA also will maintain an emphasis on trainings (internal and external) in FY 2018 to support nationally consistent GAP guidance interpretation and implementation.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$19,606.0) This reduces funding for tribes to develop the capacity to implement environmental protection programs in Indian country. The EPA will work with tribes to target funds to core requirements while providing flexibility to address particular priorities expressed in the ETEPs.

Statutory Authority:

Indian Environmental General Assistance Program Act.

[17] http://www.epa.gov/tp/GAP-guidance-final.pdf.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$10,053.6***	***$10,486.0***	***$7,340.0***	***($3,146.0)***
Total Budget Authority / Obligations	$10,053.6	$10,486.0	$7,340.0	($3,146.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The EPA's Underground Injection Control (UIC) grant program funds are allocated to federal, state, and Tribal government agencies that oversee underground injection activities, in order to prevent contamination of underground sources of drinking water from fluid injection, as established by the Safe Drinking Water Act.

The EPA provides financial assistance, in the form of grants, to states and tribes that have primary enforcement authority (primacy) to implement and manage UIC programs. Eligible Indian tribes that demonstrate an intent to achieve primacy also may receive grants for the initial development of UIC programs and be designated for "Treatment as a State" if their programs are approved. Where a jurisdiction does not have primacy, the EPA uses these funds for direct implementation of federal UIC requirements.

FY 2018 Activities and Performance Plan:

The UIC program manages more than 700,000 injection wells[18] across six well types to protect our groundwater resources. The requested funding supports implementation of the UIC program. The EPA directly implements UIC programs in nine states and two territories and shares responsibility in seven states and two tribes. The EPA also administers the UIC programs for all other tribes and for Class VI wells in all states.[19]

The EPA will continue its support of state oil and gas programs as they implement the UIC Class II program or assume responsibility for Class II programs.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[18] As represented in calendar year 2015 annual inventory.
[19] For more information, please visit:
https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=c1307f57fe8bec34f1a65660eff495a8&cck=1&au=&ck=
http://water.epa.gov/type/groundwater/uic/index.cfm

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,146.0) This streamlines the Underground Injection Control grant program. The EPA will work with states and tribes to target funds to core statutory requirements while providing flexibility to address particular priorities.

Statutory Authority:

Safe Drinking Water Act, § 1443.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$1,495.4***	***$1,495.0***	***$0.0***	***($1,495.0)***
Total Budget Authority / Obligations	$1,495.4	$1,495.0	$0.0	($1,495.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

Releases of petroleum from underground storage tanks (UST) can contaminate groundwater, the drinking water source for many Americans. The State and Tribal Assistance Grant (STAG) program provides funding to states[20] to bring UST systems into compliance with release prevention and release detection requirements.

STAG funds are used by states to fund such activities as: seeking state program approval to operate the UST program in lieu of the federal program; approving specific technologies to detect leaks from tanks; ensuring that tank owners and operators are complying with notification and other requirements; ensuring equipment compatibility; conducting inspections; and implementing operator training.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. States could elect to maintain core program work with state resources rather than federal.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$1,495.0) This funding change eliminates the Categorical Grant: Underground Storage Tanks program.

Statutory Authority:

Solid Waste Disposal Act of 1976, as amended by the Superfund Amendments and Reauthorization Act of 1986, § 2007(f); Energy Policy Act, § 9011.

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

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$13,562.2***	***$14,633.0***	***$10,243.0***	***($4,390.0)***
Total Budget Authority / Obligations	$13,562.2	$14,633.0	$10,243.0	($4,390.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Wetlands Program Development Grants (WPDGs) assist states, tribes, and local governments to build or enhance their wetland protection and restoration programs. The program's grants are used to develop new or refine existing state and Tribal wetland programs in one or more of the following areas: (1) monitoring and assessment; (2) voluntary restoration and protection; (3) regulatory programs, including Section 401 certification and Section 404 assumption;[21] and (4) wetland water quality standards.

States and tribes develop program elements based on their goals and resources. The grants support development of state and Tribal wetland programs that further the goals of the Clean Water Act and improve water quality in watersheds throughout the country. The grants are awarded on a competitive basis under the authority of Section 104(b)(3) of the Clean Water Act. Funding is split among the EPA Regional Offices according to the number of states and territories per Regional Office. Each Regional Office is required, by regulation, to compete the award of these funds to states, tribes, local governments, interstate agencies, and inter-tribal consortia.[22]

FY 2018 Activities and Performance Plan:

Resources will continue to assist states and tribes in strengthening wetland protection through documenting stresses or improvements to wetland condition, providing incentives for wetland restoration and protection, and developing regulatory controls to avoid, minimize, and compensate for wetland impacts.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

[21] State and Tribal assumption of Section 404 is an approach that can be useful in streamlining Section 404 permitting in coordination with other environmental and land use planning regulations. When states or tribes assume administration of the federal regulatory program, Section 404 permit applicants seek permits from the state or tribe rather than the federal government. States and tribes are in many cases located closer to the proposed activities and are often more familiar with local resources, issues, and needs. Even when a state assumes permitting under Section 404, the Corps of Engineers retains jurisdiction under Section 10 of the River and Harbors Act for permits regarding navigable waters.
[22] For more information, see http://water.epa.gov/grants_funding/wetlands/estp.cfm.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$4,390.0) This streamlines the Wetlands Program Development grant program. The EPA will work with states and tribes to target funds to core requirements while providing flexibility to address particular priorities.

Statutory Authority:

Clean Water Act, § 104(b)(3).

Program Area: State and Tribal Assistance Grants (STAG)

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$1,350,884.4***	***$1,391,237.0***	***$1,393,887.0***	***$2,650.0***
Total Budget Authority / Obligations	$1,350,884.4	$1,391,237.0	$1,393,887.0	$2,650.0
Total Workyears	4.6	0.0	0.0	0.0

Program Project Description:

The Clean Water State Revolving Fund (CWSRF) program capitalizes state revolving loan funds in all 50 states and Puerto Rico to finance infrastructure improvements for public wastewater systems and projects to improve water quality. The CWSRF is the largest source of federal funds for states to provide loans and other forms of assistance for water quality projects including construction of wastewater treatment facilities, water and energy efficiency projects, green infrastructure projects, and agricultural best management practices (BMPs). This program also includes a provision for set-aside funding for tribes to address serious wastewater infrastructure needs and associated health impacts. It also provides direct grant funding for the District of Columbia and territories. This federal investment is designed to be used in concert with other sources of funds to address water quality needs.[23] Additional tools are available to assist small and disadvantaged communities. The CWSRF program is a key component in the EPA's efforts to achieve innovative solutions to wastewater infrastructure needs and realize economic and environmental benefits that will continue to accrue for years in the future.

The revolving nature of the funds and substantial state contributions have greatly multiplied the federal investment. The EPA estimates that every federal dollar contributed thus far has resulted in close to three dollars of investment in water infrastructure.[24] As of June 2016, the CWSRF has offered 38,457 assistance agreements to eligible recipients, providing over $118.7 billion in affordable financing for a wide variety of wastewater infrastructure and other water quality projects.[25] In the past year alone, approximately $7.6 billion went to projects that are critical to the continuation of the public health and water quality gains throughout the nation.[26] The CWSRF program measures and tracks the average national rate at which available funds are loaned, assuring that the fund program expeditiously supports the EPA's water quality goals.

FY 2018 Activities and Performance Plan:

The Administration is requesting over $1.3 billion in FY 2018. The budget provides robust funding for critical drinking and wastewater infrastructure. These funding levels further the President's

[23] See http://www.epa.gov/cwsrf for more information.
[24] See https://www.epa.gov/sites/production/files/2016-12/documents/us16.pdf for more information
[25] Clean Water State Revolving Fund National Information Management System. US EPA, Office of Water, National Information Management System Reports: Clean Water State Revolving Fund (CWSRF). Washington, DC (As of June 30, 2016).
[26] Clean Water State Revolving Fund National Information Management System. US EPA, Office of Water, National Information Management System Reports: Clean Water State Revolving Fund (CWSRF). Washington, DC (As of June 30, 2016).

ongoing commitment to infrastructure repair and replacement and would allow States, municipalities, and private entities to continue to finance high priority infrastructure investments that protect human health. The budget includes $2.3 billion for the State Revolving Funds, a $4 million increase over the FY 2017 Annualized Continuing Resolution level.

This federal investment will continue to enable progress toward the nation's clean water needs and infrastructure priorities and will contribute to the long-term environmental goal of attaining designated uses. The EPA continues to work with states to meet several key objectives, such as:

- Linking projects to environmental results;
- Targeting assistance to small and underserved communities with limited ability to repay loans; and
- Ensuring the CWSRFs remain reliable sources of affordable funding.

The FY 2018 President's Budget requests that 10-20 percent of the total CWSRF funds made available to each state be used to provide additional subsidization to eligible recipients in the form of forgiveness of principal, negative interest loans, or grants (or any combination of these). The agency's request does not alter the subsidy provisions in Water Resources and Reform Development Act of 2014 (P.L. 113-121) requiring that subsidy be used to either support affordability or to implement a process, material, technique, or technology that addresses water or energy efficiency goals; mitigates stormwater runoff; or encourages sustainable project planning, design, and construction.

In addition to capitalizing the CWSRF, a portion of the appropriation also will provide direct grants to communities within the tribes and territories. These communities are in great need of assistance given that their sanitation infrastructure lags behind the rest of the country causing significant public health concerns. To ensure that sufficient resources are directed toward these communities that face additional challenges, the EPA continues to request a Tribal set-aside of two percent, or $30 million, whichever is greatest, of the funds appropriated in FY 2018. The EPA also continues to request a territories set-aside of 1.5 percent of the funds appropriated from the CWSRF for American Samoa, Guam, the Commonwealth of Northern Marianas, and the United States Virgin Islands.

The EPA requests the ability to use up to $2 million of the Tribal set-aside for training and technical assistance related to operation and management of Tribal wastewater treatment works. The EPA also requests the ability to use the Tribal and territorial set-asides to support planning and design of treatment works and for the construction, repair, or replacement of privately owned decentralized wastewater treatment systems serving one or more principal residences or small commercial establishments, authority similar to that already available to states. Expanded support for planning and design will protect the federal investment in wastewater infrastructure and ensure access to safe wastewater treatment for tribes and territories that face significant challenges with sanitation infrastructure. The ability for both the tribes and territories to construct, repair, or replace decentralized wastewater treatment systems will allow the flexibility that these communities require to provide wastewater infrastructure that is appropriate for the communities' unique circumstances.

The EPA will partner with states to ensure that the CWSRF continues to play an important role in promoting efficient system-wide planning; improvements in technical, financial, and managerial capacity; and the design, construction, and ongoing management of sustainable water infrastructure.

The EPA also continues to support the national implementation of the Clean Water State Revolving Fund (CWSRF) American Iron and Steel (AIS) requirement. Through technical assistance, market analysis, and stakeholder engagement, the AIS program administers the requirement for use of domestic iron and steel products in water infrastructure projects.

The SRFs also are complemented by $20 million included in the Water Infrastructure Finance and Innovation Act (WIFIA) program, through which the EPA will make direct loans to regionally or nationally significant water infrastructure projects.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$2,650.0) This increase funds the Clean Water State Revolving Fund program at the FY 2016 enacted level and results in more support for states to finance needed water infrastructure improvements.

Statutory Authority:

Title VI of the Clean Water Act; Title V of the Water Resources Reform and Development Act of 2014.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$853,752.7***	***$861,592.0***	***$863,233.0***	***$1,641.0***
FY 2017 CR Lead Infrastructure	$0.0	$100,000.0	$0.0	($100,000.0)
Total Budget Authority / Obligations	$853,752.7	$961,592.0	$863,233.0	($98,359.0)
Total Workyears	2.8	0.0	0.0	0.0

Program Project Description:

The EPA's Drinking Water State Revolving Fund (DWSRF) is designed to assist public water systems in financing the costs of drinking water infrastructure improvements needed to achieve or maintain compliance with Safe Drinking Water Act (SDWA) requirements and to protect public health. The 2011 Drinking Water Infrastructure Needs Survey and Assessment indicated a 20-year capital investment need of $384.2 billion for public water systems that are eligible to receive funding from state DWSRF programs. The capital investment need, based on the 2011 survey, included approximately 52,000 community water systems and 21,400 not-for-profit non-community water systems (including schools and churches).[27] The needs reflect costs for repairs and replacement of leaking transmission pipes, deteriorated storage and treatment equipment, and other projects required to protect public health and to ensure compliance with the SDWA.

To reduce public health risks and to help ensure safe and reliable delivery of drinking water nationwide, the EPA makes capitalization grants to states so that they can provide low-cost loans and other assistance to eligible public water systems and maintain robust drinking water protection programs. The program emphasizes that, in addition to maintaining the statutory focus on addressing the greatest public health risks first, states can utilize additional tools to assist small systems and those most in need on a per household basis according to state affordability criteria. States also are encouraged to utilize additional tools to assist systems most in need.

The DWSRF program provides communities access to critical low-cost financing and offers a limited subsidy to help utilities address long-term needs associated with water infrastructure. Most DWSRF assistance is offered in the form of loans which water utilities repay from the revenues they generate through the rates they charge their customers for service. Water utilities in many communities may need to evaluate the rate at which they invest in drinking water infrastructure repair and replacement to keep pace with their aging infrastructure, much of which may be approaching the end of its useful life.[28]

To protect public health and wellbeing, utilities must provide continuous access to safe drinking water. The delivery of safe drinking water is often taken for granted and is frequently undervalued,

[27] http://water.epa.gov/grants_funding/dwsrf/upload/epa816r13006.pdf.
[28] https://www.epa.gov/sites/production/files/2015-07/documents/epa816r13006.pdf.

which presents considerable challenges to the completion of infrastructure upgrades that are necessary to protect public health. More than 156,000 public water systems provide drinking water to the approximately 320 million persons in the U.S. More than 97 percent of these public water systems serve fewer than 10,000 persons.[29] While most small systems consistently provide safe, reliable drinking water to their customers, many small systems are facing a number of significant challenges in their ability to achieve and maintain system sustainability. The EPA is emphasizing attention to the needs of these small communities/systems while retaining state flexibility in the management of their funds. The EPA continues its small systems focus by working closely with state programs to improve public water system sustainability and public health protection for persons served by small water systems.

These approaches have resulted in high system compliance; 90 percent of community water systems (CWSs) met all applicable health-based standards, achieving the FY 2016 target. However, continuing this success in many small systems will be a challenge, given aging infrastructure, difficulties in complying with regulatory requirements, workforce shortages/high-turnover, increasing costs, and declining rate bases. In FY 2016, small community water system violations made up 94 percent[30] of the overall violations from all size systems. In addition, while the 87 percent target was exceeded, only 88 percent of the Indian Country population received drinking water that met all applicable health-based standards.

State Set-Asides

States have considerable flexibility to tailor their DWSRF program to their unique circumstances. This flexibility ensures that each state has the opportunity to carefully and strategically consider how best to achieve the maximum public health protection. For example, states may set aside and award funds for targeted activities that can help them implement and expand their drinking water programs. The four DWSRF set-asides[31] are: Small System Technical Assistance (up to 2 percent), Administrative and Technical Assistance[32] (up to 4 percent, $400,000 or 1/5th percent of the current valuation of the fund, whichever is greater), State Program Management (up to 10 percent), and Local Assistance and Other State Programs (up to 15 percent). Taken together, approximately 31 percent of a state's DWSRF capitalization grant may be set aside for activities other than infrastructure construction. These set asides enable states to improve water system operation and management, emphasizing institutional capacity as a means of achieving sustainable water system operations. Historically, the states have set aside an annual average of 16 percent of the funds awarded to them for program development, of which 4 percent is used to administer the program; however, over the past three years, states have increased their set-asides taken to around 20 percent.

The federal investment is designed to be used in concert with other sources of funds to address drinking water infrastructure needs. States are required to provide a 20 percent match for their capitalization grant. Some states elect to leverage their capitalization grants through the public debt markets to enable the state to provide more assistance. These features, coupled with the revolving fund design of the program, have enabled the states to provide assistance equal to 180 percent of

[29] http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/pivottables.cfm
[30] http://water.epa.gov/scitech/datait/databases/drink/sdwisfed/pivottables.cfm
[31] https://www.epa.gov/drinkingwatersrf/how-drinking-water-state-revolving-fund-works#tab-5
[32] https://www.congress.gov/bill/114th-congress/senate-bill/612/text

the federal capitalization invested in the program since its inception in 1997. In other words, for every one dollar the federal government invests in this program, the states, in total, have been able to deliver $1.80 in assistance to water systems. In addition, the DWSRF's rate of funds utilized (the cumulative dollar amount of loan agreements divided by cumulative funds available for projects) was 95 percent in 2016, exceeding its target of 89 percent.

National Set-Asides

Prior to allotting funds to the states, the EPA is required to reserve certain national level set-asides.[33] Two million dollars must, by statute, be allocated to small systems monitoring for unregulated contaminants to facilitate small water system compliance with the monitoring and reporting requirements of the Unregulated Contaminant Monitoring Regulation (UCMR). Historically, a three-year sampling period occurs within each five-year monitoring cycle. During the sampling period, fund utilization exceeds the annual appropriation of $2 million and the carry-over reserve funds from non-sampling years become essential to complete the small system monitoring efforts.

The EPA will reserve up to 2 percent, or $20 million, whichever is greater, of appropriated funds for Indian tribes and Alaska Native Villages. These funds are awarded either directly to tribes or, on behalf of tribes, to the Indian Health Service through interagency agreements. Additionally, the EPA will continue to set aside up to 1.5 percent for territories.[34]

In addition, the law[35] requires that none of the funds made available by a drinking water state revolving fund as authorized by Section 1452 of the Safe Drinking Water Act (42 U.S.C. 300j-12) shall be used for a project for the construction, alteration, maintenance, or repair of a public water system unless all of the iron and steel products used in the project are produced in the United States. The law provides further that the Administrator may retain up to 0.25 percent of the funds appropriated in this Act for the Clean Water and Drinking Water State Revolving Funds for carrying out the provisions described in the law for management and oversight of the requirements of this section.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA is requesting $863 million for the DWSRF to help finance critical infrastructure improvement projects to public drinking water systems. The budget provides robust funding for critical drinking and wastewater infrastructure. These funding levels further the President's ongoing commitment to infrastructure repair and replacement and would allow States, municipalities, and private entities to continue to finance high priority infrastructure investments that protect human health. The budget includes $2.3 billion for the State Revolving Funds, a $4 million increase over the FY 2017 Annualized Continuing Resolution level.

This request reflects the documented needs for drinking water infrastructure and the need to improve infrastructure in small communities and will help the programs reach more communities

[33] Safe Drinking Water Act Sections 1452(i)(1), 1452(i)(2), 1452(j), and 1452(o), as amended.
[34] For more information, please see: https://www.cfda.gov/index?s=program&mode=form&tab=step1&id=d33d92f2df290e0c2365599cb09f0669.
[35] Consolidated Appropriations Act, 2016, enacted December 16, 2015.

due to the revolving nature of the funds. The EPA will continue to foster its strong partnership with the states to provide small system technical assistance, with a focus on rule compliance, operational efficiencies, and system sustainability to ensure clean and safe water. In FY 2018, the EPA will continue its effort to build the capacity of local utilities and existing state programs to expand their contribution to the array of funding options to meet future infrastructure needs. The requested funding for this program will support critical infrastructure investments to rebuild and enhance America's drinking water infrastructure.

In FY 2018, appropriated DWSRF funds again will be allocated to the states in accordance with each state's proportion of total drinking water infrastructure need based on the 2015 Drinking Water Infrastructure Needs Survey. The EPA also has published data concerning the drinking water infrastructure needs of water systems serving tribes and Alaskan Native Villages. As directed by the SDWA, the EPA uses the results of the survey to set the state DWSRF allocations every four years. Also, there is a statutory requirement that each state and the District of Columbia receive no less than one percent of the allotment.

The EPA will continue to work to target a significant portion of SRF assistance to small and underserved communities with limited ability to repay loans. In FY 2018, the EPA will work with states to ensure not less than 20 and not more than 30 percent of a state's capitalization grant is provided as additional subsidization. The EPA encourages states to utilize subsidization to assist disadvantaged communities and sustainability efforts.

As a result of the EPA's efforts with states to fully utilize DWSRF funds available, unliquidated obligations (ULOs) decreased by 64 percent, or approximately $1.2 billion, from FY 2012 to FY 2016. In FY 2018, the EPA will continue to work with states with higher ULOs to address institutional obstacles in order to eliminate or minimize their ULO amounts.

In FY 2018, the DWSRF program will continue to implement the Clean Water and Drinking Water Infrastructure Sustainability Policy that focuses on promoting system-wide planning that helps align water infrastructure system goals; analyzing a range of infrastructure alternatives, including energy efficient alternatives; and ensuring that systems have the financial capacity and rate structures to construct, operate, maintain, and replace infrastructure over time. As part of that strategy, the federal dollars provided through the State Revolving Funds also will act as a catalyst for efficient system-wide planning, improvements in technical, financial, and managerial capacity; and the design, construction, and ongoing management of sustainable water infrastructure.

In FY 2018, the EPA is continuing emphasis on strengthening small system technical, managerial, and financial capability through the implementation of the Capacity Development Program, the Operator Certification Program, the Public Water System Supervision state grant program, and the Drinking Water State Revolving Fund. The Capacity Development Program establishes a framework within which states and water systems can work together to help these small systems achieve the SDWA's public health protection objectives. The State Capacity Development Programs are supported federally by the Public Water System Supervision state grant funds and the set-asides established in the Drinking Water State Revolving Fund. Since the 1996 Amendments, states have implemented a variety of activities to assist small systems with their compliance challenges and enhance their technical, managerial, and financial capacity.

The SRFs also are complemented by $20 million included in the Water Infrastructure Finance and Innovation Act (WIFIA) program, through which the EPA will make direct loans to regionally or nationally significant water infrastructure projects.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (+$1,641.0) This change funds the Drinking Water State Revolving Fund program at the FY 2016 enacted level and results in more support for states to finance needed water infrastructure improvements.

- (-$100,000.0) This change eliminates the one-time supplemental funding provided by appropriation in FY 2017. These funds were awarded to help upgrade water infrastructure in Flint, Michigan.

Statutory Authority:

Safe Drinking Water Act, § 1452.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$19,499.9***	***$19,962.0***	***$0.0***	***($19,962.0)***
Total Budget Authority / Obligations	$19,499.9	$19,962.0	$0.0	($19,962.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Alaska Rural and Native Village (ANV) program provides basic drinking water and sanitation infrastructure in vulnerable rural and native Alaska communities. The EPA's grant to the State of Alaska funds improvements and construction of drinking water and wastewater treatment infrastructure facilities in ANV communities. The program also supports training, technical assistance, and educational programs to improve the financial management and operation, and maintenance of drinking water and wastewater infrastructure systems.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. The State Revolving Funds are a source of infrastructure funding that can continue to fund water system improvements in Alaska. There also is potential for the Water Infrastructure Improvements for the Nation (WIIN) Act to provide support for small systems technical assistance.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$19,962.0) This funding change eliminates the federal funding for the Alaska Rural and Native Villages program.

Statutory Authority:

Safe Drinking Water Act Amendments of 1996, § 303; Clean Water Act, § 113a.

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$88,874.4***	***$79,848.0***	***$69,000.0***	***($10,848.0)***
Total Budget Authority / Obligations	$88,874.4	$79,848.0	$69,000.0	($10,848.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Brownfields program awards grants and provides technical assistance to help states, tribes, local communities, and other stakeholders involved in environmental revitalization and economic redevelopment to work together to plan, inventory, assess, safely cleanup, and reuse brownfields. Approximately 104 million people (roughly 33 percent of the U.S. population) live within three miles of a Brownfields site that received EPA funding.[36] As of April 2017, grants awarded by the program have led to over 67,000 acres of idle land made ready for productive use and over 124,300 jobs and $23.6 billion leveraged.[37]

Under this program, the EPA will provide funding for: 1) assessment cooperative agreements and Targeted Brownfields Assessments (TBAs); 2) cleanup cooperative agreements; 3) cooperative agreements for Revolving Loan Funds (RLF) and supplemental funding for existing, high-performing RLFs; 4) Environmental Workforce Development and Job Training (EWDJT) cooperative agreements; and 6) research, training, and technical assistance to communities for Brownfields-related activities, including Land Revitalization.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will build on current work to revitalize communities across the country by providing financial and technical assistance to assess, cleanup, and plan reuse at brownfield sites. The Brownfields program will continue to foster federal, state, Tribal, local, and public-private partnerships to return properties to productive economic use. In future years, the activities described below will leverage approximately 5,865 jobs and $1.1 billion in other funding sources.[38]

- Funding will support at least 77 assessment cooperative agreements (estimated $20.0 million) that recipients may use to inventory, assess, and conduct cleanup and reuse

[37] U.S. EPA, Office of Land and Emergency Management Estimate 2015. Data collected includes: (1) site information as of the end of FY13; and (2) census data from the 2007-2013 American Community Survey. https://www.epa.gov/aboutepa/population-surrounding-12216-brownfield-sites-received-epa-funding
[37] The EPA's ACRES database.
[38] U.S. EPA, Office of Land and Emergency Management Estimate. All estimates of outputs and outcomes are supported by the data that is entered by cooperative agreement recipients via the EPA's Assessment, Cleanup and Redevelopment Exchange System (ACRES) database.

planning at brownfields sites, as authorized under CERCLA 104(k)(2). Approximately 462 site assessments will be completed under these agreements.

- The EPA will provide $6.2 million for TBAs in up to 62 communities without access to other assessment resources or those that lack the capacity to manage a brownfields assessment grant. There is special emphasis for small and rural communities to submit requests for this funding to ensure equal access to brownfields assessment resources. These assessments will be performed through contracts and interagency agreements, as authorized by CERCLA 104(k)(2).

- Funding will support approximately 33 direct cleanup cooperative agreements (estimated $6.5 million) to enable eligible entities to clean up recipient owned properties as authorized under CERCLA 104(k)(3).

- The agency will provide $7 million for 14 new RLF cooperative agreements. The funding enables recipients to make loans and subgrants for the cleanup of brownfield sites and establish a sustainable RLF program as authorized under CERCLA 104(k)(3) and (4). Approximately 28 sites will be cleaned up under the agreements. Additionally, the agency will provide $7 million in supplemental funding to approximately 18 existing high performing RLF recipients. These supplemental awards will lead to approximately 36 additional sites cleaned up.

- EWDJT cooperative agreements (estimated $3.0 million) will provide funding for approximately 15 cooperative agreements as authorized under CERCLA 104(k)(6). This funding will provide environmental job training for citizens to take advantage of new jobs created as a result of brownfield assessment, cleanup, and revitalization in their communities. The FY 2018 funding request will lead to approximately 735 people trained and 510 placed in jobs.

- Funding also will support assessment and cleanup of abandoned underground storage tanks and other petroleum contamination found on brownfields properties (estimated $17.3 million) for up to approximately 8 TBAs and approximately 72 brownfields assessment, RLF and cleanup cooperative agreements, as authorized under CERCLA 104(k)(2) and (3). The Brownfields statute requires the program to select the highest ranked proposals. In order to meet this requirement, the EPA requests flexibility to use up to 25 percent of its CERCLA 104(k) funding to address petroleum contaminated sites versus the exact 25 percent identified by statute. This flexibility will allow the EPA to select the highest risk projects and meet the demand of the communities applying for the various brownfields grants. Hazardous substances account for approximately 68 percent of all brownfields funding requests in the past three years, while the demand for petroleum funding hovers around 32 percent.

- Funding also will support additional training, research, technical assistance cooperative agreements, interagency agreements, and contracts to support states, tribes, and communities (estimated $2.0 million) for both the Brownfields and Land Revitalization Programs and other assistance mechanisms, as authorized under CERCLA 104(k)(6).

- All estimates of outputs and outcomes are supported by the data that is entered by cooperative agreement recipients via the ACRES database and analyzed by the EPA. Maintenance of ACRES, focus on the input of high quality data, and robust analysis regarding program outcomes and performance will continue to be a priority during FY 2018.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$10,848.0) This change is a reduction in funding for TBAs, RLF grants, and cleanup grants.

Statutory Authority:

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Small Business Liability Relief and Brownfields Revitalization Act, §§ 101, 104, 107.

Diesel Emissions Reduction Grant Program
Program Area: State and Tribal Assistance Grants (STAG)

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$53,750.5***	***$49,905.0***	***$10,000.0***	***($39,905.0)***
Total Budget Authority / Obligations	$53,750.5	$49,905.0	$10,000.0	($39,905.0)
CA Emission Reduction Project Grants	$0.0	$0.0	$0.0	$0.0
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The Diesel Emissions Reduction Act (DERA) Grant Program has provided cost-effective emission reductions from existing diesel engines through engine retrofits, rebuilds, and replacements; switching to cleaner fuels; idling reduction; and other clean diesel strategies. The DERA program was initially authorized in Sections 791-797 of the Energy Policy Act of 2005 and reauthorized by the Diesel Emission Reduction Act of 2010.

From goods movement to building construction to public transportation, diesel engines are the modern-day workhorse of the American economy. Diesel engines are extremely efficient and power nearly every major piece of machinery and equipment on farms, construction sites, in ports, and on highways. As the agency's heavy-duty highway and nonroad diesel engines emissions standards came into effect in 2007 and 2008 respectively, new cleaner diesel engines started to enter the nation's fleet. However, today there are still more than 10 million engines in use that will continue to emit large amounts of nitrogen oxides and particulate matter. The EPA's DERA program promotes strategies to reduce these emissions and protect public health, by working with manufacturers, fleet operators, air quality professionals, environmental and community organizations, and state and local officials. While the DERA grants accelerate the pace at which dirty engines are retired or retrofitted, pollution emissions from the legacy fleet also will be reduced over time without additional DERA funding as portions of the fleet turnover and are replaced with new engines that meet modern emission standards. However, even with attrition through fleet turnover, the agency estimates that approximately one million old diesel engines would still remain in use in 2030.

Through FY 2013, the DERA program reduced the emissions of approximately 73,000 diesel vehicles, vessels or pieces of equipment, reducing NO_x by over 335,000 tons and PM by 14,700 tons. Over 450 million gallons of fuel were saved. Based on the EPA's experience to date, every $1 million of DERA program grants/loans successfully leveraged as much as $3 million in additional funding assistance. Retrofitting or replacing older diesel engines reduces particulate matter (PM) emissions up to 95 percent, smog-forming emissions, such as hydrocarbons (HC) and nitrogen oxide (NO_X), up to 90 percent, and greenhouse gases up to 20 percent in the upgraded vehicles with engine replacements. These projects have eliminated or will eliminate tens of thousands of tons of pollution from the air and are targeted in areas that are

disproportionately impacted by diesel emissions. According to these same estimates, every $1 spent retrofitting or replacing the oldest and most polluting diesel engines can lead to between $5 and $21 in health benefits, improving the health of our most vulnerable citizens.[39]

FY 2018 Activities and Performance Plan:

The EPA will continue to target its traditional discretionary funding to direct DERA grants and rebates to reduce diesel emissions in priority areas and areas of highly concentrated diesel pollution with a primary focus on ports and school buses. EPA estimates that about 39 million people in the U.S. currently live in close proximity to ports. These people can be exposed to air pollution associated with emissions from diesel engines at ports including particulate matter, nitrogen oxides, ozone, and air toxics, which can contribute to significant health problems—including premature mortality, increased hospital admissions for heart and lung disease, increased cancer risk, and increased respiratory symptoms – especially for children, the elderly, outdoor workers, and other sensitive populations.[40] School buses provide the safest transportation to and from school for more than 25 million American children every day. However, diesel exhaust from these buses has a negative impact on human health, especially for children who have a faster breathing rate than adults and whose lungs are not yet fully developed. Discretionary funding will be split into two categories. The first category allocates funds to a rebate program that was first established under DERA's 2010 reauthorization. Through the rebate mechanism, the agency will more efficiently and precisely target the awards toward improving children's health and turning over the nation's school bus fleet. In addition, this rebate mechanism can be used to provide funding directly to private fleets. The second category would allocate funds toward national grants focusing on areas with poor air quality, especially those impacted most severely by ports and goods movement. The EPA also will continue to track, assess, and report the results of DERA grants, such as numbers of engines, emissions benefits, and cost-benefit information.[41] Finally, the EPA will continue to provide diesel emission reduction technology verification and evaluation and provide that information to the public.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$39,905.0) This reduces the overall amount of discretionary DERA grant funding, directing DERA grants and rebates to reduce diesel emissions in priority areas of highly concentrated diesel pollution. The Volkswagen settlement includes an option to use trust funds as a voluntary match for DERA state and Tribal grants.

Statutory Authority:

Energy Policy Act of 2005, §§ 741, 791-797; Diesel Emissions Reduction Act of 2010.

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[39] Third Report to Congress: Highlights from the Diesel Emission Reduction Program, https://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100OHMK.pdf.
[40] EPA's National Port Strategy Assessment Report of 2016 https://www.epa.gov/ports-initiative/national-port-strategy-assessment
[41] List of all awards under DERA can be found at: http://www.epa.gov/cleandiesel/highlights.htm.

Infrastructure Assistance: Mexico Border
Program Area: State and Tribal Assistance Grants (STAG)

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$10,345.6***	***$9,981.0***	***$0.0***	***($9,981.0)***
Total Budget Authority / Obligations	$10,345.6	$9,981.0	$0.0	($9,981.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

The U.S.-Mexico Border Water Infrastructure program funds planning, design, and construction of water and wastewater treatment facilities along the border with all projects benefiting communities on the U.S. side of the border.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. The State Revolving Funds are a source of infrastructure funding that can continue to fund water system improvements in U.S. communities along the border.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$9,981.0) This funding change eliminates the Mexico Border Water Infrastructure program.

Statutory Authority:

Treaty entitled "Agreement between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area, August 14, 1983."

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
State and Tribal Assistance Grants	***$9,934.4***	***$19,962.0***	***$0.0***	***($19,962.0)***
Total Budget Authority / Obligations	$9,934.4	$19,962.0	$0.0	($19,962.0)
Total Workyears	0.0	0.0	0.0	0.0

Program Project Description:

In FY 2016, this program requested applications for $20 million in competitive grant funding to reduce air pollution in nonattainment areas that were ranked as the top five most polluted areas relative to annual ozone or $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS) as well as the top five areas relative to the 24-hour $PM_{2.5}$ NAAQS based on the highest design values greater than 35 micrograms per cubic meter. This program assisted air control agencies in developing plans, conducting demonstrations, and implementing projects in order to reduce air pollution in these nonattainment areas.

FY 2018 Activities and Performance Plan:

Resources have been eliminated for this program in FY 2018. States can continue to fund work through the EPA's core air grant programs and statutes.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$19,962.0) This funding change eliminates the Targeted Airshed Grants program.

Statutory Authority:

P-L. 114-113.

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Water Infrastructure Finance and Innovation 516

APPROPRIATION: Water Infrastructure Finance and Innovation Fund

Resource Summary Table

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Water Infrastructure Finance and Innovation Fund				
Budget Authority	$0.0	$20,000.0	$20,000.0	$0.0
Total Workyears	0.0	12.0	12.0	0.0

Bill Language: WIFIA

For the cost of direct loans and for the cost of guaranteed loans, as authorized by the Water Infrastructure Finance and Innovation Act of 2014, $17,000,000 to remain available until expended: Provided, That such costs, including the cost of modifying such loans, shall be as defined in section 502 of the Congressional Budget Act of 1974: Provided further, That these funds are available to subsidize gross obligations for the principal amount of direct loans, including capitalized interest, and total loan principal, including capitalized interest, any part of which is to be guaranteed, not to exceed $2,073,000,000.

In addition, fees authorized to be collected pursuant to sections 5029 and 5030 of the Water Infrastructure Finance and Innovation Act of 2014 shall be deposited in this account, to remain available until expended, for the purposes provided in such sections.

In addition, for administrative expenses to carry out the direct and guaranteed loan programs, notwithstanding section 5033 of the Water Infrastructure Finance and Innovation Act of 2014, $3,000,000, to remain available until September 30, 2019. Note.—A full-year 2017 appropriation for this account was not enacted at the time the budget was prepared; therefore, the budget assumes this account is operating under the Further Continuing Appropriations Act, 2017 (P.L. 114-254). The amounts included for 2017 reflect the annualized level provided by the continuing resolution.

Program Projects in WIFIA

(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Water Quality Protection				
Water Infrastructure Finance and Innovation	$0.0	$20,000.0	$20,000.0	$0.0
Subtotal, Water Infrastructure Finance and Innovation	$0.0	$20,000.0	$20,000.0	$0.0
TOTAL, EPA	$0.0	$20,000.0	$20,000.0	$0.0

Program Area: Water Quality Protection

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Water Infrastructure Finance and Innovation Fund	***$0.0***	***$20,000.0***	***$20,000.0***	***$0.0***
Total Budget Authority / Obligations	$0.0	$20,000.0	$20,000.0	$0.0
Total Workyears	0.0	12.0	12.0	0.0

Program Project Description:

The Nation is facing the challenge of finding sustainable financing for aging water infrastructure. Dependable, available drinking water and sanitation in communities relies on working, modern infrastructure, but leaking water collection and distribution systems, and inadequate drinking water and wastewater treatment continue to plague municipalities across the country. To help address this priority, Congress enacted the Water Infrastructure Finance and Innovation Act of 2014 (WIFIA).[1] The WIFIA program was designed to stimulate capital market investment, not supplant it, by structuring WIFIA loans in a way that makes investment in projects attractive to market participants.

The WIFIA program is authorized to provide direct loans and loan guarantees to cover up to 49 percent of eligible costs for drinking water and wastewater infrastructure projects of regional or national significance. The WIFIA program is designed to offer credit assistance with flexible terms in order to attract private participation, encourage new revenue streams for infrastructure investment, and allow public agencies to get more projects done. The WIFIA program requires a small appropriation compared to its potential loan volume. With $20 million in appropriations, the EPA could potentially provide approximately $1 billion in credit assistance, which would spur an estimated $2 billion in total infrastructure investment.[2] This makes the WIFIA program credit assistance a powerful new tool to help address a variety of water infrastructure needs.

Eligible assistance recipients include, amongst others, corporations and partnerships, municipal entities, and State Revolving Fund (SRF) programs. The WIFIA program will complement the existing SRF programs as an additional source of low-cost capital to help meet the United States' growing water infrastructure needs and address key priorities.

It is expected that entities with complex water and wastewater projects will be attracted to the WIFIA program and the EPA will work to provide assistance to a diverse set of projects.

[1] WIFIA is a subtitle within the Water Resources Reform and Development Act of 2014 (WRRDA)
[2] This approximation is based on notional calculations. Subsidy cost is determined on a loan-by-loan basis.

FY 2018 Activities and Performance Plan:

The FY 2018 request of $20 million includes the necessary funds to finance WIFIA drinking water and wastewater infrastructure projects (following the requirements of the Federal Credit Reform Act of 1990 and OMB Circulars A-11 and A-129).

While the WIFIA program provides expansive project eligibilities, particular project attributes will be emphasized in the project selection process. These attributes will be identified in the Notice of Funding Availability, published after appropriations, and may include attributes such as: the extent of private financing, the ability to serve regions with significant water resource challenges, the regional or national significance, the likelihood that the project can proceed at an earlier date due to WIFIA financing, and the extent to which the project uses new or innovative approaches, among others.

Of the total $20 million request to implement the WIFIA program, $3 million is for the EPA's management and operation administrative expenses, including contract support and associated payroll for 12 FTE. The EPA headquarters will manage the WIFIA program. The request level coupled with the requested fee expenditure authority allows the EPA to undertake the independent aspects of loan intake and origination; project technical evaluation, including credit review, engineering feasibility review, and loan term negotiation; risk management; portfolio management and surveillance; and loan servicing for an initial set of projects. These funds associated with the management and operation of the program will be available for two years.

The FY 2018 President's Budget also requests authority to use fee revenue as outlined in the Water Resources Reform and Development Act (WRRDA), Sections 5029(a), 5030 (b), and 5030(c). The EPA plans to collect fees in FY 2018. Fee revenue is for the cost of contracting with expert services such as financial advisory, legal advisory, and engineering firms. The requested WIFIA program fee expenditure authority would be in addition to the $3 million request for management and operations administrative expenses.

For the FY 2017 appropriated funds, the EPA issued a Notice of Funding Availability requesting prospective borrowers to submit Letters of Interest (LOI) on January 10, 2017. The EPA received 43 LOIs for direct loans by the April 10, 2017, deadline. The initial effort to evaluate project proposals will take place in FY 2017. Due diligence and underwriting activities will continue into FY 2018 with the expectation that funds will be obligated for water infrastructure projects in FY 2018.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- No change in program funding.

Statutory Authority:

Water Resources Reform and Development Act of 2014, Title V, Subtitle C; Further Continuing and Security Assistances Appropriations Act, 2017, P.L. 114-254.

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Program Area: Resource Conservation and Recovery Act (RCRA) **521**

RCRA: Waste Management 522

Environmental Protection Agency
FY 2018 Annual Performance Plan and Congressional Justification

APPROPRIATION: Hazardous Waste Electronic Manifest System Fund
Resource Summary Table
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Waste Electronic Manifest System Fund				
Budget Authority	$2,910.2	$3,667.0	$0.0	($3,667.0)
Total Workyears	7.6	7.9	7.9	0.0

Bill Language: E-Manifest

For necessary expenses to carry out section 3024 of the Solid Waste Disposal Act (42 U.S.C. 6939g), including the development, operation, maintenance, and upgrading of the hazardous waste electronic manifest system established by such section, $3,674,000, to remain available until expended: Provided, That the sum herein appropriated from the general fund shall be reduced as offsetting collections under such section 3024 are received during fiscal year 2018, which shall remain available until expended and be used for necessary expenses in this appropriation, so as to result in a final fiscal year 2018 appropriation from the general fund estimated at not more than $0: Provided further, That to the extent such offsetting collections received in fiscal year 2018 exceed $3,674,000, those excess amounts shall remain available until expended and be used for necessary expenses in this appropriation.

Program Projects in E-Manifest
(Dollars in Thousands)

Program Project	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Resource Conservation and Recovery Act (RCRA)				
RCRA: Waste Management	$2,910.2	$3,667.0	$0.0	($3,667.0)
Subtotal, RCRA: Waste Management	$2,910.2	$3,667.0	$0.0	($3,667.0)
TOTAL, EPA	$2,910.2	$3,667.0	$0.0	($3,667.0)

Sierra Club v. EPA 18cv3472 NDCA Tier 3/4 ED_002061_00157988-00526

Program Area: Resource Conservation and Recovery Act (RCRA)

(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	FY 2018 Pres Bud v. FY 2017 Annualized CR
Hazardous Waste Electronic Manifest System Fund	***$2,910.2***	***$3,667.0***	***$0.0***	***($3,667.0)***
Environmental Program & Management	$57,022.8	$58,986.0	$41,146.0	($17,840.0)
Total Budget Authority / Obligations	$59,933.0	$62,653.0	$41,146.0	($21,507.0)
Total Workyears	315.8	332.7	205.9	-126.8

Program Project Description:

Under the Resource Conservation and Recovery Act (RCRA), companies that ship hazardous waste must track and report those shipments. Currently, the estimated five million shipments of hazardous waste each year are tracked via a paper process. This creates a burden on companies, limits access to information, and increases the potential for errors.

The Hazardous Waste Electronic Manifest Establishment Act (e-Manifest Act, Public Law 112-195), enacted on October 5, 2012, requires the EPA to develop a fee-based electronic hazardous waste manifest system. The EPA estimates the e-Manifest system will reduce the burden associated with paper manifests by between 300,000 and 700,000 hours, saving state and industry users more than $75 million annually.[1] The e-Manifest system will provide better knowledge of waste generation and final disposition, enhanced access to manifest information, and greater transparency for the public about hazardous waste shipments.

In FY 2014, Congress established the "Hazardous Waste Electronic Manifest System Fund" to carry out the activities necessary to implement the e-Manifest program, including system development, rulemaking, and advisory committee establishment. Once this system is in place, the collected fees will support the continued development and operation of the program.

FY 2018 Activities and Performance Plan:

In FY 2018, the EPA will finalize and launch the e-Manifest system. To complete development and begin operation with sufficient resources, the EPA requests an upfront appropriation of $3.67 million. The agency will collect and deposit e-Manifest system user fees received in FY 2018 to reimburse the federal government for its upfront appropriation; this will result in a net appropriation of $0 by the end of the fiscal year. The EPA will utilize any excess collections for necessary program expenses.

[1] From a 2009 programmatic estimate, cited in *Hazardous Waste Management System; Modification of the Hazardous Waste Manifest System; Electronic Manifests; Final Rule*. 40 CFR § 260, 262, 263, 264, 265, and 271.

The agency continues to implement a modular approach to e-Manifest system development, utilizing agile software development best practices. This approach relies fundamentally on stakeholder input so that the production-ready system is familiar to users and meets their expectations. The EPA will continue to employ an agile, user-centric approach so that there is continuous improvement even after the system launches.

In FY 2018, the EPA plans to perform the following key activities:

- Deliver the e-Manifest system in June 2018 that accepts hybrid, electronic, and paper manifests.
- Engage industry, regions, and states to train users and stakeholders on the e-Manifest system and prepared them for system launch;
- Complete the final User Fee rule;
- Develop the appropriate accounting and financial reporting interfaces needed to collect and manage user fees and comply with the auditing requirements of the Hazardous Waste Electronic Manifest Act; and
- Convene the e-Manifest Advisory Board, consisting of state and industry stakeholders and IT experts, to provide input on system development and on the final user fee regulation.

A list of FY 2018 performance measures and targets is located in the FY 2018 Performance Measures tab.

FY 2018 Change from FY 2017 Annualized Continuing Resolution (Dollars in Thousands):

- (-$3,667.0 / -7.9 FTE) The EPA requests an upfront appropriation of $3.67 million that will net to $0 after reimbursing the federal government using collected e-Manifest system user fees. The upfront appropriation will cover necessary costs to implement and operate the e-Manifest program. The EPA will utilize any excess collections for necessary program expenses.

Statutory Authority:

Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act and the Hazardous Waste Electronic Manifest Establishment Act, 42 United States Code 6901 et seq. – Sections 3004, 3005, 3024, 8001.

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FY 2018 Performance Measures

Performance Measure	FY 2018 Provisional Target[1]	Unit
Air Quality		
(PM G18) Percentage of Annual Greenhouse Gas Emission Reports verified by EPA before publication.	10	Percent
(PM M9) Cumulative percentage reduction in population-weighted ambient concentration of ozone in monitored counties from 2003 baseline.	20	Percent Reduction
(PM M92) Cumulative percentage reduction in the number of days with Air Quality Index (AQI) values over 100 since 2003, weighted by population and AQI value.	85	Percent Reduction
(PM MM9) Cumulative percentage reduction in the average number of days during the ozone season that the ozone standard is exceeded in non-attainment areas, weighted by population.	73	Percent Reduction
(PM M91) Cumulative percentage reduction in population-weighted ambient concentration of fine particulate matter (PM-2.5) in all monitored counties from 2003 baseline.	33	Percent Reduction
(PM A01) Annual emissions of sulfur dioxide (SO2) from electric power generation sources.	3,000,000	Tons Emitted
(PM MM6) Total number of backlogged SIPs remaining.	100-200	Number of Backlogged SIPs
(PM MM7) Cumulative Percent of State Implementation Plans (SIPs) removed from the historical backlog.	84	Cumulative Percentage Removed
(PM M94) Percent of major NSR permits issued within one year of receiving a complete permit application.	78	Percent
(PM M95) Percent of significant Title V operating permit revisions issued within 18 months of receiving a complete permit application.	88	Percent
(PM M96) Percent of new Title V operating permits issued within 18 months of receiving a complete permit application.	75	Percent
(PM 001) Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline.	26	Percent Reduction
(PM 002) Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline.	55	Percent Reduction
(PM S01) Remaining US Consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth's protective ozone layer, measured in tons of Ozone Depleting Potential (ODP).	<1,520	ODP Tons
(PM R35) Level of readiness of radiation program personnel and assets to support federal radiological emergency response and recovery operations.	80	Percent
(PM R36) Average time before availability of quality assured ambient radiation air monitoring data during an emergency.	0.3	Days

[1] FY 2018 targets may be revised as a result of streamlining and efficiency improvements.

Performance Measure	FY 2018 Provisional Target[1]	Unit
Clean and Safe Waters		
(PM aa) Percent of population served by CWSs that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.	92	Percent
(PM apc) Fund utilization rate for the DWSRF.	89	Percent
(PM aph) Percent of community water systems that have undergone a sanitary survey within the past three years (five years for outstanding performance or those ground water systems approved by the primacy agency to provide 4-log treatment of viruses).	82	Percent
(PM apm) Percent of community water systems that meets all applicable health-based standards through approaches including effective treatment and source water protection.	90	Percent
(PM aps) Percent of Classes I, II and III salt solution mining wells that have lost mechanical integrity and are returned to compliance within 180 days, thereby reducing the potential to endanger underground sources of drinking water.	74	Percent
(PM apt) Number of Class V motor vehicle waste disposal wells (MVWDW) and large capacity cesspools (LCC) [approximately 23,640 in FY 2010] that are closed or permitted (cumulative).	28,590	Wells
(PM dw2) Percent of person months during which community water systems provide drinking water that meets all applicable health-based standards.	95	Percent
(PM pi1) Percent of population in each of the U.S. Pacific Island Territories (served by community water systems) that meets all applicable health-based drinking water standards, measured on a four-quarter rolling average basis.	80	Percent
(PM E) Percent of the population in Indian Country served by community water systems that receive drinking water that meets all applicable health-based drinking water standards.	87	Percent
(PM L) Number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained (cumulative).	4,146	Segments
(PM bpb) Fund utilization rate for the CWSRF.	95	Percent
(PM bpl) Percent of high-priority state NPDES permits that are issued in the fiscal year.	80	Percent
(PM bpv) Percent of high-priority EPA and state NPDES permits (including tribal) that are issued in the fiscal year.	80	Percent
(PM bpw) Percent of states and territories that, within the preceding 3-year period, submitted new or revised water quality criteria acceptable to the EPA that reflect new scientific information from the EPA or sources not considered in previous standards.	69.6	Percent
(PM bpx) Percent of areas associated with state-identified priority waters that are addressed by an EPA-approved TMDL or accepted plan or approach designed to achieve or maintain water quality standards.	35	Percent
(PM wq2) Remove the specific causes of water body impairment identified by states in 2002 (cumulative).	13,252	Causes
(PM wq3) Improve water quality conditions in impaired watersheds nationwide using the watershed approach (cumulative).	543	Watersheds
(PM 4E) In partnership with the U.S. Army Corps of Engineers, states, and tribes, achieve no net loss of wetlands each year under the Clean Water Act Section 404 regulatory program. ("No net loss" of wetlands is based on requirements for mitigation in CWA 404 permits and not the actual mitigation attained.)	No Net Loss	Acres

Performance Measure	FY 2018 Provisional Target	Unit
Land Cleanup		
(PM B29) Brownfield properties assessed.	1,300	Properties
(PM B32) Number of properties cleaned up using Brownfields funding.	130	Properties
(PM B33) Acres of Brownfields properties made ready for reuse.	5,500	Acres
(PM B34) Jobs leveraged from Brownfields activities.	7,000	Jobs
(PM B37) Billions of dollars of cleanup and redevelopment funds leveraged at Brownfields sites.	1.1	Dollars (Billions)
(PM CH2) Number of risk management plan inspections conducted.	175	Inspections
(PM HW0) Number of hazardous waste facilities with new or updated controls.	70	Facilities
(PM PCB) Number of approvals issued for polychlorinated biphenyl (PCB) cleanup, storage and disposal activities.	160	Approvals
(PM C1) Score on annual Core NAR.	75	Percent
(PM 137) Number of Superfund removals completed.	175	Removals
(PM 337) Percentage of all Federal Response Plan (FRP) inspected facilities found to be non-compliant which are brought into compliance.	60	Percent
(PM 338) Percentage of all Spill Prevention, Control and Countermeasure (SPCC) inspected facilities found to be non-compliant which are brought into compliance.	60	Percent
(PM 115) Number of Superfund remedial site assessments completed.	375	Assessments
(PM 151) Number of Superfund sites with human exposures brought under control.	8	Sites
(PM CA1) Percentage of RCRA corrective action facilities with human exposures to toxins under control.	94	Percent
(PM CA2) Percentage of RCRA corrective action facilities with migration of contaminated groundwater under control.	88	Percent
(PM CA5) Percentage of RCRA corrective action facilities with final remedies constructed.	70	Percent
(PM CA6) Percentage of RCRA corrective action facilities with corrective action performance standards attained.	33	Percent
(PM 112) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration.	7,000	Cleanups
(PM 113) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration in Indian country.	16	Cleanups
(PM 141) Number of Superfund sites with remedy construction completed.	11	Completions
(PM 152) Number of Superfund sites with contaminated groundwater migration brought under control.	11	Sites
(PM 170) Number of remedial action projects completed at Superfund sites.	95	Projects

Performance Measure	FY 2018 Provisional Target	Unit
(PM FF1) Percentage of Superfund federal facility sites construction complete.	83	Percent
(PM S10) Number of Superfund sites made ready for anticipated use site-wide.	40	Sites
(PM 5PQ) Percent of Tribes implementing federal regulatory environmental programs in Indian country.	21	Percent
(PM 5PR) Percent of Tribes conducting EPA approved environmental monitoring and assessment activities in Indian country.	50	Percent
Ensuring Safety of Chemicals		
(PM J11) Reduction in moderate to severe exposure incidents associated with organophosphates and carbamate insecticides in the general population.	30	Percent
(PM 012) Percent reduction of children's exposure to rodenticides.	75	Percent
(PM 011) Number of Product Reregistration Decisions	400	Decisions
(PM 091) Percent of decisions completed on time (on or before PRIA or negotiated due date).	99	Percent
(PM 10A) Annual percentage of lead-based paint certification and refund applications that require less than 20 days of EPA effort to process.	95	Percent
(PM 143) Percentage of agricultural acres treated with reduced-risk pesticides.	23	Percent
(PM 164) Number of pesticide registration review dockets opened.	0	Dockets
(PM 230) Number of pesticide registration review final work plans completed.	25	Work Plans
(PM 247) Percent of new chemicals or organisms introduced into commerce that do not pose unreasonable risks to workers, consumers, or the environment.	100	Percent
(PM 998) EPA's TRI program will work with partners to conduct data quality checks to enhance accuracy and reliability of environmental data.	600	Quality Checks
(PM C19) Percentage of CBI claims for chemical identity in health and safety studies reviewed and challenged, as appropriate, as they are submitted.	100	Percent
(PM 268) Percent of selected urban watersheds that exceed EPA aquatic life benchmark maximum concentrations for three key pesticides of concern (diazinon, chlorpyrifos and carbaryl).	0, 0, 0	Percent
(PM 269) Percent of selected agricultural watersheds that exceed EPA aquatic life benchmark maximum concentrations for two key pesticides of concern (azinphos-methyl and chlorpyrifos).	0, 0	Percent
(PM 240) Maintain timeliness of FIFRA Section 18 Emergency Exemption Decisions	45	Days
(PM 276) Percent of registration review chemicals with identified endangered species concerns, for which EPA obtains any mitigation of risk prior to consultation with DOC and DOI.	70	Percent
Enforcement and Compliance		
(PM 409) Number of federal inspections and evaluations.	9,500	Inspections/ Evaluations

Performance Measure	FY 2018 Provisional Target	Unit
(PM 410) Number of civil judicial and administrative enforcement cases initiated.	1,750	Cases
(PM 411) Number of civil judicial and administrative enforcement cases concluded.	1,500	Cases
(PM 412) Percentage of open consent decrees reviewed for overall compliance status.	75	Percent
(PM 078) Percentage of all Superfund statute of limitations cases addressed at sites with unaddressed past Superfund costs equal to or greater than $500,000.	100	Percent
(PM 285) Percentage of Superfund sites having viable, liable responsible parties other than the federal government where EPA reaches a settlement or takes an enforcement action before starting a remedial action.	99	Percent
(PM 400) Millions of pounds of air pollutants reduced, treated, or eliminated through concluded enforcement actions.	120	Million Pounds
(PM 402) Millions of pounds of water pollutants reduced, treated, or eliminated through concluded enforcement actions.	53	Million Pounds
(PM 405) Millions of pounds of hazardous and non-hazardous wastes reduced, treated, or eliminated through concluded enforcement actions.	150	Million Pounds
(PM 417) Millions of cubic yards of contaminated soil and groundwater media EPA has obtained commitments to clean up as a result of concluded CERCLA and RCRA corrective action enforcement actions.	140	Million Cubic Yards
(PM 404) Millions of pounds of toxic and pesticide pollutants reduced, treated, or eliminated through concluded enforcement actions.	1.7	Million Pounds
(PM 418) Percentage of criminal cases having the most significant health, environmental, and deterrence impacts.	45	Percent
(PM 419) Percentage of criminal cases with individual defendants.	75	Percent
(PM 420) Percentage of criminal cases with charges filed.	35	Percent
(PM 421) Percentage of conviction rate for criminal defendants.	85	Percent
Research		
(PM AC1) Percentage of planned research products completed on time by the Air and Energy research program.	100	Percent
(PM AC2) Percentage of planned research outputs delivered to clients for use in improving air quality.	100	Percent
(PM CS1) Percentage of planned research products completed on time by the Chemical Safety for Sustainability research program.	100	Percent
(PM CS2) Percentage of planned research outputs delivered to clients and partners to improve their capability to advance the environmentally sustainable development, use, and assessment of chemicals.	100	Percent
(PM HC1) Percentage of planned research products completed on time by the Sustainable and Healthy Communities research program.	100	Percent
(PM HC2) Percentage of planned research outputs delivered to clients, partners, and stakeholders for use in pursuing their sustainability goals.	100	Percent
(PM HS1) Percentage of planned research products completed on time by the Homeland Security research program.	100	Percent

Performance Measure	FY 2018 Provisional Target	Unit
(PM HS2) Percentage of planned research outputs delivered to clients and partners to improve their capabilities to respond to contamination resulting from homeland security events and related disasters.	100	Percent
(PM RA1) Percentage of planned research products completed on time by the Human Health Risk Assessment research program.	100	Percent
(PM RA2) Percentage of planned research outputs delivered to clients and partners for use in informing human health decisions.	100	Percent
(PM RA6) Number of regulatory decisions in which decision-makers used HHRA peer-reviewed assessments (IRIS, PPRTVs, exposure assessments and other assessments)	20	Number
(PM RA7) Annual milestone progress score for completing draft IRIS health assessments.	10	Score
(PM RA8) Annual progress score for finalizing IRIS health assessments.	5	Score
(PM SW1) Percentage of planned research products completed on time by the Safe and Sustainable Water Resources research program.	100	Percent
(PM SW2) Percentage of planned research outputs delivered to clients and partners to improve the Agency's capability to ensure clean and adequate supplies of water that support human well-being and resilient aquatic ecosystems.	100	Percent
Enabling and Support Programs		
(PM 052) Number of major EPA environmental systems that use the CDX electronic requirements enabling faster receipt, processing, and quality checking of data.	85	Systems
(PM 053) States, tribes and territories will be able to exchange data with CDX through nodes in real time, using standards and automated data-quality checking.	110	Users
(PM 999) Total number of active unique users from states, tribes, laboratories, regulated facilities and other entities that electronically report environmental data to EPA through CDX.	100,000	Users
(PM 35A) Environmental and business actions taken for improved performance or risk reduction.	196	Actions
(PM 35B) Environmental and business recommendations or risks identified for corrective action.	460	Recommen-dations
(PM 35C) Return on the annual dollar investment, as a percentage of the OIG budget, from audits and investigations.	160	Percent
(PM 35D) Criminal, civil, administrative, and fraud prevention actions.	87	Actions

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FY 2016 Annual Performance Report

Executive Overview

EPA's *FY 2016 Annual Performance Report* (APR) presents the environmental and program performance results the agency achieved in FY 2016 against the annual budget performance measures and targets established in its *FY 2016 Annual Performance Plan and Congressional Justification.* In compliance with requirements of the Government Performance and Results Act Modernization Act of 2010 (GPRAMA) and Office of Management and Budget implementing guidance, EPA's FY 2016 APR presents progress under the five goals, thirteen strategic objectives, and four cross-agency strategies established in the *FY 2014–2018 EPA Strategic Plan.* As illustrated in the performance management framework figure below, EPA analyzes annual performance results and progress toward longer-term strategic objectives, as an integral part of formulating and justifying agency resource requests.

Organization of the FY 2016 APR

EPA's FY 2016 APR is integrated throughout the *FY 2018 Annual Performance Plan and Congressional Justification.* Supplementing this Program Performance and Assessment section:

- The Introduction and Overview section provides EPA's mission statement and organizational structure;
- The Goal and Objective Overview section presents FY 2016 performance results along with trend data from prior years; and
- Appropriation Program/Project Fact Sheets include selected significant FY 2016 performance results as context for budget decisions.

This Program Performance and Assessment section (Tab 13) serves as the primary component of EPA's FY 2016 APR. Following this Executive Overview, it provides a detailed performance measure data table, which is organized by strategic goal along with associated strategic objectives and annual budget performance measures. The table summarizes long-term progress toward each strategic objective and presents results, including explanations for missed or exceeded targets, for each annual budget performance measure. Each strategic goal is introduced by a Goal-at-a-Glance overview, which provides high-level FY 2016 results and funding information. This section also includes a summary of progress longer term under each of EPA's four cross-agency strategies.

To supplement the *FY 2016 APR*, please refer to EPA's *FY 2016 Agency Financial Report (AFR),* which includes information on EPA's FY 2016 financial performance.

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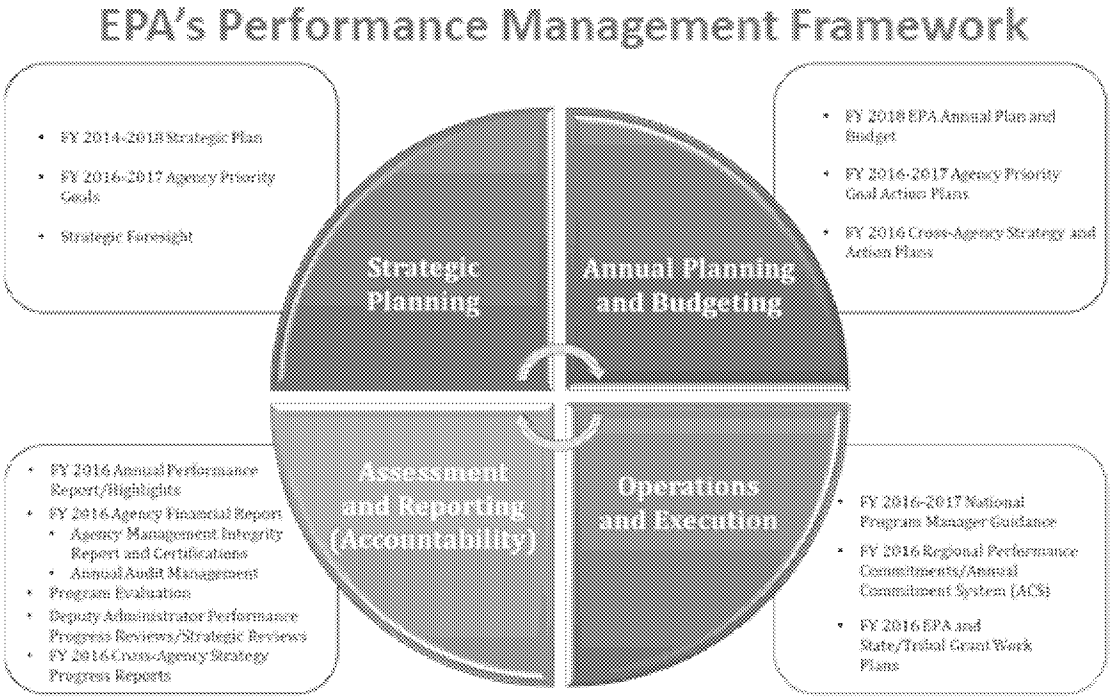


Performance Management in FY 2016

During FY 2016, EPA implemented a number of key initiatives to further strengthen its performance management. Notable efforts included:

Progress Toward Agency Priority Goals. Agency Priority Goals (APGs) designate priorities for agency attention where leadership wants to accomplish near-term achievements or results. EPA reports progress on APG milestones and targets at www.performance.gov. In FY 2016, EPA began work on five FY 2016–2017 APGs:

- Advance resilience in the nation's water infrastructure, while protecting public health and the environment, particularly in high-risk and vulnerable communities;
- Clean up contaminated sites to enhance the livability and economic vitality of communities;
- Assess and reduce risks posed by chemicals and promote the use of safer chemicals in commerce;
- Strengthen environmental protections through business process improvements enabled by joint governance and technology; and
- Reduce greenhouse gas emissions from cars and trucks

At the end of FY 2016, the agency was on track for three APGs and achieved mixed results for two. Key results achieved include:

- Providing resilience training and tools to nearly 4,200 operators of small water utilities to address aging infrastructure, significant weather events, and other issues;
- Cleaning up more than 9,600 additional sites and making them ready for anticipated use;
- Completing more than 1,000 chemical assessments related to pesticides and commercially available chemicals;
- Working with state and tribal partners through E-Enterprise for the environment to create web-based mechanisms and mobile phone applications which increase access to information and reduce regulatory compliance and reporting burden; and
- Completing 136 confirmatory tests on emissions and fuel consumption for light-duty vehicles;

EPA faced challenges, however, in completing chemical assessments. The agency did not complete any Toxic Substances Control Act (TSCA) assessments of existing chemicals in FY 2016, as the program's emphasis shifted to implementing the new requirements and timelines for chemical risk evaluation established under the TSCA amendments enacted in June 2016. The agency will use the tools in the new law to ensure the safety of chemicals in or entering the marketplace. Other chemical assessments under this APG, however, were on track.

Contributions to Cross-Agency Priority Goals. Cross-Agency Priority (CAP) Goals are designed to overcome barriers and achieve better performance than one agency can achieve on its own. The President's Management Council, comprising agency Chief Operating Officers, assessed progress on a monthly basis and included EPA's Acting Deputy Administrator's active engagement in FY 2016. Updates on government-wide CAP goals are available at www.performance.gov. EPA participated in most of the 15 CAP goals, including the 8 CAP goals set to achieve the most pressing management priorities within the federal government—such as better customer service, smarter IT, and expanding shared services across federal agencies—and the CAP goal to modernize the federal infrastructure permitting and review process for major infrastructure projects. Under the People and Culture CAP goal, for example, EPA worked with the Office of Personnel Management to add EPA-specific, employee-inspired questions in the FY 2016 Employee Viewpoint Survey and achieved its highest-ever response rate. Notably, EPA's Employee Engagement Index increased by four percentage points, one of the highest improvements for any large federal agency.

Introduced Enterprise Risk Management Through Redesigned Strategic Reviews. EPA redesigned its FY 2016 strategic reviews by implementing a new, structured approach that:

- Focused on risks, challenges, and opportunities and actions the agency might take to address them;
- Aligned strategic reviews with agency internal control reviews; and
- Expanded the scope of the strategic reviews to include, for the first time, EPA's mission-support and research programs.

This effort laid the groundwork for developing EPA's Enterprise Risk Management Program. As a result of the strategic reviews, agency senior leaders identified 69 risks impeding progress toward agency strategic goals and objectives. They then ranked the risks and identified the top five enterprise risk areas—human resources, information technology, information management, acquisitions/contracting, and state/tribal program implementation and EPA oversight—which were the focus of discussion at an agency-wide FY 2016 Strategic Review Midyear Senior Leadership Meeting. The agency established co-champions and implementation teams to identify short- and longer-term actions EPA can take to mitigate the most critical enterprise-level risks. Results of these efforts will inform development of the *FY 2018-2022 EPA Strategic Plan* and annual planning and budget decisions for FY 2018-FY 2019.

Streamlined End-of-Year Performance Reporting and Analysis. In FY 2016, as a result of a June 2015 Lean event, the agency completed implementation of a streamlined end-of-year data gathering, analysis, and communication process to increase the value of performance analysis and products to inform agency decision making. Metrics tracked over 8 months indicate that, as compared to the agency's previous end-of-year process, steps involved in data gathering decreased by 15 percent and days by 50 percent; steps involved in analysis decreased by 33 percent and days by 60 percent; and steps involved in producing the APR decreased by 44 percent and days by 46 percent. Overall, customer satisfaction with the end-of-year process improved by 54 percent.

Implemented First Year of Two-Year National Program Manager Guidance. EPA implemented the first year of the new 2-year National Program Manager (NPM) Guidance, advancing a new era of state, local, tribal, and international partnerships—a cross-agency strategy in the *FY 2014-2018 EPA Strategic Plan*. EPA conducted an on-line assessment of the key changes for early engagement and flexibilities and analyzed agency and state feedback, which was largely positive. The results informed development of the Technical Guidance on the FY 2018-2019 NPM Guidance and Annual Commitment Process, which was issued in FY 2016. EPA also published *FY 2017 Exceptions-based Addendums to the FY 2016-2017 NPM Guidances*, which included only 39 key changes and maintained the integrity of the 2-year guidance process, consistent with the recommendations of the NPM Guidance/National Environment Performance Partnership System (NEPPS) Workgroup composed of state, regional, and national program representatives.

Piloted Strategic Foresight Project. EPA's Offices of the Chief Financial Officer and Science Advisor convened an agency-wide Strategic Foresight Lookout Panel. The Panel identified eight priority emerging issues and actionable recommendations from more than 80 topics to improve the agency's planning and decision-making. EPA also developed a Community of Practice of more than 550 members to build agency capacity and reinvigorate foresight as an integral element of strategic and annual planning, budgeting, and program management. This pilot responded to National Academy of Science, Science Advisory Board, and National Advisory Council for Environmental Policy and Technology recommendations to engage in strategic foresight to anticipate future environmental problems and build EPA's resiliency in light of rapid technological change. The pilot also aligns with government-wide efforts to incorporate strategic foresight as a component of strategic and annual planning and analysis and enterprise risk management.

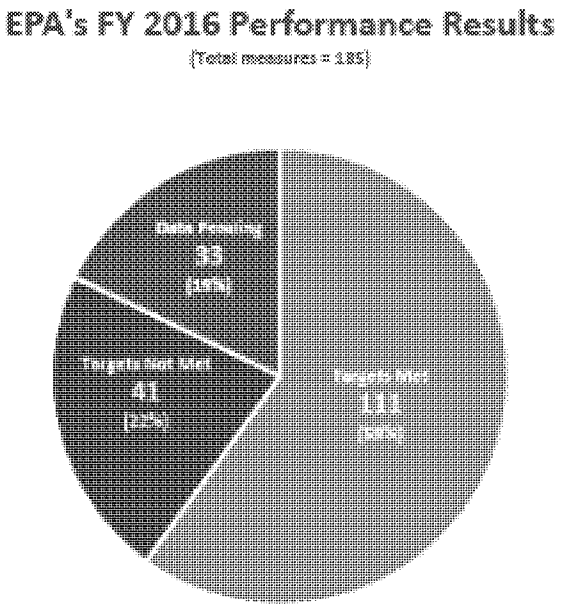
Evidence and Evaluation

Summaries of program evaluations completed during FY 2016 and other evidence use are available at http://www.epa.gov/planandbudget/fy-2016-program-evaluations. Program evaluations and other evidence help provide the information EPA needs to ensure that its programs are meeting their intended outcomes and allow the agency to support more effective and efficient operations. By assessing how well a program is working and why, a program evaluation can help EPA identify activities that benefit human health and the environment, provide the roadmap needed to replicate successes, and identify areas needing improvement. This is particularly important for fostering transparency and accountability.

FY 2016 Performance Data

In its *FY 2016 Annual Performance Plan and Congressional Justification,* EPA committed to 185 annual performance measures/targets. These performance measures/targets and EPA's results are presented in the following table, which includes explanations for missed targets and other results. EPA reviews annual results in terms of long-term performance, and will carefully consider its FY 2016 results and adjust its program strategies and approaches accordingly.

FY 2016 Performance Measure Results



As of December 31, 2016, data are available for 152 of the 185 FY 2016 budget performance measures/targets.[1] The agency met 111 of the performance measures, 73 percent of the performance measures for which data are available. Working with state and local governments, tribes, federal agencies, businesses, and industry leaders, EPA made significant progress toward the long-term strategic goals and objectives established in its Strategic Plan.

Despite its best efforts, however, the agency missed 41 of its FY 2016 performance measures/targets. There are a number of reasons for missed targets, including an unexpected demand for resources or competing priorities; the impact of a changing workforce; the effect of declining resources available for the agency's state, tribal, and local government partners; and other factors. As an integral part of its performance management process, EPA will continue to regularly review its performance, analyze results, and adjust FY 2017 and FY 2018 programmatic approaches and targets as necessary.

[1] Of EPA's 185 FY 2016 performance measures, 25 measures fall under the agency's enabling and support programs (including the Offices of Administration and Resources Management, Environmental Information, and Inspector General) and the Office of Research and Development. These measures are not reflected in the "Goal-at-a Glance" summaries which follow for each of EPA's five strategic goals.

Because final end-of-year data for some measures are not yet available, EPA is not able to report on 33 of its 185 performance measures. Often environmental results do not become apparent within a fiscal year, and assessment is a longer-term effort requiring information over time. Extensive quality assurance/quality control processes can also delay the reporting of performance data. EPA relies heavily on performance data obtained from state, tribal, and local agencies, all of which require time to collect and review for quality. Data lags may also result when reporting cycles do not correspond with the federal fiscal year on which this report is based, for example, data which are reported biennially. Additional FY 2016 results will be available in the agency's FY 2017 *APR*, which will be included in the *FY 2019 Annual Performance Plan* and the "Program Performance and Assessment" section of the *FY 2019 Congressional Justification*.

Previous Fiscal Year Data Now Available

EPA can now report FY 2015 data that became available in FY 2016. In summary, final performance results became available for 24 of the 34 FY 2015 performance measures for which we lacked data at the end of FY 2015. Of these 24 performance measures, EPA met 19 and did not meet 5 of the Agency's targets. Data remain unavailable for 9 measures.[2] One measure was discontinued.[3]

Summary of FY 2016 Performance Results

Goal 1: Addressing Climate Change and Improving Air Quality

FY 2016 Performance Measures		
Met: 15	Not Met: 0	Data Pending: 15
Total Measures: 30		

EPA advanced all four Goal 1 strategic objectives. The United States has steadily phased out the use of ozone depleting substances. Working with partners and co-regulators, EPA developed and implemented national programs that have reduced harmful air pollutants both indoors and

[2] EPA expects to report FY 2015 data for six of these measures in the FY 2017 Annual Performance Report: Performance Measure G02: Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the buildings sector; Performance Measure G16: Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the industry sector; Performance Measure 001: Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline; Performance Measure 002; Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline; Performance Measure SM1: Tons of materials and products offsetting use of virgin resources through sustainable materials management; and Performance Measure 143: Percentage of agricultural acres treated with reduced-risk pesticides. We anticipate that no FY 2015 data will become available for three measures: Performance Measure R50: Percentage of existing homes with an operating radon mitigation system compared to the estimated number of homes at or above EPA's 4pCi/L action level; Performance Measure R51: Percentage of all new single-family homes (SFH) in high radon potential areas built with radon reducing features; and Performance Measure bpx: Extent of priority areas identified by each state that are addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters that will achieve water quality standards.

[3] Performance Measure R16: Percentage of parents of children with asthma aware of the EPA asthma program media campaign.

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outdoors. And, EPA continues to protect human health and the environment from harmful and avoidable radiation exposure.

Objective 1.1: Address Climate Change

EPA successfully implemented motor vehicle greenhouse gas emissions (GHG) standards **(FY 2016-2017 APG)**, with automakers beating GHG standards for the fourth straight year and fuel economy, or MPG, for Model Year 2015 new cars and trucks reaching its highest level ever in FY 2015 (most recent year with available data).[4] More than 19,000 organizations and millions of Americans teamed with EPA's climate partnership programs, preventing more than 416 MMTCO2e of GHG emissions and reducing net energy bills by more than $31 billion in FY 2014 (most recent data).[5] In addition, EPA supported climate-resilient investments in communities across the country, meeting or exceeding targets to provide training, data, information, and tools to integrate climate adaptation into their work.

Objective 1.2: Improve Air Quality

EPA continued to design and implement national programs that deliver significant reductions in harmful air pollutants. These actions included setting health-based ambient air quality standards grounded in scientific research, setting fuel and engine standards that improve air quality in communities across the United States, developing regulations that reduce emissions of harmful pollutants from sources that pose the greatest risk to communities, and engaging the public and communities to address indoor air risks. Environmental indicators related to criteria pollutants and air toxics showed improving outdoor air quality trends. For example, between 2000 and 2015 (most recent year with available data),[6] national ambient concentrations of PM2.5 and ozone decreased 37 and 17 percent, respectively. Cleaner air prevents tens of thousands of premature deaths, reduces heart attacks and hospital visits, alleviates hundreds of thousands of asthma attacks among children and sensitive populations, and prevents millions of lost school and work days.[7]

Objective 1.3: Restore and Protect the Ozone Layer

The United States has outperformed its obligations under the Montreal Protocol and has made steady progress in phasing out the use of ozone depleting substances. In FY 2015 (most recent data), U.S. consumption of hydrofluorocarbons (HCFCs) declined to 584 tons of ozone depleting potential, well below the level of 1,520 tons required by the Montreal Protocol. As production of ozone-depleting substances declines and demands for flexibility grow, EPA manages exemption programs to address critical needs.

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[4] See: https://www.epa.gov/fueleconomy/trends-report.
[5] See: U.S. EPA. (2016) *Climate Protection Partnerships: 2014 Annual Report.* www.energystar.gov/publications.
[6] Quality assured data for the criteria pollutants are available in early fall for the prior year. The air quality trends report, Our Nation's Air: Status and Trends Through 2015, is available at: https://gispub.epa.gov/air/trendsreport/2016/.
[7] See: https:///www.epa/gov/air-trends.

Objective 1.4: Minimize Exposure to Radiation

EPA protected human health and the environment from harmful and avoidable radiation exposure by developing radiation protection regulations and guidance; informing decision makers and the public about ambient radiation through RadNet, EPA's radiation monitoring network; and maintaining the readiness of its radiological emergency response program assets. While preparedness for radiological emergencies remains strong (EPA achieved a score of 95 percent readiness in FY 2016), maintaining scientific expertise in the radiological field continues to be a challenge due to aging of the original Atomic Age workforce.

Goal 2: Protecting America's Waters

FY 2016 Performance Measures		
Met: 37	Not Met: 14	Data Pending: 4
Total Measures: 55		

EPA made progress toward the two strategic objectives of Protecting Human Health and Improving Water Quality on a Watershed Basis. EPA focused its efforts on addressing aging water and sewer infrastructure challenges, protecting and restoring impaired waterbodies, strengthening and promoting innovative solutions that reduce pollution, building capacity for state and tribal water programs, promoting green infrastructure solutions, and training water stakeholders.

Objective 2.1: Protect Human Health

In FY 2016, 90.4 percent of our population served by community water systems received drinking water that met all applicable health-based drinking water standards. Strategies for improved compliance included targeted enforcement, technical and managerial support, and infrastructure investments. The utilization rate for the Drinking Water State Revolving Fund (DWSRF) has consistently increased over the last few years. From 2014-2016 states signed a record amount of funds into new loans. This resulted from EPA and state implementation of the 2014 Unliquidated Obligation (ULO) Strategy, which led many states to develop agile cash flow models to more accurately balance fund inflows and outflows.

EPA sponsored the 2016 Recreational Waters Conference to discuss issues related to human health in waters used for recreation. EPA also issued draft recreational water quality criteria and/or swimming advisories for the cyanotoxins microcystin and cylindrospermopsin that may result from harmful algal blooms.

While America's drinking water remains among the safest in the world, emerging challenges to maintain its safety are still present. These challenges include aging infrastructure, limited funding and management capacity, degradation of drinking water sources from multiple factors (some factors are out of EPA's control), risks from emerging contaminants, and threats associated with drought and severe weather events affecting source water availability and quality.

To address these challenges, EPA is focused on new approaches to information management and communications through the Compliance Monitoring Data Portal that enables drinking water

utilities and laboratories to report data electronically to primacy agencies leading to more timely and higher-quality monitoring data. EPA also released the Drinking Water Action Plan (PDF). The proposed actions from this plan will modernize technology and infrastructure, provide consumers with readily available information on drinking water quality, ensure robust and efficient oversight of drinking water safety, prevent source water contamination before it happens, safeguard drinking water against extreme weather events, and promote equity in access to safe drinking water and public health protections.

Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems

In FY 2016, the Water Infrastructure and Resiliency Finance Center made significant progress promoting innovative finance solutions for the nation's aging water and sewer infrastructure. The Center provided direct financial planning technical assistance to 10 communities across the country and identified innovative Customer Assistance Programs (PDF) created by utilities to help low and fixed income customers having difficulty paying their water and sewer bills.

Of all the water bodies across the nation that have been assessed and a possible source of impairment identified, 85 percent of rivers and streams and 80 percent of lakes and reservoirs are polluted by nonpoint sources. EPA advanced reductions of nutrient pollution through partnerships with the animal agriculture industry including the Nutrient Recycling Challenge.[8] EPA also provided state and tribal Concentrated Animal Feeding Operation (CAFO) programs with technical assistance to develop specific elements in their CAFO program to improve manure management.

An overwhelming majority of Americans—215 million (more than 70 percent)—live within two miles of a polluted lake, river, stream or coastal area. Moreover, the rate at which new waters are listed for water quality impairments exceeds the pace at which restored waters are removed from the list, due to challenges in protecting and restoring watersheds and aquatic ecosystems. Further, EPA expects delays in restoration of impaired waterbodies due to the complexity of some waterbodies. This complexity points toward the need for new approaches for assessing progress in water quality. EPA is evaluating new approaches for measuring local improvements in water quality to provide consistent methodology for measuring progress, and to more effectively track water quality outcomes from investments in protection and restoration. These new approaches will be complemented by new performance measures such as measuring the percent of priority impaired water areas identified by each state that are addressed by EPA-approved Total Maximum Daily Loads (TMDLs) or alternative restoration approaches. This measure was established in FY 2015; in FY 2016, the first year when data is available, EPA exceeded the target for this measure.

Wetlands are important components of healthy ecosystems and contribute to the protection and restoration of water quality. In May 2016, EPA released the National Wetland Condition Assessment (NWCA) 2011: A Collaborative Survey of the Nation's Wetlands, the first national evaluation of the ecological condition of the nation's wetlands. The study found that nearly half of wetland area (48 percent) is in good condition; 32 percent is in poor condition; and the remaining

[8] EPA is providing this link for informational purposes only and cannot attest to the accuracy of non-EPA information provided by any third-party sites or any other linked site. EPA does not endorse any non-government websites, companies, internet applications or any policies or information expressed therein.

20 percent is in fair condition. The NWCA strengthens EPA's partnership with states and tribes by helping them implement wetland monitoring and assessment programs.

Green infrastructure helps restore natural hydrologic systems and the health of aquatic ecosystems reducing pollution from stormwater events. In FY 2016, EPA released the document Tools, Strategies, and Lessons Learned from EPA Green Infrastructure Technical Assistance Projects that summarizes green infrastructure solutions to reduce stress on the nation's water infrastructure and to create more livable communities through stormwater management. Green Infrastructure captures storm water to prevent flooding and losses (estimated at hundreds of millions of dollars) and enhances filtration before pollutants enter waterways. In FY 2016, EPA's Green Infrastructure efforts assisted 74 communities, advancing resilience in the nation's water infrastructure **(FY 2016-2017 APG)**.

Goal 3: Cleaning Up Communities and Advancing Sustainable Development

FY 2016 Performance Measures		
Met: 21	Not Met: 9	Data Unavailable: 2
Total Measures: 32		

EPA made good progress toward three of four objectives—Sustainable and Livable Communities; Preserve Land; and Restore Land. EPA continued to protect human health and the environment from uncontrolled releases of hazardous substances that could contaminate our land and rivers and threaten healthy ecosystems. EPA focused on preventing and reducing exposure to contaminants, assessing and cleaning up contaminated sites and facilitating their reuse, and strengthening our preparedness and emergency response programs. However, the agency continued to face challenges under Strengthen Human Health and Environmental Protection in Indian Country, designated as Focus Area for Improvement.

Objective 3.1: Promote Sustainable and Livable Communities

EPA's Brownfields Program continued to achieve strong results. In FY 2016, federal brownfields funding made 7,354 acres ready for reuse, leveraged 9,661 jobs, and raised $1.47 billion from public and private sources, exceeding performance targets driving further economic activity. In a peer-reviewed study, residential property values increased 5 to 15 percent after brownfields grant cleanups. Analyzing this data, EPA estimates that local governments near 48 brownfield sites would see a total of $29-97 million in additional taxes in a single year after cleanup (2 to 7 times the $12.4 million EPA contribution).

EPA missed the Risk Management Plan (RMP) inspection target for the second straight year, but the agency continued to make progress protecting workers and communities by prioritizing the highest risk facilities (based on accident history, quantity of chemicals on site, or proximity to large residential populations) and implementing Executive Order 13650 on Improving Chemical Facility Safety and Security. In FY 2016, EPA proposed revisions to the RMP rule to improve chemical process safety and protect communities and first responders.

Objective 3.2: Preserve Land

EPA's waste reduction and waste management programs continued to make progress. In FY 2014 (most recent data), the reuse or recycling of more than 9 million tons of materials and products offset the use of virgin resources through the Sustainable Materials Management (SMM) program. As part of the SMM program, EPA promoted three national strategies: the Federal Green Challenge, Electronics Challenge, and Food Recovery Challenge. These strategies focused on using less environmentally intensive and toxic materials and employing downstream solutions to conserve resources for future generations. EPA co-hosted the first Food Recovery Summit resulting in a framework for wide-scale and sustained reductions in food loss and waste. Participants in the Food Recovery Challenge diverted more than 120 tons of food from landfills, and federal facilities participating through the SMM Federal Green Challenge implemented multiple efforts to reduce waste and electricity usage, saving taxpayers over $21 million.

The number of underground storage tank (UST) facilities in significant operational compliance with leak detection and prevention requirements in FY 2016 increased to 72.5 percent, and the number of UST releases has decreased 10.25 percent over the past 7 years. To continue protecting communities' health and safety, EPA collaborated with states to update state UST regulations consistent with revised federal regulations. The agency also worked with partners to strengthen the tribal notification procedures and provided training to tribes on the incident management system and responses to railroad accidents to improve preparedness and communications. Despite this progress, the Resource Conservation and Recovery Act (RCRA) hazardous waste, Polychlorinated Biphenyls (PCBs) cleanup, and UST prevention programs face difficult implementation issues. Emerging contaminants can be difficult to characterize, and may affect states' and tribes' ability to carry out authorized permitting, cleanup, and compliance programs.

Objective 3.3: Restore Land

With 53 percent of the U.S. population, or 166 million people, living within three miles of a contaminated or potentially contaminated site, assessing and cleaning up sites is a significant achievement for public health. Cleanup programs continued to make progress by reducing the backlog of contaminated sites awaiting assessment, increasing the number of RCRA corrective action sites with human exposure under control, addressing the issue of vapor intrusion at contaminated waste and UST sites, and making an additional 9,640 sites Ready for Anticipated Use in FY 2016 (**FY 2016-2017 APG**). Evidence from high-profile UST sites demonstrates that cleanups increase property values by 4 to 9 percent, while a study of 458 Superfund sites found more than 3,900 businesses generating a total of $29 billion in annual sales in one year.

Despite this progress, the pace of cleanups has slowed in recent years as cleanups become more challenging and complex. The Superfund and RCRA corrective action program missed cleanup targets due to increased complexity of remaining sites, new science regarding emerging and existing contaminants (e.g., perfluorinated compounds), and changing screening/toxicity values.

Objective 3.4: Strengthen Human Health and the Environment in Indian Country

In FY 2016 EPA highlighted this objective as a focus area for improvement for the third consecutive year. External challenges include tribal diversity (population, culture, geography, economic development, expertise, income, priorities), unique legal and policy issues, and the need for improved EPA tribal data and its management. Most tribes are not seeking authority to implement federal regulatory environmental programs, but more tribes are taking on monitoring opportunities. Difficult environmental and health challenges remain in the more than 56 million acres of Indian country, including lack of access to safe drinking water, sanitation, adequate waste facilities, and other environmental safeguards which are elsewhere taken for granted. Internally, EPA also faces competing demands and priorities.

To address these challenges, EPA developed a multi-year, agency-wide strategy primarily focused on a comprehensive needs assessment to examine EPA direct implementation (DI) of programs to protect human health and the environment in Indian country. EPA envisions that this effort will take time, due to the complexities involved in completing the assessments and the competing priorities and resource constraints of the headquarters and regional staff involved agency-wide. Agency senior leaders continue to give attention and visibility to this issue so that it remains a priority. In FY 2016, EPA completed *Direct Implementation of Federal Environmental Programs in Indian Country*, a framework for EPA's DI work, and finalized a nationally consistent methodology for assessing its DI responsibilities and activities on a program-by-program basis. The agency will complete the first DI program assessment, for the Resource Conservation Recovery Act (RCRA) Subtitle C Treatment, Storage and Disposal Facilities (TSDFs) program, in FY 2017. EPA will evaluate and review these assessments to determine future actions to increase efficiency and effectiveness of DI programs and address gaps to ensure that environmental regulatory programs are as effective in Indian country as they are outside of Indian country.

EPA has also worked on two complementary efforts. First, EPA has made progress toward standardizing tribal data by using a tribal identifier code across its data systems to identify regulated facilities in Indian country. In FY 2015, EPA established a methodology to extract data on the universe of regulated entities in Indian country and completed improvements to the "EPA Tribal Areas" layer on the EPA Geoplatform by incorporating 2014 Census data. By FY 2016, EPA had updated its tribal identifier data standard with the Bureau of Indian Affairs list of federally recognized tribes to allow correlation of tribal data across multiple EPA data systems (e.g. Envirofacts, TRI Explorer, Enforcement and Compliance History Online (ECHO), Underground Injection Control database, and Cleanups in My Community). EPA also worked with individual system owners to improve tribal data in EPA data systems (e.g., Integrated Grants Management System (IGMS), Superfund Enterprise Management System (SEMS), Resource Recovery Act Information System (RCRAInfo) and Safe Drinking Water Information System (SDWIS)).

Second, EPA has provided Indian General Assistance Program (GAP) grants to tribes to build tribal capacity. In FY 2014, EPA implemented revised GAP Guidance and developed EPA-Tribal Environmental Plans (ETEPs) to align tribal and EPA priorities through joint planning with the

first 39 tribes. By the end of FY 2016, EPA had completed ETEPs with 62 percent of eligible tribes.

Goal 4: Ensuring the Safety of Chemicals and Preventing Pollution

FY 2016 Performance Measures		
Met: 12	Not Met: 6	Data Unavailable: 10
Total Measures: 28		

EPA had mixed results under the Ensure Chemical Safety objective and made good progress under the Promote Pollution Prevention objective.

Objective 4.1: Ensure Chemical Safety

In FY 2016, EPA kept pace with expectations in most areas while addressing such significant new challenges as helping to prevent spread of the Zika virus and responding to the enactment of Toxic Substances Control Act (TSCA) reform, the first major environmental legislation in 20 years. EPA missed its GPRA target for the number of existing chemicals for which risk assessments are finalized, as well as the target for the related APG indicator goal, but is on track for new chemicals, pesticides and endocrine disruptor screening targets (FY 2016-2017 APG).

The Frank R. Lautenberg Chemical Safety for the 21st Century Act was signed into law in June 2016. The new law, which amends TSCA, will strengthen EPA's ability to ensure the safety of chemicals in or entering the marketplace. The agency developed an action plan for implementing the law's requirements and completed or made substantial progress on planned first-year steps. Proposed rules under TSCA Section 6 have been completed to address risks identified in three of the five risk assessments completed prior to passage of the new law. The new law will reduce challenges the agency has faced in obtaining chemical testing data, assessing chemicals, meeting the thresholds for commencing risk reduction actions and addressing unwarranted confidentiality claims.

EPA made significant progress to meet the Pesticide Registration Improvement Extension Act (PRIA) statutory deadline of completing registration review risk assessments and making decisions by 2022 on all pesticides registered prior to October 1, 2007—exceeding the targets established for FY 2016 in the number of dockets opened (the first step in the registration review process) and final work plans completed. In FY 2016, EPA also acted to reduce spread of Zika using expert technical assistance and communications support; mitigate endangered species risks through the first-ever biological evaluations of three organophosphates; and advanced assessment of the effects of pesticides on pollinators by completing the first comprehensive bee assessment of a neonicotinoid insecticide, suspected of affecting bees.

EPA made faster-than-expected progress in reducing perfluorooctanoic acid (PFOA) human blood serum concentrations, exceeding its GPRA performance targets for FY 2012 and FY 2014, and improved transparency by expanding its online ChemView portal and continuing the review of new Confidential Business Information claims. The agency's progress on PFOA is attributable in

part to the work it has accomplished with industry partners under the voluntary 2010/2015 PFOA Stewardship Program. All eight major participating companies met the goals to which they committed under this program.

EPA scientists launched a new interactive CompTox Dashboard in FY 2016 with information for more than 700,000 chemicals. Available to the public, the dashboard is a gateway to an array of related public domain databases, provides improved access to data and models associated with chemicals of interest, and is a hub that links many EPA research databases. The user-friendly interface provides access to chemical structure information and tens of thousands of physicochemical properties and is used to develop machine-learning models that can make improved predictions about chemical risks. The Dashboard brings EPA one step closer to a "one stop shop" for environmental chemistry data to inform future exposure and risk assessments.

In FY 2016, EPA announced it would use estrogen-related data on thousands of chemicals generated by the Toxicology in the 21st Century (Tox21) research collaboration to screen chemicals for potential endocrine bioactivity. In addition, EPA focused on evaluating the Androgen Receptor (AR) model and developing the steroidogenesis and thyroid pathways/models, three other endocrine related biological areas of interest, to screen chemicals for potential endocrine bioactivity. These methods rely on data gathered from cell samples and computer models, replacing testing using animals.

In FY 2016, EPA's Office of Research and Development posted final assessments for Trimethylbenzenes (TMBs) and Ammonia to EPA's Integrated Risk Information System (IRIS) database. These final assessments implement many of the recommendations provided by the National Academy of Sciences and feature a new streamlined document structure that is more transparent about the methods used and better articulates how decisions were made.

Objective 4.2: Promote Pollution Prevention

In FY 2016, the agency made progress in preventing pollution at the source. The most recent results show performance targets were met for all six of the agency's pollution prevention (P2) measures and in four of these cases were substantially exceeded. The agency nevertheless faced challenges, including the tendency of many P2 grantees to report aggregated results without a breakout of specific P2 practices and corresponding environmental and economic results. The program is testing a proposed template for grantees to use to report specific P2 actions taken at the facility level and any corresponding economic and environmental outcomes (with results expected in FY 2017).

Goal 5: Protecting Human Health and the Environment by Enforcing Laws and Assuring Compliance

FY 2016 Performance Measures		
Met: 9	Not Met: 6	Data Unavailable: 0
Total Measures: 15		

Objective 5.1: Enforce Environmental Laws to Achieve Compliance

By focusing its efforts on larger, more complex, risk-based enforcement cases that drive compliance across industries and have the highest impact on protecting public health and the environment, EPA made strong progress under its enforcement objective in FY 2016. Although total annual enforcement cases have decreased overall, in FY 2016, the agency obtained the largest Clean Water Act penalty (Deepwater Horizon-BP Gulf of Mexico oil spill) in EPA's history, which contributed to a record $5.8 billion in combined federal administrative and civil judicial penalties. EPA also obtained $13.7 billion in administrative and civil judicial complying actions/injunctive relief. In the case of environmental benefits, the agency reached a record RCRA enforcement settlement with Mosaic Fertilizer LLC addressing violations at its phosphate chemical facilities in two states for mismanagement of hazardous wastes. The settlement set a record 62 billion pounds for the quantity of hazardous waste reduced, treated, or eliminated through a concluded enforcement action.

EPA's criminal enforcement program also made strong progress in FY 2016, with a criminal conviction rate of 94 percent. Significant cases often were tied to individual conduct, which resulted in 92 years of incarceration, $192 million in restitution, and $13 million in fines to be paid by individuals and corporations. Aside from this progress however a focus on higher-impact cases, combined with normal year-to-year variability of the enforcement case settlement process, affected some of the agency's FY 2016 enforcement program results, contributing to missed targets for the number of federal inspections and evaluations, pounds of air and water pollutants reduced, and volume of contaminated soil and groundwater media cleaned up.

EPA continued to promote environmental justice (EJ) by targeting noncomplying facilities for their disproportionate impacts on low-income and minority communities. In FY 2016, one-third of non-exempt civil cases initiated by EPA occurred in locations with potential EJ concerns. In settlement agreements, the agency continued its efforts to include Supplemental Environmental Projects (SEPs) which directly benefit communities in settlement agreements, contributing to SEPs value remaining high in FY 2016 ($32M). Looking forward, further advancing the use of Next Generation Compliance tools and strategies throughout the enforcement and compliance program, including enforcement settlements, remains a priority. To date, over fifty enforcement settlements have included tools and approaches consistent with Next Generation Compliance principles. In FY 2016, to promote further use of these tools and approaches, the agency issued Next Generation Enforcement Settlement Highlights to identify where tools such as transparency, electronic reporting and advanced monitoring are already being used to improve compliance and environmental outcomes.

Verification/Validation of Performance Data

The agency develops Data Quality Records (DQRs) to present validation/verification information for selected performance measures and information systems, consistent with guidance from the Office of Management and Budget. A DQR documents the management controls, responsibilities, quality procedures, and other metadata associated with the data lifecycle for individual performance measures, and is intended to enhance the transparency, objectivity, and usefulness of the performance result. EPA's program offices choose the measures for which to develop DQRs, consistent with the agency's goal to document quality procedures associated with a broad range of budget measures. Each DQR can be considered current as of the most recent date for which the agency has published results for the performance measure. All of EPA's current DQRs are available in PDF format at the following URL: http://www.epa.gov/planandbudget/archive#dqr. (If this link does not work, please copy and paste the URL directly into your browser.)

Please note the PDF file includes DQRs that reference supporting documents, which are available upon request by sending an email with the name of the document and DQR to OCFOINFO@epa.gov. The email should indicate the measure number and text associated with the DQR, and the filename shown underneath the icon for the attachment.

E. Scott Pruitt
Administrator

Reliability of the EPA's Performance Data

Data used to report performance results are reliable and as complete as possible. Because improvements in human health and the environment may not become immediately apparent, there might be delays between the actions we have taken and results we can measure. Additionally, we cannot provide results data for some of our performance measures for this reporting year. When possible, however, we have portrayed trend data to illustrate progress over time. We also report final performance results for previous years that became available in FY 2016.

E. Scott Pruitt
Administrator

MAY 17 2017
Date

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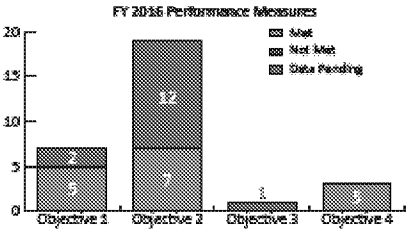
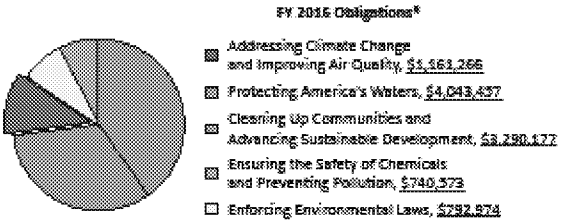
Goal 1 at a Glance

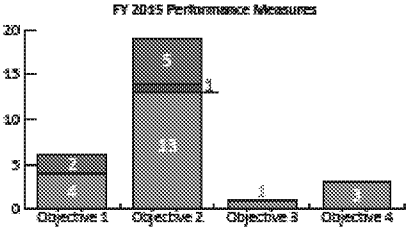
ADDRESSING CLIMATE CHANGE AND IMPROVING AIR QUALITY

Reduce greenhouse gas emissions and develop adaptation strategies to address climate change and protect and improve air quality.

FY 2016 Performance Measures
Met: 15 Not Met: 0 Data Unavailable: 15
(Total Measures: 30)







Strategic Objective Overview	FY 2016 Obligations*	% of Goal 1 Funds
Objective 1.1: Address Climate Change. Minimize the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help to protect human health and help communities and ecosystems become more sustainable and resilient to the effects of climate change.	$226,252	19.5%
Objective 1.2: Improve Air Quality. Achieve and maintain health and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.	$876,307	75.5%
Objective 1.3: Restore and Protect the Ozone Layer. Restore and protect the earth's stratospheric ozone layer and protect the public from harmful effects of ultraviolet radiation.	$18,201	1.6%
Objective 1.4: Minimize Exposure to Radiation. Minimize releases of radioactive material and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.	$40,505	3.5%
Goal 1 Total	**$1,161,266**	**100.0%**

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 1

Acid Rain Program
Air Toxics
Clean Air Allowance Trading Programs
Clean Air Research
Climate Partnership Programs
Indoor Air Quality and Radon Programs
Mobile Sources
National Ambient Air Quality Standards Development and Implementation
New Source Performance Standards
New Source Review
Radiation Protection and Emergency Response Programs
Regional Haze
Stratospheric Ozone Layer Protection Program

PERFORMANCE: STRATEGIC GOALS 1-5

(The shaded boxes indicate that actual results are not yet available, or that a measure has been discontinued.)

Goal 1: Addressing Climate Change and Improving Air Quality

Reduce greenhouse gas emissions and develop adaptation strategies to address climate change, and protect and improve air quality

Objective 1 - Address Climate Change: Minimize the threats posed by climate change by reducing greenhouse gas emissions and taking actions that help to protect human health and help communities and ecosystems become more sustainable and resilient to the effects of climate change.

Summary of progress toward strategic objective:

EPA made progress under this objective by developing greenhouse gas (GHG) programs to curb emissions and working with state and local agencies to permit larger industrial sources of GHG emissions. In addition, EPA built upon its successful partnerships in the consumer products, buildings, industry, homes, power, and transportation sectors. Performance highlights include:

- In FY 2014 (most recent data), EPA worked with the consumer products, building, industrial, homes, power, and transportation sectors to avoid emissions of 971.1 million metric tons of carbon dioxide (CO2) equivalents.
- EPA worked to implement activities and milestones supporting the GHG vehicle standards, including testing vehicles and issuing certificates of vehicle conformity as outlined in EPA's 2016-2017 Agency Priority Goal. Automakers beat GHG emissions standards for the fourth straight year and fuel economy reached its highest level ever recorded in FY 2015. (See: https://www.performance.gov/reduce-greenhouse-gas-emissions-cars-and-trucks and https://www.epa.gov/fueleconomy/trends-report)
- EPA, along with the National Highway Traffic and Safety Administration, finalized standards for medium- and heavy-duty vehicles.
- EPA collected comprehensive GHG data from over 8,000 of the largest facilities and suppliers in the U.S., accounting for about half of total U.S. GHG emissions. EPA verifies and makes the data available to the public through EPA's GHG Reporting Program, providing data for policy, business, and regulatory decisions.

Challenges and opportunities:

Overall, U.S. GHG emissions in FY 2015 were 11.5% below FY 2005 levels. This trend can be attributed to multiple factors, including year-to-year changes in weather and other changes in the electric power sector (See: https://www.epa.gov/ghgemissions/inventory-us-greenhouse-gas-emissions-and-sinks). Through EPA-led efforts including the GHG Reporting Program, U.S. Climate Change Indicators Report, and Clean Air Markets Program Data, EPA learned more about the sources, emissions, and impacts of GHGs. In October 2016, with U.S. leadership, 197 countries adopted an amendment to phase down hydrofluorocarbons (HFCs) under the Montreal Protocol on Substances that Deplete the Ozone Layer, committing to cutting the production and consumption of HFCs by more than 80% over the next 30 years.

Program Area	Performance Measures and Data

(PM G02) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the buildings sector.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	156.9	168.7	182.6	196.2	188.0	201.1	210.4	MMTCO2e
Actual	189.0	221.9	254.2	242.4	Data Avail 12/2017	Data Avail 12/2018		

Explanation of Results: GHG emissions reductions from EPA's buildings sector programs continued to exceed programmatic targets. Methodologies to calculate reduction actuals are refined annually to address the efforts of other government programs, third-party actors, and other program-specific market effects; therefore, results could be higher or lower than a previous year.

(PM G06) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the transportation sector through EPA's SmartWay partnership program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	23.7	28.0	33.0	61	70	76	82	MMTCO2e
Actual	27.9	38.9	51.6	61.7	72.8	84		

Explanation of Results: The results show that in FY 2016, SmartWay helped avoid 11.2 million metric tons of CO2 for a cumulative reduction of 84 MMTCO2E since program inception. The results reflect the efforts of partners to continuously improve the efficiency of their goods movement operations.

Additional Information: SmartWay's emissions reductions are estimated by comparing the emissions performance of trucks in SmartWay with modeled estimates of national truck emissions, which is only one component of SmartWay. In 2004, there were 0.7 million metric tons of carbon dioxide equivalent reductions from the SmartWay program. From 2004 to 2014, EPA projected forward from the 2004 baseline assuming no impact on GHG emissions from U.S. climate change programs. Beginning in 2014, heavy-duty vehicles subject to the Phase 1 Greenhouse Gas rule began to gradually penetrate the national fleet, raising the emissions performance of the national fleet, and reducing the difference between the emissions performance of SmartWay truck carrier partners and the national fleet. Activities by SmartWay's rail, barge, and shipper partners are not currently captured in these estimates.

(PM G16) Million metric tons of carbon equivalent (MMTCO2E) of greenhouse gas reductions in the industry sector.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	346.2	372.9	421.9	461.8	540.3	676	702.7	MMTCO2e
Actual	386.4	378.1	637.9	669.3	Data Avail 12/2017	Data Avail 12/2018		

(1) Address Climate Change

Program Area	Performance Measures and Data

Explanation of Results: GHG emissions reductions from EPA's industrial sector programs continued to grow, exceeding programmatic targets. The FY 2014 actual significantly exceeds the FY 2014 target due to greater GHG emissions reductions from the Landfill Rule, not reflected in the target that year.

Additional Information: Combined, energy, agriculture, waste, manufacturing and other industrial sectors generate more than a third of the nation's annual GHG emissions. Industrial sector emissions are produced either from a process itself, from the energy consumed during the process, or to produce electricity. For example, the transformation of raw materials from one "state" to another can result in the release of GHGs such as CO2 and methane. EPA only reports results from those programs that are active in the reporting year.

(PM G18) Percentage of Annual Greenhouse Gas Emission Reports verified by EPA before publication.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			93	95	95	95	95	Percent
Actual			96	98	97	97		

Additional Information: The Greenhouse Gas Reporting Program, established in 2009, has 41 sectors that include more than 8,000 facilities and suppliers. Both facilities and suppliers are required to report their data annually by March 31st. After submission of the data, the agency conducts a verification review that lasts approximately 150 days and includes a combination of electronic checks, staff review, and follow-up with facilities to identify potential reporting errors and have them corrected before publication. The 150-day period includes 60 days for EPA to review reports and identify potential data quality issues, 75 days for reporters to resolve these issues, and 15 days for EPA to review responses or resubmitted reports. EPA typically publishes the data by October 1st each year (see: www.epa.gov/ghgreporting).

(PM AD4) Cumulative number of state, tribal, and community partners that have integrated climate change data, models, information, and other decision-support tools developed by EPA for climate change adaptation into their planning processes.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						50	120	Number of Partners
Actual						50		

Explanation of Results: As of FY 2016, EPA's partners had integrated climate adaptation into planning processes with assistance from EPA's Climate Change Adaptation Resource Center (ARC-X), Climate Ready Utilities Program, Climate Ready Estuaries Program, Brownfield program, and Stormwater Calculator with Climate Assessment Tool.

(PM AD5) Cumulative number of state, tribal, and community partners that have incorporated climate change adaptation into the implementation of their environmental programs supported by major EPA financial mechanisms (grants, loans, contracts, and technical assistance agreements).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						50	100	Number of Partners
Actual						50		

Program Area	Performance Measures and Data
	Explanation of Results: As of FY 2016, EPA's partners had incorporated climate adaptation into environmental programs with assistance from EPA's discretionary grants, the Clean Water and Safe Drinking Water State Revolving Loan Funds Programs (SRF), Brownfield clean-up grants, the Great Lakes Restoration Initiative (GLRI), the Tribal Grants Assistance Program (GAP), the Office of Environmental Justice (OEJ) Small Grants Program, and the Climate Ready Estuaries Program.

(PM AD6) Cumulative number of EPA-developed training programs that incorporate climate change adaptation planning for EPA staff, state, tribal, and community partners (includes programmatic and cross-programmatic trainings).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						3	4	Number
Actual						5		

Explanation of Results: In FY 2016, EPA completed the following training modules: (1) Introductory Climate Adaptation Training for EPA staff; (2) Office of Land and Emergency Management Climate Change Adaptation Training for EPA staff; (3) Climate Adaptation Training for Local Governments; (4) Training on Understanding Climate Change Impacts on Water Resources; and (5) Office of Land and Emergency Management Climate Change Adaptation Training for the public.

Objective 2 - Improve Air Quality: Achieve and maintain health- and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.

Summary of progress toward strategic objective:

Under this objective EPA, together with its implementation partners, is making progress to improve air quality by designing, developing, and implementing national programs that deliver significant reductions in harmful air pollutants. These actions include setting health-based ambient air quality standards grounded in scientific research, and setting fuel and engine standards that improve air quality in communities across the U.S. Performance highlights include:

- National ambient concentrations of criteria pollutants continued to show steady improvement. From FY 2003 to FY 2015 (most recent data), for example, population-weighted ambient concentrations of fine particulate matter (PM2.5) and ozone decreased 32 and 21%, respectively. In addition, the number of days when the ozone standard was exceeded in Nonattainment Areas and the number of days when the Air Quality Index is considered to be unhealthy for sensitive groups of people is trending downward. Cleaner air prevents tens of thousands of premature deaths, reduces heart attacks and hospital visits, alleviates hundreds of thousands of asthma attacks among children and sensitive populations, and prevents millions of lost school and work days. (See: https://www.epa.gov/air-trends)
- EPA's Acid Rain and Cross-State Air Pollution Rule programs continued to make significant progress in reducing emissions from applicable sources. In FY 2015, U.S. power plants emitted 2.2 million tons of sulfur dioxide (SO2), a 78% decrease from FY 2005 levels. Similarly, annual nitrogen oxides (NOx) emissions in FY 2015 were 1.4 million tons, a 60% decrease from FY 2005 levels. (See: https://www.epa.gov/airmarkets/clean-air-markets-progress)
- EPA is making steady progress to fulfill its commitment to clear the existing State Implementation Plan (SIP) backlog as of October 1, 2013

Objective 2 - Improve Air Quality: Achieve and maintain health- and welfare-based air pollution standards and reduce risk from toxic air pollutants and indoor air contaminants.

and manage the timely review of all other SIPs consistent with Clean Air Act deadlines. Working closely with state and local air agencies, EPA has reduced the overall number of active SIPs by 37% and the number of backlogged SIPs by 46%.

- EPA equipped health, housing, environmental and health insurance programs to effectively support delivery, infrastructure and sustainable financing of environmental asthma interventions in homes and schools. The results reflect a combination of EPA supported technical training and Non-Governmental Organization partnerships. (See: https://www.epa.gov/asthma)

Challenges and opportunities:
A constrained resource environment requires constant balancing of priorities to ensure progress on statutorily required work and court ordered deadlines. Many state, local, and tribal air agencies are finding it more and more challenging to deliver environmental and public health protection.

Program Area	Performance Measures and Data

(PM M9) Cumulative percentage reduction in population-weighted ambient concentration of ozone in monitored counties from 2003 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12	13	15	16	16	17	19	Percent Reduction
Actual	16	13	15	18	21	Data Avail 12/2017		

Explanation of Results: The FY 2015 results show national ozone concentrations have decreased at a rate consistent with the estimated impacts of existing and future control strategies, continuing the trend of long-term improvement. The actual changes in this metric can vary from one year to the next because meteorology plays a significant role in ozone formation.

Additional Information: This measure shows progress in reducing ambient ozone concentrations from the 2003 baseline (population-weighted national average of 0.090 ppm). Consistent with the National Ambient Air Quality Standard (NAAQS) for ozone, it is based on a three-year average concentration. The measure assigns more weight to counties with more people by weighting each county's ozone concentration by its population. The targets for this measure are based on predictions of future year concentrations resulting from the Community Multi-Scale Air Quality model which estimates the impact of existing and future control strategies. The actuals are updated annually based on the actual monitored ozone concentrations.

(PM M92) Cumulative percentage reduction in the number of days with Air Quality Index (AQI) values over 100 since 2003, weighted by population and AQI value.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	37	50	80	80	80	81	83	Percent Reduction
Actual	73	73	74	79	82	Data Avail 12/2017		

(1) Reduce Criteria Pollutants and Regional Haze

Program Area	Performance Measures and Data

Explanation of Results: The FY 2015 results are largely driven by national ozone and PM 2.5 concentrations which have decreased at a rate consistent with the estimated impacts of existing and future control strategies, continuing the trend of long-term improvement. The actual changes in this measure can vary from one year to the next because meteorology plays a significant role in ozone and PM 2.5 formation.

Additional Information: This measure shows progress in reducing the number of "unhealthy" air quality days based on the Air Quality Index (AQI) relative to the 2003 baseline. The AQI is an index for reporting daily air quality. An AQI value of 100 generally corresponds to the NAAQS for each of the five pollutants included in the index. When AQI values are above 100, air quality is considered to be unhealthy for certain sensitive groups of people and then for everyone as AQI values get higher. This measure assigns more weight to higher AQI values and counties with more people. Because ozone and PM2.5 typically account for the vast majority of AQI values above 100, this measure largely tracks changes in those two pollutants. The targets for this measure are based on a regression curve using historical data. The actuals are updated annually based on the actual monitored concentrations.

(PM MM9) Cumulative percentage reduction in the average number of days during the ozone season that the ozone standard is exceeded in non-attainment areas, weighted by population.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	29	45	50	50	50	68	70	Percent Reduction
Actual	58	54	59	67	76	Data Avail 12/2017		

Explanation of Results: The FY 2015 results show national ozone concentrations have decreased at a rate consistent with the estimated impacts of existing and future control strategies, continuing the trend of long-term improvement. The actual changes in this measure can vary from one year to the next because meteorology plays a significant role in ozone formation.

Additional Information: This measure shows progress in reducing the number of exceedance days in the 1997 ozone nonattainment areas relative to the 2003 baseline. Consistent with the NAAQS for ozone, it is based on a three-year average. The measure assigns more weight to nonattainment areas with more people by weighting each nonattainment area's exceedance count by its population. The targets for this measure are based on a regression curve using historical data. The actuals are updated annually based on the actual monitored concentrations.

(PM N35) Limit the increase of Carbon Monoxide (CO) emissions from mobile sources compared to a 2000 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1.86	2.02	2.19	2.36	2.53	2.70	2.87	Tons Emitted
Actual	1.86	2.02	2.19	2.36	2.53	2.70		

Explanation of Results: This measure is an indicator of estimated reductions with alignment between target and actuals.

Additional Information: As of 2010, the few areas in the U.S. that had active issues with local levels of CO had controlled their levels to or below EPA's NAAQS for CO. These areas have all been re-designated to attainment with a CAA maintenance plan (i.e., known as "maintenance areas"). In 2000, CO emissions from mobile sources were 79.2 million tons using the 2000 Mobile6 inventory.

(PM O33) Cumulative millions of tons of Volatile Organic Compounds (VOCs) reduced since 2000 from mobile sources.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1.88	2.05	2.23	2.4	2.57	2.74	2.91	Tons Reduced
Actual	1.88	2.05	2.23	2.4	2.57	2.74		

Explanation of Results: This measure is an indicator of estimated reductions with alignment between target and actuals.

Additional Information: Volatile organic compounds (VOCs) react in the atmosphere to form ozone and particulate matter, both of which are criteria pollutants for which EPA establishes NAAQS. In addition, some VOCs are air toxics (such as benzene) or react in the atmosphere to form ozone and particulate matter, both of which are criteria pollutants for which EPA establishes NAAQS. Reducing VOC emissions from mobile sources reduces the atmospheric concentrations and resulting health and environmental effects of these pollutants. EPA has reduced VOC emissions from mobile sources through its emissions standards promulgated since 2000 which apply to mobile sources including on-road cars and trucks, nonroad engines and equipment (such as lawn and garden equipment), locomotives, and marine engines. VOC emissions will continue to fall over time as new, cleaner vehicles and engines enter the fleet. In 2000, VOCs emissions from mobile sources were 7.7 million tons using the 2000 Mobile6 inventory.

(PM O34) Cumulative millions of tons of Nitrogen Oxides (NOx) reduced since 2000 from mobile sources.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3.73	4.07	4.41	4.74	5.08	5.42	5.76	Tons Reduced
Actual	3.73	4.07	4.41	4.74	5.08	5.42		

Explanation of Results: This measure is an indicator of estimated reductions with alignment between target and actuals.

Additional Information: Nitrogen oxides (NOx) react in the atmosphere to form ozone, particulate matter, and NO2, all of which are criteria pollutants for which EPA establishes NAAQS. Reducing NOx emissions from mobile sources reduces the atmospheric concentrations and resulting health and environmental effects of these pollutants as well as the ecosystem effects associated with nitrogen deposition to water bodies. EPA has reduced NOx emissions from mobile sources through its emissions standards promulgated since 2000, which apply to mobile sources including on-road cars and trucks, nonroad engines and equipment (such as construction, farming, and lawn and garden equipment), locomotives, aircraft, and marine vessels. NOx emissions will continue to fall over time as new, cleaner vehicles and engines enter the fleet. In 2000, NOx emissions from mobile sources were 11.8 million tons using the 2000 Mobile6 inventory.

(PM M91) Cumulative percentage reduction in population-weighted ambient concentration of fine particulate matter (PM-2.5) in all monitored counties from 2003 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15	16	20	28	29	31	32	Percent Reduction
Actual	26	26	29	29	32	Data Avail 12/2017		

Explanation of Results: The FY 2015 results show national PM 2.5 concentrations have decreased at a rate consistent with the estimated impacts of existing and future control strategies, continuing the trend of long-term improvement. The actual changes in results can vary from one year to the next because meteorology plays a significant role in PM 2.5 formation.

Additional Information: This measure shows progress in reducing ambient PM 2.5 concentrations with respect to the 2003 baseline (population-weighted national average of 14.1 ug/m3). Consistent with the NAAQS for PM 2.5, it is based on a three-year average concentration. Reducing emissions of PM 2.5 results in decreases in atmospheric concentrations of inhalable fine particles, which in turn lowers the risk of premature mortality, hospital admissions for heart and lung disease, and respiratory symptoms. The measure assigns more weight to counties with more people by weighting each county's PM 2.5 concentration by its population. The targets for this measure are based on predictions of future year concentrations resulting from the Community Multi-Scale Air Quality model which estimates the impact of existing and future control strategies. The actuals are updated annually based on the actual monitored concentrations.

(PM P34) Cumulative tons of PM-2.5 reduced since 2000 from mobile sources.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	136,677	146,921	159,164	171,407	183,651	195,895	208,138	Tons Reduced
Actual	136,677	146,921	159,164	171,407	183,651	195,895		

Explanation of Results: This measure is an indicator of estimated reductions with alignment between target and actuals.

Additional Information: EPA has reduced PM 2.5 emissions from mobile sources through its emissions standards promulgated since 2000, which apply to mobile sources including on-road cars and trucks, nonroad engines and equipment (such as construction and farming equipment), locomotives, and marine vessels. PM 2.5 emissions will continue to fall over time as the new, cleaner vehicles and engines enter the fleet. In 2000, PM 2.5 emissions from mobile sources were 510,550 tons using the 2000 Mobile6 inventory.

(PM A01) Annual emissions of sulfur dioxide (SO2) from electric power generation sources.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	5,000,000	5,000,000	Tons Emitted
Actual	4,544,000	3,319,000	3,210,365	3,122,921	2,231,970	Data Avail 12/2017		

Explanation of Results: Actual emissions have consistently been lower than the targets due to a number of factors including use of the large and growing bank of acid rain program allowances and uncertainty regarding market dynamics related to the mix of fuels and power generation sources in the future.

Additional Information: The baseline in 1980 is 17.4 million tons of SO2 emissions from electric utility sources. This inventory was developed by the National Acid Precipitation Assessment Program (NAPAP) and is used as the basis for reduction in Title IV of the 1990 Clean Air Act (CAA) Amendments. Statutory SO2 emissions capped in 2010 at 8.95 million tons, approximately 8.5 million tons below 1980 emissions level. Targets for this measure through 2010 were based on implementation of the nationwide Acid Rain Program (ARP) alone whereas the (lower) target of 6 million tons for FYs 2011-2015 recognized implementation of the Clean Air Interstate Rule (CAIR) Programs in eastern states in combination with ARP. The updated FY 2016 and 2017 targets are based on the ARP and newly established SO2 budgets under the Cross State Air Pollution Rule (CSAPR), which began implementation in January 2015. The FY 2016 and FY 2017 targets incorporate the following assumptions: 1) CSAPR states emit at the full assurance provision level allowed under the rule; 2) sources in non-CSAPR states would continue to emit at historical levels; and 3) potential use of banked ARP allowances.

(PM MM6) Total number of backlogged SIPs remaining.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			No Target	No Target	No Target	300-400	100-200	Number of Backlogged SIPs
Actual			699	649	557	322		

Explanation of Results: At the end of FY 2016, EPA had 322 backlogged SIPs remaining to be acted on. In FY 2016, EPA took action on 466 SIPs; 235 of these actions were on backlogged SIPs and 231 actions were on non-backlogged SIPs. The total number of active SIPs is trending down (37% decrease since 10/1/2013) and EPA is receiving fewer incoming SIPs than in the past.

Additional Information: The CAA requires states to develop a general plan to attain and maintain the NAAQS in all areas of the country and a specific plan to attain the standards for each area designated nonattainment for a NAAQS. These plans, known as State Implementation Plans (SIPs), are developed by state and local air quality management agencies and submitted to EPA for approval. SIPs vary in their complexity with more complex SIPs requiring more effort from EPA to act on them. Each year EPA identifies the baseline of total active SIPs, current and backlogged, and considers a range of anticipated incoming SIPs for that year. EPA then estimates the total number of SIP actions it will take in the upcoming year. The SIP baseline changes year to year depending on actions taken in the prior year. The estimated number of actions will also vary year to year depending on the status of EPA rulemakings, state priorities for which SIPs they want acted on, and potential new SIPs or SIP revisions. Targets are presented as a range to reflect this variability.

(PM MM7) Cumulative Percent of State Implementation Plans (SIPs) removed from the historical backlog.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			0	20	40	60	84	Cumulative Percentage Removed
Actual			0	25	48	65		

Explanation of Results: As of October 1, 2016, there are 247 SIPs remaining in the historical backlog. EPA expects that by the end of 2017, the historical backlog will be reduced to approximately 111 historically backlogged SIPs. The National Association of Clean Air Agencies (NACAA)/Environmental Council of the States (ECOS) and the associated Regions and states are aware of the remaining backlogged SIPs.

Additional Information: A SIP is considered backlogged if it has not been acted on within 12 months from its completeness date. In a February 2014 joint EPA/ECOS/NACAA commitment, EPA and states agreed to work toward eliminating, by the end of calendar year 2017, the backlog of SIPs that existed as of October 1, 2013. The baseline for the historical backlog is 699. Net cumulative progress against the baseline is measured for each fiscal year as of September 30th. EPA has revised this measure to more clearly convey EPA's progress to clear the historical SIP backlog that existed at the start of EPA/ECOS/NACAA agreement. Accordingly, EPA has tracked progress for this new measure since FY 2013.

(PM M94) Percent of major NSR permits issued within one year of receiving a complete permit application.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	78	78	78	78	78	78	78	Percent
Actual	73	80	90	59	80	Data Avail 12/2017		

Explanation of Results: The FY 2015 target was met. Most of the completed permit applications involved activities that could be addressed within the one year timeframe. Only the most complicated permits took longer than one year to issue. EPA revised the results for FY 2013 and FY 2014 to reflect more complete state reporting.

Additional Information: New Source Review (NSR) requires stationary sources to obtain permits before they start construction. NSR permits are usually issued by state or local air pollution control agencies; EPA issues permits in some cases (such as in Indian country). States that issue permits are not required by law to report all major source permitting actions to an EPA administered database. EPA calculates the annual percentage based only on the states that choose to report and occasionally the state reports lag by 12 months or more from the end of each reporting year. This measure shows progress against the CAA requirement that NSR prevention of significant deterioration (PSD) permits are issued within one year of determination of complete application.

(PM M95) Percent of significant Title V operating permit revisions issued within 18 months of receiving a complete permit application.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	88	88	88	88	Percent
Actual	84	86	91	91	88	Data Avail 12/2017		

Explanation of Results: The FY 2015 target was met. Most significant revisions to Title V permits are less complex than newly issued permits because revisions address only a subset of applicable requirements. Performance for this measure has historically been in the 80-90% range with only the most difficult of significant Title V permit revisions taking longer than 18 months to issue.

Additional Information: Stationary Source operating permits issued under Title V of the CAA are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate and must be renewed every five years. Title V permits are usually issued by state or local air pollution control agencies; EPA issues the permit in some cases (such as in Indian country). Additionally, when a source (or facility) undergoes a major or "significant" revision to its operations that affects emissions, a revision to the Title V operating permit must be sent to the permitting agency for review. This measures tracks timeliness of significant permit revision issuance within 18 months.

(PM M96) Percent of new Title V operating permits issued within 18 months of receiving a complete permit application.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	99	99	99	75	75	75	75	Percent
Actual	72	76	60	59	67	Data Avail 12/2017		

Explanation of Results: EPA did not meet its FY 2015 target for this measure. The majority of Title V permits are issued by state air agencies and it is difficult to estimate targets for state work. The variation in actual performance is partly attributable to the increasing complexity of permits.

Additional Information: Operating permits are legally enforceable documents that permitting authorities issue to air pollution sources after the source has begun to operate. Usually, Title V permits are issued by state or local air pollution control agencies; EPA issues the permit in limited cases. Title V permits must be renewed every five years. When a new source (or facility) begins operations and has the potential to emit air pollution beyond a certain threshold, a new Title V operating permit must be sent to the permitting agency for review.

(2) Reduce Air Toxics

(PM 001) Cumulative percentage reduction in tons of toxicity-weighted (for cancer risk) emissions of air toxics from 1993 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	36	37	42	42	42	41	41	Percent Reduction
Actual	45	45	45	Data Avail 2017	Data Avail 2017	Data Avail 2017		

Explanation of Results: EPA expects an increase in toxicity weighted (for cancer risk) emissions over the next few years based on projected increases in population and industry growth, as well as better understanding of cancer risk for certain air pollutants.

Additional Information: The toxicity-weighted emission inventory utilizes the National Emissions Inventory (NEI) for air toxics along with EPA's compendium of cancer and non-cancer health risk criteria to develop a risk metric that can be tabulated on an annual basis. Air toxics emissions data are revised every three years. The out-year targets are based on expected emissions derived from the 2011 NEI inventory and adjusted for expected air toxic reductions from proposed or anticipated national air toxic rules. Targets also incorporate population and industry growth estimates, which result in increased air toxic emissions over time. Further, targets are also adjusted based on health benchmark changes resulting from updated science.

(PM 002) Cumulative percentage reduction in tons of toxicity-weighted (for non-cancer risk) emissions of air toxics from 1993 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	59	59	59	59	58	57	57	Percent Reduction
Actual	55	55	55	Data Avail 2017	Data Avail 2017	Data Avail 2017		

Explanation of Results: Emissions estimates over the next few years reflect uncertainties in measuring acrolein emissions, the largest pollutant contributor to this measure, as result of the latest scientific understanding and 2011 NATA.

Additional Information: The toxicity-weighted emission inventory utilizes the NEI for air toxics along with EPA's compendium of cancer and non-cancer health risk criteria to develop a risk metric that can be tabulated on an annual basis. Air toxics emissions data are revised every three years. The out-year targets are based on expected emissions estimates derived from the 2011 NEI inventory and adjusted for expected air toxic reductions from proposed or anticipated national air toxic rules. Targets also incorporate population and industry growth estimates, which result in increased air toxic emissions over time. Further, targets are also adjusted based on health benchmark changes resulting from updated science.

(4) Reduce Exposure to Indoor Air Pollutants

(PM R50) Percentage of existing homes with an operating radon mitigation system compared to the estimated number of homes at or above EPA's 4pCi/L action level.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12.5	13.3	13.9	13.9	14.9	14.9	14.9	Percent
Actual	12.9	14.1	15	Data Not Avail	Data Not Avail	Data Not Avail		

Explanation of Results: At this time, EPA does not have complete data available for this measure due to an interruption in voluntary reporting by the radon fan manufacturing industry.

Additional Information: In 2003, 6.9% of existing homes estimated to be at or above EPA's 4pCi/L action level had an operating radon mitigation system. Radon causes lung cancer, and is a significant threat to human health because it tends to collect in homes, sometimes at very high concentrations. As a result, radon is the largest source of exposure to naturally occurring radiation.

(PM R51) Percentage of all new single-family homes (SFH) in high radon potential areas built with radon reducing features.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	34.5	36.0	37.5	37.5	40.5	40.5	40.5	Percent
Actual	38.2	44.6	38.9	44.1	Data Not Avail	Data Not Avail		

Explanation of Results: This measure shows that the percentage of homes being built in radon areas with radon-resistant features has been relatively steady and consistently exceeded EPA projections. The results were achieved through progress by leading state programs (supported by State Indoor Radon Grants); increased action on radon, through the National Radon Action Plan expanded from the Federal Radon Action Plan; and through an increased awareness and interest in healthy homes.

Additional Information: In 2003, 20.7% of all new single-family homes estimated to be in high radon potential areas were built with radon reducing features. Radon causes lung cancer, and is a significant threat to human health because it tends to collect in homes, sometimes at very high concentrations. Radon is the largest source of exposure to naturally occurring radiation.

(PM R19) Cumulative number of programs supporting the delivery, infrastructure, and sustainable financing of environmental asthma interventions at home and school.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						300	600	Programs
Actual						563		

Explanation of Results: The results show that in the first year of the program, capacity has been built within community-based programs to deliver environmental interventions in homes and schools and likely reflects EPA's success in reaching early adopters. The results reflect a combination of EPA supported technical training (e.g., webinars, stakeholder training events, etc.) and funded partnerships (focused on tribes, school-based health centers, health insurance plans, and states).

Additional Information: The FY 2015 baseline for this new initiative is zero. Through this effort, EPA is equipping health, housing, environmental, and health insurance programs to support delivery, infrastructure and sustainable financing of environmental asthma interventions at home and school. Environmental pollutants in homes can cause and exacerbate asthma. Further evidence indicates that investment in home interventions will improve health outcomes and reduce and/or shift health care costs from medical treatment to secondary prevention.

Objective 3 - Restore and Protect the Ozone Layer: Restore and protect the earth's stratospheric ozone layer and protect the public from the harmful effects of ultraviolet (UV) radiation.

Summary of progress toward strategic objective:

EPA made progress under this objective through domestic commitments and leadership in international efforts to restore and protect the ozone layer. The natural layer of ozone in the stratosphere shields and protects the Earth's surface from the sun's harmful ultraviolet (UV) rays, which can lead to more cases of skin cancer, cataracts and other health problems. Stratospheric ozone depletion is the result of a complex set of circumstances and chemistry which includes releases of various human-produced chemicals which can accelerate ozone destruction. All nations recognized by the United Nations have ratified the Montreal Protocol and continue to phase out the production of chemicals that deplete the ozone layer while transitioning to ozone-friendly alternatives.

In FY 2015, hydrochlorofluorocarbons (HCFCs) consumption (production and import) were well below levels required by the Montreal Protocol, showing that the U.S. continues to outperform international commitments and is on track to meet future obligations. Under the Montreal Protocol and the Clean Air Act, total U.S. HCFC production and consumption is capped, and will be completely phased out by 2030. The results are achieved primarily through EPA rulemakings that establish limits on the amount of HCFCs that can be produced and imported in a given year. Additionally, reviewing and listing alternatives for HCFCs under the Significant New Alternatives Policy program, as well as regulations establishing refrigerant management, labeling, and other requirements, have supported this transition. Importantly, industry innovation in developing new alternatives to meet the needs of consumers and industry sectors continue to be critical as the U.S. adopts and promotes these new alternatives in the transition from ozone-depleting substances (ODS).

Challenges and opportunities:

Implementing an allocation plan that both supports a steady phase out of ODS and meets the needs of a diverse group of stakeholders is complex and continues to pose challenges. As the amount of ODS produced declines, the demands for flexibility and specific, tailored solutions to unique situations grow. EPA manages ongoing exemption programs to allow low-quantity continued production of ODS in areas of critical need, such as developing annual, critical-use nominations for methyl bromide, and associated annual rulemakings to operationalize the exemption.

Program Area	Performance Measures and Data								
(1) Reduce Consumption of Ozone-Depleting Substances	**(PM S01) Remaining US Consumption of hydrochlorofluorocarbons (HCFCs), chemicals that deplete the Earth's protective ozone layer, measured in tons of Ozone Depleting Potential (ODP).**								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	<3,811	<3,700	<3,700	<3,700	<1,520	<1,520	<1,520	ODP Tons
	Actual	2,339	1,450	1,640	1,374	584	Data Avail 12/2017		

Program Area	Performance Measures and Data
	Explanation of Results: FY 2015 results show that the U.S. continues to outperform international commitments under the Montreal Protocol, and is on track to meet future obligations. The results are achieved primarily through EPA rulemakings that establish limits on the amount of HCFCs that can be produced and imported in a given calendar year. Additionally, actions reviewing and listing alternatives for HCFCs under EPA's Significant New Alternatives Program (SNAP), as well as regulations establishing refrigerant management, labeling, and other requirements, have supported this transition. Additionally, industry innovation in developing new alternatives to meet the needs of consumers and industry sectors continue to be critical as the U.S. adopts and promotes these new alternatives in the transition from ozone-depleting substances. ***Additional Information:*** The base of comparison for assessing progress is the domestic consumption cap of Class II HCFCs as set by the Parties to the Montreal Protocol. Each ODS is weighted based on the damage it does to the stratospheric ozone - this is, its ozone-depletion potential (ODP). Beginning on January 1, 1996, the cap was set at the sum of 2.8% of the domestic ODP-weighted consumption of chlorofluorocarbons (CFCs) in 1989 plus the ODP-weighted level of HCFCs in 1989 (a total of 15,240 tons). Consumption equals production plus import minus export.

Objective 4 - Minimize Exposure to Radiation: Minimize releases of radioactive material and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.

Summary of progress toward strategic objective:

EPA made progress under this objective by maintaining a high level of readiness to support federal radiological emergency response and recovery operations. In addition, EPA's regulatory and non-regulatory activities supported our mission to protect human health and the environment by minimizing unnecessary exposures to radiation, including operating and maintaining RadNet and developing protective rules and guidance documents. Performance highlights include:

- EPA continued to demonstrate a high level of radiological emergency response readiness, scoring 95% in FY 2016 for the level of readiness.
- EPA reduced the time it takes (65 days in FY 2016) to approve site changes affecting waste characterization at Department of Energy (DOE) waste generator sites to ensure safe disposal of transuranic radioactive waste at the Waste Isolation Pilot Plant (WIPP).
- EPA maintained a nationwide radiation monitoring system, which was demonstrated by recent improvements to RadNet. EPA increased the number of air monitors installed from 124 to 135 and increased the average percentage of operational monitors from 80% in March 2011 to over 92% (monitors are taken down and brought back up for maintenance and/or repair on a routine basis). EPA also piloted dose rate meters on approximately 10% of the existing RadNet monitors. Improvements in data processing and review processes have reduced the time that data are in the review process and are thus available for release during emergencies in less time.

Challenges and opportunities:

Maintaining scientific, technical, and policy expertise in the radiation field continues to be a challenge across the federal government and in organizations requiring this specialized expertise. Unlike many other science, technology, and mathematics fields that are growing, health physics is a unique field of expertise that was born in the Atomic Age in the 1940s. As that original workforce ages, the nation is experiencing a shortage of professionals in the field of radiation protection, nuclear power, and radiobiology.

Objective 4 - Minimize Exposure to Radiation: Minimize releases of radioactive material and be prepared to minimize exposure through response and recovery actions should unavoidable releases occur.

Responding to radiation incidents is complex and requires coordination of assets across all levels of government. EPA has built working relationships in the National Response Framework (NRF), which provides context for how the response community works together and how response efforts relate to other parts of national preparedness. In FY 2016, EPA and federal partners began to build an international partnership with the International Atomic Energy Agency's Analytical Laboratories for the Measurement of Environmental Radioactivity (ALMERA) network.

Program Area	Performance Measures and Data

(PM R35) Level of readiness of radiation program personnel and assets to support federal radiological emergency response and recovery operations.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	90	90	90	93	93	93	93	Percent
Actual	97	92	99	94	93	95		

Explanation of Results: The Core National Approach to Response (NAR) process currently measures select aspects of EPA's radiological emergency response program and shows a continued high radiological emergency response readiness within EPA.

Additional Information: The level of readiness is measured as the percentage of response team members and assets that meet scenario-based response criteria.

(PM R36) Average time before availability of quality assured ambient radiation air monitoring data during an emergency.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	0.7	0.5	0.5	0.5	0.3	0.3	0.3	Days
Actual	0.5	0.4	0.3	0.3	0.3	0.1		

Explanation of Results: Over time, improvements in data processing and review processes have reduced the time that data are in the review process and are thus available for release in less time.

Additional Information: In 2005, the average time between collection and availability of data for release by EPA during emergency operations was 2.5 days.

(1) Prepare for Radiological Emergencies

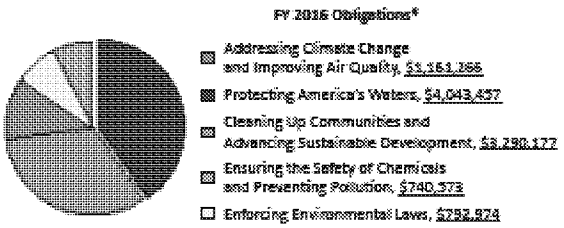
	(PM R37) Time to approve site changes affecting waste characterization at DOE waste generator sites to ensure safe disposal of transuranic radioactive waste at WIPP.							
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	70	70	70	70	70	70	70	Days
	Actual	64	73	64	66	67	65		
	Explanation of Results: EPA has consistently met its targets for this measure, ensuring the Department of Energy's Waste Isolation Pilot Plant (WIPP) waste disposal standards continue to protect human health and the environment.							

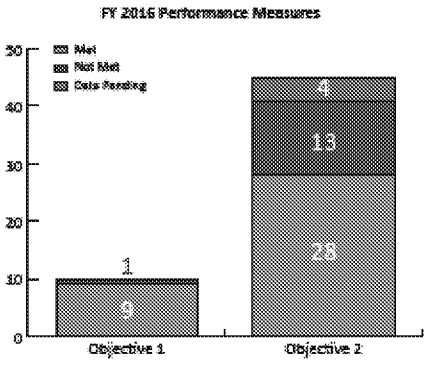
Goal 2 at a Glance

PROTECTING AMERICA'S WATERS

Protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.

FY 2016 Performance Measures
Met: 37 Not Met: 14 Data Unavailable: 4
(Total Measures: 55)





Strategic Objective Overview	FY 2016 Obligations*	% of Goal 2 Funds
Objective 2.1: Protect Human Health. Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters, and protect and sustainably manage drinking water resources.	$1,244,273	30.8%
Objective 2.2: Protect and Restore Watersheds and Aquatic Ecosystems. Protect, restore and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.	$2,799,184	69.2%
Goal 2 Total	**$4,043,457**	**100.0%**

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 2

Beach Program Coastal and Ocean Programs Chesapeake Bay Children's Health Protection Clean Water State Revolving Fund Columbia River Estuary Partnership Commission for Environmental Cooperation Drinking Water and Ground Water Protection Programs Drinking Water Research Drinking Water State Revolving Fund Effluent Guidelines Fish Consumption Advisories Great Lakes Gulf of Mexico Human Health and Ecosystem Protection Research Human Health Risk Assessment Long Island Sound Mercury Research National Environmental Monitoring Initiative National Estuary Program/Coastal Waterways	National Pollutant Discharge Elimination System Nonpoint Source Pollution Control Other Geographic Programs (including Lake Pontchartrain and Northwest Forest), Lake Champlain, San Francisco Bay Delta Estuary, South Florida Persistent Organic Pollutants Puget Sound Surface Water Protection Program Sustainable Infrastructure Program Total Maximum Daily Loads Underground Injection Control Program U.S.-Mexico Border Wastewater Management WaterSense Water Monitoring Water Quality Research Water Quality Standards and Criteria Watershed Management Wetlands Marine Pollution

Goal 2: Protecting America's Waters

Protect and restore waters to ensure that drinking water is safe and sustainably managed, and that aquatic ecosystems sustain fish, plants, wildlife, and other biota, as well as economic, recreational, and subsistence activities.

Objective 1 - Protect Human Health: Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters, and protect and sustainably manage drinking water resources.

Summary of progress toward strategic objective:

EPA is progressing as planned in protecting human health by preserving the safety of our nation's drinking water and increasing protections for recreational waters to enable safe waters for swimming. In FY 2016, 90.4 percent of our population served by community water systems received drinking water that meets all applicable health-based drinking water standards. Strategies for improved compliance include targeted enforcement, technical and managerial support, and infrastructure investments. Building on the June 2015 cyanotoxin drinking water health advisories and support document for states and utilities, EPA released the legislatively-mandated Algal Toxin Risk Assessment and Management Strategic Plan for Drinking Water in November 2015. The strategic plan, developed considering public comment from states, utilities, and federal partners, outlined steps to fill information gaps, improve communication and implementation tools, and facilitate sound decision making at the state and federal level. Meeting needs identified in the plan, EPA later released several tools, including a state-requested cyanotoxin risk communication toolbox and cyanotoxin risk management example plans and template.

EPA continues to encourage states to adopt its 2012 recreational water quality criteria recommendations, which are designed to protect people from harmful levels of fecal pathogens while swimming or participating in other similar activities in waters. EPA sponsored the 2016 Recreational Waters Conference to discuss issues related to human health in waters used for recreation, and made grant funds for monitoring coastal beaches contingent upon states providing schedules to adopt the 2012 recreational criteria. EPA has also issued draft recreational water quality criteria and/or swimming advisories for the cyanotoxins microcystin and cylindrospermopsin that may result from harmful algal blooms.

Challenges and opportunities:

While America's drinking water remains among the safest in the world, emerging challenges to maintain its safety are still present – challenges that, if left unaddressed, can pose serious risks to public health and local economies. These challenges include: aging infrastructure, limited funding and management capacity, degradation of drinking water sources from multiple factors (some out of EPA's control), risks from unregulated contaminants, and threats associated with drought and severe weather events affecting source water availability and quality.

Despite these challenges, EPA's work with federal, tribal, state, and local governments and utilities nationwide continues to minimize any health-based violations, while building appropriate technical, managerial, and financial system capability. EPA is focused on new approaches to information management and communications through the Compliance Monitoring Data Portal that enables drinking water utilities and laboratories to report data electronically to primacy agencies leading to more timely and higher-quality monitoring data. Also, promoting partnerships crossing government, utilities and civil society, and lessons learned in over 40 years of implementing the Safe Drinking Water Act (SDWA) bring opportunities to re-energize the safe drinking water enterprise advancing human health protection – this is the main objective of the

Objective 1 - Protect Human Health: Achieve and maintain standards and guidelines protective of human health in drinking water supplies, fish, shellfish, and recreational waters, and protect and sustainably manage drinking water resources.

Drinking Water Action Plan (PDF) released by EPA in November 2016. The proposed actions from this plan will modernize technology and infrastructure, provide consumers with readily available information on drinking water quality, ensure robust and efficient oversight of drinking water safety, prevent source water contamination before it happens, safeguard drinking water against extreme weather events, and promote equity in access to safe drinking water and public health protections.

Program Area	Performance Measures and Data

(PM aa) Percent of population served by CWSs that will receive drinking water that meets all applicable health-based drinking water standards through approaches including effective treatment and source water protection.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	91	91	92	92	92	92	92	Percent
Actual	93.2	94.7	92	93	91	91.2		

Explanation of Results: Target was missed due to the Los Angeles Department of Water and Power (population of 4M) incurring a Ground Water Rule treatment technique violation in January 2016 for inability to provide 4-log virus inactivation due to a chlorination system failed. The chlorination system was repaired the following day. System has returned to compliance.

Additional Information: In FY 2005, 89 percent of the population served by community water systems received drinking water that met applicable drinking water standards.

(1) Water Safe to Drink

(PM apc) Fund utilization rate for the DWSRF.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	89	89	89	89	89	89	89	Percent
Actual	90	90	91	92	94	95		

Explanation of Results: The utilization rate has consistently increased over the last few years. From FY 2014 - FY 2016 states signed a record amount of funds into new loans. This resulted from EPA and state implementation of the FY 2014 Unliquidated Obligation (ULO) Strategy, which led many states to develop agile cash flow models to more accurately balance fund inflows and outflows.

Additional Information: In FY 2005, the fund utilization rate for the Drinking Water State Revolving Fund was 85 percent.

(PM aph) Percent of community water systems that have undergone a sanitary survey within the past three years (five years for outstanding performance or those ground water systems approved by the primacy agency to provide 4-log treatment of viruses).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	95	95	83	79	79	85	Percent
Actual	92	89	93	87	90.8	91.2		

Additional Information: In FY 2007, 92 percent of community water systems had undergone a sanitary survey. Prior to FY 2007, this measure tracked states rather than community water systems in compliance with this regulation. Starting in FY 2014, this measure includes ground water systems in addition to surface water systems. Ground water systems that have been approved by the primacy agency to provide 4-log treatment of viruses or have outstanding performance based on prior sanitary surveys may have sanitary surveys conducted no less than every five years (per 40 CFR 142.16(o)(2)(iii)). Because the universe is larger, the targets starting in FY 2014 have been adjusted accordingly.

(PM apm) Percent of community water systems that meets all applicable health-based standards through approaches including effective treatment and source water protection.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	90	90	90	90	90	90	90	Percent
Actual	90.7	91	91	91	90	90.4		

Additional Information: In FY 2005, 89 percent of community water systems met all applicable health-based drinking water standards.

(PM aps) Percent of Classes I, II and III salt solution mining wells that have lost mechanical integrity and are returned to compliance within 180 days, thereby reducing the potential to endanger underground sources of drinking water.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		90	85	85	85	85	85	Percent
Actual		85	89	89	88	86		

Additional Information: There is no fixed point that can be used as a baseline for this measure, since the activity that we are monitoring - "Mechanical Integrity Loss" - has not yet occurred. The universe of wells losing mechanical integrity is not static.

(PM apt) Number of Class V motor vehicle waste disposal wells (MVWDW) and large capacity cesspools (LCC) [approximately 23,640 in FY 2010] that are closed or permitted (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		20,840	25,225	25,225	25,225	27,783	28,390	Wells
Actual		25,225	26,027	26,560	27,383	28,187		

Additional Information: FY 2012 was the first year of reporting for the measure. EPA is finding fewer and fewer wells suitable for closure or that have not already been permitted.

(PM dw2) Percent of person months during which community water systems provide drinking water that meets all applicable health-based standards.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	95	95	95	95	95	95	Percent
Actual	97.4	97.8	96.9	97	96	96		

Additional Information: In FY 2005, community water systems provided drinking water that met all applicable health-based drinking water standards during 95 percent of "person months."

(PM pi1) Percent of population in each of the U.S. Pacific Island Territories (served by community water systems) that meets all applicable health-based drinking water standards, measured on a four-quarter rolling average basis.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	75	80	82	80	80	80	80	Percent
Actual	87	80	81	98	97.7	82.1		

Additional Information: In FY 2005, 95 percent of the population in American Samoa, 10 percent in the Commonwealth of the Northern Mariana Islands (CNMI) and 80 percent in Guam were served by CWSs that received drinking water that met all applicable health-based standards.

(PM E) Percent of the population in Indian Country served by community water systems that receive drinking water that meets all applicable health-based drinking water standards.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	87	87	87	87	87	87	87	Percent
Actual	81.2	84	77	89	88	88		

Additional Information: In FY 2005, 86 percent of the population served by community water systems received drinking water that met applicable drinking water standards.

(2) Fish and Shellfish Safe to Eat

(PM fs1) Percent of women of childbearing age having mercury levels in blood above the level of concern.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	4.9	No Target Established	4.9	No Target Established	2.3	No Target Established	Percent
Actual	Biennial	2.8	Biennial	2.1	Biennial	3.3		

	Explanation of Results: Although the number went up, there are no statistical differences between this year's percentage and previous years' percentages that we have reported. ***Additional Information:*** In 1999-2000, 7.8 percent of women of childbearing age had blood mercury levels above the level of concern.

Objective 2 - Protect and Restore Watersheds and Aquatic Ecosystems: Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.

Summary of progress toward strategic objective:

In FY 2016, the Water Infrastructure and Resiliency Finance Center made significant progress promoting innovative finance solutions for the nation's aging water and sewer infrastructure. The Center provided direct financial planning technical assistance to 10 communities across the country and identified innovative Customer Assistance Programs (PDF) created by utilities to help low and fixed income customers having difficulty paying their water and sewer bills. The Water Finance Center also connected leaders from federal, state, local governments, and nongovernmental organizations to share best practices in coordinating funding and showcasing leading-edge local financing solutions.

EPA and state managers continue to prioritize waterbodies listed as not attaining water quality standards. The efforts from EPA and states to restore these impaired waters have resulted in 4,009 waterbodies fully meeting water quality standards as of FY 2016. Additionally, EPA published regulatory procedures for eligible tribes to obtain authority to identify impaired waters on their reservations and to establish Total Maximum Daily Loads (TMDLs), which serve as plans for attaining and maintaining applicable water quality standards.

Of all the water bodies across the nation that have been assessed and a possible source of impairment has been identified, 85 percent of rivers and streams and 80 percent of lakes and reservoirs are polluted by nonpoint sources. EPA provided Section 319 grants to states and tribes to curb nutrient pollution. EPA advanced reductions of nutrient pollution through partnerships with the animal agriculture industry including the Nutrient Recycling Challenge that, in FY 2016, continued accelerating the development of nutrient recovery technologies to reduce discharges into waters. During FY 2016, other EPA partnerships with the animal agriculture industry awarded best practices, and funded a series of U.S. Poultry and Egg videos on water quality protection. Also, animal agriculture education modules on conservation measures were prepared through the EPA's interagency agreement with the National Resource Conservation Service. Moreover, EPA provided state and tribal Concentrated Animal Feeding Operation (CAFO) programs with technical assistance to develop specific elements in their CAFO program to improve manure management.

Wetlands are important components of healthy ecosystems and contribute to the protection and restoration of water quality. In May 2016, EPA released the National Wetland Condition Assessment (NWCA) 2011: A Collaborative Survey of the Nation's Wetlands that is the first national evaluation of the ecological condition of the nation's wetlands. The Survey is designed to answer basic questions about the extent to which our nation's wetlands support healthy ecological conditions and the prevalence of key stressors at the national and regional scale.

Objective 2 - Protect and Restore Watersheds and Aquatic Ecosystems: Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.

Green infrastructure helps restore natural hydrologic systems and the health of aquatic ecosystems reducing pollution from stormwater events. In FY 2016, EPA released the document Tools, Strategies, and Lessons Learned from EPA Green Infrastructure Technical Assistance Projects that summarizes green infrastructure solutions to reduce stress on the nation's water infrastructure and to create more livable communities through stormwater management. Also, EPA supported the annual competition Campus RainWorks Challenge, which aims to introduce the next generation of planners and engineers to green infrastructure and continues to promote an interdisciplinary approach to stormwater management.

The EPA's National Pollutant Discharge Elimination System (NPDES) program provides tools to protect watersheds and ecosystems. EPA published the guidance Best Practices for NPDES Permit Writers and Pretreatment Coordinators to Address Toxic and Hazardous Chemical Discharges to Publicly Owned Treatment Works (POTWs) (PDF) with recommendations on handling toxic and hazardous chemicals that may affect the integrity of POTW infrastructure as well as the quality of POTW's effluent and biosolids. Also, EPA launched the National Pollutant Discharge Elimination System (NPDES) Whole Effluent Toxicity (WET) Training to educate permit writers and permit holders about the WET permit program's relevant regulations, technical concepts, permitting applications and enforcement activities. Additionally, the U.S. Geological Survey, jointly with EPA, tested the beta version of the Surface Water Toolbox with states and EPA regional permit writers during fall 2016. The Surface Water Toolbox is an application that provides data and methods to estimate critical stream statistics used in low flow analysis and development of water quality standards. Low flow events typically aggravate the effects of water pollution due to the scarcity of water available to dilute effluent loadings from point and nonpoint sources, resulting in higher in-stream concentration of pollutants.

Challenges and opportunities:

The country's water infrastructure is aging and EPA's needs surveys estimate that approximately $660 billion in total investment will be needed over the next twenty years. Each year our country experiences about 240,000 water main breaks, and billions of gallons of raw sewage are discharged into local surface waters from sewer overflows compromising water quality. Many of these problems could be prevented by upgrading and repairing our aging infrastructure. EPA is helping to address these issues with the State Revolving Funds (SRFs), Water Infrastructure Finance and Innovation Act (WIFIA), Water Infrastructure and Resiliency Finance Center (WIRFC) and other assistance efforts, and collaborations with water utility associations to promote Effective Utility Management, which is critical for all utilities to ensure their long-term sustainability.

The proliferation of impervious surfaces increases polluted stormwater runoff that carries nonpoint source pollutants into local water bodies. EPA promotes green infrastructure to water utilities and the communities they serve through science and topic-specific public outreach to keep them strong, safe, and sustainable. By using green infrastructure to slow down and soak in stormwater where it falls communities can prevent polluted runoff from reaching waterways. In addition, they can realize multiple benefits such as recharging groundwater, reducing stress on potable water resources through rainwater harvesting, and reducing combined sewer overflows.

Objective 2 - Protect and Restore Watersheds and Aquatic Ecosystems: Protect, restore, and sustain the quality of rivers, lakes, streams, and wetlands on a watershed basis, and sustainably manage and protect coastal and ocean resources and ecosystems.

An overwhelming majority of Americans – 215 million (>70%) – live within 2 miles of a polluted lake, river, stream or coastal area. Moreover, the rate at which new waters are listed for water quality impairments exceeds the pace at which restored waters are removed from the list, due to challenges in protecting and restoring watersheds and aquatic ecosystems. Further, EPA expects delays in restoration of impaired waterbodies due to the complexity of some waterbodies. This complexity points toward the need for new approaches for assessing progress in water quality. EPA is evaluating new approaches for measuring local improvements in water quality to provide consistent methodology for measuring progress, and to more effectively track water quality outcomes from investments in protection and restoration.

Program Area	Performance Measures and Data
(1) Improve Water Quality on a Watershed Basis	

(PM L) Number of water body segments identified by states in 2002 as not attaining standards, where water quality standards are now fully attained (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3,073	3,324	3,727	3,829	4,016	4,082	4,089	Segments
Actual	3,119	3,527	3,679	3,866	3,944	4,009		

Explanation of Results: The target was missed due to: (1) Meeting standards in a single waterbody segment impaired by multiple pollutants is more difficult than if just one or a few pollutants are impairing the single segment and (2) Many of the impairments which remain in waters identified in 2002 require many years before restoration strategies accomplish full recovery of the waterbody segments.

Additional Information: In FY 2002, 39,798 water bodies were identified by states and tribes as not meeting water quality standards. Water bodies where mercury is among multiple pollutants causing impairment may be counted toward this target when all pollutants but mercury attain standards but must be identified as still needing restoration for mercury; In FY 2002, 1,703 impaired water bodies were impaired by multiple pollutants, including mercury, and 6,501 were impaired by mercury alone.

(PM bpb) Fund utilization rate for the CWSRF.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	94.5	94.5	94.5	94.5	94.5	95	95	Percent
Actual	98	98	97	98	98	98		

Additional Information: In FY 2002, the fund utilization rate was 91 percent. It is calculated using data collected annually from all 51 state Clean Water SRF programs (50 states and Puerto Rico).

(PM bpf) Estimated annual reduction in millions of pounds of phosphorus from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	4.5	4.5	4.5	4.5	4.5	4.5	4.5	Pounds (Million)
Actual	4.8	4.4	3.5	2.7	2.1	Data Avail 2017		

Explanation of Results: EPA collects this information in its Grants Reporting and Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce nitrogen-loads to waterbodies. States are not required to enter this information into GRTS until after one full year of project implementation, so that field data can be collected to support the model calculations. The FY 2015 target was missed because state-selected nonpoint source projects vary dramatically in their size and scale, the pollutants of focus, and the Best Management Practices (BMPs) that landowners are willing to adopt. In any given year this mix of projects, pollutant of focus, and BMP type and location – while improving water quality at the local scale – could result in a national target being missed.

Additional Information: In 2005, there was a reduction of 558,000 lbs. of phosphorus from nonpoint sources.

(PM bpg) Estimated annual reduction in million pounds of nitrogen from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	8.5	8.5	9.1	9.1	9.1	9.1	9.1	Pounds (Million)
Actual	12.8	9	10.4	11.3	9.6	Data Avail 2017		

Explanation of Results: EPA collects this information in its Grants Reporting and Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce nitrogen-loads to waterbodies. States are not required to enter this information into GRTS until after one full year of project implementation, so that field data can be collected to support the model calculations.

Additional Information: In 2005, there was a reduction of 3.7 million lbs. of nitrogen from nonpoint sources.

(PM bph) Estimated annual reduction in thousands of tons of sediment from nonpoint sources to water bodies (Section 319 funded projects only).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	700	700	1,100	1,200	1,200	1,200	1,200	Tons (Thousand)
Actual	2,007	1,100	1,169	1,674	897	Data Avail 2017		

Explanation of Results: EPA collects this information in its Grants Reporting and Tracking System (GRTS) for Section 319-funded on-the-ground implementation projects that will reduce sediment loads to waterbodies. States are not required to enter this information into GRTS until after one full year of project implementation, so that field data can be collected to support the model calculations. The FY 2015 target was missed because state-selected nonpoint source projects vary dramatically in their size and scale, the pollutants of focus, and the best management practices (BMP) that landowners are willing to adopt. In any given year this mix of projects, pollutant of focus, and BMP type and location – while improving water quality at the local scale – could result in a national target being missed.

Additional Information: In 2005, there was a reduction of 1.68 million tons of sediment from nonpoint sources.

(PM bpl) Percent of high-priority state NPDES permits that are issued in the fiscal year.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	80	80	80	80	80	Percent
Actual	135	130	55	80	82	80		

Additional Information: Priority Permits are permits in need of reissuance that have been identified by states as environmentally or programmatically significant. The annual universe of Priority Permits includes the number of permits selected as priority, from which a subset will be issued in the current fiscal year. In 2005, 104% of the designated priority permits were issued in the fiscal year. Starting in FY 2013, results can no longer exceed 100% issuance due to an adjustment of the measure definition, and the targets were revised accordingly. The universe used to calculate percentage results changed from the number of permits committed to issuance in the current fiscal year to the total number of permits selected as priority.

(PM bpv) Percent of high-priority EPA and state NPDES permits (including tribal) that are issued in the fiscal year.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	80	80	80	80	80	Percent
Actual	132	128	55	77	81	78		

Explanation of Results: The Priority Permits target was missed due to delays in issuing final permits caused by various factors, including permit complexity and extensive public comments received.

Additional Information: Priority Permits are permits in need of reissuance that have been identified by states or EPA Regions as environmentally or programmatically significant. The annual universe of Priority Permits includes the number of permits selected as priority, from which a subset will be issued in the current fiscal year. In 2005, 104% of the designated priority permits were issued in the fiscal year. Starting in FY 2013, results can no longer exceed 100% issuance due to an adjustment of the measure definition, and the targets were revised accordingly. The universe used to calculate percentage results changed from the number of permits committed to issuance in the current fiscal year to the total number of permits selected as priority.

(PM bpw) Percent of states and territories that, within the preceding 3-year period, submitted new or revised water quality criteria acceptable to the EPA that reflect new scientific information from the EPA or sources not considered in previous standards.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	64.3	64.3	64.3	66.1	67.9	67.9	73.2	Percent
Actual	69.6	69.6	58.9	51.8	64.3	69.6		

Additional Information: In FY 2004, 70% of states and territories submitted acceptable water quality criteria reflecting new scientific information.

(PM bpx) Percent of areas associated with state-identified priority waters that are addressed by an EPA-approved TMDL or accepted plan or approach designed to achieve or maintain water quality standards.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					8	8	31	Percent
Actual					Data Not Reported	9		

Explanation of Results: EPA continued to implement the Long-Term Vision for Assessment, Restoration, and Protection under the Clean Water Act Section 303(d) Program (originally established in FY 2014). The Program saw a continued dialogue among states and territories, across Clean Water Act Programs, and among various stakeholders about how best to prioritize plans for addressing impaired and healthy waters to demonstrate progress over time in achieving environmental results. Under the new Vision, prioritization is a key component. To assist states in prioritizing impaired and healthy waters, EPA developed tools such as the Recovery Potential Screening Tool and Waterscape. In addition, FY 2016 was a year to get comfortable with the 'look and feel' of the new performance measure to track TMDLs, alternative restoration and protection approaches. This performance measure was the first one to transition to using the Assessment and TMDL Tracking and Implementation System (ATTAINS) database as the data source and the catchment area as the unit of measure to report results.

Additional Information: This is a new measure replacing the measures that tracked Total Maximum Daily Load (TMDL) development. Cumulatively, EPA and states completed more than 72,000 TMDLs through FY 2015. A TMDL is a technical plan for reducing pollutants to a body of water in order to attain water quality standards. The terms "approved" and "established" refer to the completion and approval of the TMDL itself. The universe for the measure is all watershed areas corresponding to priority waters identified by each state. The measure provides the extent of priority areas identified by each state that have been addressed by EPA-approved TMDLs or alternative restoration approaches for impaired waters, or protection approaches for unimpaired waters, at the beginning of the year when the baseline is established.

(PM wq2) Remove the specific causes of water body impairment identified by states in 2002 (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	9,016	10,161	11,634	12,134	12,788	12,990	13,110	Causes
Actual	9,527	11,134	11,754	12,288	12,640	12,910		

Explanation of Results: The target was missed because many of the impairments which remain in waters identified in 2002 require many years before restoration strategies accomplish full recovery of the waterbody segments.

Additional Information: In FY 2002, an estimate of 69,677 specific causes of water body impairments were identified by states.

(PM uw1) Number of urban water projects initiated addressing water quality issues in the community.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		3	10	30	22	49	25	Projects
Actual		46	9	65	28	48		

Explanation of Results: The initiated projects target is an estimate based on past awards. The actual awards made depends on a variety of factors including the quality of proposed projects and, for the National Fish and Wildlife Foundation grants, the interest of the funding partners. We awarded one less grant in 2016 because we had less money than expected available to fund the small grants program in 2016.

Additional Information: This measure tracks progress in grants that help communities access, improve, and benefit from their urban waters and surrounding land. The target of 49 projects initiated for FY 2016 included 29 projects under EPA's Urban Waters Small Grants (direct grants) and 20 projects under the Five-Star and Urban Waters Restoration Program managed by the National Fish and Wildlife Foundation (sub-grants with EPA and leveraged public and private funds). Projects under both programs advance water quality improvement and EPA investments are consistent with CWA Section 104(b)(3) authority.

(PM uw2) Number of urban water projects completed addressing water quality issues in the community (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					61	78	175	Projects
Actual					60	110		

Explanation of Results: Results include completed Urban Waters Small Grants (54) and grants funded in part by EPA through the Five Star and Urban Waters Restoration Program (56) managed by the National Fish and Wildlife Foundation.

Additional Information: Results include completed Urban Waters Small Grants and grants funded in part by EPA through the Five Star and Urban Waters Restoration Program managed by the National Fish and Wildlife Foundation.

(PM wq3) Improve water quality conditions in impaired watersheds nationwide using the watershed approach (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	208	312	370	408	446	484	519	Watersheds
Actual	271	332	376	411	450	485		

Additional Information: In FY 2002, there were 0 watersheds improved of an estimated 4,800 impaired watershed of focus having 1 or more water bodies impaired. The watershed boundaries for this measure are those established at the "12-digit" scale by the U.S. Geological Survey. Watersheds at this scale average 22 square miles in size. "Improved" means that that one or more of the impairment causes identified in FY 2002 are removed for at least 40 percent of the impaired water bodies or impaired miles/acres, or there is significant watershed-wide improvement, as demonstrated by valid scientific information, in one or more water quality parameters associated with the impairments.

(PM Opb) Percent of serviceable rural Alaska homes with access to drinking water supply and wastewater disposal.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	92	93	93	93.5	92.5	93	93.5	Percent
Actual	92	91	91	94.4	94.6	93.5		

Additional Information: In 2003, 77 percent of serviceable rural Alaska homes had access to drinking water supply and wastewater disposal.

(2) Improve Coastal and Ocean Waters

(PM sf3) At least seventy-five percent of the monitored stations in the near shore and coastal waters of the Florida Keys National Marine Sanctuary will maintain Chlorophyll a(CHLA) levels at less than or equal to 0.35 ug l-1 and light clarity (Kd) levels at less than or equal to 0.20 m-1.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	75	75	75	75	75	75	75	Percent
Actual	85.4	CHLA: 70.9; KD: 72.5	>75 (CHLA: 84.5; KD: 80.4)	CHLA = 86.0; Kd = 87.2	CHLA = 82.0; Kd = 77.3	CHLA = 70.9; Kd = 78.5		

Explanation of Results: The target for CHLA was not met due to a severe drought that occurred in South Florida in 2014 and continued throughout the summer of 2015 resulting in an extensive seagrass die-off in Florida Bay. Seagrass decomposition from the die-off contributed to anomalously high nutrient concentrations in Florida Bay. Those nutrients released from decomposition of seagrass were conveyed to the Sanctuary and detected by the Florida Keys National Marine Sanctuary Water Quality Protection Program long-term water quality monitoring program.

Additional Information: In 2005, total water quality was at CHLA < 0.2 ug/l, light attenuation < 0.13/meter.

(PM sf4) At least seventy-five percent of the monitored stations in the near shore and coastal waters of the Florida Keys National Marine Sanctuary will maintain dissolved inorganic nitrogen (DIN) levels at less than or equal to 0.75 uM and total phosphorus (TP) levels at less than or equal to 0.25 uM.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	75	75	75	75	75	75	75	Percent
Actual	73.6	DIN: 81; TP: 89.5	<75 (DIN: 60.0; TP: 82.3)	DIN=72.6; TP=87.6	DIN=61.7; TP=78.3	DIN = 70.8; TP = 89.1		

Explanation of Results: The target for DIN was not met due to a severe drought that occurred in South Florida in 2014 and continued throughout the summer of 2015 resulting in an extensive seagrass die-off in Florida Bay. Seagrass decomposition from the die-off contributed to anomalously high nutrient concentrations in Florida Bay. Those nutrients released from decomposition of seagrass were conveyed to the Sanctuary and detected by the Florida Keys National Marine Sanctuary Water Quality Protection Program long-term water quality monitoring program.

Additional Information: In FY 2005, DIN was <0.75 uM at 76.3 percent of monitored stations; TP was < 0.25 uM at 89.9 percent of monitored stations.

(PM sf6) The number of Everglades Stormwater Treatment Areas (STAs) with the annual total phosphorus (TP) outflow less than or the same as the five-year annual average TP outflow, working towards the long-term goal of meeting the 10 parts per billion annual geometric mean.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					3	3	3	Stormwater Treatment Areas
Actual					4	4		

Additional Information: This was a new measure for FY 2015. The baseline period is the most recent 5 years. The 5-year baseline takes into account variability due to climatic conditions including extremely wet or dry years which are common in South Florida. For FY 2015, the 5-year baseline, 2010 to 2015, was 36 parts per billion (ppb) for STA-1E, 35 ppb for STA-1W, 21 ppb for STA-2, 17 ppb for STA-3/4, and 54 ppb for STA-5/6. The universe is 5 STAs.

(PM co5) Percent of active dredged material ocean dumping sites that will have achieved environmentally acceptable conditions (as reflected in each site's management plan).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	98	95	95	95	95	95	95	Percent
Actual	93	97	96	95	95	97		

Explanation of Results: In FY 2016, 71 sites had achieved environmentally acceptable conditions.

(PM 202) Acres protected or restored in National Estuary Program study areas.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100,000	100,000	100,000	100,000	100,000	100,000	100,000	Acres
Actual	62,213	114,575	127,594	93,557	111,584	70,462		

Explanation of Results: Factors contributing to the number of acres protected and restored each year by EPA and its partners are numerous and complex making it difficult to accurately forecast with any degree of certainty. Some of the challenges that resulted in missing our target include: 1) coordinating work among multiple entities at the Federal, state or local levels, 2) obtaining permits, 3) processing habitat restoration contracts, and 4) unanticipated weather events.

Additional Information: A total of 1,295,323 acres of habitat were protected or restored from FY 2002-2013.

(3) Increase Wetlands

(PM 4E) In partnership with the U.S. Army Corps of Engineers, states, and tribes, achieve no net loss of wetlands each year under the Clean Water Act Section 404 regulatory program. ("No net loss" of wetlands is based on requirements for mitigation in CWA 404 permits and not the actual mitigation attained.)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	Acres
Actual	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss	No Net Loss		

Additional Information: EPA receives data for this measure from the Army Corps of Engineers (ACE).

(PM 4G) Number of acres restored and improved under the 5-Star, NEP, 319, and great water body programs (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	150,000	170,000	190,000	220,000	230,000	290,000	305,000	Acres
Actual	154,000	180,000	207,000	221,000	275,555	291,055		

Additional Information: This measure describes the wetland acres restored through only EPA programs. Information on the national status of wetland gains and losses regardless of the cause is provided every five years by the U.S. Fish and Wildlife Service (USFWS). The most recent report (U.S. FWS, Status and Trends of Wetlands in the Conterminous United States 2004 to 2009: http://www.fws.gov/wetlands/Status-And-Trends-2009/index.html) noted an annual net loss of 13,800 acres.

(4) Great Lakes

(PM 625) Areas of Concern Beneficial Use Impairments removed (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	26	33	41	46	60	65	72	BUIs
Actual	26	33	41	52	60	65		

Additional Information: Results from this measure are achieved through Great Lakes Restoration Initiative (GLRI) funding as well as other non-GLRI federal and/or state funding. Universe is 255. Reviews of this measure conducted during the preparation of GLRI Action Plan II in FY 2014 identified overstatements of the number of beneficial use impairments removed. The cumulative results shown above are two less than were achieved through FY 2011, FY 2012, and FY 2013. Corrected results are shown from FY 2014 onward.

(PM 626) Number of Areas of Concern in the Great Lakes where all management actions necessary for delisting have been implemented (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1	3	4	5	8	9	11	AOCs
Actual	2	2	3	7	7	8		

Explanation of Results: Area of Concern (AOC) Management Actions were completed at the St. Clair River AOC. In addition, the program expects to complete Management Actions at the River Raison AOC by the end of the calendar year 2016. The completed Management Actions in the River Raisin AOC were delayed due to the complexity of the sediment cleanup.

Additional Information: Universe of 31. Results from this measure are achieved through GLRI funding as well as other non-GLRI federal and/or state funding.

(PM 628) Number of acres controlled by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1,500	15,500	34,000	38,000	94,500	110,000	120,000	Acres
Actual	13,045	31,474	35,924	84,500	101,392	115,889		

Additional Information: There were zero acres managed for populations of invasive species controlled to a target level in 2005.

(PM 629) Number of GLRI-funded Great Lakes rapid responses or exercises conducted.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	4	8	14	9	8	8	8	Responses/Exercises
Actual	8	15	7	8	21	11		

Additional Information: There were zero multi-agency rapid response plans established, mock exercises to practice responses carried out under those plans, and/or actual response actions in 2005.

(PM 638) Projected phosphorus reductions from GLRI-funded projects in targeted watersheds (measured in pounds).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					130,000	310,000	525,000	Pounds
Actual					160,117	402,943		

Additional Information: Cumulative measure of average annual projected reduction, starting in FY 2015.

(PM 639) Projected volume of untreated urban runoff captured or treated by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					30	70	120	Gallons (millions)
Actual					37	116		

Additional Information: Cumulative measure of average annual projected reduction, starting in FY 2015.

(PM 640) Number of miles of Great Lakes tributaries reopened by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					2,200	4,200	4,900	Miles
Actual					3,855	4,615		

Additional Information: As of October 1, 2014, 3,475 miles of tributaries were reopened by GLRI-funded projects. Universe: N/A.

(PM 641) Number of miles of Great Lakes shoreline and riparian corridors protected, restored, and enhanced by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					75	350	725	Miles
Actual					313	662		

Additional Information: As of October 1, 2014, there were 0 miles of shoreline and riparian corridors known to have been protected, restored, and enhanced by GLRI-funded projects. Universe: N/A.

(PM 642) Number of acres of Great Lakes coastal wetlands protected, restored, and enhanced by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					7,000	15,000	30,000	Acres
Actual					7,033	17,540		

Additional Information: As of October 1, 2014, there were 0 miles of wetlands known to have been protected, restored, and enhanced by GLRI-funded projects. Universe is 260,000 acres.

(PM 643) Number of acres of other habitats in the Great Lakes basin protected, restored, and enhanced by GLRI-funded projects (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					127,000	167,000	187,000	Acres
Actual					146,815	167,218		

Additional Information: As of October 1, 2013, there were 117,000 acres of other habitats protected, restored, and enhanced by GLRI-funded projects. Universe is 1,290,000 acres.

(5) Chesapeake Bay

(PM 234) Reduce per capita nitrogen loads (pounds per person per year) to levels necessary to achieve Chesapeake Bay Total Maximum Daily Load allocations.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			15.17	15	14.5	14		Pounds/Person/ Year
Actual			14.92	14.7	14.8	14.3		

Explanation of Results: Meeting the annual target for this measure is dependent on meeting the targets for measure PM cb6. Note: measure deleted after FY 2016.

Additional Information: In FY 1986, the per caipta load was 27 pounds of nitrogen/person/year. This measure replaced PM 233 starting in FY 2013.

(PM cb6) Percent of goal achieved for implementing nitrogen reduction actions to achieve the final TMDL allocations, as measured through the phase 5.3 watershed model.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1	15	22.5	30	37.5	45	52.5	Percent
Actual	8	21	25	27	21	31		

Explanation of Results: Failure to meet the FY 2016 target results primarily from a lack of new implementation of Best Management Practices (BMPs) that address excess nitrogen loads, particularly BMPs reported from Pennsylvania's agriculture sector. About 55% of needed nitrogen load reductions among jurisdictions are from Pennsylvania and that state's Watershed Implementation Plan calls for 71% of the state reductions to come from agriculture. To compound the problem, newly introduced data from the Agricultural Census indicates more acres in commodity crops than expected. These crops use more fertilizers than was forecasted and the resultant increase in nitrogen loads would need to be offset.

Additional Information: In FY 2010, 0 percent of the goal was achieved.

(PM cb7) Percent of goal achieved for implementing phosphorus reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1	15	22.5	30	37.5	45	52.5	Percent
Actual	1	19	27	43	71	81		

Additional Information: In FY 2010, 0 percent of the goal was achieved.

(PM cb8) Percent of goal achieved for implementing sediment reduction actions to achieve final TMDL allocations, as measured through the phase 5.3 watershed model.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1	15	22.5	30	37.5	45	52.5	Percent
Actual	11	30	32	37	25	48		

Additional Information: In FY 2010, 0 percent of the goal was achieved.

(6) Gulf of Mexico

(PM xg2) Restore, enhance, or protect a cumulative number of acres of important coastal and marine habitats.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	30,000	30,600	30,600	30,600	30,800	30,800	31,426	Acres
Actual	30,052	30,248	30,306	30,319	30,574	31,276		

Explanation of Results: Habitat acreage restoration may take several years to be a success and the Gulf of Mexico Program counts acres once projects are in place and results are recognized. Occasionally the program will have a high-yield project that has been active for several years, come to a close. This was the case for FY 2016.

Additional Information: In FY 2008, 25,215 acres were restored, enhanced, or protected in the Gulf of Mexico.

(PM xg3) Improve and/or restore water and habitat quality to meet water quality standards in watersheds throughout the five Gulf States and the Mississippi River Basin.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						2	2	Watersheds (12 digit HUC)
Actual						2		

Additional Information: New measure replaced PM xg1 in FY 2016. The measure tracks improved and/or restored watershed annually. A 12 digit Hydrologic Unit Code (HUC) watershed counts as having an improvement when there is a five percent or more positive change in at least one water quality parameter. Water quality parameter(s) appropriate to the 12 digit HUC watershed include dissolved oxygen, temperature, pH, turbidity, total suspended solids, salinity, chlorophyll, freshwater inflow, oil/grease, floatables, nutrients, and invasive species.

(7) Long Island Sound

(PM li5) Percent of goal achieved in reducing trade-equalized (TE) point source nitrogen discharges to Long Island Sound from the 1999 baseline of 59,146 TE lbs/day.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	72	74	76	85	91.5	95	100	Percent
Actual	69	83	88	94	99.8	111		

Additional Information: The 2000 Total Maximum Daily Load (TMDL) baseline is 59,146 Trade-Equalized (TE) pounds/day. The ongoing TMDL target is 22,774 TE pounds/day. The Long Island Sound Nitrogen TMDL is an enforceable document with a 15-year implementation timetable that completed in 2014. There are no annual targets in the TMDL. The 'annual targets' in the strategic plan are for presentation purposes only and are estimates based on the 15 year total nitrogen reduction target. New York City and Westchester County Sewage Treatment Plants (STPs) are under Consent Orders that extended their TMDL compliance deadline to 2017. EPA monitored these for compliance, as well as Connecticut STPs for anti-backsliding compliance with their final TMDL limits, or as renegotiated with EPA.

(PM li8) Restore, protect or enhance acres of coastal habitat from the 2010 baseline of 2,975 acres.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		218	420	410	135	95.8	398	Acres
Actual		537	336	410	1,678	532		

Explanation of Results: Partners completed more protection projects than were anticipated when targets were developed.

Additional Information: EPA revised this measure in FY 2012 to measure acres instead of percent of goal achieved. EPA established annual targets with partners to measure annual progress. Out-year estimates are based on continued state progress, feasibility, and funding for habitat restoration projects.

(PM li9) Reopen miles of river and stream corridors to diadromous fish passage from the 2010 baseline of 17.7 river miles by removal of dams and barriers or by installation of bypass structures.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		28	75	1.5	30	76.95	30	Miles
Actual		72.3	56	21.6	0	50		

Explanation of Results: Segments of the Pawcatuck River project have been delayed, which would have opened up 70+ river miles.

Additional Information: EPA revised this measure in FY 2012 to report river miles instead of percent of goal achieved. EPA established annual targets with partners to measure annual progress. Out-year estimates are based on continued state progress, feasibility, and funding for fish passage and bypass projects.

(8) Puget Sound Basin

(PM ps1) Improve water quality and enable the lifting of harvest restrictions in acres of shellfish bed growing areas impacted by degrading or declining water quality (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	4,953	3,878	7,758	4,000	4,700	4,750	6,350	Acres
Actual	1,525	2,489	3,203	3,249	3,277	3,887		

Explanation of Results: In FY 2016, there were 1,089 acres that were upgraded to "approved" status in FY 2016 due to improvements to water quality. However, there were 479 acres downgraded to "conditional" status due to recurrence of bacterial pollution predominantly from stormwater runoff contributing to missing our target.

Additional Information: Federal, state, local and tribal partners worked together to protect Puget Sound's approximately 143,000 acres of approved shellfish harvest beds, and improve its approximately 10,000 acres of potentially recoverable shellfish beds, by ensuring that adjacent water quality and safe harvesting conditions were preserved. The performance measure reports cumulative net gain in acres that are upgraded to approved status minus any loss of currently approved acres. In 2010, 4,453 acres (cumulative) of shellfish-bed growing areas had improved water quality, resulting in the lifting of harvest restrictions. In 2011, approximately 4,000 acres in Samish Bay were downgraded due to pollution exacerbated by La Niña weather conditions.

(PM ps3) Protect or restore acres or shoreline miles of aquatic habitats including: estuaries, floodplains, marine and freshwater shorelines, riparian areas, stream habitats, and associated wetlands (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12,363	19,063	31,818	33,818	43,006	45,500	48,000	Acres
Actual	14,629	23,818	30,128	41,006	43,002	45,360		

Explanation of Results: In 2016, EPA had 14 habitat projects from Puget Sound that we could not approve because they lacked quantification (i.e., spatial measurements) of the area treated. These were a group of shoreline debris removal projects led by Washington State Department of Natural Resources (DNR) to gather and remove accumulated anthropogenic debris or creosote treated pilings and dock materials. DNR has indicated they may be able to calculate these areas and re-submit the projects in FY 2017.

Additional Information: The protection and restoration of habitat is one of the three priority areas for the Puget Sound Program. These activities supported salmon recovery goals of viable, harvestable populations of this tribal treaty protected resource. In FY 2008, 4,413 acres (cumulative) of tidally- and seasonally-influenced estuarine wetlands were restored. The target for this measure was exceeded every year from FY 2008 - FY 2012 resulting in the protection and/or restoration of 23,818 acres during that period.

(9) U.S.-Mexico Border Environmental Health

(PM 4pg) Loading of biochemical oxygen demand (BOD) removed (million pounds/year) from the U.S.-Mexico border area since 2003 (cumulative).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	108.2	115	121.5	137.3	141.1	150.3	151.9	Million Pounds/Year
Actual	108.5	119	128.3	131	142.9	151.8		

Additional Information: As of FY 2003, zero pounds of biochemical oxygen demand (BOD) had been removed.

(PM xb2) Number of additional homes provided safe drinking water in the U.S.-Mexico border area that lacked access to safe drinking water in 2003.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	54,130	1,000	3,000	1,700	600	500	1,500	Homes
Actual	54,734	5,185	3,400	1,468	878	3,700		

Additional Information: "Additional homes" represents the number of existing households that are provided access (i.e., connected) to safe drinking water as a result of Border Environment Infrastructure Fund (BEIF)-supported projects. The known universe is the number of existing households in the U.S.-Mexico border area lacking access to safe drinking water in FY 2003 (98,515 homes). The known universe was calculated from U.S. Census and the Mexican National Water Commission (CONAGUA) sources. This measure was modified from cumulative to annual beginning in FY 2012 to better capture annual program progress.

(PM xb3) Number of additional homes provided adequate wastewater sanitation in the U.S.-Mexico border area that lacked access to wastewater sanitation in 2003.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	461,125	10,500	27,000	39,500	40,750	40,720	450	Homes
Actual	513,041	31,092	25,695	12,756	44,070	45,000		

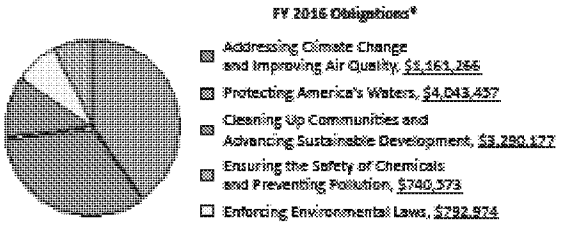
	Additional Information: "Additional homes" represents the number of existing households that are provided access (i.e., connected) to adequate wastewater sanitation as a result of Border Environment Infrastructure Fund (BEIF)-supported projects. The known universe is the number of existing households in the U.S.-Mexico border area lacking access to adequate wastewater sanitation services in FY 2003 (690,723). The known universe of unconnected homes was calculated from U.S. Census and the Mexican National Water Commission (CONAGUA) sources. This measure was modified from cumulative to annual beginning in FY 2012 to better capture annual program progress.

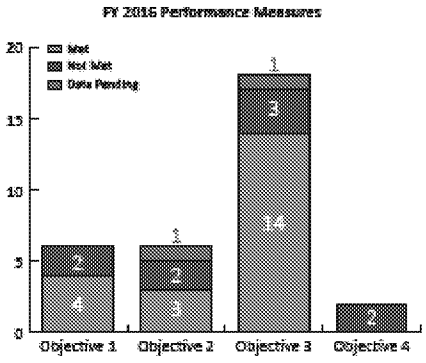
Goal 3 at a Glance

CLEANING UP COMMUNITIES AND ADVANCING SUSTAINABLE DEVELOPMENT

Clean up communities, advance sustainable development, and protect disproportionately impacted low-income and minority communities. Prevent releases of harmful substances and clean up and restore contaminated areas.

FY 2016 Performance Measures
Met: 21 Not Met: 9 Data Unavailable: 2
(Total Measures: 32)





Strategic Objective Overview	FY 2016 Obligations*	% of Goal 3 Funds
Objective 3.1: Promote Sustainable and Livable Communities. Support sustainable, resilient, and livable communities by working with local, state, tribal, and federal partners to promote smart growth, emergency preparedness and recovery planning, redevelopment and reuse of contaminated and formerly contaminated sites, and the equitable distribution of environmental benefits.	$503,129	15.3%
Objective 3.2: Preserve Land. Conserve resources and prevent land contamination by reducing waste generation and toxicity, promoting proper management of waste and petroleum products, and increasing sustainable materials management.	$1,065,992	32.4%
Objective 3.3: Restore Land. Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites for reuse.	$1,631,643	49.6%
Objective 3.4: Strengthen Human Health and Environmental Protection in Indian Country. Directly implement federal environmental programs in Indian Country and support federal program delegation to tribes. Provide tribes with technical assistance and support capacity development for the establishment and implementation of sustainable environmental programs in Indian Country.	$89,413	2.7%
Goal 3 Total	**$3,290,177**	**100.0%**

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 3

Brownfields and Land Revitalization
Environmental Response Laboratory Network
Federal Facilities Restoration and Reuse
Global Change Research
Homeland Security
Homeland Security Research
Human Health and Ecosystem Protection Research
Human Health Risk Assessment
Leaking USTs
National Environmental Monitoring Initiative
Oil Spill Prevention Preparedness and Response
RCRA Corrective Action
RCRA Waste Management
RCRA Waste Minimization and Recycling
Research Fellowships
Risk Management Program
Sector Grant Program
Smart Growth
State and Local Prevention and Preparedness
Superfund Emergency Preparedness
Superfund Emergency Response and Removal
Superfund Enforcement
Superfund Remedial
Tribal Capacity-Building
Tribal General Assistance Program
UST Prevention and Compliance
U.S.–Mexico Border

Goal 3: Cleaning Up Communities and Advancing Sustainable Development
Clean up communities, advance sustainable development, and protect disproportionately impacted low-income and minority communities. Prevent releases of harmful substances and clean up and restore contaminated areas

Objective 1 - Promote Sustainable and Livable Communities.: Support sustainable, resilient, and livable communities by working with local, state, tribal, and federal partners to promote smart growth, emergency preparedness and recovery planning, brownfield redevelopment, and the equitable distribution of environmental benefits.

Summary of progress toward strategic objective:
EPA continued to make progress under this objective. As of the end of FY 2016, brownfields federal funding had leveraged more than 115,600 jobs and raised $24.77 billion from both public and private sources, and these results have generally increased over time. Data from local governments near 48 brownfield sites show that these entities collected an estimated total of $29-97 million in additional taxes in a single year after cleanup (2-7 times the $12.4 million EPA contribution). EPA has made significant progress advancing the Executive Order on Improving Chemical Facility Safety and Security (E.O. 13650) through its revisions to the Risk Management Plan (RMP) Rule. These revisions will strengthen data reporting requirements for chemical manufacturers and importers, protecting workers and communities by improving chemical process safety, assisting local emergency authorities in planning for and responding to accidents, and improving public awareness of chemical hazards at regulated sources.

Challenges and opportunities:
Challenges include meeting the demand for brownfields assistance, and making sure the funds from brownfields revolving loan funds are available for additional projects. EPA inspects less than 4% of the universe of risk management facilities and expects this low inspection rate to continue.

Program Area	Performance Measures and Data								
(2) Assess and Clean Up Brownfields	**(PM B29) Brownfield properties assessed.**								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	1,000	1,200	1,200	1,200	1,300	1,400	1,400	Properties
	Actual	1,784	1,444	1,528	1,659	1,320	1,392		
	Explanation of Results: Target was missed due the difficulty of predicting results with exact certainty, as well as decreases in data entry from backlogged work packages as compared with recent years.								
	(PM B32) Number of properties cleaned up using Brownfields funding.								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	60	120	120	120	120	130	130	Properties
	Actual	130	120	122	132	150	136		

Program Area	Performance Measures and Data

Additional Information: This measure tracks the number of properties that have been cleaned up to a regulatory risk based standard using EPA Brownfields funding, as reported by cooperative agreement recipients.

(PM B33) Acres of Brownfields properties made ready for reuse.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1,000	3,000	3,000	3,000	4,000	5,500	5,500	Acres
Actual	6,667	3,314	4,644	6,389	7,817	7,354		

Explanation of Results: Acres made ready for reuse varies from year-to-year as there is no programmatic control over the size of any particular brownfield site. Acreage levels fluctuate greatly from year to year, but loosely correlate with the number of anticipated cleanups and assessments.

Additional Information: This measure tracks the number of acres associated with properties benefiting from EPA Brownfields funding that have been assessed and determined not to require cleanup, or where cleanup has been completed and institutional controls are in place if required, as reported by cooperative agreement recipients.

(PM B34) Jobs leveraged from Brownfields activities.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	5,000	5,000	5,000	5,000	5,000	7,000	7,000	Jobs
Actual	6,447	5,593	10,141	12,376	11,229	9,661		

Explanation of Results: Jobs leveraged varies from year-to-year as it is dependent on the final use of brownfields sites. The relatively large accomplishment numbers in FYs 2013, 2014 and 2015 were due to improved reporting and several very large projects.

Additional Information: This measure tracks the number of cleanup and redevelopment jobs leveraged by assessment or cleanup activities conducted with EPA Brownfields funding, as reported by cooperative agreement recipients at a specific property.

(PM B37) Billions of dollars of cleanup and redevelopment funds leveraged at Brownfields sites.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	0.9	1.2	1.2	1.2	1.1	1.1	1.1	Dollars (Billions)
Actual	2.14	1.2	1.54	1.29	1.71	1.47		

Explanation of Results: Cleanup and redevelopment funds leveraged varies from year-to-year as it is influenced by the types of sites available for funding and economic conditions.

Additional Information: This measure tracks the number of additional dollars leveraged by assessment or cleanup activities conducted with EPA Brownfields funding, as reported by cooperative agreement recipients at a specific property.

(3) Reduce Chemical Risks at Facilities and in Communities	(PM CH2) Number of risk management plan inspections conducted.								
		FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target	560	530	500	460	460	460	460	Inspections
	Actual	630	652	539	466	376	343		
	Explanation of Results: Competing priorities make it difficult for EPA regions to set higher targets for conducting inspections. Between FY 2000 and FY 2016, more than 8,900 Risk Management Plan (RMP) inspections were completed. Of the 460 RMP facility inspections targeted for FY 2017, 36 percent will be conducted at high-risk facilities, determined by factors such as nearby population and accident history. ***Additional Information:*** The Risk Management Plan (RMP) Rule implements Section 112(r) of the 1990 Clean Air Act amendments. RMP requires facilities (approximately 12,700) that use extremely hazardous substances to develop a Risk Management Plan. The information required from facilities under RMP helps local fire, police, and emergency response personnel prepare for and respond to chemical emergencies.								

Objective 2 - Preserve Land: Conserve resources and prevent land contamination by reducing waste generation and toxicity, promoting proper management of waste and petroleum products, and increasing sustainable materials management.

Summary of progress toward strategic objective:

EPA made steady progress under this objective. By FY 2016, 72.5% of underground storage tank (UST) facilities are in significant operational compliance with leak detection and release prevention requirements, and the number of UST releases has decreased 10.25% over the past seven years. In FY 2016, EPA collaborated with states to update state underground storage tank regulations consistent with revised federal regulations.

A total of 9,037,319 tons of virgin materials were offset through Sustainable Materials Management in FY 2014 (most recent data). As part of this program, EPA promoted three national strategies: the Federal Green Challenge, Electronics Challenge, and Food Recovery Challenge. These strategies focused on using less environmentally intensive and toxic materials and employing downstream solutions to conserve resources for future generations.

Challenges and opportunities:

The challenges faced by EPA include the 2.5 billion tons of solid, industrial, and hazardous wastes produced each year; potential health and environmental risks from sudden releases at older waste management units and UST sites due to aging infrastructure or gaps in coverage of the Resource Conservation and Recovery Act (RCRA) Program; and constrained ability to engage in international waste issues, such as toxic wastes being moved across borders and different standards being applied to treat and dispose of wastes.

Program Area	Performance Measures and Data								
(1) Waste Generation and Recycling	**(PM SM1) Tons of materials and products offsetting use of virgin resources through sustainable materials management.**								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target		8,549,502	8,501,537	8,603,033	9,346,830	9,450,000	9,550,000	Tons
	Actual		9,002,588	8,795,750	9,037,319	Data Avail 5/2017	Data Avail 11/2018		
	Explanation of Results: As part of its sustainable materials management program, EPA promoted three national strategies: the Federal Green Challenge, the Electronics Challenge, and the Food Recovery Challenge. These strategies focused on using less environmentally intensive and toxic materials and employing downstream solutions, like reuse and recycling, to conserve resources for future generations. EPA worked with other federal agencies, state and tribal governments, and non-governmental organizations to promote sustainability goals through these and other initiatives. For comparison, a total of 258 million tons of municipal solid waste were generated in FY 2014. EPA also attributes a portion of the national recycling total (89.4 million tons in 2014) to various agency efforts.								
	(PM MW8) Number of tribes covered by an integrated solid waste management plan.								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	14	3	3	10	10	10	10	Tribes
	Actual	17	13	26	20	16	15		
	Explanation of Results: As of the end of September 2016, 224 of 574 federally-recognized tribes were covered by an integrated waste management plan. ***Additional Information:*** This measure shows the number of tribes covered by a new integrated solid waste management plan during the year. These plans were developed with direct tribal funding as well as funds from EPA and other federal agencies. EPA also offered technical assistance to tribes, such as that provided through tribal circuit riders.								
(2) Minimize Releases of Hazardous Waste and Petroleum Products	**(PM HW0) Number of hazardous waste facilities with new or updated controls.**								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	100	100	100	100	110	115	115	Facilities
	Actual	130	117	114	129	120	111		
	Explanation of Results: Target was missed partially due to the loss of permit writers with specialized expertise in the last few years, increasing the number of facilities covered by the remaining permit writers. We believe the FY 2017 target is attainable through efficiency improvements and better training for new staff. ***Additional Information:*** Initial and updated controls for hazardous waste facilities are essential to maintaining protective standards, operating conditions, and up to date equipment for the safe management of hazardous wastes.								

(PM PCB) Number of approvals issued for polychlorinated biphenyl (PCB) cleanup, storage and disposal activities.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				150	200	200	200	Approvals
Actual				254	218	175		

Explanation of Results: Target was missed due to a focus on highest priority approvals (based on risk reduction potential, sensitive population proximity, time sensitive approvals) that typically require more resources, as well as priority work in non-PCB areas such as corrective action cleanups which use many of the same staff and expertise. Additionally, some EPA regions received fewer requests than in past years, reducing their total achievements compared with predicted workload. EPA issued 1,625 approvals between FY 2008 and FY 2016.

Additional Information: This measure tracks all approvals issued by EPA under Section 761 of the Toxic Substances Control Act (TSCA) for PCBs. Approvals are initiated by the individual/company and submitted to EPA for review. EPA does not have any way to identify all the PCB approval needs in a given year and relies mainly on historical information to estimate the upcoming "workload" for approvals in setting targets.

(PM ST6) Increase the percentage of UST facilities that are in significant operational compliance (SOC) with both release detection and release prevention requirements by 0.5% over the previous year's target.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	66	66.5	67	70	70.5	71	71.5	Percent
Actual	71	71.3	71.6	72.5	72.6	72.5		

Explanation of Results: In FY 2016, there were 93,846 on-site inspections of USTs.

Additional Information: The Energy Policy Act of 2005 requires states and EPA to inspect all USTs every three years.

(PM ST1) Reduce the number of confirmed releases at UST facilities to five percent (5%) fewer than the prior year's target.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	<8,550	<8,120	<7,715	<7,330	<6,965	<6,615	<6,285	Releases
Actual	5,998	5,674	6,128	6,847	6,830	5,582		

Explanation of Results: Confirmed releases returned to a long-term downward trend, after a temporary increase in releases reported in one state (New Jersey) from FY 2013 through FY 2015. EPA updated the UST regulations in 2015 in order to further reduce releases.

Additional Information: The UST prevention program works to ensure that underground sources of drinking water (groundwater) are protected from petroleum and associated chemicals leaking from USTs. There are 560,872 federally regulated USTs in the United States at approximately 202,000 facilities.

Objective 3 - Restore Land: Prepare for and respond to accidental or intentional releases of contaminants and clean up and restore polluted sites for reuse.
Summary of progress toward strategic objective: EPA made steady progress within the Facility Response Plans (FRP), Spill Prevention, Control and Countermeasures (SPCC), emergency preparedness, Superfund removal, Superfund remedial, Resource Conservation and Recovery Act corrective action (RCRA CA), PCB cleanup, and leaking underground storage tank (LUST) cleanup programs. Cleanup programs remediate contaminated land so it can be safely reused or continue to be used, creating more resilient, healthy, and vibrant communities. Under this objective, more than 83% of Superfund and close to 92% of RCRA CA sites have eliminated unacceptable human exposure to contaminants, and an additional 9,640 sites were made ready for anticipated use (RAU), which contributed to the FY 2016-2017 Agency Priority Goal (APG). Many of these sites are located in economically distressed communities that suffer from disproportionate and adverse environmental exposures.
Challenges and opportunities: While EPA met the overall FY 2016 cleanup target under the FY 2016-2017 APG, Superfund and RCRA missed cleanup targets. Delays in assessment, investigation, and design work that bring sites into the remedy construction stage may cause future challenges in the cleanup programs.

Program Area	Performance Measures and Data								
(1) Emergency Preparedness and Response	**(PM C1) Score on annual Core NAR.**								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	60	70	72	75	80	82	83	Percent
	Actual	77.5	75.8	82.2	78.3	70.9	Data Avail 2017		
	Explanation of Results: The Core NAR evaluation score is derived from a combination of response readiness exercises at the regional level to identify strengths and gaps in response readiness. These exercises are designed to evaluate regional standard operating procedures, Emergency Operations Center, procedures, equipment knowledge, area planning, coordination/outreach. Beginning in FY 2014, EPA redesigned the evaluation to focus on a performance based approach, which resulted in lower results. With redesign of the Core NAR evaluations, the result has been decreasing during recent fiscal years. ***Additional Information:*** The Core National Approach to Response (NAR) score reported for this measure is based upon the combination of two scores, one which measures day-to-day response readiness and another that measures national preparedness for chemical, biological, radiological and nuclear incidents. The maximum score is 100. Beginning in FY 2014, the Core NAR evaluation has taken place after the end of the fiscal year in order to capture a more complete picture of response readiness. Results are reported in the following year.								

(PM 137) Number of Superfund removals completed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					275	275	275	Removals
Actual					278	226		

Explanation of Results: Target was missed due to difficulty in predicting how many threats will arise in a year. EPA quickly responds when these events take place.

Additional Information: Implemented in FY 2015, this measure combined the retired Superfund-lead (PM 132) and Potentially Responsible Party (PRP)-lead removals with EPA oversight (PM 135) measures. EPA continues to internally track results for both Superfund-lead and PRP-lead removals with agency oversight.

(PM 337) Percentage of all Federal Response Plan (FRP) inspected facilities found to be non-compliant which are brought into compliance.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	30	35	40	50	60	60	60	Percent
Actual	48	73	78	79	79	82		

Explanation of Results: This measure tracks FRP facilities that have been inspected and brought into compliance since FY 2010. From FY 2010 to FY 2016, 872 facilities were brought into compliance out of a total of 1,063 facilities that were found to be out of compliance.

Additional Information: The FRP rule requires certain facilities (approximately 4,500) to submit a response plan and prepare to respond to a worst case oil discharge or threat of a discharge. Oil spills in these facilities have a greater potential than typical SPCC facilities to cause harm to human health and the environment.

(PM 338) Percentage of all Spill Prevention, Control and Countermeasure (SPCC) inspected facilities found to be non-compliant which are brought into compliance.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	30	35	40	50	60	60	60	Percent
Actual	45	63	69	72	74	78		

Explanation of Results: This measure tracks SPCC facilities that have been inspected and brought into compliance since FY 2010. From FY 2010 to FY 2016, 2,519 facilities were brought into compliance out of a total of 3,227 facilities that were found to be out of compliance.

Additional Information: The SPCC rule helps facilities (approximately 640,000) prevent a discharge of oil into navigable waters or adjoining shorelines. Oil spills at certain high-risk SPCC facilities have a greater potential than non-high risk SPCC to cause harm to human health and the environment.

(2) Clean Up Contaminated Land

(PM 115) Number of Superfund remedial site assessments completed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	900	900	650	700	850	675	675	Assessments
Actual	1,020	1,151	772	794	869	703		

Explanation of Results: Through FY 2016, EPA and its state and tribal partners completed a cumulative total of 94,594 remedial site assessments. At the start of FY 2016, approximately 1,900 sites in the Superfund Active site inventory needed assessment, and an additional 300 new sites were expected to be assessed. The 703 assessments completed in FY 2016 included 351 assessments at sites already in the Active site inventory and 352 assessments at new sites. The performance trend reflects a variety of challenges, including the complexity of remaining sites, emerging contaminants, and changing screening/toxicity values.

Additional Information: Remedial site assessments collect site data to determine if cleanup attention may be needed at a potential hazardous waste site. Multiple and progressively more complex assessments may be required to make this determination at a site.

(PM 151) Number of Superfund sites with human exposures brought under control.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	10	10	10	10	9	9	9	Sites
Actual	10	13	14	9	10	12		

Explanation of Results: Through FY 2016, EPA ensured that 1,418 final and deleted NPL sites, and 33 non-NPL sites with Superfund Alternative Approach (SAA) agreements in place, met the criteria to be determined human exposure under control.

Additional Information: This measure documents long-term human health protection by measuring progress achieved in controlling unacceptable human exposures at Superfund sites. Beginning in FY 2014, performance results have included non-NPL SAA sites.

(PM CA1) Percentage of RCRA corrective action facilities with human exposures to toxins under control.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	72	81	85	87	90	92	94	Percent
Actual	77	81	85	87	90	92		

Explanation of Results: Through FY 2016, EPA achieved human exposures under control at 92 percent of RCRA corrective action facilities (3,476 facilities).

Additional Information: There are a total of 3,779 corrective action facilities in the priority 2020 corrective action universe. EPA is continually assessing the priority facilities and every three years makes necessary modifications to the priority baseline, in conjunction with our Strategic Plan cycle.

(PM CA2) Percentage of RCRA corrective action facilities with migration of contaminated groundwater under control.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	64	69	73	77	80	84	88	Percent
Actual	67	72	76	79	82	84		

Explanation of Results: Through FY 2016, EPA achieved groundwater contamination under control at 84 percent of RCRA corrective action facilities (3,174 facilities).

Additional Information: There are a total of 3,779 corrective action facilities in the priority 2020 corrective action universe. EPA is continually assessing the priority facilities and every three years makes necessary modifications to the priority baseline, in conjunction with our Strategic Plan cycle. Safe drinking water and the protection of ground water are agency priorities.

(PM CA5) Percentage of RCRA corrective action facilities with final remedies constructed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	38	46	51	55	60	64	69	Percent
Actual	42	47	51	56	60	64		

Explanation of Results: Through FY 2016, EPA achieved final remedies at 64 percent of RCRA corrective action facilities (2,418 facilities).

Additional Information: There are a total of 3,779 corrective action facilities in the priority 2020 corrective action universe. EPA is continually assessing the priority facilities and every three years makes necessary modifications to the priority baseline, in conjunction with our Strategic Plan cycle.

(PM CA6) Percentage of RCRA corrective action facilities with corrective action performance standards attained.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				21	24	30	32	Percent
Actual				24	28	31		

Explanation of Results: Through FY 2016, EPA achieved the goal of performance standards attained (these are the cleanup standards required to ensure protection of human health and the environment at an individual facility) at 31 percent of RCRA corrective action facilities (1,171 facilities).

Additional Information: There are a total of 3,779 corrective action facilities in the priority 2020 corrective action universe. EPA is continually assessing the priority facilities and every three years makes necessary modifications to the priority baseline, in conjunction with our Strategic Plan cycle.

(PM 111) Percentage of confirmed releases pending cleanup completion at LUST facilities.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	No Target Established	No Target Established	15	14	13	12	Percent
Actual	18	16	15	14	14	13		

Explanation of Results: As of the end of FY 2016, 532,420 releases have been reported, 461,441 (or 87 percent) of which have been cleaned up.

(PM 112) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	12,250	11,250	10,100	9,000	8,600	8,600	8,600	Cleanups
Actual	11,169	10,927	11,582	10,393	9,869	8,977		

Explanation of Results: The performance trend reflects a variety of challenges, including the complexity of remaining sites, an increased state workload, a decrease in available state resources and the increasing costs of cleanups.

(PM 113) Number of LUST cleanups completed that meet risk-based standards for human exposure and groundwater migration in Indian country.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	38	42	42	37	30	26	26	Cleanups
Actual	42	47	18	26	32	30		

Explanation of Results: Through FY 2016, EPA completed a cumulative total of 1,138 leaking underground storage tank cleanups in Indian country, out of a universe of approximately 1,409 confirmed releases. This is a subset of the national total of 461,441 leaking underground storage tanks cleanups completed.

(PM 141) Number of Superfund sites with remedy construction completed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	22	22	19	15	13	13	13	Completions
Actual	22	22	14	8	14	13		

Explanation of Results: Through FY 2016, EPA completed construction at 1,188 final and deleted NPL sites and 9 non-NPL sites with SAA agreements in place. The performance trend reflects a variety of challenges, including the complexity of remaining sites, emerging contaminants, and changing screening/toxicity values.

Additional Information: A construction completion Superfund site has completed physical construction of all cleanup actions. Beginning in FY 2014, performance results have included non-NPL Superfund Alternative Approach (SAA) sites.

(PM 152) Number of Superfund sites with contaminated groundwater migration brought under control.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	15	15	15	15	13	13	13	Sites
Actual	21	18	18	11	15	17		

Explanation of Results: Through FY 2016, EPA ensured that 1,132 final and deleted NPL sites, and 23 sites with SAA agreements in place, met the criteria to be determined Groundwater Migration Under Control.

Additional Information: Bringing groundwater migration under control ensures that contamination is below protective, risk-based levels or that, where the migration is stabilized, there is no acceptable discharge to surface water. Beginning in FY 2014, performance results have included non-NPL Superfund Alternative Approach (SAA) sites.

(PM 170) Number of remedial action projects completed at Superfund sites.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	103	130	115	115	105	105	105	Projects
Actual	132	142	121	115	104	105		

Explanation of Results: Through FY 2016, EPA has completed 702 remedial action projects at final and deleted NPL sites and 17 remedial action projects at non-NPL sites with SAA agreements in place. The performance trend reflects a variety of challenges, including the complexity of remaining sites, emerging contaminants, and changing screening/toxicity values.

Additional Information: A remedial action project completion at a Superfund site refers to the construction or implementation of a discrete scope of activities supporting Superfund site cleanup. Beginning in FY 2014, performance results have included non-NPL Superfund Alternative Approach (SAA) sites.

(PM FF1) Percentage of Superfund federal facility sites construction complete.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				86	87	88	85	Percent
Actual				84	84	84		

Explanation of Results: New Operable Units (OUs) and associated data were added to the program in FY 2016 following the launch of the new Superfund Enterprise Management System (SEMS) Edit Site Schedule Module, causing the result to decrease slightly. (Adding OUs increases the denominator of the measure and therefore lowers the overall percentage.) EPA expects the addition of OUs to continue.

Additional Information: This measure is based on the average of three specific factors: 1) OU percent complete; 2) Total cleanup actions percent complete; and 3) Duration of cleanup actions percent complete. The Federal Facility NPL Universe captured in this measure is 174 sites which contain 2,136 OUs. OUs are commonly added to the Federal Facilities Program through site discovery and emerging contaminants such as perfluoroalkyl substances (PFAS). In FY 2016, the Federal Facilities program completed 52 Decision Document and 44 Remedial Action Completions while adding 24 OUs.

(PM S10) Number of Superfund sites made ready for anticipated use site-wide.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	65	65	60	55	45	45	45	Sites
Actual	65	66	56	45	45	41		

Explanation of Results: Through FY 2016, EPA ensured that 787 final and deleted NPL sites, and 6 non-NPL sites with SAA agreements in place, met the criteria to be determined site-wide ready for anticipated use. The performance trend and the missed target reflect a variety of challenges, including the complexity of remaining sites, emerging contaminants, and changing screening/toxicity values.

Additional Information: This measure reflects the importance of considering future land use as part of the cleanup process by tracking the number of sites meeting the following criteria: All aspects of the cleanup are in place and have been achieved for any media that may affect current and reasonably anticipated future land uses, so that there are no unacceptable risks; all land use restrictions or other controls required as part of the cleanup are in place; and Sites are final or deleted NPL sites, or non-NPL SAA sites, that have reached the construction completion milestone. SAA sites were included in performance results beginning in FY 2014.

Objective 4 - Strengthen Human Health and Environmental Protection in Indian Country: Directly implement federal environmental programs in Indian country and support federal program delegation to tribes. Provide tribes with technical assistance and support capacity development for the establishment and implementation of sustainable environmental programs in Indian country.
Summary of progress toward strategic objective: EPA, in consultation with the Office of Management and Budget, has highlighted this objective as a focus area for improvement for the third consecutive year. EPA developed a multi-year, agency-wide strategy primarily focused on an assessment to examine EPA direct implementation (DI) of programs to protect human health and the environment in Indian country. In FY 2016, EPA completed *Direct Implementation of Federal Environmental Programs in Indian Country*, a framework for EPA's DI work, and finalized a nationally consistent methodology for assessing its DI responsibilities and activities on a program-by-program basis in Indian country. The agency will complete the first DI program assessment, for the Resource Conservation Recovery Act (RCRA) Subtitle C Treatment, Storage and Disposal Facilities (TSDFs) program, in FY 2017. Efforts also continue in two supporting areas: 1) standardizing tribal data by using a tribal identifier code across its data systems to identify regulated facilities in Indian country; and 2) providing Indian General Assistance Program (GAP) grants to tribes to build tribal capacity and support the development of EPA-Tribal Environmental Plans (ETEPs) to align tribal and EPA priorities through joint planning.
Challenges and opportunities: EPA direct implementation faces multiple barriers including tribal diversity (population, culture, geography, economic development, expertise, income, priorities); unique legal and policy issues associated with federal, tribal, and state law; limited quality-controlled information for decision-making; and competing demands and priorities to implement more than nine major federal environmental statutes for 567 federally recognized tribes. These factors present current challenges to protecting human health and the environment in Indian country, although, as they are resolved, become opportunities to build more effective and efficient environment and human health protections: • **Direct Implementation:** EPA is the primary implementer of environmental regulatory programs in Indian country. Most tribes are not seeking authority to implement federal regulatory environmental programs (although more tribes are taking on monitoring opportunities). As of the end of FY 2016, EPA had approved 109 non-grant treatment in a manner similar to a state (TAS) applications for 82 tribes, and only 12 individual tribal programs include compliance and enforcement authority for certain parts of EPA statutes. • **Tribal Data**: Until the tribal identifier code or equivalent is fully utilized, EPA has only limited or inadequate data to fully, uniformly and successfully assess the extent of EPA direct implementation responsibilities. • **GAP/ETEPs:** Where tribes have not implemented an ETEP, establishing priorities for the use of GAP funds can be challenging.

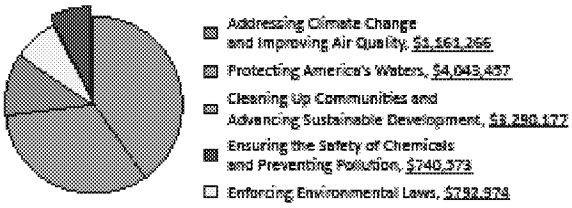
Program Area	Performance Measures and Data								
(1) Improve Human Health and the Environment in Indian Country	**(PM 5PQ) Percent of Tribes implementing federal regulatory environmental programs in Indian country.**								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	18	22	24	25	25	25	25	Percent
	Actual	17	21	19	19	20	20		
	Explanation of Results: The percent of tribes implementing federal regulatory programs has leveled off. Challenges include tribal diversity (population, culture, geography, income, economic development, program management expertise, priorities, etc.); unique legal and policy issues with federal, tribal and state law; and competing demands and priorities. Opportunities include the GAP Performance Management System currently under development, which is intended to assess the progress of GAP grant funding to encourage development of tribal capacity to implement federal environmental programs in Indian country. ***Additional Information:*** There are 572 tribal entities, including tribes and inter-tribal consortia, that are eligible for GAP funding.								
	(PM 5PR) Percent of Tribes conducting EPA approved environmental monitoring and assessment activities in Indian country.								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	52	54	57	58	58	58	58	Percent
	Actual	52	54	56.5	31	36	54		
	Explanation of Results: The percent of tribes conducting EPA approved environmental monitoring and assessment activities has leveled off. Challenges include tribal diversity (population, culture, geography, income, economic development, program management expertise, priorities, etc.); unique legal and policy issues with federal, tribal and state law; and competing demands and priorities. Opportunities include the GAP Performance Management System currently under development, which is intended to assess the progress of GAP grant funding to encourage development of tribal capacity to implement federal environmental programs in Indian country. ***Additional Information:*** There are 572 tribal entities, including tribes and inter-tribal consortia, that are eligible for GAP funding.								

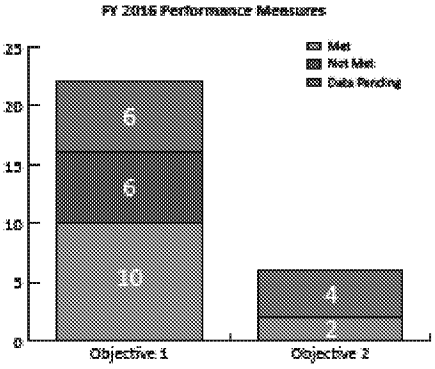
Goal 4 at a Glance

ENSURING THE SAFETY OF CHEMICALS AND PREVENTING POLLUTION

Reduce the risk and increase the safety of chemicals and prevent pollution at the source.

FY 2016 Performance Measures
Met: 12 Not Met: 6 Data Unavailable: 10
(Total Measures: 28)





Strategic Objective Overview	FY 2016 Obligations*	% of Goal 4 Funds
Objective 4.1: Ensure Chemical Safety. Reduce the risk and increase the safety of chemicals that enter our products, our environment and our bodies.	$686,734	92.7%
Objective 4.2: Promote Pollution Prevention. Conserve and protect natural resources by promoting pollution prevention and the adoption of other sustainability practices by companies, communities, governmental organizations, and individuals.	$53,838	7.3%
Goal 4 Total	$740,573	100.0%

*All figures in thousands

FY 2016 EPA Programs and Activities Contributing to Goal 4

Chemical Risk Review and Reduction
Chemical Safety and Sustainability Research
Endocrine Disruptors
Lead Risk Reduction and Lead Categorical Grant Programs
International Sources of Pollution
Pesticides Program Implementation Categorical Grant Program
Pollution Prevention
Pollution Prevention Categorical Grant Programs
Protect Human Health from Pesticide Risk
Protect the Environment from Pesticide Risk
Realize the Value of Pesticide Availability
Science Policy Biotechnology
Toxics Release Inventory
Trade and Governance

Goal 4: Ensuring The Safety Of Chemicals And Preventing Pollution
Reduce the risk and increase the safety of chemicals and prevent pollution at the source

Objective 1 - Ensure Chemical Safety: Reduce the risk and increase the safety of chemicals that enter our products, our environment and our bodies.

Summary of progress toward strategic objective:
In FY 2016, EPA made significant progress to meet the Pesticide Registration Improvement Extension Act (PRIA) statutory deadline of completing registration review risk assessments and making decisions by 2022 on all pesticides registered prior to October 1, 2007 -- exceeding the targets established for FY 2016 in the number of dockets opened (the first step in the registration review process) and final work plans completed. EPA completed 99% of PRIA decisions on time, registered 20 new active ingredients, and completed 213 new use registration decisions. The agency also took a number of important steps in the fight to control the spread of the Zika virus. EPA approved five Section 18 Pesticide Emergency Exemptions to control mosquito populations (completing 1 in only 8 days and others in shorter than usual timeframes); expedited 96 actions to ensure an adequate supply of DEET repellent and other vector control products; issued a draft malathion human health risk assessment and provided mosquito control professionals advice on how malathion can safely be applied aerially; and extended an Experimental Use Permit (EUP) for a novel mosquito vector control product. The agency also exceeded the target for the percentage of registration review chemicals with identified endangered species concerns for which EPA mitigated the risk prior to consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service, saving time and resources; completed the first-ever nationwide draft Biological Evaluations for three organophosphates; completed a Preliminary Pollinator Assessment for imidacloprid, the first comprehensive bee assessment for one of the neonicotinoid insecticides which are suspected of affecting bees; and issued two guidance documents to address exposure and effects testing for assessing the risks of pesticides to bees and implementation of these testing needs for regulatory decision making.

EPA successfully applied high throughput screening (HTS) and computational toxicology (CompTox) approaches to EDSP Tier 1 screening for one chemical in FY 2016 and is preparing to complete approximately 1,000 more in FY 2017. The Endocrine Disruptor Screening Program (EDSP) decision was completed for exemption of the chemical kaolin from the requirements of the EDSP on November 6, 2015. Pursuant to the requirements of Federal Food, Drug, and Cosmetic Act (FFDCA) Section 408(p), EPA has evaluated kaolin, the pesticide active ingredient involved in Registration Review Case #4076 (EPA-HQ-OPP-2013-0751). Kaolin is not anticipated to produce in humans or any other organism an effect similar to that produced by a naturally occurring estrogen, androgen, or thyroid hormone. After reviewing public comments solicited from a June 19, 2015 Federal Register Notice, EPA concluded that the Estrogen Receptor "ER Model'' data is a sufficient alternative to satisfy the following EDSP Tier 1 assays: 1) Estrogen Receptor (ER) binding, 2) ER Transcriptional Activation (ERTA), and 3) uterotrophic assay.

The Frank R. Lautenberg Chemical Safety for the 21st Century Act was signed into law in June 2016. The new law, which amends the Toxic Substances Control Act (TSCA), will strengthen EPA's ability to carry out its strategic objective to ensure the safety of chemicals in or entering the marketplace. The agency has developed an action plan for implementing the law's requirements and already completed several first-year steps. Regulatory actions under TSCA Section 6 are in progress to address risks identified in three of the five risk assessments completed prior to

Objective 1 - Ensure Chemical Safety: Reduce the risk and increase the safety of chemicals that enter our products, our environment and our bodies.

passage of the new law. EPA made faster-than-expected progress in reducing perfluorooctanoic acid (PFOA) human blood serum concentrations, and improved transparency by expanding its online ChemView portal and continuing the review of new Confidential Business Information claims.

Challenges and opportunities:

EPA faced several challenges in FY 2016. Due to the high priority of addressing the spread of Zika, the agency missed the Section 18 Pesticide Emergency Exemption review timeliness target by three days (target 45 days/actual 48 days). However, EPA still effectively addressed Zika concerns by providing expert technical assistance and communications support to the White House, the Centers for Disease Control and Prevention (CDC), and federal and state response teams. Compliance with the requirements of the Endangered Species Act remained a significant challenge for the Pesticides Program as it kept pace with the statutorily-mandated deadlines for registration of new pesticides and registration review of previously registered pesticides.

The agency validated dozens of rapidly-evolving Tox21 screening and testing tools with a focus on developing the steroidogenesis and thyroid pathways/models. These efforts required continuous coordination with other federal agencies and our international partners to develop tools and tests for screening chemicals for potential endocrine disruption.

The new TSCA law will reduce challenges the agency has faced in obtaining chemical testing data, assessing chemicals, meeting the thresholds for commencing risk reduction actions and addressing unwarranted confidentiality claims. Similarly, older homes (built before 1978) with lead-based paint continue to pose risks to children's health. The agency continues to experience difficulty in meeting its performance targets for Lead-Safe Certified firms, in part because renovation firms are applying for recertification at a lower than expected rate of about 25%. However, the supply of certified firms appears to meet current consumer demand.

Program Area	Performance Measures and Data								
(1) Protect Human Health from Chemical Risks	**(PM J11) Reduction in moderate to severe exposure incidents associated with organophosphates and carbamate insecticides in the general population.**								
		FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target		10	15	25	30	30	30	Percent
	Actual		20	25	27	Data Avail 10/2017	Data Avail 10/2018		

Program Area	Performance Measures and Data

Explanation of Results: Measure results were corrected to report data in the years in which the incidents occurred rather than two years later when the data became available as was done in the past (i.e., 2-year data lag). For example, the data received in October 2016 covers incidents that occurred in FY 2014. All reductions represent decreases from the number of incidents in 2011. With this corrected alignment, EPA cannot report the FY 2015 result until 2017 and the FY 2016 result until 2018 due to the two-year data lag.

Additional Information: Percent reduction to moderate to severe exposure incidents are calculated from 2008 data (316 exposure incidents) as reported in the American Association of Poison Control Centers' National Poisoning Data System (NPDS) for organophosphates and carbamate pesticides.

(PM 008) Percent of children (aged 1-5 years) with blood lead levels (>5 ug/dl).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	1.5	No Target Established	1.0	No Target Established	1.0	No Target Established	Percent
Actual	Biennial	2.1	Biennial	1.2	Biennial	Data Avail 10/2018		

Explanation of Results: FY 2014 target not attained but performance improved considerably from FY 2012. On a long-term basis, the incidence of elevated blood lead levels among young children has declined dramatically (by more than 85% in the past 15 years). In 2017, EPA is doing outreach, training and enforcement in targeted low-income and minority communities across the country.

Additional Information: Data released by the CDC from the National Health and Nutritional Evaluation Survey (NHANES) for the 2007-2010 sampling period showed that an estimated 2.6% of children ages 1 - 5 had elevated blood lead levels (5 ug/dl or greater). Background information is available on EPA's website at www.epa.gov/lead. Data for this measure are reported biennially.

(PM 10D) Percent difference in the geometric mean blood level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	13	No Target Established	20	No Target Established	25	No Target Established	Percent
Actual	Biennial	34.8	Biennial	34.0	Biennial	Data Avail 10/2018		

Explanation of Results: FY 2014 target not attained. Although long-term biomonitoring data (from NHANES) show considerable progress, with the income-based disparity in blood lead levels narrowing from 45% in FY 2002 to 34% in FY 2014, there have been challenges in reaching communities where the need is greatest.

Additional Information: Data released by the CDC from the National Health and Nutritional Evaluation Survey (NHANES) for the 2007-2010 sampling period showed that the estimated difference in the geometric mean blood level in low-income children 1-5 years old as compared to the geometric mean for non-low income children 1-5 years old was 28.4%. Data for this measure are reported biennially.

(PM D6A) Reduction in concentration of PFOA in serum in the general population.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		1	No Target Established	25	No Target Established	41	No Target Established	Percent Reduction
Actual		32	Biennial	37	Biennial	Data Avail 10/2018		

Explanation of Results: EPA exceeded its PFOA reduction targets in the FY 2012 and FY 2014 reporting cycles. The agency has taken a range of voluntary and regulatory actions to address concerns with PFOA. One of these actions is the 2010/2015 PFOA Stewardship Program that was launched in 2006 with the eight major companies in the industry committing to work toward eliminating emissions and product content of PFOA by 2015. All of the participating companies in the voluntary program have met the PFOA Stewardship Program goals. As a result of these actions, blood concentrations of PFOA have been decreasing, as evidenced by NHANES reports.

Additional Information: Data for this measure are derived from Centers for Disease Control's National Health and Nutrition Examination Survey (NHANES) on PFOA concentration in the general population. The geometric mean concentration in serum as determined from 2009-2010 sampling data is 3.07 µg/L. Data for this measure are reported biennially. Perfluoroalkyl substances, including PFOA, are a class of manmade chemicals that are very persistent in the environment and in the human body. As a result, people may become exposed to these chemicals manufactured months or years in the past. Because they have been used in an array of consumer products, most people have been exposed to these chemicals. Studies indicate that PFOA can cause reproductive and developmental liver, kidney and immunological effects in laboratory animals and humans. In addition, PFOA has caused tumors in animal studies.

(PM E01) Number of chemicals for which Endocrine Disruptor Screening Program (EDSP) decisions have been completed

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3	5	20	59	0	0	1,000	Chemicals
Actual	3	1	0	3	54	1		

Explanation of Results: The single result for FY 2016 was exemption of the chemical kaolin from the requirements of the EDSP on November 6, 2015. Based on EPA's evaluation, kaolin is not anticipated to produce in humans or any other organism an effect similar to that produced by a naturally occurring estrogen, androgen, or thyroid hormone.

Additional Information: These chemicals have the potential to interact with the estrogen, androgen, steroidogenesis and/or thyroid systems. The EDSP has a universe of chemicals of approximately 10,000 chemicals that is described at: https://www.epa.gov/endocrine-disruption/endocrine-disruptor-screening-program-edsp-universe-chemicals. Tier 1 screening determines whether a chemical has the potential to interact with the endocrine system and requires more thorough testing. Tier 2 testing is conducted to rule out bioactivity for chemicals that show more potential for endocrine bioactivity. If a chemical is determined to indeed have endocrine bioactivity after completing EDSP Tier 2 testing, EPA would most likely conduct a complete risk assessment and risk mitigation exercise for that chemical. High throughput screening (HTS) and computational toxicology (CompTox) tools for Estrogen Receptor (ER) are now used as alternatives to the Tier 1 assays. Implementing HTS and CompTox methods allows EPA to screen a greater number of chemicals, while also reducing animal use. This measure tracks the number of chemicals with screening level decisions based on integrated scientific reviews of: 1) Tier 1 assays; 2) other scientifically-relevant information (e.g., CFR158 data, published literature, high throughput endocrine activity and exposure information); and 3) decisions based on other information that determines whether further endocrine-related testing is necessary for a chemical (e.g., regulatory status of the chemical). EDSP decisions for a chemical can range from determining potential to interact with the estrogen, androgen, steroidogenesis and/or thyroid hormone systems to otherwise determining whether further endocrine related testing is necessary. Fifteen decisions were completed through FY 2012. In FY 2015, EPA published a Federal Register Notice incorporating ToxCast data for more than 1,800 chemicals that, combined with additional data, could be used to complete the screening decisions.

(PM 012) Percent reduction of children's exposure to rodenticides.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	10	5	5	10	25	25	25	Percent
Actual	12	17	24	25	Data Avail 10/2017	Data Avail 10/2018		

Explanation of Results: Measure results were corrected to report data in the years in which the incidents occurred rather than two years later when the data became available as was done in the past (i.e., 2-year data lag). For example, the data received in October 2016 covers incidents that occurred in FY 2014. All reductions represent decreases from the number of incidents in 2011. With this corrected alignment, EPA cannot report the FY 2015 result until 2017 and the FY 2016 result until 2018 due to the two-year data lag.

Additional Information: Percent reduction of the total number of confirmed and likely rodenticide exposures to children is calculated from 2008 data (11,674 rodenticide exposures to children) from the Poison Control Centers' National Poison Data System.

(PM RA1) Annual number of chemicals for which risk assessments are finalized through EPA's TSCA Existing Chemicals Program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target				3	7	12	0	Chemicals
Actual				4	1	0		

Explanation of Results: FY 2016 target was missed for several reasons: EPA established a new step (problem formulation) for existing chemical assessments, which provides additional public input prior to peer review and a Federal Advisory Committee Act (FACA) peer review process to address stakeholder input. This measure is discontinued after FY 2017 as it measures progress against a list of chemicals developed under the previous TSCA law. In June 2016, Congress passed amendments to TSCA, establishing, among other things, a new plan for assessing existing chemicals. The program is currently making the changes needed to implement the new law, which requires each assessment to be completed within three years. In addition, the scope of each assessment is broadened to include all commercial uses of the chemical rather than only certain specific uses as determined by EPA. The first 10 chemicals to assess have been selected and published. Meanwhile, risk reduction actions are being developed for three of the five chemicals assessed prior to enactment of the new law.

Additional Information: The universe for this measure comprises TSCA Work Plan Chemicals and related/similar chemicals. Zero chemicals had completed risk assessments through FY 2013. All five of the chemicals for which the five risk assessments were completed in FY 2014 and FY 2015 are from the list of 67 TSCA Work Plan Chemicals that was refreshed in October 2014. Background information is available on EPA's website at www.epa.gov/assessing-and-managing-chemicals-under-TSCA.

(PM 009) Cumulative number of active certified Renovation Repair and Painting firms

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100,000	140,000	140,000	138,000	145,000	96,000	97,000	Firms
Actual	114,834	126,323	133,587	139,702	108,623	90,970		

Explanation of Results: FY 2016 target was not attained in large part due to EPA's Lead Renovation, Repair and Painting Program reaching the end of the first 5-year cycle of initial certifications at which time firms have to decide whether to recertify. To date, only about 25% of firms have sought recertification. The reasons may include a decision to leave the industry, a shift in business emphasis to new home construction, or a lack of local demand for lead safe renovation services. EPA is not aware of an acute shortage of certified lead renovation firms, but that is due in part to lower than expected demand.

Additional Information: Firms can become certified directly through EPA (tracked through Federal Lead-based Paint Program (FLPP)) or through an authorized state program (tracked through grant reports/internal database). FY 2010 was the first year that firms submitted applications to EPA to become certified. The Renovation, Repair and Painting (RRP) program reached the end of the first 5-year cycle of initial certifications in FY 2015 and firms have to make a decision about whether to recertify. A renovation firm may choose to not recertify for a variety of reasons including a decision to leave the industry, a decision to focus on new home construction rather than renovations, or a lack of local demand for lead safe renovation services. Alternatively, some new renovation firms continue to emerge and seek certification. Background information is available on EPA's website at www.epa.gov/lead/renovation-repair-and-painting-program.

(PM 011) Number of Product Reregistration Decisions

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	1,500	1,200	1,200	900	600	550	600	Decisions
Actual	1,218	1,255	709	292	562	306		

Explanation of Results: FY 2016 target was not attained due to competing work for entomologists needed for conventional product reregistration. That work included Pesticide Registration Improvement Act (PRIA) deadlines; and urgent, high-profile pesticide issues, including mosquito vectors of the Zika virus. By FY 2016, a total of 20,077 product reregistration decisions were made.

Additional Information: By FY 2012, a total of 18,208 product re-registrations decisions were made according to internal tracking as part of the product reregistration process. The product reregistration universe is 25,044. Additional information is available on https://www.epa.gov/pesticide-reevaluation/reregistration-and-other-review-programs-predating-pesticide-registration#Product.

(PM 091) Percent of decisions completed on time (on or before PRIA or negotiated due date).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	99	99	99	97.0	96	96	97	Percent
Actual	98.4	99.1	98.8	85	98.4	99		

Additional Information: Annual average percentage of decisions completed on time from FY 2010-2012 was 99.0% according to EPA internal data. More information on PRIA can be found on https://www.epa.gov/pria-fees/pria-overview-and-history.

(PM 10A) Annual percentage of lead-based paint certification and refund applications that require less than 20 days of EPA effort to process.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	92	95	95	95	95	95	95	Percent
Actual	95	97	99	100	99	99		

Explanation of Results: In FY 2016, EPA processed more than 19,000 certification applications and 665 refund applications. Exceedance of this target reflects years of concerted and successful efforts to expedite handling of abatement individual certification and refund applications, ensuring that homeowners will have access to a sufficient pool of qualified abatement professionals to perform lead inspections, risk assessments and abatement work.

Additional Information: Annual average percentage of lead-based paint certification and refund applications that require less than 20 days of EPA effort to process over the period of FY 2008-2012 was 94%. Data is obtained from Federal Lead Based Paint Program (FLPP) information system. Lead-based paint certification and refund applications are applications received by EPA from firms for certification to perform lead-based paint activities or renovation, repair and painting work; or from individuals for certification as risk assessor, inspector, abatement supervisor or abatement worker. In addition, EPA receives accreditation applications from training providers to provide training in lead-based paint disciplines and for renovator and dust sampling technician work. Applications for refunds of certification fees are sometimes received by EPA from these same sources (for example, if an application was mistakenly sent twice or an incorrect discipline requested).

(PM 143) Percentage of agricultural acres treated with reduced-risk pesticides.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	21	22	22.5	22.5	22.5	22.5	22.5	Percent
Actual	22	22.5	23	23	Data Avail 10/2017	Data Avail 10/2018		

Explanation of Results: FY 2015 and FY 2016 data lags are due to delay in purchase of data; EPA is working to resolve this issue in FY 2017. The acres-treated was 23% of total acreage in FY 2014 when the reduced-risk pesticide acre-treatments was 400,000,000 and total (all pesticides) was 1,768,000,000 acre-treatments.

Additional Information: Percentage of acres treated with reduced-risk pesticides was 22% of total acreage in FY 2011 when the reduced-risk pesticide acre-treatments was 315,000,000 and total (all pesticides) was 1,444,000,000 acre-treatments. Each year's total acre-treatments, as reported by USDA National Agricultural Statistic Service and private marketing research data sources, serve as the basis for computing the percentage of acre-treatments using reduced risk pesticides. Acre-treatments count the total number of pesticide treatments each acre receives each year. Results are reported the end of the calendar year and have a one-year reporting data lag. Most reduced-risk acre treatments are Bt (Bacillus thuringiellis) corn and cotton and the use of glyphosate and others in field crops. Bt corn is a variant of maize that has been genetically altered to express one or more proteins from the bacterium BT (a built in pesticide).

(PM 164) Number of pesticide registration review dockets opened.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	70	70	72	73	73	66	25	Dockets
Actual	81	79	77	75	84	88		

Explanation of Results: As of FY 2016, 700 dockets have been opened, with the remaining 25 scheduled in FY 2017. The program has emphasized completing the opening of dockets in order to meet the 2022 mandated completion date for registration review. EPA anticipates completing the opening of dockets in 2017 (the remaining balance of dockets).

Additional Information: By FY 2012, a total of 376 chemical case work dockets were opened according to EPA internal data.

(PM 230) Number of pesticide registration review final work plans completed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	70	70	72	73	73	75	40	Work Plans
Actual	75	70	79	81	89	78		

Explanation of Results: As of FY 2016, a total of 645 final work plans for registered pesticides have been completed. The program has exceeded the initial target in order to work toward meeting the 2022 deadline for risk assessment decisions. EPA is ramping down opening of dockets and completing the work plans in order to focus on completing risk assessments and making decisions to meet its statutory deadline by 2022.

Additional Information: By FY 2012, a total of 327 final work plans for registered pesticides were completed according to EPA internal data.

(PM 247) Percent of new chemicals or organisms introduced into commerce that do not pose unreasonable risks to workers, consumers, or the environment.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	100	100	100	Percent
Actual	100	100	100	95	96	99		

Explanation of Results: Under the new TSCA law, any Section 5 new chemical assessments that had not been completed needed to be reassessed using the new "unreasonable risk" criteria. Of the 78 TSCA Section 5 new chemical notices reassessed using TSCA Section 8(e) data submitted in FY 2015 (55 submissions with 74 tests), only one reassessment indicated that an unreasonable risk was missed in the prior review. A detailed analysis of FY 2016 data comparing information contained in TSCA 8(e) notices received during FY 2016 will be available in the next fiscal year (FY 2017) due to the time needed to complete the research and analyses for the detailed report. The agency intends to utilize these performance results together with provisions of the new TSCA law to help make further improvements to the new chemical review process so that this kind of hazard can be identified during the chemical review.

Additional Information: Percent of new chemicals or organisms introduced into commerce that do not pose unreasonable risks to workers, consumers, or the environment was 97 percent over the period FY 2009-2012, as determined by averaging the annual performance results for this measure. Data obtained from the annual report, "Study Comparing Premanufacture Notices (PMNs)/Low Volume Exemptions (LVEs) to Related 8(e) Chemicals." Results are calculated by comparing Section 8(e) notices received in the fiscal year to previously reviewed PMNs. If a risk identified in a new Section 8(e) notice would not have been identified and mitigated by the review, then the program has not met the performance target. Approximately 30 Section 8(e) notices submitted annually are compared to previous PMNs for purposes of determining the annual performance result for this measure. Background information is available on EPA's website at www.epa.gov/reviewing-new-chemicals-under-toxic-substances-control-act-tsca.

(PM 998) EPA's TRI program will work with partners to conduct data quality checks to enhance accuracy and reliability of environmental data.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			500	500	600	600	600	Quality Checks
Actual			600	600	600	775		

Explanation of Results: In FY 2016, EPA's TRI Program and Regional coordinators focused on data quality calls with significant changes in releases and/or production waste, including releases of Persistent, Bioaccumulative and Toxic Chemicals (PBTs), Hazardous Air Pollutants (HAPs) and Carcinogens. During FY 2016, approximately 60 facilities completed certification of about 150 TRI reporting submissions, and 75 facilities made revisions to their 2014 and/or 2015 submissions which resulted in significant data quality improvements.

Additional Information: Toxics Release Inventory (TRI) data checks improve the accuracy and reliability of environmental data. More than 21,000 facilities report to EPA's TRI Program annually. The universe of facilities subject to the TRI reporting requirements includes all federal facilities (pursuant to Executive Order) that meet the applicability criteria described in part 372, subpart B of Title 40 of the Code of Federal Regulations and, with some exceptions and/or limitations, facilities that are classified within (under) any of the specific North American Industrial Classification System (NAICS) codes that correspond to Standard Industrial Classification (SIC) codes: 10, 20-39, 4911, 4931, 4939, 4953, 5169, 5171, and 7389.

(PM C19) Percentage of CBI claims for chemical identity in health and safety studies reviewed and challenged, as appropriate, as they are submitted.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	100	100	100	Percent
Actual	100	100	100	100	100	100		

Explanation of Results: EPA continues its consistently high performance in reviewing and, as appropriate, challenging new Confidential Business Information (CBI) claims. Reviews conducted after June 22 reflect changes made by the new TSCA law. The amended TSCA law changes many of the rules relating to CBI and includes (1) new submitter procedural requirements to make CBI claims, (2) new agency requirements for review of these claims, (3) potential time limits on these claims, and (4) new requirements related to the management of materials treated as CBI.

Additional Information: Effective CBI review ensures that incoming claims are approved only where warranted and that all non-CBI data from health and safety studies are made available to the public. Approximately 500 TSCA CBI claims are submitted per year for chemical identity, which potentially contain health and safety studies.

(PM E07) Annual number of EDSP Tier 1 screening assays for which validated alternatives have been developed, based on high throughput assays and computational models.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target						2	2	Assays and Tools
Actual						3		

Explanation of Results: After reviewing public comments solicited from a June 19, 2015 Federal Register Notice, EPA concluded that the Estrogen Receptor (ER) Model data is a sufficient alternative to satisfy the following Endocrine Disruptors Tier 1 assays: (1) Estrogen Receptor (ER) binding, (2) Estrogen Receptor Transcriptional Activation (ERTA), and (3) uterotrophic assay.

Additional Information: In FY 2014, there were zero (of the 11) Tier 1 assays for which validated alternatives had been developed, based on high throughput assays and computational models.

(2) Protect Ecosystems from Chemical Risks

(PM 268) Percent of selected urban watersheds that exceed EPA aquatic life benchmark maximum concentrations for three key pesticides of concern (diazinon, chlorpyrifos and carbaryl).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	5, 0, 10	No Target Established	0, 0, 0	No Target Established	0, 0, 0	No Target Established	Percent
Actual	Biennial	0, 0, 9	Biennial	7, 0, 0	Biennial	0,0,9		

Explanation of Results: Increased sampling frequency revealed that carbaryl exceeded the benchmark maximum at one site. It is not clear if increased sampling at more sites would reveal additional occurrences of monitored pesticides. Sampling frequency depends on the budget USGS/NAQWA has each year.

Additional Information: Urban watersheds are sampled by the USGS National Water Quality Assessment (NAWQA) program. Data for this measure are reported biennially. The number of sampling and the sampling points in USGS data were constantly changing year to year, depending on their funding. Results from previous reports showed that the exceedances were at different monitoring sites. Starting in FY 2015, the agency is using data from 10 specified urban sites from the USGS national monitoring sites in the future to provide consistency in data reporting. The monitoring sites were selected based on history of monitoring results, and anticipated consistency in reporting from these national sampling sites. The 10 selected Urban Streams in National Network sites are: Norwalk River at Winnipauk, CT; Accotink Creek near Annandale, VA; Swift Creek near Apex, NC; Sope Creek near Marietta, GA; Clinton River at Sterling Heights, MI; Shingle Creek at Minneapolis, MN; Cherry Creek at Denver, CO; White Rock Creek at Dallas, TX; Little Cottonwood Creek at Salt Lake City, UT; Fanno Creek at Durham, OR. The exceedances are calculated based on the number of exceedances divided by the total number of watersheds. The USGS NAWQA sites selected are the best long term source of surface water monitoring data for a large number of pesticides and their degradates, with consistent QA procedures for both sampling and lab analysis, low detection limits, and have been used by EPA for risk assessment work for over the last 15 years. The most sensitive aquatic benchmark for the chemical are posted on the website: http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm: Diazinon: 0.105 ug/L; Chlorpyrifos: 0.040 ug/L; Carbaryl: 0.5 ug/L.

(PM 269) Percent of selected agricultural watersheds that exceed EPA aquatic life benchmark maximum concentrations for two key pesticides of concern (azinphos-methyl and chlorpyrifos).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	No Target Established	0, 10	No Target Established	0, 0	No Target Established	0, 0	No Target Established	Percent
Actual	Biennial	7, 7	Biennial	0, 0	Biennial	0,0		

Explanation of Results: EPA maintained zero exceedances for the chemicals of concern.

Additional Information: Agricultural watersheds are sampled by the USGS National Water Quality Assessment (NAWQA) program. Data for this measure are reported biennially. The number of sampling and the sampling points in USGS data were constantly changing year to year, depending on their funding. Results from previous reports showed that the exceedances were at different monitoring sites. Starting in FY 2015, the agency is using data from 10 specified agricultural sites from the USGS national monitoring sites in the future to provide consistency in data reporting. The monitoring sites were selected based on history of monitoring results, and anticipated consistency in reporting from these national sampling sites. The 10 selected Agricultural Streams in National Network sites are: Canajoharie Creek near Canajoharie, NY; Contentnea Creek at Hookerton, NC; South Fork Iowa River near New Providence, IA; Maple Creek near Nickerson, NE; Bogue Phalia near Leland, MS; Orestimba Creek near Crows Landing, CA; Granger Drain at Granger, WA; Rock Creek at Twin Falls, ID; Zollner Creek near Mt. Angel, OR; Sugar Creek at New Palestine, IN. The exceedances are calculated based on the number of exceedances divided by the total number of watersheds. The USGS NAWQA sites selected are the best long term source of surface water monitoring data for a large number of pesticides and their degradates, with consistent QA procedures for both sampling and lab analysis, low detection limits, and have been used by EPA for risk assessment work for over the last 15 years. The most sensitive aquatic benchmark for the chemical are posted on the website: http://www.epa.gov/oppefed1/ecorisk_ders/aquatic_life_benchmark.htm: Malathion=0.035 ug/L; Methomyl=0.7 ug/L.

(PM 240) Maintain timeliness of FIFRA Section 18 Emergency Exemption Decisions

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	45	45	45	45	45	45	45	Days
Actual	52	43	27	44	45	48		

Explanation of Results: EPA did not meet the target due to the efforts on high profile yet challenging Section 18 cases involving vacated sulfoxaflor registrations, citrus greening, and Zika.

Additional Information: Section 18 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) authorizes EPA to allow an unregistered use of a pesticide for a limited time if it is determined that an emergency condition exists (i.e. a serious pest problem which jeopardizes production of agricultural goods or public health). Average number of days for Section 18 decisions from FY 2009-2012 was 46 days, according to EPA internal data.

(PM 276) Percent of registration review chemicals with identified endangered species concerns, for which EPA obtains any mitigation of risk prior to consultation with DOC and DOI.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		5	5	15	5	5	65	Percent
Actual		0	0	0	65	80		

	Explanation of Results: FY 2015 was the first reporting year in which EPA began to achieve mitigation of risk prior to consultation with the National Marine Fisheries Service and the U.S. Fish and Wildlife Service. ***Additional Information:*** The data are tracked internally by EPA. The data are obtained from ecological risk assessments and effects determinations prepared to support a registration review case. Any mitigation of risk refers to label changes that are intended to reduce the environmental exposure and associated risk of pesticides to listed species and/or their designated critical habitat. This may include such mitigation measures as reduction in the pesticide application rate and/or frequency of application, changes to the timing of application, spray drift, buffers or more geographically specific mitigation measures via EPA's Bulletins Live! Two web-based tool in specific areas where listed species and/or critical habitat are known to co-occur with potential pesticide use based on labeled registered uses.

Objective 2 - Promote Pollution Prevention: Conserve and protect natural resources by promoting pollution prevention and the adoption of other sustainability practices by companies, communities, governmental organizations, and individuals

Summary of progress toward strategic objective:
In FY 2016, EPA made significant progress in preventing pollution at the source and furthering the objectives of Pollution Prevention (P2) programs. The agency met annual performance targets for all six of its P2 outcome-based measures (most recent data), substantially exceeding targets in four cases. The number of products newly qualified to bear the Safer Choice label was more than double the FY 2016 target.. In addition, the agency aided small and medium-sized businesses by conducting more than 980 facility assessments through the Economy, Energy and Environment (E3) Initiative and the Green Suppliers Network (GSN) Program. The agency also developed and piloted guidelines for product environmental performance standards and ecolabels for federal procurement of products including furniture, flooring, paints and coatings.

Challenges and opportunities:
Challenges have included the tendency of many P2 grantees to report results at an aggregated level without a breakout of specific P2 practices and corresponding environmental and economic results. The program tested a proposed template for grantees to use to report specific P2 actions taken at the facility level and any corresponding economic and environmental outcomes.

Program Area	Performance Measures and Data								
(1) Promote Pollution Prevention	**(PM 264) Pounds of hazardous materials reduced through pollution prevention.**								
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	199.6	88.7	71.6	23.4	204.2	214.2	214.2	Pounds (Millions)
	Actual	154.8	214.9	231.5	190.3	205.2	Data Avail 10/2017		

Program Area	Performance Measures and Data

Explanation of Results: EPA's P2 Program achieved hazardous materials reductions from the sale of Electronic Product Environmental Assessment Tool (EPEAT)-registered electronics devices (that meet standards using EPA's environmental hazards criteria) and from nationwide grant projects and some non-grant E3 projects helping businesses reduce hazardous releases at the source.

Additional Information: There is a 1-year data lag. From FY 2008 through FY 2012, 1,437 million pounds were reduced—after removing 626 million pounds in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2015, the Pollution Prevention (P2) Program reported "recurring results" of an additional 81 million pounds of hazardous materials reduced. "Recurring results" are benefits produced in prior years that continue to deliver benefits over multiple years. Within the P2 Program, there is not a fixed standard number of years that results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities. Background information also is available on EPA's website at www.epa.gov/p2.

(PM 297) Metric Tons of Carbon Dioxide Equivalent (MTCO2Eq) reduced or offset through pollution prevention.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	2.19	1.74	1.46	1.0	2.0	2.2	2.2	MTCO2Eq (Millions)
Actual	2.8	3.9	3.4	3.0	3.16	Data Avail 10/2017		

Explanation of Results: EPA's P2 Program achieved reductions in Carbon Dioxide Equivalent from the sale of EPEAT-registered electronics devices (that meet standards using EPA's environmental MMTCO2Eq criteria) and from nationwide grant projects and some non-grant E3 projects helping businesses reduce their greenhouse gas releases at the source.

Additional Information: There is a one-year data lag. From FY 2008 through FY 2012, 11.1 Million Metric Tons of Carbon Dioxide Equivalent (MMTCO2Eq) were reduced—after removing 3.5 MMTCO2Eq in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2015, the Pollution Prevention (P2) Program reported "recurring results" of an additional 2.8 MMTCO2Eq reduced. "Recurring results" are benefits produced in prior years that continue to deliver benefits over multiple years. Within the P2 Program, there is not a fixed standard number of years that results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities. Background information also is available on EPA's website at www.epa.gov/p2.

(PM 262) Gallons of water reduced through pollution prevention.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	783	785	771	932	1,156	1,390	1,390	Gallons (Millions)
Actual	1,397	1,175	936	1,618	1,433.4	Data Avail 10/2017		

Program Area	Performance Measures and Data

Explanation of Results: EPA's P2 Program achieved reductions in gallons of water from nationwide grant projects and some non-grant E3 projects that helped businesses use water more efficiently.

Additional Information: There is a one-year data lag. From FY 2008 through FY 2012, 6.9 billion gallons were reduced--after removing 24 billion gallons in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2015, the Pollution Prevention (P2) Program is reporting "recurring results" of an additional 3.7 billion gallons of water reduced. "Recurring results" are benefits produced in prior years that continue to deliver benefits over multiple years. Within the P2 Program, there is not a fixed standard number of years that results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities. Background information also is available on EPA's website at www.epa.gov/p2.

(PM 263) Business, institutional and government costs reduced through pollution prevention.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	268.5	196.9	195.6	133.3	362.6	445.6	445.6	Dollars Saved (Millions)
Actual	533.7	737.4	594.9	587.5	609	Data Avail 10/2017		

Explanation of Results: EPA's P2 Program achieved dollar savings from the sale of EPEAT-registered electronics devices (that meet EPA's cost-saving energy/material conservation criteria) and from nationwide grant projects and some non-grant E3 projects that helped businesses save on their utilities and other costs once P2 practices were adopted.

Additional Information: There is a one-year data lag. From FY 2008 through FY 2012, $1.85 billion were saved—after removing $231 million in reported results that should not be expected to continue in future years due to: 1) atypical results, and 2) increased quality assurance standards for the results that come from states and other grant recipients. For FY 2015, the Pollution Prevention (P2) Program reported "recurring results" of an additional $337 million dollars saved. "Recurring results" are benefits produced in prior years that continue to deliver benefits over multiple years. Within the P2 Program, there is not a fixed standard number of years that results will recur; rather, each P2 activity has a recurring results formula specific to the type of results and activities. Background information also is available on EPA's website at www.epa.gov/p2.

(PM P2X) Annual Number of Additional Products Recognized by the Safer Choice program

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					375	100	125	Product
Actual					101	248		

Explanation of Results: The increase in number of safer products as compared to FY 2015 corresponded to the availability of the new Safer Choice logo.

Additional Information: Approximately 2,500 safer chemical products were recognized in FY 2013 by the Safer Choice Program. The number of products placed on the Safer Choice Products list in FY 2014 was 171. The total number of products certified is affected by consolidation in the industry and other factors that would make it less useful as a measure of performance. More information about the Safer Choice program, including currently recognized products and the criteria manufacturers must meet to be recognized, is available at www.epa.gov/saferchoice.

(PM P2Y) Annual Number of Additional Chemicals Added to the Safer Chemical Ingredients List								
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target					100	100	100	Chemicals
Actual					77	100		

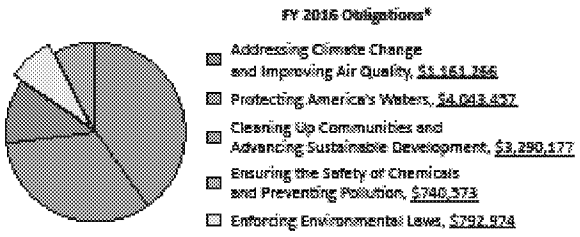
Additional Information: Approximately 600 chemicals were on the Safer Chemical Ingredients List in FY 2013 under the Safer Choice Program. The number of products placed on the Safer Chemicals Ingredients List in FY 2014 was 49. The total number of chemicals on the Safer Chemicals Ingredients List is affected by consolidation in the industry and other factors that would make it less useful as a measure of performance. More information about the Safer Chemical Ingredients List, including currently listed chemicals and criteria for listing, is available at http://www2.epa.gov/saferchoice/safer-ingredients.

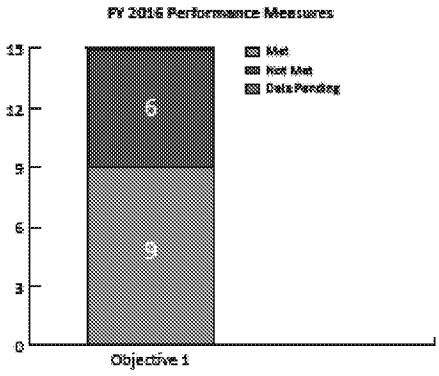
Goal 5 at a Glance

PROTECTING HUMAN HEALTH AND THE ENVIRONMENT BY ENFORCING LAWS AND ASSURING COMPLIANCE

Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.

FY 2016 Performance Measures
Met: 9 Not Met: 6 Data Unavailable: 0
(Total Measures: 15)





Strategic Objective Overview	FY 2016 Obligations*	% of Goal 5 Funds
Objective 5.1: Enforce Environmental Laws to Achieve Compliance. Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities to achieve compliance. Assure strong, consistent and effective enforcement of federal environmental laws nationwide. Use Next Generation Compliance strategies and tools to improve compliance and reduce pollution.	$792,974	100.0%
Goal 5 Total	$792,974	100.0%

*All figures in thousands

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FY 2016 EPA Programs and Activities Contributing to Goal 5

Compliance Assistance Program
Economic Decision Sciences Research
Environmental Justice
Environmental Technology Verification Program, Monitoring and Enforcement Program
National Center for Environmental Innovation
National Partnership for Environmental Priorities
Pesticide Enforcement Grant Program
RCRA Corrective Action
Sector Grant Program
Superfund Enforcement
Sustainability Research
Sustainable Materials Management
Toxic Substances Compliance Grant Program

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Goal 5: Protecting Human Health And The Environment By Enforcing Laws And Assuring Compliance
Protect human health and the environment through vigorous and targeted civil and criminal enforcement. Use Next Generation Compliance strategies and tools to improve compliance with environmental laws.

Objective 1 - Enforce Environmental Laws to Achieve Compliance: Pursue vigorous civil and criminal enforcement that targets the most serious water, air, and chemical hazards in communities to achieve compliance. Assure strong, consistent, and effective enforcement of federal environmental laws nationwide. Use Next Generation Compliance strategies and tools to improve compliance and reduce pollution.

Summary of progress toward strategic objective:
EPA's enforcement program continued to make steady progress toward its objective of pursuing the most serious water, air, and chemical hazards within communities. In FY 2016, EPA met or exceeded its performance targets for civil judicial and administrative case conclusions, review of open consent decrees, Superfund enforcement, and criminal enforcement. EPA achieves such progress by focusing on the highest impact environmental problems through the National Enforcement Initiatives (NEIs), other national priorities (e.g., drinking water), and regional enforcement priorities, as well as by vigorously pursuing environmental benefits, such as commitments to clean up contaminated sites and to install pollution control technologies.

In addition, EPA advanced the use of Next Generation (Next Gen) Compliance strategies throughout its enforcement and compliance program. In FY 2016, EPA continued to make significant progress in including Next Gen Compliance tools within its enforcement settlements. The agency included requirements for advanced monitoring equipment in eight lodged settlements for the year, including agreements with Tesoro Corp. and Par Hawaii Refining under the Clean Air Act, and Enbridge Energy Limited Partnership and the Nevada Department of Transportation under the Clean Water Act. The agency also continued to implement the Next Gen Enforcement 2015 Memorandum, setting forth the agency's commitment to consider the use of Next Gen Compliance tools in all civil enforcement settlements.

Challenges and opportunities:
Aside from this progress, however a focus on higher-impact cases, combined with normal year-to-year variability of the enforcement case settlement process, affected some of the agency's FY 2016 enforcement program results, contributing to missed targets for the number of federal inspections and evaluations, pounds of air and water pollutants reduced, and volume of contaminated soil and groundwater media cleaned up.

Program Area	Performance Measures and Data								
(1) Maintain Enforcement Presence	(PM 409) Number of federal inspections and evaluations.								
		FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
	Target		19,000	17,000	17,000	15,500	15,500	14,000	Inspections/Evaluations
	Actual		20,000	18,000	16,000	15,400	13,500		

Program Area	Performance Measures and Data

Explanation of Results: Inspections are an integral part of EPA's enforcement and compliance assurance program. They are an important tool for officially assessing compliance with environmental requirements. EPA is prioritizing the most significant inspections and evaluations and that has caused the overall number of federal inspections to decrease. EPA also conducts off-site evaluations of facilities that are not historically counted as part of this measure.

(PM 410) Number of civil judicial and administrative enforcement cases initiated.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		3,300	3,200	3,200	2,700	2,700	2,700	Cases
Actual		3,000	2,400	2,300	2,400	2,400		

Explanation of Results: EPA continued to pursue larger more complex, risk-based enforcement cases. This strategy leads to significant environmental and health gains, but generally lower numbers of cases overall. These enforcement actions are initiated when the regulated community does not comply with environmental laws, or cleanup is required for the protection of public health and the environment.

(PM 411) Number of civil judicial and administrative enforcement cases concluded.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		3,200	3,000	2,800	2,400	2,400	2,400	Cases
Actual		3,000	2,500	2,300	2,400	2,400		

Explanation of Results: EPA continued to pursue larger more complex, risk-based enforcement cases. This strategy leads to significant environmental and health gains, but generally lower numbers of cases overall.

(PM 412) Percentage of open consent decrees reviewed for overall compliance status.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		91	91	100	99	100		

(PM 078) Percentage of all Superfund statute of limitations cases addressed at sites with unaddressed past Superfund costs equal to or greater than $500,000.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	100	100	100	100	100	100	100	Percent
Actual	100	100	100	100	100	100		

Program Area	Performance Measures and Data

(PM 285) Percentage of Superfund sites having viable, liable responsible parties other than the federal government where EPA reaches a settlement or takes an enforcement action before starting a remedial action.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	95	99	99	99	99	99	99	Percent
Actual	100	100	100	100	100	100		

Additional Information: EPA's enforcement program is based on the "polluter pays" principle, which provides that a party responsible for the pollution pays for cleaning it up. The enforcement program applies this principle to preserve taxpayer dollars and the scarce resources of the Superfund trust fund to address truly abandoned and orphaned sites, which helps to make a visible difference in communities around the country by maximizing Superfund cleanups. In FY 1998, approximately 70 percent of new remedial work at Superfund sites (excluding Federal facilities) was initiated by private parties. By FY 2003, that percentage had increased such that a settlement was reached or an enforcement action was taken with non-Federal responsible parties before the start of the remedial action at approximately 90 percent of Superfund sites and in FY 2016, EPA reached a settlement or started an enforcement action at 100 percent of the non-Federal sites with viable responsible parties.

(2) Support Addressing Climate Change and Improving Air Quality

(PM 400) Millions of pounds of air pollutants reduced, treated, or eliminated through concluded enforcement actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	480	480	450	350	310	310	240	Million Pounds
Actual	1,100	250	610	140	430	240		

Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases.

Additional Information: As EPA continues to make progress addressing large air pollution violators, such as utilities, enforcement actions comprise cases with significant public health impacts but a smaller number of pounds of pollution. We are increasingly focused on large sources of air toxics, where even small emissions reductions can have significant health benefits.

(3) Support Protecting America's Waters

(PM 402) Millions of pounds of water pollutants reduced, treated, or eliminated through concluded enforcement actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	320	320	320	280	250	250	200	Million Pounds
Actual	740	500	660	340	90	70		

Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases.

Additional Information: Total pounds of pollution reduced per case is declining as we complete work on compliance agreements with the largest cities and begin to address non-compliance in smaller cities, and continue our focus on other sources of water pollution that are smaller in number of pounds but very important to protecting water quality.

(4) Support Cleaning Up Communities and Advancing Sustainable Development

(PM 405) Millions of pounds of hazardous and non-hazardous wastes reduced, treated, or eliminated through concluded enforcement actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	6,500	6,500	6,000	5,000	2,400	2,400	2,000	Million Pounds
Actual	3,600	4,400	150	700	500	61,900		

Explanation of Results: Hazardous: 61, 900 M lbs. Non-Hazardous: 13 M lbs. The results for this measure are driven by a small number of very large cases and, therefore, can cause significant fluctuations in the results from year to year. For example, in FY 2016 over 98% of the total 61.9 billion pounds of hazardous and non-hazardous waste reduced, treated, or eliminated came from one case - Mosaic (61.7). Given the types of cases that are nearing completion, EPA's shift in focus is expected to result in many fewer millions of pounds of pollution reduced overall. In FY 2016, EPA reached a record Resource Conservation and Recovery Act (RCRA) enforcement settlement with Mosaic LLC addressing violations at its phosphate chemical facilities in two states for mismanagement of hazardous wastes. The settlement set a RCRA record for the quantity of hazardous waste reduced, treated, or eliminated through a concluded enforcement action.

Additional Information: Prior to FY 2016, this measure only included hazardous waste. Beginning in FY 2016, this measure reports (separately) both hazardous and non-hazardous waste subtotals addressed and remediated through EPA enforcement actions. Non-hazardous waste subtotals were previously included in PM 404.

(PM 417) Millions of cubic yards of contaminated soil and groundwater media EPA has obtained commitments to clean up as a result of concluded CERCLA and RCRA corrective action enforcement actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		300	275	225	200	200	200	Million Cubic Yards
Actual		400	750	900	70	190		

Explanation of Results: Results for this measure are highly variable from year to year because they are driven by a small number of very large cases.

Additional Information: Contaminated groundwater media, as defined for the Superfund and RCRA corrective action programs, is the volume of physical aquifer (both soil and water) that will be addressed by the response action. The results for this measure are usually driven by a small number of very large cases, which can cause a significant fluctuation in results from year to year depending on the types of cases concluded in any given year.

(5) Support Ensuring the Safety of Chemicals and Preventing Pollution

(PM 404) Millions of pounds of toxic and pesticide pollutants reduced, treated, or eliminated through concluded enforcement actions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	3.8	3.8	3.0	2.5	2.3	2.3	2.3	Million Pounds
Actual	6.1	1,400	4.6	41	10	13		

Additional Information: Prior to FY 2016, this measure included non-hazardous wastes. Beginning in FY 2016, non-hazardous wastes addressed and remediated through EPA enforcement actions, which have been reported as part of this measure, are reported as part of PM 405. The results for this measure are usually driven by a small number of very large enforcement cases, which yielded the majority of the pounds addressed and can cause significant fluctuations in results from year to year, depending on the types of cases concluded in any given year.

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(6) Enhance Strategic Deterrence through Criminal Enforcement

(PM 418) Percentage of criminal cases having the most significant health, environmental, and deterrence impacts.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		43	43	43	45	45	45	Percent
Actual		45	44	48	62	68		

Additional Information: The mission of EPA's Criminal Enforcement Program is to investigate, help prosecute, and thereby deter the most egregious environmental offenders. The criminal program collects data on a variety of case attributes to evaluate the range, complexity, and quality of our national docket. In 2010, the program developed a case selection methodology to ensure the identification, investigation, and prosecution of cases with significant environmental, human health, and deterrence impacts. The data elements used in this tier methodology include information about the human health and environmental impacts, the nature of the pollutant and the release, and the profile and compliance history of the subject(s). Since instituting the tiering system, the percentage of "higher tier" cases has steadily risen, while total open criminal investigations have dropped significantly – from 751 cases (FY 2012) to 475 cases (FY 2016).

(PM 419) Percentage of criminal cases with individual defendants.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		75	75	75	75	75	75	Percent
Actual		70	80	87	83	85		

Additional Information: During the early years of EPA's criminal program, organizational defendants made up approximately 70% of the total defendants charged and individual defendants made up the remaining 30%. By FY 2016, these figures had greatly changed: 85% of cases had an individual charged and 15% were cases where only an organizational defendant(s) was charged.

(PM 420) Percentage of criminal cases with charges filed.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		40	40	40	45	45	45	Percent
Actual		44	38	39	38	37		

Explanation of Results: EPA's Criminal Enforcement Program has emphasized focusing on more significant cases, which by nature are more complex, lengthy investigations. In the past four years, results for PM 420 have ranged from 37 to 39 percent. During that same period, three factors contributed to significant changes in the open case docket: (1) The number of case-carrying agents declined resulting in fewer cases being opened each year; (2) With the implementation of PM 418 (the case tiering measure), EPA has increased the quality of remaining open cases (going from 44% to 68% in that same period); (3) As a result, the national docket went from over 700 open cases to 475. Due to the increased quality and number of open cases, EPA may be in a better position to meet the target for this measure going forward.

(PM 421) Percentage of conviction rate for criminal defendants.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		85	85	85	85	85	85	Percent
Actual		95	94	95	92	94		

	Additional Information: While case outcomes fluctuate based on their specific characteristics, as well as the prosecutorial and sentencing decisions made by the U.S. Department of Justice and the federal courts, EPA's Criminal Enforcement Program has maintained a historically high conviction rate for defendants charged with environmental crimes.

Performance: Research

(The shaded boxes indicate that actual results are not yet available, or that a measure has been discontinued.)

NPM: Office of Research and Development

Performance Measures and Data

(PM AC1) Percentage of planned research products completed on time by Air, Climate, and Energy research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	92	87	87	100		

Explanation of Results: In FY 2016, EPA's Air, Climate and Energy (ACE) research program completed 100% of its high-priority research products as planned. Included among these products is the final publication of the Multi-Ethnic Study of Atherosclerosis (MESA) Air Pollution Study. The research supports the investigation of health effects of air pollution under the Clean Air Act, which was funded through a 10-year STAR grant. The results are significant from both clinical practice and policy perspectives, emphasizing long-term prevention of exposure to air pollution as a strategy to mitigate or delay the onset of cardiovascular disease. This product, as well as other ACE products, provides key data and tools needed by individuals, communities, and governmental agencies to prevent and reduce emissions of pollutants, assess effects associated with pollutants, and make informed decisions to protect public health.

Additional Information: A research product is "a deliverable that results from a specific research project or task. Research products may require translation or synthesis before integration into an output ready for partner use." This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM AC2) Percentage of planned research outputs delivered to clients for use in taking action on climate change or improving air quality.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		77	83	92	74	85		

Performance Measures and Data

Explanation of Results: In FY 2016, EPA's Air, Climate and Energy (ACE) research program completed 85% of its research outputs. The two unmet outputs, which will be completed in FY 2017, are 1) a Health Effects Institute (HEI) report, Multicenter Ozone Study in Elderly Subjects (MOSES), and 2) a final project presentation on Exploring New Air Pollution Health Effects Links in Existing Datasets. An overview of the HEI report was presented at their annual conference in May, but its final release was delayed until FY 2017 due to the HEI committee decision to delay the report to adequately address extensive comments that arose during the peer review stage. The delay on the second output was due to challenges in staffing the project, as the lead Project Officer was pulled into several other activities related to Indoor Air. Among the ACE outputs that were completed as planned in FY 2016 is the Village Green II deployment of 7 new air monitoring stations located nationally and internationally. The stations are designed and engineered to incorporate sensor technology into park bench structures, which do not require infrastructure support. This output, as well as other ACE outputs, advances air pollution measurement technology to provide quality-assured data to the public in a real-time, transparent, and accessible way. This project further supports EPA's mission of protecting human health and the environment by furthering public outreach, supplementing the regulatory monitoring network to explore local-scale pollution trends, and increasing data available for research purposes.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM CS1) Percentage of planned research products completed on time by the Chemical Safety for Sustainability research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Chemical Safety for Sustainability (CSS) research program completed 100% of its high-priority research products as planned. Included in these products were upgrades to thyroid data in the ToxCast database, including the addition of 774 chemicals that were not previously tested in the thyroid (AUR-TPO) assay. This additional data now allows for a total of 2,000 chemicals to be used in prioritization in Endocrine Screening testing. Increasing the number of chemicals that can be prioritized for testing is an essential part of understanding high-priority chemicals in the universe of 10,000+ chemicals relevant to the Endocrine Disruptor Screening program. In addition, CSS produced a series of journal articles that refine and calibrate current testing methods to ensure the program's data is of high quality. These and other CSS products provide toxicological data and tools needed by individuals, communities, and governmental agencies to prevent and reduce chemical exposure, assess effects associated with pollutants, and make informed decisions to protect public health.

Additional Information: A research product is "a deliverable that results from a specific research project or task. Research products may require translation or synthesis before integration into an output ready for partner use." This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products are needed to be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM CS2) Percentage of planned research outputs delivered to clients and partners to improve their capability to advance the environmentally sustainable development, use, and assessment of chemicals.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		50	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Chemical Safety for Sustainability (CSS) research program completed 100% of its research outputs as planned. The outputs included an evaluation framework for high-throughput toxicity testing schemes to inform specific agency chemical evaluation objectives. The collaborative development of this framework will help EPA lead the larger discussion of innovations in evaluation/validation schemes for lab research methods, data analysis, and in extrapolating data use across research methods (e.g., in vitro to in vivo). CSS also developed tools that make it easier for EPA program offices and regional offices to incorporate Adverse Outcome Pathway (AOP) concepts into their decision-making processes. These and other CSS research outputs empower individuals, communities, and governmental agencies to better evaluate potential risks from chemical exposure and to make more informed, more timely decisions about chemicals that impact public health and the environment.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM HC1) Percentage of planned research products completed on time by the Sustainable and Healthy Communities research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	83	81	100	100		

Explanation of Results: In FY 2016, EPA's Sustainable and Healthy Communities (SHC) research program completed 100% of its high-priority research products as planned. Included among these products were an updated EnviroAtlas and a published report on community vulnerability to wildfires. The annual update of the EnviroAtlas included features such as climate change analysis tools and a toolbox that enhances users' ability to customize their analysis with geo-specific data. The Wildfire Community Vulnerability Index Report provides a map of vulnerability across the U.S. that identifies regions that not only have a high risk of fire, but also a high percentage of susceptible populations. This report aims to deliver information that can facilitate targeted health outreach programs in high-risk communities. These and other SHC products provide key data and tools needed by individuals, communities, and governmental agencies to set goals, guide strategic plans, inform decisions, and measure progress toward their community objectives.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM HC2) Percentage of planned research outputs delivered to clients, partners, and stakeholders for use in pursuing their sustainability goals.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		50	68	100	50	92		

Explanation of Results: In FY 2016, EPA's Sustainable and Healthy Communities (SHC) research program completed 92% of its research outputs as planned. The development of a systems-level approach to understanding children's environmental exposure, health and environmental diseases in the natural and built environment was delayed as the scope of the output was expanded in FY 2016 to feature a more comprehensive extramural-intramural integration. An FY 2016 output provides methods to characterize and remediate contaminated ground water, vapor, and sediment sites to improve community public health. Another output provides communication strategies for educating risk assessors, decision makers, and the public on reducing childhood diseases and promoting healthy and sustainable community settings. These and other SHC outputs enable ORD and its partners to support EPA's mission to protect human health and the environment. This output, as well as other SHC outputs, provides tools and methods that help protect public health at a community level, communicate community environmental risks, and protect the environment.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM HS1) Percentage of planned research products completed on time by the Homeland Security research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Homeland Security Research Program (HSRP) completed 100% of its high-priority research products as planned. Included among these products is the assessment and evaluation report, Evaluation of Waste Sampling and Decontamination Procedures – Part II. The study determined waste decontamination conditions that would achieve effective or highly effective decontamination of all material types during a response. This product, as well as other HSRP products, supports EPA's mission by providing the data and tools necessary to prepare our communities for the threats of disasters including biological, chemical and radiological attacks.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM HS2) Percentage of planned research outputs delivered to clients and partners to improve their capabilities to respond to contamination resulting from homeland security events and related disasters.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		78	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Homeland Security Research Program (HSRP) completed 100% of its research outputs as planned. Included among these outputs are surface decontamination efficacy studies for chemical warfare blister agents. Blister agents are contaminants of concern due to their use in terrorist activities and their ability to stay on surfaces for a prolonged amount of time. These studies investigate the impact of different decontamination products and application procedures, providing decision-makers with practical information on surface decontamination options during a blister agent response. These and other HSRP outputs continue to support EPA's ability to respond to potential attacks on our water systems and other potential impacts to human health.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM RA1) Percentage of planned research products completed on time by the Human Health Risk Assessment research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		100	88	80	45	68		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program completed 68% of its high priority research products as planned. The HHRA program was unable to meet 100% of its goal because of a number of a factors, particularly related to the Integrated Risk Information System (IRIS) program, including challenges in maintaining specialized expertise and delays due to development and implementation of new systematic review protocols. Key assessment products completed for IRIS included 3 external review draft IRIS assessments released for public comment (ethyl tert-butyl ether (ETBE), hexahydro-1,3,5-trinitro-1,3,5-triazine (RDX), tert-butanol (TBA)). Several Integrated Science Assessment (ISA) key products were completed as planned including the first draft ISA for Oxides of Sulfur – Health Criteria, the ISA chapter in the Draft Integrated Review Plan (IRP) to support the secondary National Ambient Air Quality Standards (NAAQS) review for oxides of nitrogen and sulfur, and the ISA chapter in the Draft IRP to support the primary and secondary NAAQS review for particulate matter (PM). Among other HHRA products completed as planned in FY 2016 was the Exposure Resource for Scenarios Tool (ExpoFIRST) which expands capabilities of regional, state, and local scientists in conducting site-specific health assessments by allowing users to define and explore an unlimited number of potential exposure scenarios related to a chemical of concern. Another key product was the release of a new graphic user interface for Categorical Regression (Cat Reg) software to meet the dose-response needs of HHRA projects as well as other national programs. The HHRA program provides key assessments and tools needed by individuals, communities, and governmental agencies to improve risk analyses, better inform regulatory decisions, and protect human health and the environment.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products must be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM RA2) Percentage of planned research outputs delivered to clients and partners for use in informing human health decisions.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		38	100	67	60	67		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program completed 67% of its research outputs as planned. Two of the three planned outputs were met. Completed output included release of the final ISA for Oxides of Nitrogen – Health Criteria to support the primary National Ambient Air Quality Standard (NAAQS) for Nitrogen Dioxide (NO2). The ISA is integral support to the NAAQS program which ensures a clean and healthy environment for the public under the Clean Air Act. HHRA also completed 12 Provisional Peer-Reviewed Toxicity (PPRTV) assessments this year, which are used by EPA's Superfund program and regional decision makers when making site-specific cleanup decisions. The only unmet output was completion of 3 final IRIS assessments. Two IRIS assessments were posted as final in FY 2016: Trimethylbenzenes (TMBs) and Ammonia (Noncancer Inhalation). A third IRIS assessment, for benzo[a]pyrene, was delayed until FY 2017 because the Science Advisory Board peer review report was not received until April 2016 (18-month review).

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

(PM RA6) Number of regulatory decisions in which decision-makers used HHRA peer-reviewed assessments (IRIS, PPRTVs, exposure assessments and other assessments)

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target			20	20	20	20	20	Number
Actual			140	100	100	100		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program significantly exceeded its goal for this measure. HHRA peer-reviewed assessments are used by EPA program and regional offices to inform critical decisions to protect human health. For example, Provisional Peer-Reviewed Toxicity (PPRTV) assessments are used by EPA's Superfund program and regional decision makers when making site-specific cleanup decisions. These assessments advance science and technology to help improve the health and quality of life in communities affected by hazardous waste sites and improve industry environmental practices.

Additional Information: The measure calculates the number of agency regulatory decisions for which clients use HHRA peer-reviewed health assessments. The measure is calculated by reviewing regulatory decisions and Records of Decision (ROD) made by EPA, determining how many quantitative health assessment values were used in these EPA program decisions, and what percentage of these values had been developed by the HHRA Program. This measure was piloted in FY 2013 and FY 2014 and was based on available information for FY 2010 that is unlikely to be reproducible. The feasibility of reliably reporting this measure is contingent upon timely completion of the overhaul of the agency ROD database. This restructured database will not be available for analysis until approximately 2 years after decisions are recorded and will start with FY 2011 RODs. We will evaluate the feasibility of this measure over 3 years with FY 2012 & 2013 data being reported in FY 2015 & FY 2016, respectively.

(PM RA7) Annual milestone progress score for completing draft IRIS health assessments.								
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		50	50	40	40	40	40	Score
Actual		8	17	30	7	4		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program achieved a score of 4 in drafting Integrated Risk Information System (IRIS) assessments. Challenges in maintaining specialized expertise affected the ability to create the assessment teams required prior to developing initial scoping and preliminary packages. Later development steps (e.g., assessment components such as systematic review of complex scientific publications) were affected similarly as well as by competing priorities. The scoring method used for this measure was developed many years ago and does not reflect significant IRIS programmatic changes. Though the target was not met, HHRA did complete public comment/external review drafts of multiple IRIS health assessments that are critical to EPA's regulatory decisions (e.g., RDX, ETBE, and tert-butanol). IRIS assessments ultimately help characterize chemical pollutants' potential exposure and risk for specific communities. These assessments provide key data and tools needed by individuals, communities, and governmental agencies to improve risk analyses, better inform regulatory decisions, and protect human health and the environment.

Additional Information: At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that includes such factors as client interest, complexity of science, and level of effort required. Points are scored by multiplying the weight of each assessment by the number of milestones completed in the assessment process. The program targets represent a steady and timely completion of draft assessments throughout each fiscal year. Near-term targets are based on the large volume of ongoing assessments that have not been released in draft due to the change in the process for external review. This measure will be assessed as a rolling average with potential annual excess rolled over to the next target year so as to provide incentives for completion of more milestones. In 2011, the National Research Council (NRC) made several recommendations to EPA for improving the development of IRIS assessments. EPA has made progress in implementing these recommendations; accordingly, the NRC 2014 report commended EPA's efforts to modernize IRIS. To increase its transparency, accessibility, and efficiency, EPA is using a new document structure for draft assessments, including an Executive Summary presenting major conclusions, a description of methods used to develop the assessment, distinct sections on Hazard Identification and Dose-Response Analysis, and more tables and figures to clearly present data. To better support policy and regulatory decisions for EPA's programs and regions, as well as state agencies, IRIS is reconfirming their priority chemicals and product needs, and aligning those with appropriate allocation of resources. In addition to Superfund, water, air, and children's health drivers, IRIS has sharpened its focus on the new TSCA law, and has been providing the needed scientific support to meet its expedited timelines.

(PM RA8) Annual progress score for finalizing IRIS health assessments.								
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		20	20	15	15	15	15	Score
Actual		17	8	0	5	5		

Explanation of Results: In FY 2016, EPA's Human Health Risk Assessment (HHRA) Research Program achieved a score of 5 in finalizing Integrated Risk Information System (IRIS) assessments. Trimethylbenzenes (TMBs) and Ammonia (Noncancer Inhalation) were both posted as final assessments in FY 2016. The IRIS TMBs assessment addresses potential noncancer and cancer human health effects from long-term exposure to three TMB isomers (1,2,4-TMB, 1,3,5-TMB, and 1,2,3-TMB), and is the first IRIS assessment for this chemical. The IRIS assessment for ammonia addresses the potential noncancer human health effects from long-term inhalation exposure to ammonia, and updates the toxicological information on ammonia posted to the IRIS database in 1991. Both assessments implement many of the recommendations provided by the National Academy of Sciences and feature a new streamlined document structure that is more transparent with respect to the methods used and better articulates how decisions were made. Now final, these IRIS assessments can be used by EPA's program and regional offices to inform decisions to protect human health. Additional modeling issues arose for ethylene oxide (EtO) that delayed it until FY 2017. The benzo(a)pyrene B(a)P assessment was delayed until FY 2017 because SAB peer review report was not received until April 2016 (an 18-month review).

Additional Information: This measure tracks the program's ability to make progress in finalizing and releasing IRIS assessments. The annual score, tracked cumulatively throughout the year, is based on the relative weighting of each chemical. Chemicals are weighted using a 3-tier system that includes client interest, complexity of science, and level of effort required. Points are scored by multiplying the weight of each assessment by the number of milestones completed in the assessment process. The program targets represent a steady and timely completion of final assessments throughout each fiscal year. Near-term targets are based on the large volume of ongoing assessments that have not been finalized due to the change in the process for external review and completion. This measure will be assessed as rolling average. In 2011, the National Research Council (NRC) made several recommendations to EPA for improving the development of IRIS assessments. EPA has made progress in implementing these recommendations; accordingly, the NRC 2014 report commended EPA's efforts to modernize IRIS. To increase its transparency, accessibility, and efficiency, EPA is using a new document structure for draft assessments, including an Executive Summary presenting major conclusions, a description of methods used to develop the assessment, distinct sections on Hazard Identification and Dose-Response Analysis, and more tables and figures to clearly present data. To better support policy and regulatory decisions for EPA's programs and regions, as well as state agencies, IRIS is reconfirming their priority chemicals and product needs, and aligning those with appropriate allocation of resources. In addition to Superfund, water, air, and children's health drivers, IRIS has sharpened its focus on the new TSCA law, and has been providing the needed scientific support to meet its expedited timelines.

(PM SW1) Percentage of planned research products completed on time by the Safe and Sustainable Water Resources research program.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		86	70	90	100	100		

Explanation of Results: In FY 2016, EPA's Safe and Sustainable Water Resources (SSWR) research program completed 100% of its planned high priority products. Among these products, under research on Harmful Algal Blooms, SSWR developed and released the Water Quality Assessment Tool (WQAT) in conjunction with NASA Stennis Space Center. WQAT is a software tool that facilitates and simplifies the extraction and analysis of satellite data. Satellite data are important because water quality management in most aquatic ecosystems is hindered by a lack of data. WQAT's users are the Office of Water, Regions, states, tribes, including drinking water treatment facilities, state health departments, recreational water managers, and state water quality managers. WQAT, as well as other SSWR products, provide the data and tools needed by individuals, communities, and governmental agencies to promote water conservation, safeguard our water resources from ongoing threats, and protect public health.

Additional Information: A research product is "a deliverable that results from a specific research project or task." Research products may require translation or synthesis before integration into an output ready for partner use. This secondary performance measure tracks the timely completion of research products. Working with its partners, each program develops a list of planned research products and their associated outputs. The list reflects high priority products the program plans to complete by the end of each fiscal year. The estimated completion date is based on when the output is needed for partner use and when the research products are needed to be transformed into the output. The actual product completion date is self-reported. The program strives to complete 100% of its planned products each year so that it can best meet EPA and other partners' needs.

(PM SW2) Percentage of planned research outputs delivered to clients and partners to improve the Agency's capability to ensure clean and adequate supplies of water that support human well-being and resilient aquatic ecosystems.								
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		100	100	100	100	100	100	Percent
Actual		50	100	100	100	100		

Explanation of Results: In FY 2016, EPA's Safe and Sustainable Water Resources (SSWR) research program completed 100% of its planned outputs. The Green Infrastructure Models and Tools toolkit is a webpage of five EPA green infrastructure (GI) models and tools, along with communication material, that can provide stakeholders with relevant and timely information so they can make sound decisions regarding options for implementation of GI practices. The purpose of the toolkit is to provide decision makers with quick and relevant information about available models and tools for use in their communities. The toolkit can be used as a teaching tool and as a reference resource by planners and developers when making GI implementation decisions. The toolkit can be used for low impact development design competitions, and it can be used by EPA Regions to train their staff, and for outreach to states. The GI models, as well as other SSWR research, provides the science and innovative technologies that the agency and the nation need to maintain drinking water resources and systems, as well as to protect the chemical, physical and biological integrity of the nation's waters.

Additional Information: Research outputs result from the translation or synthesis of one or more research products into the format compatible with the partner's decision needs. "Delivery of a research output" means that the output is transferred to the Office of Research and Development's (ORD's) research partner ready for the intended partner use. EPA identifies and describes the planned outputs in the program's Research Program Strategic Plan. At the end of the fiscal year, the program reports on its success in meeting its planned annual outputs. The program strives to complete 100% of its planned outputs each year so that it can best meet EPA and other partners' needs. To ensure the ambitiousness of its annual output measures, ORD has better formalized the process for developing and modifying program outputs, including requiring that ORD programs engage partners when making modifications. Involving partners in this process helps to ensure the ambitiousness of outputs on the basis of partner utility.

Performance: Enabling and Support Programs

(The shaded boxes indicate that actual results are not yet available, or that a measure has been discontinued.)

NPM: Office of Administration and Resources Management

Performance Measures and Data

(PM 009) No reduction in percentage of certified acquisition staff (1102).

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target		335 / 80	323 / 80	85	85	85	85	Number/ Percent
Actual		323/85	285 / 85	93	95	93		

Explanation of Results: As of October 1, 2016, there were 260 acquisition (1102) staff on board, of which 241 (93%) were certified. Certification ensures that acquisition staff are properly trained and qualified.

(PM 010) Reduction in Greenhouse Gas (GHG) Scopes 1 & 2 emissions below 2008 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	0.4	6.4	12.2	16.3	16.3	20.1	23.0	Percent
Actual	59	54.1	57.4	59.5	63	Data Avail 2017		

Additional Information: See EPA's FY 2016 Strategic Sustainability Performance Plan page 4 at https://www.epa.gov/sites/production/files/2016-09/documents/epa_2016_strategic_sustainability_performance_plan.pdf.

(PM 098) Reduction in energy consumption below 2003 baseline.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	18	21	24	27	27	32.5	35	Percent
Actual	18.1	23.7	25.6	28.9	32.7	Data Avail 2017		

Additional Information: See EPA's FY 2016 Strategic Sustainability Performance Plan page 4 at https://www.epa.gov/sites/production/files/2016-09/documents/epa_2016_strategic_sustainability_performance_plan.pdf.

NPM: OFFICE OF ENVIRONMENTAL INFORMATION

Performance Measures and Data

(PM 052) Number of major EPA environmental systems that use the CDX electronic requirements enabling faster receipt, processing, and quality checking of data.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	60	67	75	80	77	80	90	Systems
Actual	64	68	73	89	107	125		

Additional Information: The Central Data Exchange (CDX) program began in FY 2001 to enable states, tribes and others to send environmental data to EPA through a centralized electronic process. The CDX program estimates its results as the net of new systems using CDX services (increase) and retirement of older systems that are being phased out (decrease). As a result, these results may increase or decrease in subsequent years. The unit of measure "system" is defined as the number of data flows/exchanges that occur through CDX by EPA program offices, states and tribes. There are 14 Vehicle and Engine Certification and Compliance (VERIFY) data flows/exchanges that occur in CDX. Each serves a different need and is counted individually. Because CDX is used for these 14 unique needs, separate systems have not been developed to fulfill this need; rather, the one CDX solution serves them all.

(PM 053) States, tribes and territories will be able to exchange data with CDX through nodes in real time, using standards and automated data-quality checking.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	65	80	95	98	103	140	140	Users
Actual	72	92	97	102	104	140		

Additional Information: Users are defined for this measure as the total number of physical and virtual nodes in production and test.

(PM 999) Total number of active unique users from states, tribes, laboratories, regulated facilities and other entities that electronically report environmental data to EPA through CDX.

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016	FY 2017	Unit
Target	Baseline Year	58,000	70,000	75,000	84,000	90,000	100,000	Users
Actual	56,200	65,238	79,818	96,000	85,894	116,636		

Additional Information: To calculate unique users of the CDX system, CDX takes all users whose accounts have been active in the last two years and eliminates duplicate registrations under the same email address. Because many EPA regulations require periodic reporting, i.e., once every two, three or five years, a two-year span was utilized to capture the majority of users without overstating their "active" status.

NPM: OFFICE OF THE INSPECTOR GENERAL

	Performance Measures and Data							
	(PM 35A) Environmental and business actions taken for improved performance or risk reduction.							
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	334	334	307	248	268	274	274	Actions
	Actual	315	216	215	324	296	285		
	Additional Information: This measure captures implemented corrective actions taken by the agency based on Office of the Inspector General (OIG) recommendations to improve EPA programs and/or processes. Results are typically from prior years and may fluctuate depending on the agency's ability to complete agreed-upon corrective actions. The target for this measure is developed by taking the actual performance for two or three fiscal years and adjusted to reflect any significant changes in priorities.							
	(PM 35B) Environmental and business recommendations or risks identified for corrective action.							
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	903	903	786	687	967	1,094	1,094	Recommendations
	Actual	2,011	1,242	1,003	944	1,110	1,127		
	Additional Information: This measure captures the number of Office of the Inspector General (OIG) outputs (recommendations for improvement, outreach activities to plan and promote OIG work, congressional testimonies delivered, best practices identified, and risks identified). One key activity during an OIG audit/evaluation is identifying risks to EPA operations and programs. Risk identification is based on federal standards for internal control. Internal control is a process for assuring achievement of an organization's objectives in operational effectiveness and efficiency, reliable reporting, and compliance with laws, regulations and policies. Ultimately effective internal controls assure that operations run efficiently and effectively. The target reflects the average of actual performance for two or three fiscal years, adjusted to reflect any significant changes in priorities.							
	(PM 35C) Return on the annual dollar investment, as a percentage of the OIG budget, from audits and investigations.							
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	120	110	125	132	220	220	220	Percent
	Actual	151	743	248	734	1,656	2,098		
	Explanation of Results: A significant portion ($886 million) of FY 2016 return on investment came from non-EPA unliquidated funds (other federal funds) identified by EPA-OIG audit work. ***Additional Information:*** Results under this measure identify the potential return on investment and do not include actual recoveries. The Office of the Inspector General's (OIG's) role is to question costs and identify cost efficiencies and funds put to better use (recommended efficiencies). The target reflects the average of actual performance for two or three fiscal years, adjusted to reflect any significant changes in priorities. In FY 2012 and FY 2014 the OIG issued a single report with usually high recommended efficiencies (FY 2012-$372M; FY 2014-$230M). These were excluded from the average calculations given that reports with massive Return on Investment (ROI) do not materialize every year.							

	Performance Measures and Data							
	(PM 35D) Criminal, civil, administrative, and fraud prevention actions.							
		FY 2011	**FY 2012**	**FY 2013**	**FY 2014**	**FY 2015**	**FY 2016**	**FY 2017**	**Unit**
	Target	80	85	90	125	175	145	145	Actions
	Actual	160	152	256	213	304	181		
	Additional Information: This measure captures criminal, civil, and administrative actions as a result of Office of the Inspector General (OIG) investigations on fraud, waste and abuse. To a large extent, results are influenced by factors outside the control of OIG (judges, juries, etc.).							

Cross-Agency Strategies

The table below summarizes progress that the Environmental Protection Agency has achieved under each of the four cross-agency strategies established in the *FY 2014-2018 EPA Strategic Plan.*

Working Toward a Sustainable Future - Advance sustainable environmental outcomes and optimize economic and social outcomes through agency decisions and actions, which include expanding the conversation on environmentalism and engaging a broad range of stakeholders.
EPA made steady progress promoting sustainability, working across the agency and with federal and non-federal partners to continue education and engagement. In FY 2016, EPA: • Hosted a workshop under the G7 Alliance on Resource Efficiency which brought public and private stakeholders together to share best practices and identify opportunities to use life cycle thinking to achieve sustainable materials management across supply chains. • Hosted the first Food Recovery Summit to reduce food loss and waste, and held a Making a Sustainable Difference in Communities Event for sustainability and communities workgroups to meet face-to-face, collaborate, and break down silos. • Prepared and released 32 videos, including 15 external videos, which garnered more than 37,000 views. • Partnered with the Department of State's Greening Council to focus on innovative water technologies to advance greening efforts at 18,000 embassies and buildings worldwide.
Working to Make a Visible Difference in Communities - Align community-based activities to provide seamless assistance to communities, both urban and rural, while maximizing efficiency and results. Expand support of community efforts to build healthy, sustainable, green neighborhoods and reduce and prevent harmful exposures and health risks to children and underserved, overburdened communities.
EPA's Communities Team made progress in four main areas. In the area of target communities: • EPA assisted 50 focus communities with implementing work plans by leveraging resources across the agency and with external partners. • EPA allocated $1.3 million to 22 communities in 18 states to help protect and restore urban waters and to support community revitalization and other local priorities. • EPA also awarded more than $7 million to 85 school bus fleets in 35 states to replace or retrofit 400 older diesel school buses and reduce pollutants linked to asthma and lung damage. In the area of empowering communities: • The agency released an updated EJSCREEN tool to identify potential hazards in environmental justice communities.

Through the Community Resources Network:

- EPA conducted monthly webinars and other outreach activities to support its agency-wide community of practice, drawing more than 150 participants.
- The agency also compiled best practices for coordinating and leveraging community-based work for implementation in FY 2017.

Finally, EPA continued to employ a wide range of communication tools to tell communities' stories. Challenges included embedding communities work into the existing institutional structures within the agency.

Launching a New Era of State, Tribal, Local, and International Partnerships - Strengthen partnerships with states, tribes, local governments, and the global community that are central to the success of the national environmental protection program through consultation, collaboration, and shared accountability. Modernize the EPA–state relationship, including revitalizing the National Environmental Performance Partnership System and jointly pursuing E-Enterprise, a transformative approach to make environmental information and data more accessible, efficient, and evidence-based through advances in monitoring, reporting, and information technology.

EPA continued to strengthen its partnerships with states, tribes, local governments, and the global community in FY 2016 to protect the environment and modernize relationships. The Partnerships Team is making progress toward the vision set forth in the *FY 2014-2018 EPA Strategic Plan*.

- EPA, working jointly with states and tribes, initiated projects and portal functionalities designed to ease regulatory burden. The E-Enterprise program is on pace to reduce the regulatory burden by nearly 1 million hours by the end of FY 2016, with over 1 million hours per year savings expected upon full adoption of services (**FY 2016-2017 APG**).
- EPA published a final rule to significantly streamline the process for tribes to obtain authority to develop their own water quality standards, identify impaired waters on their reservations, and establish Total Maximum Daily Loads.
- By providing key support and assisting in drafting implementation guidance, EPA advanced implementation of the Minamata Convention to reduce mercury pollution.
- EPA successfully achieved agreement by the Intergovernmental Negotiating Committee on guidances for controlling air emissions of mercury from coal combustion, cement production, metals production, and waste incineration and for addressing mercury use in artisanal gold mining.
- A total of 316 EPA-Tribal Environmental Plans (ETEPs) are in place nationwide for 62 percent of tribes receiving Indian General Assistance Program grants.

Challenges under this cross-agency strategy included ensuring robust and inclusive discussions among NPMs, Regional Division Directors, states and tribes to consider the most promising potential E-Enterprise projects.

Embracing EPA as a High Performing Organization (HPO) - Maintain and attract EPA's diverse and engaged workforce of the future with a more collaborative work environment. Modernize our business practices, including through E-Enterprise, and take advantage of new

tools and technologies. Improve the way we work as a high-performing Agency by ensuring we add value in every transaction with our workforce, our co-regulators, our partners, industry, and the people we serve.
In FY 2016, EPA continued to improve as a high performing organization by focusing on developing employees and a supportive work environment and on streamlining business processes. • To improve support for EPA's first-line supervisors, the agency made improvements in labor and employee relations processes and programs, including establishment of anti-harassment and telework training. • Additionally, EPA convened a first-line supervisors advisory group, with representatives from all program and regional offices, to engage their expertise in development of management solutions, which in FY 2016 included participation in Technical User Groups to test enhancements to the PeoplePlus system and development of options for a permanent continuing education program for supervisors. • EPA launched Talent Hub, a SharePoint-based one-stop shop for employee development opportunities. • The agency continued work to "reduce the footprint," including the release of approximately 141,000 sq. ft. of office space in Potomac Yard, saving approximately $5 million annually in rent costs. • EPA also established a Lean Action Board and Lean Project Support Team to work on 10 and 41 projects respectively. • The agency also held Technology User Groups (TUGs) to evaluate EPA's time and attendance, payroll, and contracting systems. EPA is continuing efforts to implement Lotus Notes migration and has completed Lotus Notes inventory analysis, identifying databases for deletion or archiving. • The agency continued to accrue savings across its procurement program through implementation of its category management/strategic sourcing program. Through FY 2016, EPA has saved approximately $8 million dollars through the restructuring of cross-agency commodities and contracts. Among the challenges the agency faced in implementing its HPO strategy were delays to the second Senior Executive Service (SES) candidate development program to align timeline with EPA's partner, the U.S. Department of the Interior. Implementation is scheduled to begin in early 2017. In addition, contract issues delayed Lotus Notes Migration.

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Coordination with Other Federal Agencies

Environmental Programs

Air and Radiation Programs

National Ambient Air Quality Standards (NAAQS) Implementation

The EPA has cooperated with other federal, state, Tribal, and local agencies to achieve goals related to ground level ozone and particulate matter (PM) and to ensure the actions of other agencies do not interfere with state plans for attaining and maintaining the National Ambient Air Quality Standards (NAAQS). The EPA has worked closely with the Department of Agriculture (USDA), the Department of the Interior (DOI), and the Department of Defense (DOD) on issues such as prescribed burning at silviculture and agricultural operations. The EPA, the Department of Transportation (DOT), and the Army Corps of Engineers (ACE) have worked with state and local agencies to integrate transportation and air quality plans, reduce traffic congestion, and promote livable communities.

To improve our understanding of environmental issues related to the agricultural sector, the EPA has worked closely with the USDA and others to reduce emissions from agricultural operations and improve air quality while supporting a sustainable agricultural sector. Because the EPA does not have adequate emissions estimates for this sector, the agency has needed to develop an understanding of emissions profiles and establish monitoring and measurement protocols, technology transfer, and a research agenda. The agency encouraged partnerships between the EPA, USDA, and their established partners and utilized existing USDA infrastructure (e.g., Extension Service, Natural Resources Conservation Services, land grant colleges and universities, Farm Bill programs, etc.). Additionally, the agency will actively engage and reach out to the agriculture community.

Regional Haze

The EPA has worked with the DOI, National Park Service (NPS), and U.S. Forest Service in implementing its regional haze program and operating the Interagency Monitoring of Protected Visual Environments (IMPROVE) visibility monitoring network. The operation and analysis of data produced by this air monitoring system is an example of the close coordination of efforts between the EPA and state and Tribal governments. The EPA also has consulted with the DOI's Fish and Wildlife Service (FWS) and NOAA's National Marine Fisheries Service (NMFS) on the potential impact of federally permitted actions on endangered species.

Air Quality Assessment, Modeling, and Forecasting

For pollution assessments and transport, the EPA has worked with the National Aeronautics and Space Administration (NASA) on technology transfer using satellite imagery. The EPA has worked to further distribute NASA satellite products and NOAA air quality forecast products to states, local agencies, and tribes to provide a better understanding of air quality on a day-to-day basis and to assist with air quality forecasting. The EPA has worked with NASA to develop a

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better understanding of PM formation using satellite data. The EPA has worked with the Department of the Army on advancing emission measurement technology and with NOAA for meteorological support for our modeling and monitoring efforts. The EPA has collected real-time ozone and particulate matter (PM) measurements from state and local agencies, which are used by both NOAA and the EPA to improve and verify Air Quality Forecast models. The EPA's AIRNow program (the national real-time Air Quality Index reporting and forecasting system) has worked with the National Weather Service (NWS) to coordinate NOAA air quality forecast guidance with state and local agencies for air quality forecasting efforts and to render the NOAA model output in the EPA Air Quality Index (AQI), which helps people determine appropriate air quality protective behaviors. In wildfire situations, the EPA and the U.S. Forest Service (USFS) have worked closely with states to deploy monitors and report monitoring information and other conditions on AIRNow. The EPA also has worked with USFS by providing new science on the impacts of smoke on health to inform smoke management practices and intervention strategies to reduce health impacts. The AIRNow program also has collaborated with the NPS and the USFS in receiving air quality monitoring observations, in addition to observations from over 130 state, local, and Tribal air agencies. AIRNow also collaborates with NASA in a project to incorporate satellite data with air quality observations.

The EPA, USDA, and the DOI established a collaborative framework to address issues pertaining to wildland fire and air quality. The agreement recognizes the key roles of each agency, as well as opportunities for collaboration. For example, the partnership explains that the agencies seek to reduce the impact of emissions from wildfires, especially catastrophic wildfires, and the impact of those emissions on air quality. In addition, the partnership highlights opportunities for enhancing coordination among the agencies through information sharing and consultation, collaboration on tools and information resources, and working together to collaborate with state and other partners, among other goals.

Mobile Sources

The EPA has worked with the National Highway Traffic Safety Administration (NHTSA) on the coordinated national program establishing standards to improve fuel efficiency and reduce GHG emissions for light-duty vehicles for model years 2017 and later. Specifically, the EPA, in coordination with Department of Transportation's fuel economy and fuel consumption standards programs, implement vehicle and commercial truck greenhouse gas standards with a focus on industry compliance to ensure the standards are realized.

In the maritime sector, the EPA has collaborated with the Coast Guard (USCG) and other nations, such as Mexico and Canada. In the aviation area, the EPA has collaborated with the Federal Aviation Administration (FAA). To address criteria pollutant emissions (such as nitrogen oxide (NOx) and PM) from marine and aircraft sources, the EPA has worked collaboratively with the International Maritime Organization (IMO) and International Civil Aviation Organization (ICAO), as well as with other federal agencies, such as USCG and the FAA. The EPA also has collaborated with the USCG in the implementation of Emission Control Area (ECA) around the United States, and with Mexico and Canada in the Commission for Environmental Cooperation to evaluate the benefits of establishing a Mexican ECA.

To better understand the sources and causes of mobile source pollution, the EPA has worked with the DOE and DOT to fund applied research projects including transportation modeling projects. The EPA also has worked closely with DOE on refinery cost modeling analyses and the development of clean fuel programs. The EPA also has coordinated with DOE's EIA regarding fuel supply during emergency situations. For mobile sources program outreach, the agency has participated in a collaborative effort with DOT's Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) to educate the public about the impacts of transportation choices on traffic congestion, air quality, and human health. This community-based public education initiative also includes the Centers for Disease Control (CDC). The EPA also has worked with FHWA to develop and deliver training on modeling emissions from cars and trucks. The EPA also has worked with other federal agencies, such as the U.S. Coast Guard (USCG), on air emission issues. Other programs targeted to reduce air toxics from mobile sources are coordinated with DOT. These partnerships can involve policy assessments and toxic emission reduction strategies in different regions of the country. The EPA has worked with DOE, DOT, and other agencies, as needed, on the requirements of the Energy Policy Act of 2005 and the Energy Independence and Security Act of 2007, such as the Renewable Fuel Standard. The EPA also has worked with other agencies on biofuel topics through the Biomass Research and Development Institute.

To develop air pollutant emission factors and emission estimation algorithms for aircraft, ground equipment, and military vehicles, the EPA has partnered with the DOD. This partnership provides for the joint undertaking of air-monitoring/emission factor research and regulatory implementation.

Air Toxics

The EPA has worked closely with other health agencies such as the CDC, National Institute of Environmental Health Sciences (NIEHS), and the National Institute for Occupational Safety and Health (NIOSH) on health risk characterization for both toxic and criteria air pollutants. The EPA also has contributed air quality data to the CDC's Environmental Public Health Tracking Program, which is made publicly available and used by state and local public health agencies.

Addressing Transboundary Air Pollution

In developing regional and international air quality programs and projects, and in working on regional agreements, the EPA has worked with the Department of State (DOS), NOAA, NASA, DOE, USDA, USAID, and the Office of Management and Budget (OMB), as well as with regional organizations. In addition, the EPA has partnered with other organizations worldwide, including the United Nations Environment Programme, the European Union, the Organization for Economic Cooperation and Development (OECD), the United Nations Economic Commission for Europe, the North American Commission for Environmental Cooperation, the World Bank, the Asian Development Bank, the Clean Air Initiative for Asian Cities, the Global Air Pollution Forum, and our air quality partners in several countries, including Canada, Mexico, Europe, China, and Japan.

The EPA, working closely with the DOS, helped advance a resolution calling for greater international action to improve air quality through the United Nations Environment Program (UNEP). The EPA will continue to strengthen the links between environment and public health

officials and provide technical assistance through UNEP to facilitate the development of air quality management strategies to other major emitters and/or to key regional or sub-regional groupings of countries.

Stratospheric Ozone

The EPA has worked very closely with the DOS and other federal agencies in international negotiations among Parties to the Montreal Protocol on Substances that Deplete the Ozone Layer and in developing the implementing regulations. The environmental goal of the Montreal Protocol is to protect the ozone layer and the ozone depleting substances (ODS) it controls also are significant greenhouse gases. The EPA has worked on several multinational environmental agreements including negotiating the most recent amendment to the Montreal Protocol, working closely with the Department of State and other federal agencies, including OMB, Office of Science Technology and Policy, Council on Environmental Quality, USDA, the Food and Drug Administration (FDA), Department of Commerce, NOAA, and NASA.

The EPA has worked with other agencies, including the Office of the United States Trade Representative and the Department of Commerce, to analyze potential trade implications in stratospheric protection regulations that affect imports and exports. The EPA has coordinated efforts with the Department of Justice (DOJ), Department of Homeland Security (DHS), Department of Treasury, and other agencies to curb the illegal importation of ozone-depleting substances (ODS). Illegal import of ODS has the potential to prevent the United States from meeting the goals of the Montreal Protocol to restore the ozone layer.

The EPA has continued discussions with DOD, GSA, and NASA to assist in the effective transition from ODS and high-global warming potential (GWP) substitutes to a suite of substitutes with lower GWPs.

The EPA has worked with USDA and the DOS to facilitate research, development, and adoption of alternatives to methyl bromide. The EPA also has consulted with USDA on domestic methyl bromide needs.

The EPA has coordinated with NASA and NOAA to monitor the state of the stratospheric ozone layer and to collect, analyze, and disseminate UV data.

The EPA has coordinated with the Small Business Administration (SBA) to ensure that proposed rules are developed in accordance with the Small Business Regulatory Flexibility Act.

Radiation and Radiation Preparedness and Response

The EPA has worked primarily with the Nuclear Regulatory Commission (NRC), DOE, and the DHS on multiple radiation related issues. The EPA has ongoing planning and guidance discussions with DHS on general emergency response activities, including exercises responding to nuclear related incidents. As the regulator of DOE's Waste Isolation Pilot Plant (WIPP) facility, the EPA is charged with coordinating oversight activities with DOE to ensure the facility is operating in compliance with EPA regulations. The EPA is a member of the Interagency Radiation Source

Protection and Security Task Force, established in the Energy Policy Act, to improve the security of domestic radioactive sources. The EPA also is a working member of the interagency Nuclear Government Coordinating Council (NGCC), which coordinates across government and the private sector on issues related to security, communications, and emergency management within the nuclear sector.

For emergency preparedness purposes, the EPA has coordinated closely with other federal agencies through the Federal Radiological Preparedness Coordinating Committee and the Advisory Team for Environment, Food, and Health which provides federal scientific advice and recommendations to state and local decision makers such as governors and mayors during a radiological emergency. The EPA has participated in planning and implementing table-top and field exercises including radiological anti-terrorism activities, with the NRC, DOE, DOD, HHS, and DHS.

The EPA is a charter member and co-chairs the Interagency Steering Committee on Radiation Standards (ISCORS) which was created at the direction of Congress. Through quarterly meetings and the activities of its six subcommittees, member agencies are kept informed of cross-cutting issues related to radiation protection, radioactive waste management, and emergency preparedness and response. ISCORS also helps coordinate U.S. responses to radiation related issues internationally.

During radiological emergencies, the EPA has worked with expert members of the International Atomic Energy Agency (IAEA). Additionally, the EPA would work with OECD's Nuclear Energy Agency (NEA) on two committees, the NEA Radioactive Waste Management Committee (RWMC) and the Committee on Radiation Protection and Public Health (CRPPH) as necessary during the response and remediation including those incidents involving significant waste issues. Through participation on the CRPPH and its working groups, the EPA has been successful in bringing a U.S. perspective to international radiation protection policy and benefits from having other countries' perspectives.

Research

The EPA has continued to strengthen interactions with other agencies, including NOAA, DOE, the U.S. Department of Agriculture, the National Institute of Health (NIH), the Federal Highway Administration, and the National Association of Clean Air Agencies to approach changes in air pollution sustainably. For example, the EPA has worked with NOAA and the National Aeronautics and Space Administration (NASA) to relate satellite-based air quality data to ambient monitoring.

In accordance with the Global Change Research Act, the EPA has coordinated with the 12 other federal agencies that are members of the U.S. Global Change Research Program to meet the Act's requirements to develop and publish a quadrennial assessment of the current and potential future impacts of global change.

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Water Programs

Collaboration with Public and Private Partners on Water Infrastructure Preparedness, Response, and Recovery

The EPA has coordinated with other federal agencies, primarily the Department of Homeland Security (DHS), Centers for Disease Control (CDC), Food and Drug Administration (FDA), and Department of Defense (DOD), on biological, chemical, and radiological contaminants of high concern, and how to detect and respond to their presence in drinking water and wastewater systems. A close linkage with the Federal Bureau of Investigation and the Intelligence Analysis Directorate in DHS will be continued. The agency is strengthening its working relationships with the Water Research Foundation, the Water Environment Research Foundation, and other research institutions to increase our knowledge on technologies to detect contaminants, monitoring protocols and techniques, and treatment effectiveness.

The EPA has worked with the U.S. Army Corps of Engineers (ACE) and the Federal Emergency Management Agency (FEMA) to refine coordination processes among federal partners engaged in providing emergency response support to the water sector. These efforts will include refining existing standard operating procedures, participating in cross-agency training opportunities, and planning multi-stakeholder water sector emergency response exercises. The EPA will be determining how ACE, FEMA, and the EPA are to clarify their roles and responsibilities under the National Disaster Recovery Framework. In addition, the EPA has continued to work with FEMA and the ACE, as well as other agencies, on the Federal Interagency Floodplain Management Task Force with regard to water resources and floodplain management.

Executive Order 13636 on *Improving Critical Infrastructure Cybersecurity* directs the EPA to coordinate with DHS and the Department of Commerce in developing implementation guidance on cybersecurity practices for water systems. The EPA intends to harness the extensive cybersecurity capabilities of DHS in carrying out its responsibilities under this mandate.

Geologic Sequestration

The EPA has coordinated with federal agencies to ensure safe and effective implementation of regulations to protect underground sources of drinking water during geologic sequestration activities, as well as plan and obtain research-related data and coordinate regulatory activities. Specifically, the EPA has coordinated with the Department of Energy, the Department of the Interior's Geological Survey, and the Internal Revenue Service to ensure that Safe Drinking Water Act regulations for geologic sequestration sites are appropriately coordinated with efforts to deploy projects, map geologic sequestration capacity, provide tax incentives for CO_2 sequestration, and manage the movement of CO_2 from capture facilities to geologic sequestration sites.

Collaboration with the U.S. Geological Survey

The EPA and U.S. Geological Survey have established an Interagency Agreement to coordinate activities and information exchange in the areas of unregulated contaminants occurrence, the environmental relationships affecting contaminant occurrence, protection area delineation methodology, and analytical methods. This collaborative effort has improved the quality of

information to support risk management decision-making at all levels of government, generated valuable new data, and eliminated potential redundancies.

Sustainable Rural Drinking and Wastewater Systems

The EPA and U.S. Department of Agriculture have agreed to work together to increase the sustainability of rural drinking water and wastewater systems to ensure the protection of public health, water quality, and sustainable communities. The two agencies have worked to facilitate coordinated funding for infrastructure projects that aid in the compliance of national drinking water and clean water regulations. In FY 2018, the EPA will continue to collaborate with the USDA to provide assistance to small rural drinking water systems that struggle to comply with drinking water regulations and/or lack an adequate governance structure to keep the system operating sustainably.

National Water Sector Workforce Development: Department of Veterans Affairs

The EPA and the Department of Veterans Affairs' (VA) Vocational Rehabilitation and Employment (VR&E) Service jointly promoted activities that will help advance and improve employment opportunities for Veterans with disabilities while supporting the development of a trained and competent workforce for the Water Sector. Key objectives of this collaborative effort are to: 1) educate those involved with transitioning veterans to civilian careers about the water and wastewater industries; 2) promote Water Sector career opportunities to veterans; 3) educate utilities about Veterans Affairs programs and connect them with veterans; and 4) promote state program collaboration (particularly operator certification programs) with local Veterans Affairs counselors.

Tribal Access Coordination

The EPA, the Department of Agriculture, the Department of Housing and Urban Development, the Department of Health and Human Services, the Indian Health Service, and the Department of the Interior have worked together to maintain and improve coordination in delivering water and wastewater infrastructure services and financial assistance to American Indian communities. The agencies work together to increase the number of American Indian homes provided access to safe drinking water.

Source Water Protection and Harmful Algal Blooms

The EPA has coordinated with other federal agencies, including with the U.S. Department of Agriculture (Natural Resources Conservation Service and Forest Service) and the U.S. Geological Survey, to support federal, state, and local implementation of source water protection actions. In addition, the EPA has coordinated with the Homeland Security Infrastructure Program (HSIP) of the National Geospatial-Intelligence Agency (NGA) to integrate their data on national and defense-critical infrastructure into source water protection analyses such as identifying potential contributors to harmful algal blooms (HABs) and chemical spill response. To further combat harmful algal blooms, the Harmful Algal Bloom and Hypoxia Research and Control Amendments Act of 2014 (HABHRCA 2014, P.L. 113-124) emphasizes the mandate to advance the scientific understanding and ability to detect, predict, control, mitigate, and respond to harmful algal blooms

and hypoxia. This legislation established the Interagency Working Group on HABHRCA (IWG-HABHRCA). It tasked the group with coordinating and convening Federal agencies to discuss HAB and hypoxia events in the United States, and to develop action plans, reports, and assessments of these situations. The Working Group is co-chaired by the EPA and NOAA and also includes the: Food and Drug Administration; National Institute of Food and Agriculture; Centers for Disease Control and Prevention; U.S. Army Corps of Engineers; Bureau of Ocean Energy Management; U.S. Navy; National Science Foundation; U.S. Geological Survey; and National Institute of Environmental Health Sciences.

Data Availability, Outreach, and Technical Assistance

The EPA has coordinated with U.S. Geological Survey, U.S. Department of Agriculture (Forest Service, Natural Resources Conservation Service, Cooperative State Research, Education, and Extension Service, Rural Utilities Service), Centers for Disease Control, Department of Transportation, Department of Defense, Department of Energy, Department of the Interior (National Park Service and Bureau of Indian Affairs, Land Management, and Reclamation), Department of Health and Human Services (Indian Health Service), and the Tennessee Valley Authority to make data more available to states and the public. In addition, the EPA has collaborated with other federal agencies, states, and industry associations to establish a National Ground Water Monitoring Network with States to provide a fuller set of ground water data nationally through a single portal. Data helps to address national and regional issues related to water use, adaptation, and food and energy production.

Collaboration with the Food and Drug Administration

The EPA and Food and Drug Administration are updating a Memorandum of Understanding (MOU), first established in 1978, to coordinate the authorities and programs of the two agencies with respect to oversight of drinking water on interstate conveyance carriers (e.g., aircraft, trains). The updates to the MOU are in response to the EPA's Aircraft Drinking Water Rule (ADWR) promulgated on October 19, 2009. Coordination will include sharing information on sample results indicating microbial contamination, inspections and enforcement actions; working together when water quality events occur that could impact the quality of water boarded onto aircraft; and other activities to ensure that a safe and reliable supply of drinking water is provided to passengers and crew. In addition, EPA scientists are collaborating with FDA scientists to evaluate the health effects of perchlorate exposure.

Collaboration with the Centers for Disease Control and Prevention (CDC)

The EPA and CDC meet quarterly to discuss cross-cutting issues related to drinking water contaminants and potential public health concerns.

Collaboration with Housing and Urban Development (HUD)

The EPA's Ground Water and Drinking Water Program has collaborated with HUD to develop strategies to decrease drinking water lead exposure in homes. The partnership would share information, leverage funding, and review processes to facilitate better informed decisions and coordinate investments.

Watersheds

Protecting and restoring watersheds will depend largely on the direct involvement of many federal agencies, including the EPA, as well as state, Tribal, and local governments who manage the multitude of programs necessary to address water quality on a watershed basis. Federal agency involvement will include the U.S. Department of Agriculture (Natural Resources Conservation Service, Forest Service Agency, and Agriculture Research Service), Department of the Interior (Bureau of Land Management, Office of Surface Mining, U.S. Geological Survey, U.S. Fish and Wildlife Service, and the Bureau of Indian Affairs), National Oceanic and Atmospheric Administration, Department of Transportation, and Department of Defense (Navy and US Army Corps of Engineers). At the state level, agencies involved in watershed management typically include departments of natural resources or the environment, public health agencies, and forestry and recreation agencies. Locally, numerous agencies are involved, including regional planning entities such as councils of governments, as well as local departments of environment, health, and recreation who frequently have strong interests in watershed projects.

National Pollutant Discharge Elimination System (NPDES) Program

Since inception of the NPDES program under Section 402 of the Clean Water Act, the EPA and the authorized states have developed relationships with various federal agencies to implement pollution controls for point sources. The EPA has worked with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service on consultation for protection of endangered species. The EPA has worked with the Advisory Council on Historic Preservation on National Historic Preservation Act implementation. The EPA and the states rely on monitoring data from the U.S. Geological Survey to help inform pollution control decisions. The agency also has worked closely with the Small Business Administration and the Office of Management and Budget to ensure that regulatory programs are fair and reasonable. The agency has coordinated with NOAA on efforts to ensure that NPDES programs support coastal and national estuary efforts and with the Department of the Interior on mining issues. The agency also has coordinated with the Federal Highway Administration to reduce the impacts of stormwater from roads.

Community Water Priorities/Urban Waters

In response to stakeholder feedback, the EPA has worked with thirteen federal agencies, since 2010, to implement the Urban Waters Federal Partnership. Agencies include:

- Department of the Interior
- Department of Agriculture
- Department of Commerce – National Oceanic and Atmospheric Administration (NOAA)
- Department of Commerce – Economic Development Administration
- Army Corps of Engineers
- Department of Transportation
- Department of Housing and Urban Development
- Department of Health and Human Services – Centers for Disease Control and Prevention

- Department of Health and Human Services – National Institute of Environmental Health Sciences
- Corporation for National and Community Service
- Department of Education
- Department of Energy
- Federal Emergency Management Agency

This partnership seeks to help communities transform overlooked urban waters into treasured centerpieces and drivers of urban revival.

Clean Water State Revolving Fund

The EPA's State Revolving Fund program has worked with, as appropriate, the Department of Housing and Urban Development and the U.S. Department of Agriculture to foster collaboration on jointly funded infrastructure projects. In many states, coordination committees have been established with representatives from the three programs.

In implementation of the Indian set-aside grant program under Title VI of the Clean Water Act, the EPA has worked closely with the Indian Health Service to administer grant funds to the various Indian tribes, including determination of the priority ranking system for the various wastewater needs in Indian Country. The EPA and U.S. Department of Agriculture Rural Development have partnered to provide coordinated financial and technical assistance to tribes.

Federal Agency Partnerships on Impaired Waters Restoration Planning

The federal government owns about 30 percent of the land in the United States and administers over 90 percent of these public lands through four agencies: Forest Service, Fish and Wildlife Service, National Park Service, and the Bureau of Land Management. In managing these extensive public lands, federal agencies have a substantial influence on the protection and restoration of many waters of the United States. Land management agencies' focus on water issues has increased significantly, with the Forest Service, Fish and Wildlife Service, and Bureau of Land Management all initiating new water quality and watershed protection efforts. The EPA has been conducting joint national assessments with these agencies to enhance watershed protection and quantify restoration needs on federal lands. The EPA's joint national assessments of Fish and Wildlife Service and Forest Service properties already have documented the extent and type of impaired waters within and near these agencies' lands, developed GIS databases, reported national summary statistics, and developed interactive reference products (on any scale, local to national), accessible to staff throughout the agencies. The Forest Service has worked with the EPA on designating the third national update of the co-occurrence of impaired waters and National Forest lands. These assessments already have influenced the agencies in positive ways. The Forest Service and the Fish and Wildlife Service have performance measures that involve impaired waters. The Forest Service used their national assessment data to institute improvements in a national monitoring and Best Management Practices training program as well as develop a watershed condition framework for proactively implementing restoration on priority National Forest and Grassland watersheds. Also, under a Memorandum of Agreement between the EPA and Forest Service, numerous aquatic restoration projects are being carried out. The Fish and Wildlife Service is using their national

assessment data to inform agency planning on water conservation, quality, and quantity monitoring and management in the National Wildlife Refuge System, and also is using the assessment in National Fish Hatcheries System planning and their Contaminants Program. The EPA assessments and datasets are making significant contributions to the government-wide National Fish Habitat Action Partnership national assessment of fish habitat condition and the restoration and protection efforts of 17 regional Fish Habitat Partnerships.

Monitoring and Assessment of Nation's Waters

The EPA has worked with federal, state, and Tribal partners to strengthen water monitoring programs to support a range of management needs and to develop tools to improve how we manage and share water data and report environmental results. The EPA's Monitoring and Assessment Partnership is a forum for the EPA, states, tribes, and interstate organizations to collaborate on key program directions for assessing the condition of the nation's waters in a nationally consistent and representative manner. The EPA is co-chair, along with U.S. Geological Survey, of the National Water Quality Monitoring Council, a national forum for scientific discussion of strategies and technologies to improve water quality monitoring and data sharing. The council membership includes other federal agencies, state and Tribal agencies, non-governmental organizations, academic institutions, and the private sector.

Under a Memorandum of Understanding, the EPA and the U.S. Geological Survey (USGS) developed and are now operating the national Water Data Portal, a web portal serving data from the USGS and the EPA ambient water quality data warehouses in a common format through the internet. The EPA has an Interagency Agreement with the USGS for the development of NHDPlus version 2, which is complete for the lower 48 states. The EPA also has collaborated with USGS and the National Oceanic and Atmospheric Administration, the National Park Service, U.S. Department of Agriculture, Fish and Wildlife Service, and the Forest Service on implementation, analysis, and/or on analysis and interpretation of the results of the National Aquatic Resource Surveys.

Wetlands

The EPA, U.S. Fish and Wildlife Service, U.S. Army Corps of Engineers, National Oceanic and Atmospheric Administration, U.S. Geological Survey, U.S. Department of Agriculture's Natural Resource Conservation Service and U.S. Forest Service, and Federal Highway Administration have coordinated on a range of wetlands activities. These activities include: studying and reporting on wetlands trends in the United States, diagnosing causes of coastal wetland loss, statistically surveying the condition of the nation's wetlands, and developing methods for better protecting wetland function. Coastal wetlands are a focus area of current interagency wetlands collaboration. The agencies meet and are conducting a series of coastal wetlands reviews to identify causes and prospective tools and approaches to address the 84,100 acre loss over five years in marine and estuarine wetlands that U.S. Fish and Wildlife Service documented in the 2011 "Status and Trends of Wetlands in the Conterminous United States: 2004 to 2009" report. Additionally, the EPA and the U.S. Army Corps of Engineers have worked very closely together in implementing the regulatory program under Clean Water Act Section 404. Under the regulatory program, the agencies have coordinated closely on overall implementation of the permitting decisions made annually under Section 404 of the Clean Water Act, through the headquarters offices as well as

the ten EPA Regional Offices and 38 U.S. Army Corps of Engineers District Offices. The agencies also have coordinated closely on policy development, training, development of technical tools for field use, litigation, and implementing the Executive Order on Infrastructure Permitting. The EPA also works with the U.S. Fish and Wildlife Service and the National Oceanic and Atmospheric Administration on regulatory matters involving permits. The EPA and U.S. Army Corps of Engineers are committed to achieving the goal of no net loss of wetlands under the Clean Water Act Section 404 program.

Research

While EPA is the federal agency mandated to ensure safe drinking water, other federal and non-federal entities conduct research that complements the EPA's research on priority contaminants in drinking water. For example, the CDC and NIEHS conduct health effects and exposure research. FDA also performs research on children's risks.

Many of these research activities have been conducted in collaboration with EPA scientists. The private sector, particularly the water treatment industry, is conducting research in such areas as analytical methods, treatment technologies, and the development and maintenance of water resources. Cooperative research efforts have been ongoing with the American Water Works Association, Water Research Foundation, and other stakeholders to coordinate drinking water research. The EPA has worked with USGS to evaluate performance of newly developed methods for measuring microbes in potential drinking water sources.

The EPA has developed joint research initiatives with NOAA and USGS for linking monitoring data and field study information with available toxicity data and assessment models for developing sediment criteria.

Land and Emergency Management Programs

Brownfields

The EPA's Brownfields and Land Revitalization Programs have been key participants in the HUD-DOT-EPA Sustainable Communities Partnership to promote livability and sustainable development. The EPA's Brownfields program also has partnered with the Department of Labor and National Institute of Environmental Health Sciences (NIEHS) to support environmental workforce development and fund job training and placement programs in brownfield communities. The Brownfields and Land Revitalization programs have worked with USDA, HHS, and the Agency for Toxic Substances and Disease Registry (ATSDR) to identify ways in which federal programs can increase food access in all communities and ensure access to quality health care. Improved access to healthy food and health care services can catalyze redevelopment that contributes to healthier and more sustainable communities. The Brownfields and Land Revitalization programs also have partnered with the National Park Service and its River and Trails Program to support Groundwork USA and individual Groundwork teams in their efforts to engage youth in community revitalization. The EPA has led the Brownfields Federal Partnership, which includes more than 20 federal agencies dedicated to the cleanup and redevelopment of brownfields properties. Partner agencies have worked together to prevent, assess, safely clean up, and redevelop brownfields.

The EPA has worked with other federal agencies whose decisions, rules, investments, and policies influence where and how development occurs, including working with the General Services Administration (GSA) to assist in the development and inclusion of metrics into GSA tools for evaluating lease opportunities according to each building's level of transit access and proximity to walkable destinations. Additionally, the EPA and GSA have partnered to provide technical assistance to communities to integrate the siting of new federal facilities or reuse of existing facilities into neighborhood-wide efforts to improve community sustainability.

The EPA has provided support to other federal agencies, such as the U.S. Department of Agriculture, for activities including jointly delivering technical assistance to rural Appalachian communities and proposing language that supports both economic development and better environmental outcomes in grant solicitations and other guidance documents. This assistance has helped these agencies and the communities they work with protect the environment and increase resilience through their community development programs, policies, regulations, and resources, while meeting their core agency objectives. The EPA has collaborated with the National Oceanic and Atmospheric Administration and the Federal Emergency Management Agency to expand efforts to deliver targeted assistance to communities recovering from natural disasters.

To improve the accessibility of federal and state resources for communities, the EPA recently launched its Community Resources website (www.epa.gov/communities). This site brings together some of the federal government's best web-based tools for providing environmental information to large and small communities. For example, the National Resource Network, a significant effort by the Department of Housing and Urban Development to help American cities meet economic challenges, is a core component of the Community Resources website. This site also provides a means of disseminating the important work of the Interagency Partnership for Sustainable Communities, as described above.

The EPA also has co-sponsored the Governor's Institute on Community Design with HUD and DOT. The institute works with governors and their cabinets to help states plan for extreme weather events and improve environmental and public health outcomes of community development.

Economically Distressed Communities

The EPA has brought expertise on the importance of downtown revitalization, the use of green infrastructure strategies, green demolition, and sustainable development strategies to the federal government to help economically distressed communities. The EPA's work has positively impacted the work of HUD, DOT, Commerce, HHS, Homeland Security, the Small Business Administration, Justice, Labor, and many other agencies and departments.

Research

Research in ecosystems protection has been coordinated government-wide through the Committee on Environment, Natural Resources, and Sustainability (CENRS). The EPA has actively participated in the CENRS and all work is fully consistent with, and complementary to, other Committee member activities. EPA scientists have staffed two CENRS Subcommittees: the Subcommittee on Ecological Systems (SES) and the Subcommittee on Water Availability and Quality (SWAQ). The EPA has initiated discussions, within the SES, on the subject of ecosystem

goods and services (EGS) and potential EGS collaborations are being explored with the U.S. Geological Service (USGS) and with USDA Forest Service (USFS). Within SWAQ, the Safe and Sustainable Water Resources (SSWR) research program has contributed to an initiative for a comprehensive census of water availability and quality, including the use of Environmental Monitoring and Assessment Program methods and ongoing surveys (National Aquatic Surveys) as data sources. In addition, the EPA has taken a lead role with USGS in preparing a SWAQ document outlining new challenges for integrated management of water resources, including strategic needs for monitoring and modeling methods, and identifying water requirements needed to support the ecological integrity of aquatic ecosystems.

Consistent with the broad scope of the EPA's ecosystem research efforts, the EPA has had complementary and joint programs with USFS, USGS, USDA, NOAA, BLM, NGOs, and many others specifically to minimize duplication, maximize scope, and maintain a real time information flow. For example, all of these organizations have worked together to produce the National Land Cover Data used by all landscape ecologists nationally. Each has contributed funding, services, and research to this uniquely successful effort.

The EPA has expended substantial effort coordinating its research with other federal agencies, including work with DoD in its Strategic Environmental Research and Development Program (SERDP) and the Environmental Security Technology Certification Program, DOE, and its Office of Health and Environmental Research. The EPA also has conducted collaborative laboratory research with DoD, DOE, DOI (particularly USGS), and NASA to improve characterization and risk management options for dealing with subsurface contamination.

The agency has worked with NIEHS, which manages a large basic research program focusing on Superfund issues, to advance fundamental Superfund research. The Agency for Toxic Substances and Disease Registry (ATSDR) also has provided critical health-based information to assist the EPA in making effective cleanup decisions. The EPA has worked with these agencies on collaborative projects, information exchange, and identification of research issues and has a MOU with each agency. The EPA, U.S. Army Corps of Engineers (USACE), and U.S. Navy signed a MOU to increase collaboration and coordination in contaminated sediments research. Additionally, the Interstate Technology Regulatory Council (ITRC) has been an effective forum for coordinating federal and state activities and for defining continuing research needs through its teams on topics including permeable reactive barriers, radionuclides, and Brownfields. The EPA has developed a MOU[1] with several other agencies (DOE, DoD, NRC, USGS, NOAA, and USDA) for multimedia modeling research and development.

Other research efforts involving coordination include the unique controlled-spill field research facility designed in cooperation with the Bureau of Reclamation. Geophysical research experiments and development of software for subsurface characterization and detection of contaminants have been conducted with the USGS and DOE's Lawrence Berkeley National Laboratory.

[1] For more information, please go to: Interagency Steering Committee on Multimedia Environmental Models MOU, http://www.iscmem.org/Memorandum.htm.

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The EPA has coordinated with DoD's SERDP in an ongoing partnership, especially in the areas of sustainability research and of incorporating materials lifecycle analysis into the manufacturing process for weapons and military equipment. The EPA has collaborated with the Army as part of their Net Zero Initiative, to develop and demonstrate innovative waste technologies to accomplish the Army's goal of net zero energy, water, and waste by 2020.

Several federal agencies sponsor research on variability and susceptibility in risks from exposure to environmental contaminants. The EPA has collaborated with a number of the Institutes within the NIH and CDC. For example, NIEHS conducts multi-disciplinary biomedical research programs, prevention and intervention efforts, and communication strategies. The NIEHS program includes an effort to study the effects of chemicals, including pesticides and other toxics, on children. The EPA has collaborated with NIEHS in supporting the Centers for Children's Environmental Health and Disease Prevention, which study whether and how environmental factors play a role in children's health and with the National Institute on Child Health and Human Development (NICHD) on the development and implementation of the National Children's Study. Additionally, the EPA, the National Institute on Minority Health and Health Disparities (NIMHD), NIEHS, and NICHD co-fund the Centers of Excellence for Research on Environmental Health Disparities. This funding has broadened research on disadvantaged communities and the impacts of greater exposures of ambient hazards.

Superfund Remedial Program

The Superfund Remedial program has coordinated with several other federal agencies, such as ATSDR and NIEHS, in providing numerous Superfund related services in order to accomplish the program's mission.

The U.S. Army Corps of Engineers substantially contributes to Superfund site cleanups by providing a wide range of technical, management, and acquisition support functions to implement or oversee responsible party Superfund project implementation for the remedial and removal programs. Most notably, this federal partner has the technical design, construction expertise, and contracting capability needed to assist the EPA's regional Superfund programs in implementing complex Superfund remedial action projects.

This agency also provides technical on-site support to the EPA's Regional Offices in the enforcement oversight of numerous construction projects performed by private Potentially Responsible Parties.

Superfund Federal Facilities Restoration and Reuse Program

The Superfund Federal Facilities Restoration and Reuse program has coordinated with federal agencies, states, tribes, state associations, and others to implement its statutory responsibilities to ensure protective and efficient cleanup and reuse of federally contaminated land on the National Priorities List (NPL). The program has facilitated early transfer of property and provided technical and regulatory oversight at federal facilities to ensure human health and the environment are protected. The program has worked with federal partners to target high priority sites, to consider best practices to develop innovative solutions to emerging and unique contaminants, and

implement strategies to address the remaining Federal Facility Superfund sites that have not reached cleanup completion.

To ensure the long-term protectiveness of remedies, the agency will continue monitoring, overseeing progress, and improving the quality and consistency of five-year reviews being conducted at federal facility NPL sites where waste has been left in place and land use is restricted. Five-year reviews are required under Section 121(c) of CERCLA and the EPA's role is to concur or make its own independent protectiveness finding. The EPA has worked collaboratively with DoD, DOE, and DOI, through a Federal Workgroup, to improve the technical quality, timeliness, and cost of the five-year review reports and to ensure that the community is aware of the protectiveness of the remedy. The workgroup assesses the use of best management practices and evaluates trend data to improve the five-year review process.

The EPA has participated with other federal agencies on the Federal Mining Dialogue (FMD). The FMD is a cooperative initiative among federal environmental and land management agencies. It provides a national level forum for federal agencies to identify and discuss lessons learned and technical mining impact issues associated with the cleanup and reuse of abandoned and inactive hard rock and abandoned uranium mines across the country. The EPA Abandoned Mine Lands Program has coordinated through the agency's National Mining Team (NMT). The EPA's NMT has representatives on each of the FMD workgroups: Data Standards, Best Practices, Cost Recovery, and Watershed Strategy.

The EPA also has participated with other federal agencies on the Munitions Response Dialogue (MRD). The MRD is a multi-agency dialogue with EPA, DoD, Federal Land Managers, and states to identify and discuss issues arising from munitions site cleanups throughout the country.

The EPA and DoD have participated on the Intergovernmental Data Quality Task Force (IDQTF). The IDQTF was established to address real and perceived inconsistencies and deficiencies in quality control for laboratory data within and across governmental organizations which result in greater costs, time delays, and an increase in the potential for risks. The task force is working to ensure that environmental data are of known and documented quality and suitable for their intended uses.

The Superfund Federal Facilities Restoration and Reuse program has developed and implemented innovative technologies, processes, and collaboration efforts. By working in concert with other federal agencies, the EPA has promoted the advancement of cleanup technologies, expansion of contaminated land reuse to support renewable energy projects, and multiple initiatives to support sustainability. These projects not only help support the agency's goal to cleanup communities, but they also facilitate the introduction of innovative solutions to both the public and private sector.

Resource Conservation and Recovery Act (RCRA) Program

The RCRA Corrective Action program has coordinated closely with other federal agencies, primarily the DoD and DOE, which have many sites in the corrective action universe. Encouraging federal facilities to meet the RCRA Corrective Action program's goals of investigating and cleaning up hazardous releases remains a top priority. The EPA also has coordinated with other

agencies, primarily DoD, on cleanup and disposal issues posed by polychlorinated biphenyls (PCBs), under authority of the Toxic Substances Control Act (TSCA).

Emergency Preparedness and Response

The EPA plays a major role in reducing the risks that accidental and intentional releases of harmful substances and oil pose to human health and the environment. The EPA implements the Emergency Preparedness program in coordination with the DHS through the U.S. Coast Guard (USCG) acting as the chair for the National Response Team and co-chair for each Regional Response Team. These teams, which have member participation from other key federal agencies, deliver federal assistance to state, local, and Tribal governments to plan for and respond to natural disasters and other major environmental incidents. This requires coordination with many federal, state, and local agencies. The agency participates with other federal agencies to develop national planning and implementation policies at the operational level.

The National Response Framework (NRF), under the direction of the DHS, provides for the delivery of federal assistance to states to help them deal with the consequences of terrorist events, acts of malfeasance, as well as natural and other significant disasters. The EPA has maintained the lead responsibility for the NRF's Emergency Support Function #10 covering inland hazardous materials and petroleum releases and participates in the Federal Emergency Support Function Leaders Group which addresses NRF planning and implementation at the operational level.

The EPA has coordinated its preparedness activities with DHS, FEMA, the Federal Bureau of Investigation, and other federal agencies, states, and local governments. The EPA will continue to clarify its roles and responsibilities to ensure that agency security programs are consistent with the national homeland security strategy.

The EPA also has worked with FEMA on hazard mitigation and recovery through a Memorandum of Agreement (MOA). This MOA has allowed the EPA and FEMA to collaborate on policies, as well as with other agencies like NOAA, HUD, and DOT, to help communities become more resilient to natural disasters (to date, the EPA has worked in communities in Iowa, North Carolina, North Dakota, Rhode Island, Vermont, and others).

Oil Spills

Under the Oil Spill Program, the EPA has worked with other federal agencies, such as U.S. Fish and Wildlife Service, the U.S. Coast Guard (USCG), NOAA, FEMA, DOI, DOT, DOE, and other federal agencies and states, as well as with local government authorities to develop Area Contingency Plans. The Department of Justice also has provided assistance to agencies with judicial referrals when enforcement of violations becomes necessary. In addition, the EPA and the USCG work in coordination to address oil spills nationwide.

Strengthen Human Health and Environmental Protection in Indian Country

The EPA has a long history of working with other federal agencies to address shared environmental and human health concerns. The EPA, the Department of the Interior, the Department of Health

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and Human Services, the Department of Agriculture, and the Department of Housing and Urban Development have worked through several Memoranda of Understanding (MOU) as partners to improve infrastructure on tribal lands.

All five federal partners renewed their commitment to the Infrastructure Task Force in 2013 by signing an MOU to continue federal coordination in delivering services to tribal communities. The Infrastructure Task Force has built on prior partner successes, including improved access to funding and reduced administrative burden for Tribal communities through the review and streamlining of agency policies, regulations, and directives as well as improved coordination of technical assistance to water service providers and solid waste managers through regular coordination meetings and web-based tools.

Chemical Safety and Pollution Prevention Programs

The EPA has coordinated with and used information from many federal departments and agencies, as well as many state Departments/Agencies and international organizations, in efforts to protect America's health and environment from unacceptable risks from pesticides and toxic chemicals. The EPA's activities include collaboration with individual government organizations on specific technical or regulatory issues and more broadly with groups of organizations on a range of issues. Many of these activities are described below.

To fulfill the EPA's responsibilities for regulating the sale and use of pesticides, the agency has used a range of outreach and coordination approaches for pesticide users and other stakeholders, government agencies, and the general public. Outreach and coordination activities through field programs have been essential to effective implementation of regulatory decisions governing the sale and use of pesticides. Coordination activities have protected workers and the environment, including endangered species, provided training for pesticide applicators, promoted integrated pest management and environmental stewardship, supported compliance through the EPA's Regional programs and those of the states and tribes, and promoted international cooperation.

The EPA's coordination with the U.S. Department of Agriculture (USDA) and state lead agencies for pesticides has supported the Certification and Training program for pesticide applicators who use the riskiest pesticides. States also play an important role in developing and implementing Worker Protection programs and are involved in numerous special projects and investigations, including emergency response efforts. The EPA's Regional Offices have provided technical guidance and assistance to the states and tribes in the implementation of all pesticide program activities.

In addition to the training that the EPA provides to farm workers and applicators of restricted use pesticides, the EPA has worked with the USDA's Cooperative Extension Service designing and delivering specialized training for various groups. Such training has included instructing private applicators on the proper use of personal protective equipment and application equipment calibration, handling spill and injury situations, farm family safety, preventing pesticide spray drift, and pesticide and container disposal. Other specialized training has been provided to public works employees on grounds maintenance, to pest control operators on proper insect identification, and on weed control for agribusiness.

The EPA has relied on data from HHS and USDA to supplement data from the pesticide industry to help the agency assess the potential risks of pesticides in the diets of adults and children. The EPA has relied on pesticide residue data in food commodities generated by USDA in its Pesticide Data Program to improve its dietary risk assessment of pesticides. These data and those from other sources, including FDA, have helped the EPA achieve its mission of protecting human health. These data sources have served as a showcase for federal cooperation on pesticide and food safety issues. Other collaborative efforts have included developing and validating methods to analyze domestic and imported food samples for chemicals of concern, such as carcinogens and neurotoxins. The agency also has coordinated with FDA's National Toxicology Program and HHS' Center for Disease Control and Prevention, Agency for Toxic Substances and Disease Registry, and the National Institute for Environmental Health Sciences on a variety of technical and communication issues.

While the EPA is responsible for making pesticide registration and tolerance decisions, primary responsibility for pesticide enforcement activities under FIFRA rests with the states. The FDA enforces tolerances for pesticide residues in most foods and the USDA enforces tolerances for meat, poultry, and some egg products. These joint efforts protect Americans from unhealthy pesticide residue levels.

In addition to a focus on protecting humans from pesticide risks, the EPA has been engaged with other government agencies on many important environmental issues. The agency has collaborated extensively with the U.S. Department of Agriculture, the Department of the Interior's Fish and Wildlife Service, and the Department of Commerce's National Oceanic and Atmospheric Administration's National Marine Fisheries Service on developing methods for assessing potential risks to endangered and threatened species and in developing approaches to mitigate unacceptable risks. The EPA also has worked with USDA and many other federal agencies, state agencies, and other entities to address risks to honey bees and other pollinators that are critical to our environment and the production of food crops.

The EPA has worked to promote improved health and environmental protection domestically and, when feasible, in other countries. This includes coordination not only with other countries, but also with international organizations such as the North American Commission on Environmental Cooperation (CEC). The EPA has cooperated with governments in other countries bilaterally or through treaties or other formal agreements.

The EPA has developed a strong network of government, private sector, and non-governmental partners working to achieve reductions in global mercury use and emissions, particularly when adverse U.S. impacts would be likely. The EPA has worked closely with the Department of State in leading the technical and policy engagement for the United States in the Minamata Convention on Mercury. The EPA provided the impetus for UNEP's Global Mercury Partnership and the agency has worked with developing and other developed countries in the context of that program. In addition to the Department of State, the EPA has collaborated closely with several federal agencies including DOE and USGS. As the agency prepares for implementation of the Minamata Convention, the EPA has continued to support the Global Mercury Partnership and sharing of information through the Arctic Council on reducing releases of mercury which disproportionally impact indigenous arctic communities.

The EPA has collaborated with the Department of Defense, Department of Homeland Security, USDA, FDA, and other federal and state organizations on a variety of technical and policy homeland security issues. These issues focus on protecting the public and food and agriculture sectors from threats associated with use of chemical and biological agents. The EPA has collaborated with these organizations on research pertaining to effective disinfectants for high threat microorganisms, planning for response to various potential incidents, training, and development of policies and guidelines. The EPA has continued to partner with OSHA, NIOSH, and CPSP on risk assessment and risk mitigation activities.

One of the agency's most valuable resources on pesticide issues has been the Pesticide Program Dialogue Committee (PPDC), a representative Federal Advisory Committee, which brings together a broad cross-section of knowledgeable individuals from organizations representing divergent views to discuss pesticide regulatory, policy, and implementation issues. The PPDC consists of members from federal and state government agencies, industry/trade associations, pesticide user and commodity groups, consumer and environmental/public interest groups, and others. The PPDC has provided a structured environment for meaningful information exchanges and consensus building discussions, keeping the public involved in decisions that affect them. Dialogue with outside groups is essential if the agency is to remain responsive to the needs of the affected public, growers, and industry organizations.

To effectively participate in international agreements on chemicals (e.g., persistent organic pollutants (POPs), mercury, and heavy metals), the EPA has continued to coordinate with other federal agencies and external stakeholders, such as Congressional staff, industry, and environmental groups. Similarly, the agency typically coordinates with the Food and Drug Administration's (FDA) National Toxicology Program, the Centers for Disease Control/Agency for Toxic Substances and Disease Registry (CDC/ATSDR), the National Institute of Environmental Health Services (NIEHS), and the Consumer Product Safety Commission (CPSC) on matters relating to OECD test guideline harmonization.

As part of the EPA's chemical safety program, the agency is implementing the Toxic Substances Control Act (TSCA), as amended by the Frank R. Lautenberg Chemical Safety for the 21st Century Act, signed into law on June 22, 2016. The EPA will conduct existing chemical prioritization and evaluations under the provisions of TSCA, as amended, and address any unreasonable risks identified through such evaluations. In 2016, following enactment of the new law, the agency established a senior leaders forum to consult with other federal agencies on its implementation of prioritization, risk evaluations and management mandates, including data sharing of uses, exposures, and hazard data. Participants include the U.S. Department of Housing and Urban Development (HUD), the Department of Defense (DoD), the Centers for Disease Control and Prevention (CDC), the Agency for Toxic Substances and Disease Registry (ATSDR) in the Department of Health and Human Services (HHS), the Occupational Safety and Health Administration (OSHA), the Mine Safety and Health Administration (MSHA), the National Institute of Occupational Safety and Health (NIOSH) in the Department of Labor, and the Consumer Products Safety Commission (CPSC). These consultations on chemicals of common interest foster improved communication and coordination on scientific, health, and regulatory issues.

In implementing TSCA as amended, the EPA also has been seeking input from other federal agencies to help inform the agency's efforts through the newly formed interagency Committee on Toxicity Assessment (CTA) that operates under the CENRS. Additionally, the EPA frequently consults with these agencies on project design, progress, and the results of chemical testing projects. The EPA also consults with these other agencies on their testing and monitoring programs and incorporates them, as appropriate, into chemical assessment and risk reduction activities. These technical discussions inform and keep current the federal network on cross-agency technical understandings and support the senior leader consultations.

The EPA's Toxics Program is committed to fulfilment of all of EPA's Indian Policies and adhering to the Chemical Safety and Pollution Prevention Program's Tribal Strategic Plan. The program has participated in the EPA's meetings with the National Tribal Operations Committee (NTOC) and other Tribal engagement groups on a wide variety of related activities and actions that impact Tribal governments, lands, and communities. Some of the most recent outreach and consultation efforts have focused on proposed regulatory actions for trichloroethylene (TCE), and paint removers methylene chloride and n-methylpyrrolidone (NMP), assessments of TSCA Work Plan chemicals, and other chemical issues such as PCB use. In addition, the National Tribal Toxics Council (NTTC) provides tribes with an opportunity for offering advice on the development of EPA chemical management programs that affect tribes, policies, and activities. The EPA has met with the NTTC in person twice per year and conducts monthly teleconferences with its members.

Research

The EPA's Toxicity Forecaster (ToxCast™) is part of an ongoing multi-agency effort under the Tox21 collaboration MOU. Tox21 has pooled chemical research, data, and screening tools from multiple federal agencies including the EPA, the National Institutes of Health (NIH), and the Food and Drug Administration (FDA). ToxCast has utilized existing resources to develop faster, more thorough predictions of how chemicals will affect human and environmental health. Tox21 and ToxCast are currently screening nearly 10,000 environmental chemicals for potential toxicity in high-throughput screening assays at the NIH Center for Advancing Translational Sciences (NCATS). The EPA also has an agreement to provide NCATS funding to support the effort.

The EPA recently announced the public release of chemical screening data on 1,800 chemicals that was gathered through advanced techniques, including robotics and high-throughput screening, as part of the ongoing Tox21 federal collaboration to improve chemical screening.

Health Canada and EPA have collaborated to explore approaches for using new data streams to assess chemicals for potential risks to human health. Health Canada is currently under a regulatory mandate to develop Chemical Management Plan 3 (CMP3). The chemicals in CMP3 include chemicals lacking traditional toxicity data. Health Canada is working with EPA CSS to determine how to use high-throughput screening data and other types of non-traditional chemical data to help fill the data gaps for the chemicals in CMP3.

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The EPA has coordinated its nanotechnology research with other federal agencies through the National Nanotechnology Initiative (NNI),[2] which is managed under the Subcommittee on Nanoscale Science, Engineering, and Technology (NSET) of the NSTC Committee on Technology (CoT). The EPA has collaborated with many federal agencies in the development of a government-wide approach to nanotechnology research through the Committee on Environment, Natural Resources, and Sustainability Charter (CENRS) at the White House's Office of Science and Technology Policy (OSTP). The EPA and the U.S. Consumer Product Safety Commission (CPSC) have collaborated to develop protocols to assess the potential release of nanomaterials from consumer products; develop credible rules for consumer product testing to evaluate exposure; and determine potential public health impacts of nanomaterial used in consumer products.

The EPA has coordinated its research on endocrine disruptors with other federal agencies through the interagency working group on endocrine disruptors under the auspices of the Toxics and Risk Subcommittee of the CENRS. The EPA has coordinated its biotechnology research through the interagency biotechnology research working group and the agricultural biotechnology risk analysis working group of the Biotechnology Subcommittee of NSTC's Committee on Science.

The EPA has consulted extensively with other federal agencies about the science of individual IRIS assessments, as well as improvements to the IRIS program, through an interagency working group including public health agencies (e.g., CDC, ATSDR, NIOSH, and NIEHS), many other agencies (e.g., DOD, NASA, SBA, DOT, DOE, DOI, etc.), and White House offices (OMB, OSTP, and CEQ). The EPA also has coordinated with ATSDR through a memorandum of understanding on the development of toxicological reviews and toxicology profiles, respectively. The EPA has contracted with the National Academy of Sciences' National Research Council (NRC) on very difficult and complex human health risk assessments through consultation or review. The NRC currently is conducting a comprehensive review of the IRIS assessment development process, including EPA's recent enhancements.

Homeland Security research has been conducted in collaboration with numerous agencies, leveraging funding across multiple programs to produce synergistic results. The EPA's Homeland Security Research Program has worked closely with the DHS to assure that the EPA, in its role as a supporting agency responsible for cleanup during a Stafford Act declaration under ESF-10 and as the lead agency for water infrastructure, has the science to back decisions. Recognizing that the DoD has significant expertise and facilities related to biological and chemical warfare agents, the EPA has worked closely with the Edgewood Chemical and Biological Center (ECBC), the Technical Support Working Group, the Army Corps of Engineers, U.S. Air Force, and other Department of Defense organizations to address areas of mutual interest and concern related to both cleanup and water infrastructure protection. To identify and support these collaborations, the EPA has participated in a tri-agency research partnership (Technical Coordination Working Group – TCWG) with the Departments of Defense (DoD) and Homeland Security (DHS) that focuses on chemical and biological defense needs and gaps as they relate to homeland security. TCWG activities include: information sharing, joint science and technology research projects, and complementing policies. These efforts have improved the preparedness of the U.S. domestic authorities to detect, deter, protect against, respond to, and recover from chemical or biological attack. In conducting biological agent research, the EPA also has collaborated with CDC. The

[2] For more information, see <http://www.nano.gov>.

program also has conducted joint research with USDA and DOI focusing on addressing homeland security threats at the intersection of the environment/public health and agriculture/natural resources. The EPA has worked with DOE to access and conduct research at the DOE's National Laboratories' specialized research facilities.

The HSRP also has consulted with the Water Sector and Government Coordinating Councils of Department of Homeland Security's Critical Infrastructure Partnership Advisory Council to understand the needs of the water sector and provide the latest research to the community. Other critical stakeholders, like the America Water Works Association and Association of State and Territorial Solid Waste Management Officials, also can benefit from research. HSRP also has worked with state and local emergency response personnel and public health and environmental agencies to better understand their needs and build relationships, which can enable the quick deployment of research products.

Enforcement and Compliance Assurance Programs

The Enforcement and Compliance Assurance Program has coordinated closely with the Department of Justice (DOJ) on all civil and criminal environmental enforcement matters. In addition, the program has coordinated with other agencies on specific environmental issues as described herein.

The Enforcement and Compliance Assurance program has coordinated with the Chemical Safety and Hazard Investigation Board, OSHA, and the Agency for Toxic Substances and Disease Registry in preventing and responding to accidental releases and endangerment situations. Additionally, the program has coordinated with the Bureau of Indian Affairs (BIA) on Tribal issues relative to compliance with environmental laws on Tribal lands and with the Small Business Administration (SBA) on the implementation of the Small Business Regulatory Enforcement Fairness Act (SBREFA). The program also has shared information with the Internal Revenue Service (IRS) on cases that require defendants to pay civil penalties, thereby assisting the IRS in assuring compliance with tax laws. In addition, it has collaborated with the SBA to maintain current environmental compliance information at Business.gov, a website initiated as an e-government initiative in 2004, to help small businesses comply with government regulations. Coordination also has occurred with the United States Army Corps of Engineers on wetlands issues.

The United States Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS) has had a major role in determining whether areas on agricultural lands meet the definition of wetlands for purposes of the Food Security Act and civil enforcement works with them as necessary. The EPA's Enforcement and Compliance Assurance program also has coordinated with USDA on the regulation of animal feeding operations and on food safety issues arising from the misuse of pesticides and shares joint jurisdiction with the Federal Trade Commission (FTC) on pesticide labeling and advertising. The EPA has worked with Customs and Border Protection on implementing the secure International Trade Data System across all federal agencies and on pesticide imports and on hazardous waste and Cathode Ray Tube exports. The EPA and the Food and Drug Administration (FDA) share jurisdiction over general-purpose disinfectants used on non-critical surfaces and some dental and medical equipment surfaces. The

EPA and FDA also have collaborated and shared information on Good Laboratory Program inspections to avoid duplication of inspections and maximize efficient use of limited resources. The agency has entered into an agreement with the Department of Housing and Urban Development (HUD) concerning enforcement of the Toxic Substances Control Act (TSCA) lead-based paint notification requirements. The agency has coordinated with the U.S. Coast Guard, under the Act, to prevent pollution from Ships and on oil spills under the Clean Water Act.

The Criminal Enforcement program has coordinated with other federal law enforcement agencies (i.e., Federal Bureau of Investigation (FBI), Customs, DOL, U.S. Treasury, USCG, DOI, and DOJ) and with international, state, and local law enforcement organizations in the investigation and prosecution of environmental crimes. The EPA also has actively worked with DOJ to establish task forces that bring together federal, state, and local law enforcement organizations to address environmental crimes. In addition, the program has an Interagency Agreement with the DHS to provide specialized criminal environmental training to federal, state, local, and Tribal law enforcement personnel at the Federal Law Enforcement Training Center (FLETC) in Glynco, GA.

Executive Order 12088 on Federal Compliance with Pollution Control Standards, directs the EPA to monitor compliance by federal agencies with all environmental laws. The Federal Facility Enforcement program has coordinated with other federal agencies, states, local, and Tribal governments to ensure compliance by federal agencies with all environmental laws. The EPA also has supported the FedCenter, the Federal Facilities Environmental Stewardship and Compliance Assistance Center (www.fedcenter.gov), which is now governed by a board of more than a dozen contributing federal agencies.

The Enforcement and Compliance Assurance program has collaborated closely with the states and tribes. States perform the vast majority of inspections, direct compliance assistance, and enforcement actions for many of the EPA's environmental programs. The core federal environmental statutes envision a partnership between the EPA and the states under which the EPA develops national standards and policies and the states implement the program under authority by the EPA. If a state does not seek approval of a program, the EPA must implement that program in the state. Historically, the level of state approvals has increased as programs mature and state capacity expands. Nearly all states are authorized for the core water, air, and hazardous waste programs. The EPA has coordinated with states on training, compliance assistance, capacity building, and enforcement. The EPA has worked to enhance the network of state and Tribal compliance assistance providers.

The EPA has worked directly with Canada and Mexico bilaterally and in the Trilateral Commission for Environmental Cooperation (CEC). The EPA's border activities require close coordination with the Bureau of Customs and Border Protection, the Fish and Wildlife Service, the DOJ, the Department of State, and the states of Arizona, California, New Mexico, and Texas. The EPA is the lead agency and coordinates U.S. participation in the CEC. The EPA has worked with the National Oceanic and Atmospheric Administration (NOAA), the Fish and Wildlife Service, and the U.S. Geological Survey on CEC projects to promote biodiversity cooperation and with the Office of the U.S. Trade Representative to reduce potential trade and environmental impacts such as invasive species.

The Enforcement and Compliance Assurance program, together with the EPA's International program, has provided training and capacity building to foreign governments to improve their compliance and enforcement programs. This support has helped create a level playing field for U.S. businesses engaged in global competition, helped other countries improve their environmental conditions, and ensured U.S. compliance with obligations for environmental cooperation as outlined in various free trade agreements. In support of these activities, the EPA has worked closely with the Department of State, selected U.S. Embassies, the USAID, the USTR, the DOJ, the International Law Enforcement Academies, the U.S. Forest Service, and the DOI. The EPA also has participated in the OECD Mutual Acceptance of Data program designed to garner international recognition of testing data in support of pesticides and chemical registrations.

Superfund Enforcement

As required by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and Executive Order 12580 on Superfund Implementation, the Enforcement and Compliance Assurance program has coordinated with other federal agencies in their use of CERCLA enforcement authority. This includes the coordinated use of CERCLA enforcement authority at individual hazardous waste sites that are located on both nonfederal land (EPA jurisdiction) and federal lands (other agency jurisdiction). As required by Executive Order 13016, amending Executive Order 12580, the agency also reviews and concurs on the use of CERCLA Section 106 authority by other departments and agencies.

The EPA also has coordinated with Natural Resource Trustees (DOI, USDA, Commerce, DOE, and DOD) to ensure that appropriate and timely notices, required under CERCLA, are sent to the Natural Resource Trustees to commence the Natural Resource Damage Assessment process. The EPA also has coordinated natural resource damage assessments, investigations, and planning with the Trustees. The DOJ also has provided assistance to the EPA with judicial referrals seeking recovery of response costs incurred by the U.S., injunctive relief to implement response actions, or enforcement of other CERCLA requirements.

Under Executive Order 12580, the EPA's Superfund Federal Facilities Enforcement program has assisted federal agencies in complying with CERCLA and ensured that: 1) all federal facility sites on the National Priorities List have interagency agreements, also known as Federal Facility Agreements with enforceable cleanup schedules; 2) FFAs are monitored for compliance; 3) federal sites are transferred to new owners in an environmentally responsible manner; and 4) compliance assistance is available to the extent possible. This program also ensures that federal agencies comply with Superfund cleanup obligations "in the same manner and to the same extent" as private entities. To enable the cleanup and reuse of such sites, the Federal Facilities Enforcement program also has coordinated creative solutions that protect both human health and the environment. These enforcement solutions help restore facilities so they can once again serve an important role in the economy and welfare of local communities and the country.

Coordination with Other Federal Agencies

Enabling Support Programs

Office of the Administrator (OA)

The OA supports the leadership of the Environmental Protection Agency's (EPA) programs and activities to protect human health and safeguard the air, water, and land upon which life depends. Several program responsibilities include congressional and intergovernmental relations, regulatory management and economic analysis, program evaluation, intelligence coordination, the Science Advisory Board, children's health, the small business program, environmental training, and outreach.

The EPA's Office of Policy (OP) interacts with a number of federal agencies during its rulemaking activities. Per governing statutes and agency priorities, OP submits "significant" regulatory actions to the Office of Management and Budget (OMB) for interagency review prior to signature and publication in the *Federal Register*. In addition, OP coordinates the EPA's review of other agency actions submitted to OMB for review. Under the Congressional Review Act, rules are submitted to each House of Congress and to the Comptroller General of the United States. OP reviews, edits, tracks, and submits regulatory actions and other documents that are published by the Office of the Federal Register. For regulations that may have a significant economic impact on a substantial number of small entities, OP collaborates extensively with the Small Business Administration and OMB. Finally, OP also leads the EPA's review of draft Executive Orders and Presidential Memoranda.

From time to time, OP collaborates with other federal regulatory and natural resource agencies (e.g., the United States Department of Agriculture (USDA), the Department of Energy (DOE), the Department of the Interior (DOI), and the National Oceanic Atmospheric Administration (NOAA)) to collect economic data used in the conduct of economic cost-benefit analyses of environmental regulations and policies and to foster improved interdisciplinary research and reporting of economic information. This is achieved in several ways, such as representing the EPA on interagency workgroups or committees tasked with measuring the economic costs and benefits of federal policies and programs.

OP partners with other federal agencies to improve the quality of federal program evaluation studies that gather empirical evidence to assess whether and why programs achieve outcomes and how programs might be changed to improve results. OP supports forums for experts to share and improve environmental evaluation methodologies and represents the EPA on interagency workgroups geared toward improving federal capacity to conduct or oversee rigorous and objective evaluation studies.

OP supports interagency, government-wide efforts that do not fall within the scope of any single program office. For example, OP is a key participant in government-wide discussions on the application of sustainable purchasing practices in federal acquisitions. In this effort, OP has partnered with acquisition leaders in the USDA, the Department of Defense (DOD), the DOE, the Department of Health and Human Services (DHHS), the Department of Homeland Security

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(DHS), the General Services Administration (GSA), the National Aeronautics and Space Administration (NASA), and others to ensure that federal spending meets or exceeds federal sustainability requirements. This network of federal procurement professionals is seeking to integrate sustainability into purchasing in a way that makes the process simpler and more effective for all involved.

The Administrator of the EPA and the Secretary of the HHS co-chair the President's Task Force on Environmental Health Risks and Safety Risks to Children. The Task Force comprises representatives of 17 federal departments and White House offices. A senior staff steering committee, co-chaired by the Director of the EPA's Children's Health Protection Program, coordinates interagency cooperation on Task Force priority areas. As part of this effort, the program may coordinate with other related agencies to improve federal government-wide support in implementing children's health legislative mandates and children's health outreach. This may include providing children's environmental health expertise on interagency activities and coordinating expertise from program offices.

Office of the Chief Financial Officer (OCFO)

OCFO makes active contributions to standing interagency management committees, including the Chief Financial Officers Council, focusing on improving resources management and accountability throughout the federal government. OCFO actively participates on the Performance Improvement Council, which coordinates and develops strategic plans, performance plans, and performance reports as required by law. In addition, OCFO participates in numerous OMB-led E-Government initiatives such as the Financial Management and Budget Formulation and Execution Lines of Business and has interagency agreements with the DOI's Interior Business Center (IBC) for processing agency payroll.

OCFO provides government-to-government employee relocation services via interagency agreements through the EPA's Federal Employee Relocation Center (FERC) as a Working Capital Fund (WCF) activity. The EPA-FERC provides "one-stop shop" domestic and international relocation services to other federal agencies to increase operational efficiency and save the government money. The EPA-FERC currently provides relocation services internally to all EPA regions and program offices, and externally to the Transportation Security Administration (TSA), Department of Labor (DOL), Office of Personnel Management (OPM), United States Patent and Trademark Office (USPTO), Health & Human Services (HHS), and the United States Department of Agriculture (USDA).

OCFO participates with the Bureau of Census in maintaining the Federal Assistance Awards Data System. OCFO also coordinates appropriately with Congress and other federal agencies, such as the Department of Treasury, the Government Accountability Office (GAO), and the GSA.

Office of Administration and Resources Management (OARM)

OARM is committed to working with federal partners that focus on improving management and accountability throughout the federal government. OARM provides leadership and expertise to government–wide activities in various areas of human resources, grants management, contracts

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management, suspension and debarment, and homeland security. These activities include specific collaboration efforts with federal agencies and departments through:

- Chief Human Capital Officers, a group of senior leaders that discuss human capital initiatives across the federal government.

- The Legislative and Policy Committee, a committee comprised of other federal agency representatives who assist the OPM in developing plans and policies for training and development across the government.

- The Chief Acquisition Officers Council, the principal interagency forum for monitoring and improving the federal acquisition system. The Council also focuses on promoting the President's specific initiatives and policies in all aspects of the acquisition system.

- The Award Committee for E-Government (E-Gov), which provides strategic vision for the portfolio of systems/federal wide supporting both federal acquisition and financial assistance. Support also may be provided to the associated functional community groups, including the Procurement Committee for E-Gov, the Financial Assistance Committee for E-Gov, and the Intergovernmental Transaction Working Group.

- The Interagency Suspension and Debarment Committee (ISDC), a representative committee of federal agency leaders in suspension and debarment. The Committee facilitates lead agency coordination, serves as a forum to discuss current suspension and debarment related issues, and assists in developing unified federal policy. Besides participating in the ISDC, OARM may provide instructors for the National Suspension and Debarment Training Program offered through the Federal Law Enforcement Training Center.

- The Financial Management Line of Business (FMLoB), which has been expanded to also encompass the Grants Management Line of Business. The combined FMLoB, with the Department of Treasury as the managing partner, will more closely align the financial assistance and financial management communities around effective and efficient management of funds. OARM also participates in the Grants.gov Users' Group, as well as the Federal Demonstration Partnership which is designed to reduce the administrative burdens associated with research grants.

- The Partnership for Sustainable Communities initiative, a collaborative effort with the Department of Housing and Urban Development and the Department of Transportation, improves the alignment and delivery of grant resources to communities designated under certain environmental programs. It also helps identify cases in the program that may warrant consideration of suspension and debarment.

- The Interagency Committee on Federal Advisory Committee Management (Committee Management Officer Council) provides leadership and coordination on federal advisory committee issues and promotes effective and efficient committee operations government-wide. In addition to serving on the Council, OARM works with the GSA Committee

Management Secretariat to establish and renew advisory committees, conduct annual reviews of advisory committee activities and accomplishments, maintain committee information in a publicly accessible online database, and develop committee management regulations, guidance, and training. Further, OARM participates on the GSA Federal Advisory Committee Act (FACA) Attorney Council Interagency Workgroup to keep abreast of developments in the statutory language, case law, interpretation, and implementation of the FACA.

In addition, throughout FY 2017 and FY 2018, OARM will continue working with the DOI's IBC, which is an OPM and OMB approved Human Resources Line of Business shared service center. IBC offers HR transactional processing, compensation management and payroll processing, benefits administration, time and attendance, HR reporting, talent acquisition systems, and talent management systems. OARM also continues its charter membership on the OPM HR Line of Business Multi Agency Executive Strategy Committee (MAESC), providing advice and recommendations to the Director of OPM as well as additional government-wide executive leadership, for the implementation of the HR Line of Business vision, goals, and objectives. OARM also is working with OMB, GSA, DHS, and Department of Commerce's National Institute of Standards and Technology to continue to implement the Smart Card program.

Office of Environmental Information (OEI)

To support the EPA's overall mission, OEI collaborates with a number of other federal agencies, states, and Tribal governments on a variety of initiatives, including making government more efficient and transparent, protecting human health and the environment, and assisting in homeland security. OEI is primarily involved in the information technology (IT), information management (IM), and information security aspects of the projects on which it collaborates.

The Chief Information Officer (CIO) Council: The CIO Council is the principal interagency forum for improving practices in the design, modernization, use, sharing, and performance of federal information resources. The Council develops recommendations for IT/IM policies, procedures, and standards; identifies opportunities to share information resources; and assesses and addresses the needs of the federal IT workforce.

eRulemaking: The EPA serves as the Program Management Office (PMO) for the eRulemaking Program. The eRulemaking Program's mission encompasses two areas: to improve public access, participation in, and understanding of the rulemaking process; and to improve the efficiency and effectiveness of agency partners' notice and comment process when promulgating regulations. The eRulemaking Program maintains a public website, http://www.regulations.gov/, which enables the general public to access and submit comments on various documents that are published in the *Federal Register*, including proposed regulations and agency-specific notices. The Federal Docket Management System (FDMS) is the agency side of Regulations.gov. FDMS enables agencies to administer public submissions regarding regulatory and other documents posted by the agencies on the Regulations.gov website. The increased public access to the agencies' regulatory process enables a more informed public to provide supporting technical/legal/economic analyses to strengthen the agencies' rulemaking vehicles. The PMO, located at the EPA, coordinates the operations of the eRulemaking Program through its 40 partner departments and independent

agencies (comprising more than 178 agencies, boards, commissions, and offices). The administrative committee structure works with the PMO on day-to-day operations, ongoing enhancements, and long-range planning for program development. These committees and boards (the Executive Steering Committee and the Advisory Board) have representative members from each partner agency and deal with contracts, budget, website improvements, improved public access, records management, and a host of other regulatory concerns that were formally only agency-specific in nature. Coordination and leadership from the OMB, Office of Information and Regulatory Affairs, and partner agencies allows for a more uniform and consistent presentation of rulemaking dockets across government. This coordination is further demonstrated by the fact that more than 90 percent of all federal rules promulgated annually are managed through the eRulemaking Program.

Freedom of Information Act (FOIA): The EPA serves as the lead for the FOIAonline, a multi-agency solution that enables the EPA and partner agencies to meet their responsibilities under FOIA while creating a repository of publicly released FOIA records for reuse. Through FOIAonline, the public has the ability to submit and track requests, search and download requests and responsive records, correspond with processing staff, and file appeals. Agency users are provided with a secure, login-access web site to receive and store requests, assign and process requests (and refer to other agencies), post responses online, produce the annual FOIA report to the Department of Justice, and manage records electronically. Current federal partners include the EPA, the Department of Commerce, the National Archive and Records Administration, the Merit Systems Protection Board, Pension Benefit Guarantee Corporation, Federal Labor Relations Authority, Customs and Border Protection, the Department of the Navy, GSA, Federal Communications Commission, the Small Business Administration, DOJ's Office of Information Policy, the Executive Office of U.S. Attorneys and the Department of Defense's Defense Logistics Agency and its Office of the Inspector General.

The National Environmental Information Exchange Network (EN): The EN is a partnership among states, tribes, territories, and the EPA. It revolutionizes the exchange of environmental information by allowing these partners to share data efficiently and securely over the Internet. The EN uses technology, data standards, open-source software, shared services, reusable tools, and applications to provide real-time access to higher quality data. This approach improves data accessibility, streamlines processes, reduces operational costs, and saves time and resources for all of the partners, ultimately leading to improved environmental decision making. Leadership for the EN is provided by the Exchange Network Leadership Council (ENLC), which is co-chaired by the EPA and a state partner. The ENLC works with representatives from the EPA, state, and territorial environmental agencies and Tribal organizations to manage the Exchange Network.

Automated Commercial Environment/International Trade Data System (ACE/ITDS): ITDS is the electronic information exchange capability, or "single window," through which businesses will transmit data required by participating agencies for the import or export of cargo. ACE is the system being built by Customs and Border Protection (CBP) to ensure that its customs officers and other federal agencies have the information they need to decide how to handle goods and merchandise being shipped into or out of the United States. It also will be the way those agencies provide CBP with information about potential imports/exports. ITDS eliminates the need, burden and cost of paper reporting. It also allows importers and exporters to report the same information

to multiple federal agencies with a single submission, and facilitates movement of cargo by automating processing of the import and exports. ITDS provides the capability for industry to consolidate reporting for commodities regulated by multiple agencies. For these consolidated reports, the industry filers will receive the appropriate status response when their filings meet each agency's reporting requirements. Once all agency reporting requirements have been met, filers can receive a coordinated single U.S. government response to proceed into the commerce of the United States.

The EPA has the responsibility and legal authority to make sure pesticides, toxic chemicals, vehicles, engines, ozone-depleting substances, and other commodities entering and hazardous waste exiting the country meet its human health and environmental standards. The EPA's ongoing collaboration with CBP on the ACE/ITDS effort will improve the efficiency of processing these shipments through information exchange between the EPA and CBP and automated processing of electronic filings. The EPA will continue to work with CBP towards the goal to automate the current manual paper review process for admissibility so that importers and brokers (referred to collectively as Trade) can know before these commodities are loaded onto an airplane, truck, train, or ship if their shipment meets the EPA's reporting requirements. As a result of this automated review, Trade can greatly lower its cost of doing business and customs officers at our nation's ports will have the information on whether shipments comply with our environmental regulations.

Geospatial Information: The EPA works with DOI, NOAA, U.S. Geological Survey (USGS), NASA, USDA, and DHS on developing and implementing geospatial approaches to support various business areas. It also works with 25 additional federal agencies through the activities of the federal Geographic Data Committee (FGDC) and the OMB Geospatial Line of Business (Geo LoB), for which the EPA leads several key initiatives. The EPA also participates in the FGDC Steering Committee and Executive Committee. A key component of this work is developing and implementing the National Spatial Data Infrastructure (NSDI) and the National GeoPlatform. The key objective of the NSDI is to make a comprehensive array of national spatial data – data that portrays features associated with a location or tagged with geographic information and can be attached to and portrayed on maps – easily accessible to both governmental and public stakeholders. Use of this data, in tandem with analytical applications, supports several key EPA and government-wide business areas. These include ensuring that human health and environmental conditions are represented in the appropriate contexts for targeting and decision making; enabling the assessment, protection, and remediation of environmental conditions; and aiding emergency first responders and other homeland security activities. The EPA supports geospatial initiatives through efforts such as the EPA Geospatial Platform, the EPA Environmental Dataset Gateway, the National Environmental Information Exchange Network, National Environmental Policy Act (NEPA) Assist, EPA Metadata Editor, Facilities Registry System (FRS) Web Services, and My Environment. The EPA also works closely with its state, Tribal, and international partners in a collaboration that enables consistent implementation of data acquisition and development, standards, and technologies supporting the efficient and cost effective sharing and use of geographically-based data and services.

Office of the Inspector General (OIG)

The EPA Inspector General is a member of the Council of Inspectors General on Integrity and Efficiency (CIGIE), an organization comprised of federal Inspectors General (IGs), GAO, and the Federal Bureau of Investigation (FBI). The CIGIE coordinates and improves the way IGs conduct audits, investigations, and internal operations. The CIGIE also promotes joint projects of government-wide interest and reports annually to the President on the collective performance of the IG community. The EPA OIG coordinates criminal investigative activities with other law enforcement organizations such as the FBI, Secret Service, and DOJ. In addition, the OIG participates with various inter-governmental audit forums and professional associations to exchange information, share best practices, and obtain or provide training. The OIG also promotes collaboration among the EPA's partners and stakeholders in its participation of Hurricane Sandy oversight and its outreach activities. Additionally, the EPA OIG initiates and participates in collaborative audits, program evaluations, and investigations with OIGs of agencies with an environmental mission such as the DOI, USDA, as well as other federal, state, and local law enforcement agencies as prescribed by the IG Act, as amended. As required by the IG Act, the EPA OIG coordinates and shares information with the GAO. The EPA OIG currently serves as the Inspector General of the U.S. Chemical Safety and Hazard Investigations Board. The FY 2018 President's Budget proposes to eliminate the U.S. Chemical Safety and Hazard Investigation Board.

Major Management Challenges

Introduction

The Reports Consolidation Act of 2000 requires the Inspector General to identify the most serious management challenges facing the EPA, briefly assess the agency's progress in addressing them, and report annually.

The EPA has established procedures for addressing its major management challenges. The EPA recognizes that management challenges, if not addressed adequately, may prevent the agency from effectively meeting its mission. The EPA remains committed to addressing all management issues in a timely manner and to the fullest extent of its authority.

The following discussion summarizes each of the FY 2016 management challenges identified by the EPA's OIG and the GAO and presents the agency's response.

1. Addressing EPA's Emerging Role in Climate Change

***Summary of Challenge**: In 2013, the GAO designated climate change as a "High Risk" area, noting that climate change poses management challenges for the federal government at large, and that the EPA will play a role in addressing this challenge. Additionally, GAO states that the federal government is not well positioned to address the fiscal exposure presented by climate change and needs a government-wide strategic approach with strong leadership to manage related risks.*

Agency Response: The agency continues implementing regulatory programs including the Department of Transportation and the EPA fuel economy and GHG emission standards for light-duty vehicles and heavy-duty vehicles. The agency also implements the GHG Reporting Program and shares information with the public. In order to fulfill U.S. Treaty obligations under Article 4 of the 1992 Framework Convention on Climate Change, which was ratified by the Senate, the EPA prepares the annual *Inventory of U.S. Greenhouse Gas Emissions and Sinks*, to provide information on total annual U.S. emissions and removals by source, economic sector, and greenhouse gas.

2. Reducing Pollution in the Nation's Water

***Summary of Challenge**: According to the GAO, progress has slowed in reducing water pollution and improving water quality. The EPA needs to revise outdated effluent guidelines for many industrial categories and assess new treatment technologies that are available to use to address "end-of-pipe" sources of pollution. Total Maximum Daily Loads (TMDLs), which address "non-point source" pollution, can be more effective if they address roles and responsibilities for implementation and challenge the voluntary nature of the approach.*

Agency Response: The EPA agrees that having improved screening processes for industrial wastewater discharge would improve the agency's ability to implement its effluent guidelines responsibilities under the Clean Water Act (CWA). Thus, the agency has focused efforts on identifying and evaluating additional sources of data on the hazards posed by discharges from industrial categories, going beyond traditional approaches. Further, the EPA is more thoroughly considering information on current and available treatment technologies for industrial categories.

Regarding the cleanup of impaired waters, the EPA acknowledges that there are program management changes needed to improve water quality. The EPA is implementing a series of enhancements in program management to improve the review and approval process for TMDLs. The EPA also continues to improve coordination and collaboration with USDA to increase the effectiveness of federal activities in key impaired waters and watersheds.

The EPA continues to take action to improve program implementation through better guidance, improved non-point source grant conditions, increased oversight of state program implementation, and better data collection on incremental improvements in water quality and TMDL implementation. These actions include:

- Formed a workgroup to improve TMDL review and approval process.
- Completed a study with states on GIS reporting and reached agreement on the need to conduct catchment-based indexing of waters to improve the data which tracks water quality improvements over time.
- Developing new performance measures to show where improvements in water quality are occurring.
- Issued new Non-Point Source Program and Grants Guidelines to improve tracking and reporting of program outcomes for states' non-point source programs.
- Issued guidance to states to assist in updating their non-point source management programs; 100 percent of states will have completed review and revised their programs by end of 2015.
- Reviewed new industrial wastewater hazard data and information sources, which resulted in two detailed studies and one preliminary study under the effluent guidelines program.
- Developed a new Industrial Wastewater Treatment Technologies Database.

3. Providing Assurance that Public Drinking Water is Safe

Summary of Challenge: *GAO acknowledges that the EPA has made progress on providing assurance that public drinking water is safe. In January 2014, GAO reported that the EPA had implemented three recommendations made in GAO's May 2011 report related to improving the Unregulated Contaminant Monitoring Rule (UCMR) Program. GAO reports that, nevertheless, the UCMR program still faces several outstanding challenges, including uncertainty in true occurrence of certain contaminants because of a fixed monitoring frequency that can miss seasonal or sporadic variations; statutory cap of 30 contaminants every 5 years, which restricts the ability to collect data on additional contaminants that could be monitored for additional little cost; and lag in regulatory determination supported by occurrence data.*

Agency Response: The EPA is continually working to improve its oversight to ensure protection of underground sources of drinking water. The EPA's Underground Injection Control (UIC) program has a solid oversight process, including a close working relationship with its state partners. Recognizing that geology and hydrology vary across the country and that states have requirements and solutions tailored to their individual circumstances, the EPA worked with its state partners to undertake a number of activities to proactively address areas of emerging concerns. These efforts are designed to ensure regulatory safeguards are in place, improve implementation and understanding of state and the EPA UIC programs across the nation, and

ensure the program is achieving its intended purpose of protecting underground sources of drinking water.

In February 2015, the agency released the EPA-State UIC National Technical Workgroup report, *Minimizing and Managing Potential Impacts of Injection-Induced Seismicity from Class II Disposal Wells: Practical Approaches*. This report was developed cooperatively with states to help protect underground sources of drinking water by reducing the chances for induced seismicity. The report can help UIC managers evaluate the potential for induced seismicity in a planned injection operation and describes permit conditions that can be added to manage the potential for induced seismicity. The EPA continues to work with individual states to implement the recommendations in the report.

The agency will evaluate the potential to expand and validate the use of remote approaches to oversight, recognizing that the objectives of on-site evaluations on an annual basis may be accomplished in other ways or at decreased frequency. The EPA is committed to ongoing improvement of the process to review, approve and codify state regulatory changes so that they are adequately enforced. Additionally, the agency has completed the development of standard operating procedures to document roles and responsibilities and ways to avoid duplicative steps. Recently, the agency completed the development and implementation of several templates for publishing public notices and rules in the *Federal Register*, which will standardize the rulemaking process.

The EPA has made improvements over the first three monitoring cycles (from UCMR 1 to UCMR 2 to UCMR 3) and expects that UCMR 4 will reflect improvements based on lessons learned, stakeholder input, and the GAO recommendations. The EPA also is considering the practicality and appropriateness of a shorter period for contaminant monitoring to address the concern about the availability of UCMR data to support Regulatory Determinations. Working within the statutory authority established by the Safe Drinking Water Act, the EPA will continue to evaluate and select the most appropriate contaminants for UCMR monitoring. The EPA notes that the statutory cap of 30 contaminants identified by the GAO is codified in the Safe Drinking Water Act and is a matter for Congressional consideration.

The EPA utilized a workgroup process to develop options for UCMR 4 to develop the rule. In June 2014 the EPA held a public meeting and webinar to describe efforts to develop UCMR 4. This meeting/webinar exemplifies the agency's commitment to engage our stakeholders earlier in the process (relative to prior UCMR cycles) and complements a March 2013 public meeting/webinar focused on the development of analytical methods for Contaminant Candidate List (CCL) priorities. The EPA managers responsible for the CCL, UCMR, and Regulatory Determination programs meet regularly and have specifically discussed the potential for better aligning the collection of UCMR data with the Regulatory Determination process.

4. Cost and Pace of Cleanup at Superfund and other Hazardous Waste Sites

Summary of Challenge: *According to the GAO, the EPA continues to make progress in identifying hazardous waste sites requiring cleanup. However, recent GAO reports indicate that not only will cleanup costs be substantial, but problems with the accuracy and completeness of data prevent the agency from estimating future cleanup costs. The GAO recommends that the agency assess the*

comprehensiveness and reliability of the data it collects and, if necessary, improve the data to provide aggregated information.

Agency Response: The EPA recognizes the challenges in describing the multiple facets of the Superfund program concisely and realizes that many sites face significant uncertainties regarding future site cleanup requirements as a result of, among other things, unique and oftentimes unknown site conditions. Numerous factors contribute to these uncertainties, including the type and extent of contamination at the site, factors associated with the effectiveness of remedial technologies, evolving cleanup standards, the viability and cooperativeness of responsible parties, states' ability to provide statutorily required cost share assurances, and community acceptance of proposed remedies. Due to these significant uncertainties, aggregate estimates of future costs and performance, especially on an annual basis, are bound by large ranges, which limit the contribution such information provides to annual appropriation decision makers.

Since the inception of the Superfund program, the EPA has provided a mix of site-specific and aggregate data to Congress through the annual budget process and other methods to facilitate annual Superfund appropriation decisions. The agency recognizes the importance of informing and educating partners and stakeholders about the EPA's commitment to, and progress toward, environmental cleanup, and continues to explore options to share information about cleanup plans and progress at sites.

In FY 2010, the EPA introduced a new remedial action project completion measure which responds to GAO's recommendations to provide more data on site progress. Also, in an effort to improve transparency and accountability, the Superfund program has deployed the Superfund Enterprise Management System (SEMS), which fully integrates site schedules, resource planning and accomplishment reporting with official supporting documentation. The program is better able to plan and report site progress as a result of the enhanced functionality of the new tools.

5. Transforming EPA's Processes for Assessing and Controlling Toxic Chemicals/EPA's Framework for Assessing and Managing Chemical Risk

Summary of Challenge: *The OIG and GAO believe that the EPA's effectiveness in assessing and managing chemical risks is hampered in part by limitations on the agency's authority to regulate chemicals under the Toxic Substances Control Act and other statutes. Despite those limitations, the EPA could better assess and manage chemical risks by addressing challenges in data collection, toxicity screening and improving public access to chemical data. The GAO also has included the Integrated Risk Information System (IRIS) in its FY 2013 High Risk Report (GAO-13-283). In FY 2014, GAO completed a third review of the IRIS program.*

Agency Response: On June 22, 2016, the Frank R. Lautenberg Chemical Safety for the 21st Century Act was signed into law, amending the Toxic Substances Control Act. The new law substantially strengthens the agency's ability to address risks to human health and the environment from exposure to toxic chemicals that are subject to TSCA. Additionally, the new law reduces challenges the agency has faced in obtaining chemical testing data, assessing chemicals, meeting the thresholds for commencing risk reduction actions and addressing unwarranted confidentiality claims.

The EPA has developed an implementation plan for carrying out the law's requirements and has completed or made progress on a considerable number of first-year steps. In accordance with the statutory deadline provided in the 2016 legislation, the agency has identified and begun the risk evaluations for the first 10 chemicals to be reviewed under the new law. In addition, the EPA has identified five mercury compounds to be subject to export restrictions and has proposed several framework rules to implement key provisions of the law, including the TSCA Inventory Notification (Active-Inactive) Requirements, Procedures for Chemical Risk Evaluation under the Amended Toxic Substances Control Act, and Procedures for Prioritization of Chemicals for Risk Evaluation under Toxic Substances Control Act.

The EPA has proposed rules under TSCA Section 6 to address risks identified in three of the five risk assessments completed prior to enactment of the new law. These rulemakings address TCE use in spot cleaning, aerosol degreasing and vapor degreasing; methylene chloride use in paint removers; and NMP use in paint removers. As indicated in the Lautenberg TSCA reform legislation, successful implementation of the new law's provisions is contingent upon adequate resources, including fees.

Improving IRIS. In 2009, GAO identified the EPA's Integrated Risk Information System (IRIS) program as a high risk area needing broad-based transformation to address issues of transparency, program management, and timeliness. Over the last several years, the agency implemented numerous actions to enable the IRIS program to produce timely, transparent, and credible assessments in support of the EPA's mission to protect public health and the environment.

As GAO acknowledged, the EPA's ability to protect public health and the environment depends on credible and timely assessments of the risks posed by toxic chemicals across the agency's various programs. The agency implemented a number of significant IRIS program actions to improve the scientific foundation of assessments, increase transparency in the program and the process, and allow the agency to produce more assessments. The EPA leadership demonstrated strong management direction and support for approaches designed to increase the IRIS program's productivity and transparency. The EPA received commendation from the National Academy of Sciences (NAS) for the significant transformations made to the program in a short period of time and noted a successful future if the agency continued on its trajectory. Efforts to improve the program have transitioned to not just address specific recommendations, but to incorporate long-term goals and planning, consistent with GAO recommendations.

In addition, changes currently being implemented will improve the efficiency of conducting systematic review. In particular, the program will place increased emphasis on tailoring the scope of the assessment to match the underlying program or regional client need. This concept is consistent with the notion of "fit for purpose" assessments that are increasingly being promoted in environmental health, and is necessary to facilitate the feasibility of systematic review methodologies. These changes retain transparency and opportunities for public engagement, while enabling more accurate predictions of the timeframe needed to conduct the assessment. More targeted assessments that focus on the science specific to decision needs will generally be smaller in scope than IRIS assessments have been in the past, which will promote greater throughput. This

foundational activity will allow the IRIS program to provide greater transparency to agency and external stakeholders, as well as inform several of the remaining open GAO recommendations.

GAO recommendations have led to fundamental changes in IRIS program activities. Further, the actions implemented by the IRIS program, the progress made, and the program's continued commitment to excellence have made a difference and have been recognized by GAO, as well as the National Academies of Science, the EPA Science Advisory Board, stakeholders and the public. These changes have improved the quality, transparency, and efficiency of the IRIS program. The agency is developing a strategy to address the remaining open GAO recommendations, with a goal of closing all remaining open recommendations by summer 2018.

6. Improving Processes for Conditional Registration of Pesticides and Considering Children's Health

Summary of Challenge: *The GAO highlights vulnerabilities in the Conditional Registration of Pesticides that could result in human health impacts. Vulnerabilities include inaccurate data and recordkeeping, insufficient tracking of conditional registrations, and limited management oversight to ensure that regulatory actions are not misclassified as conditional or unconditional registrations. The GAO also reports that the EPA has not taken the steps necessary to integrate children's health in the rulemaking process.*

Agency Response: The agency is committed to providing a more integrated solution to track conditional registration data requirements and data submission for all pesticides. During 2014 and 2015, the EPA continued to create new codes in the Office of Pesticide Program Information Network (OPPIN) to more clearly distinguish the status of product registrations as conditional or unconditional (refining codes is an ongoing activity). In 2014 the agency's pesticide program held divisional training sessions to discuss the regulatory requirements of conditional registrations in RD, AD, and BPPD. The agency provides refresher training, as well as training for new staff. The agency also developed draft standard operating procedures detailing how to enter data in the OPPIN tracking system for conditional and unconditional registrations.

In April 2014, the agency prepared and posted on its website a table showing all pesticide active ingredients initially registered under conditional registration (2000-2014). The EPA continues to use this table internally as a tool to track and manage the status of submission, review, and acceptance of information required as a condition of registration. The periodically releases updated version of the table to provide the public with up-to-date information on the status of conditional registrations.

The agency will continue to take actions to improve the review of conditional registration of pesticides. This includes conducting monthly meetings to help facilitate cross-divisional coordination, reviewing the status of data submission, developing and standardizing tracking codes, and training staff to support conditional registration activities.

7. Oversight of Delegations to States / Diminished Capacity of States to Implement Federal Environmental Programs

***Summary of Challenge**: While progress has been made, including a cross-agency strategy in its 2014-2018 Strategic Plan on a new era of partnerships, the EPA's oversight of state programs remains a management challenge. The OIG notes the agency's inadequate and inconsistent oversight of state program implementation across environmental statutes and the absence of national baselines. The GAO has concerns about the consequences of budget cuts and the ability of states to fulfill core program requirements.*

Agency Response: The agency continues to make state oversight an agency priority and to improve oversight practices to ensure consistency. An example of the efforts the agency has taken includes establishing the State Program Health and Integrity Workgroup. This inter-agency workgroup, composed of the EPA's national program offices for air, enforcement and water, gathers and analyzes information on oversight of state practices, identifies gaps and develops solutions.

In response to OIG concerns regarding emission fees, the EPA's oversight has been successful in addressing fee program concerns that have arisen over time. Moreover, fee oversight is only one aspect of the EPA's oversight of the complex state operating permit programs, which have been successful in issuing over 15,000 operating permits, furthering the overarching goals of improving compliance with air pollution requirements and public involvement in the permitting process. Over the last two decades, the EPA has provided useful and relevant guidance to implementing authorities and regions to ensure proper administration and oversight, respectively, of fee programs for the operating permits programs.

The EPA agrees that a guidance document that discusses the fee aspect of the oversight program evaluation in additional detail would be useful. The EPA expects to develop such a guidance in part through assessing the 1993 fee schedule guidance, and by either updating that document or issuing a separate fee oversight strategy document. This fee oversight strategy guidance is expected to be responsive to the OIG's recommendations.

The OIG evaluated the underground storage tank (UST) inspection program and recommended that the EPA work with the states to revise their current Memorandums of Agreement to reflect program changes from the 2005 Energy Policy Act and address oversight of municipalities conducting inspections. At the time of the OIG audit, the EPA was in the process of revising the UST regulations, addressing among other things, State Program Approval (SPA) for the UST program. The EPA published the revised UST regulations in July 2015, which the EPA provided states who currently have SPA three years from the rule's effective date to submit their applications for a reinstatement.

In agreeing to the OIG recommendation for all states to revise their current Memorandum of Agreement (MOAs), the EPA agreed to time the revision and updates of the MOAs with the re-SPA timeframe noted in the final UST regulations. The EPA is working with the states and expects to have revised MOAs by October 2018.

Additional efforts by the agency to address concerns raised by the OIG include:

- Continues to use its oversight authority under the Safe Drinking Water Act to work with state primacy programs and the EPA regional permit authorities to communicate

requirements and responsibilities regarding the use of diesel fuels during hydraulic fracturing.

- Promoting consistency across state section 319 grants by developing nationally consistent grant conditions for all the EPA regions.
- Implemented the Nonpoint Source program and Grant Guidelines for States and Territories, which contains specific provisions to strengthen the EPA oversight of state programs.

The agency's strategy for assisting states in meeting their program requirements is focused on identifying programmatic areas of highest priority, reducing administrative burdens where possible, and providing additional time for required activities where allowed while still meeting the intent of all regulatory mandates. To reduce states' administrative burdens and increase efficiencies, the agency has introduced a number of cost-effective, streamlined administrative processes, such as reforming the State Implementation Plan (SIP) process. The regions, with headquarters' oversight, work closely with states in managing STAG resources provided by Congress. The EPA revises requirements where possible to make the best use of available technology and resources to address the most critical air quality issues, such as delaying the deployment of the near-road monitoring network and activating and encouraging use of electronic emissions reporting for sources. The agency meets regularly with representatives of state and local air agencies to identify and resolve issues; routinely suggests budget changes to address funding, programmatic and technology gaps; and solicits state, local and tribal government input in developing the annual national program managers' guidance.

8. Improving EPA's Adherence to Guidance for Regulatory Impact Analysis

Summary of Challenge: *GAO stated that the EPA did not always adhere to certain aspects of OMB's Circular A-4 guidance for analyzing the economic effects of regulations in its Regulatory Impact Analysis (RIA). According to GAO, the EPA considered regulatory alternatives and analyzed uncertainties underlying the RIAs, but the information it included and presented in the RIAs was not always clear. GAO stated that the EPA's review process also does not ensure that the information that should appear in the analyses is transparent or clear, within and across its RIAs, so the agency cannot ensure that its RIAs adhere to OMB's guidance to provide the public with a clear understanding of its decision making. Additionally, GAO stated that the EPA did not monetize certain benefits and costs related to the primary purposes or key impacts of the rules GAO reviewed, such as reducing hazardous air pollutants and water quality effects. GAO concluded that this potentially limits the RIAs' usefulness for helping decision makers and the public understand these important effects.*

GAO recommended the EPA take several actions to improve future adherence to OMB guidance and enhance the usefulness of its RIAs, including enhancing the agency's review process for RIAs; improving the accuracy, transparency, and clarity of the RIAs' executive summaries; and prioritizing for research key categories of benefits and costs that the agency cannot currently monetize. GAO provided an update to the agency in 2016 on these management challenges, recognizing the EPA has satisfied the recommendation regarding transparency and clarity of its executive summaries.

Agency Response: The EPA's view is that the GAO's findings do not point to systematic deficiencies with respect to the accuracy of the agency's analytical work. The RIA is intended to inform, as appropriate, the development of regulatory standards by providing decision makers with the ability to systematically assess the consequences of various actions in accordance with the requirements of Executive Orders 12866 and 13563 and the guidelines of OMB Circular A-4. The EPA relies on the best available information to calculate both the costs and benefits of rules and further refines these analyses through the interagency and public comment processes. In addition, the EPA maintains a public docket where all of the underlying documentation for each RIA is available.

The EPA agrees that there are challenges to fully monetizing all of the public health and environmental benefits of regulations, including some potentially important effects; however, this is an issue inherent in benefit-cost analysis and is not unique to regulatory actions undertaken by this agency. In the RIAs prepared by the EPA, significant effort is put into clearly and transparently communicating about benefit categories for which the EPA is unable to monetize benefits. In cases where there may be a benefit with impacts that are expected to be significant but cannot be monetized using available science and economics, or where quantifiable effects are expected to be small relative to other benefits, a qualitative assessment may be appropriate. In such cases, qualitative analyses provide the best available information to communicate to the public. Including both quantitative and qualitative assessments is an approach that is consistent with the flexibility provided to agencies in OMB Circular A-4. Each RIA, whether quantitative or qualitative, is based on the most reliable information available at the time. The EPA continues to work to refine these analyses over time, and actively seeks outside expert advice for reviews of significant new scientific information and analytical methodologies.

The agency continually strives to improve its ability to value the benefits and costs of its regulatory actions and is working on several critical areas of economic valuations. These include:

- Developed and released the Hydrological and Water Quality System (HAWQS) in beta format. HAWQS is a water quality modeling system capable of supporting national and regional level economic and policy analyses.
- Utilizing the human health benefits workgroup to support improvements in the agency's ability to quantify important benefits for hazardous chemicals such as lead, formaldehyde and chlorinated solvents.
- Preparing additional white papers for the Science Advisory Board panel, which began in the summer of 2015. Current efforts include white papers on economic impacts, uncertainty and a memo on competitiveness.
- Planning internal workshops on benefits transfer which will allow more complete benefit estimation.
- Updating the EPA's Guidelines for Preparing Economic Analyses, to include a revised employment impacts section with an updated literature review, and a description of theoretic models and empirical methods.
- Solicited and began awarding grant proposals under the Science to Achieve Results (STAR) program to support water quality benefits.

The EPA will continue to invest in areas that will support improvement in our ability to value important benefits and costs and apply scientifically reliable, monetized estimates of effects in our rulemaking analyses.

9. Enhancing Information Technology Security to Combat Cyber Threats

Summary of Challenge: *According to the OIG, the EPA's information security challenges stem from four key areas: 1) risk management planning, 2) security information and event management tool implementation, 3) computer security incident response capability and network operation integration, and 4) computer security incident response capability relationship building. The OIG believes that management oversight underlies all four areas and is needed to ensure comprehensive implementation of the information security program throughout the agency, including offices' execution of the EPA policies, procedures, and practices.*

Agency Response: The agency is committed to protecting its information and technology assets. The EPA understands the threat and pervasiveness of cyber-attacks and is aware of the potential impact to the agency's mission if information assets are compromised. The agency published a five-year Information Security Strategic Plan for the Information Security program, as well as Continuous Monitoring and Risk Management Strategic Plan, to provide the vision and focus for and to drive the program where the agency believes it will provide appropriate risk based protection for the EPA's information and information systems. The following summarizes the agency's progress in addressing growing concerns.

- Established a 30-day maximum number of days that an account can remain inactive before the system automatically disables the account's technology function in the agency.
- Developed a process to manage annual security assessments, which includes oversight by the Senior Agency Information Security Official(SAISO).
- Coordinating with the U.S. DHS and the General Services Administration to implement capabilities under the Continuous Diagnostics and Mitigation Program, which includes vulnerability management.
- Chartered an Information Security Task Force to identify how best to implement SAISO improvement recommendations for centralizing and consolidating cyber security.

The agency will make every effort to complete corrective actions for all open recommendations by the originally agreed-upon completion dates, where feasible, by utilizing and refining processes already in place.

10. EPA Needs to Improve Its Workload Analysis to Accomplish Its Mission Efficiently and Effectively

Summary of Challenge: *The OIG has raised concerns about overall agency and specific program workforce and workload planning: specifically, that the agency does a poor job of estimating how many full-time employees are needed to complete particular tasks (workforce planning) and what skills, people and/or organizations are needed to complete the tasks (workload planning). The OIG asserts the EPA has not collected the data nor developed the analytical methods to measure*

workload and workforce needs. The OIG recommends the EPA strengthen its workforce and workload controls, policies, procedures and methods.

Agency Response: The agency is initiating a significant workforce planning effort in conjunction with Executive Order 13781 and associated OMB guidance. This effort will seek to align capacity with Administration priorities and identify more efficient practices and organizational structures. Each program is carefully examining the human capital resources necessary to accomplish particular tasks. The agency will analyze workload models as part of this effort where and when we determine such efforts would yield actionable information and offer a good value for the investment. Given limited resources, the agency must carefully consider how to obtain the best value at the least cost from any workload analysis. As the OIG acknowledges, there are inherent difficulties using workload analyses for the highly variable, multi-year, and non-linear activities that comprise most of the EPA's work. These difficulties limit the utility of detailed FTE-based workload analyses for broader agency program estimates. The agency has found greater value using focused analyses, as well as trend and macro-level workload reviews to better understand program needs. These analyses provide more actionable information as the agency manages its programs with fewer resources and fewer FTE.

The agency believes that focused, short turn-around, task-driven analyses such as those performed for grants officer, project officer, IT security officer, and funds control officer duties yield valuable insights at relatively low cost. These focused analyses can yield a clear understanding of how managers and staff invest time to perform major tasks. Past short-turnaround analyses have helped identify major challenges and opportunities, target streamlining and lean efforts, clarify guidance, prioritize training, and structure other support efforts and initiatives. These will continue to support the planning for these crosscutting functions.

The EPA also has found that analyzing workload trends using existing available data provides important insights. For example, during the FY 2016 budget process, the agency examined broad workload trends to identify major challenges. This analysis looked at overall staffing compared to long term trends rather than on individual tasks or FTEs, including using statistics showing increased litigation and legal review requirements. This type of analysis can yield valuable insights into productivity trends and the workforce necessary for a given workload.

Models focused on current operations and analysis of existing data have provided agency decision-makers more useable, actionable information than models that attempt to capture broad set of activities with a finely detailed FTE models. OCFO has found that detailed FTE models created a sense of false precision, quickly became out-of-date due to changing regulations, requirements, and systems, and were overly sensitive to relatively small changes in inputs. Reflecting this experience, the EPA workload analysis guidance in the draft Funds Control Manual provides information about several types of workload analyses rather than solely discussing FTE workload models. The guidance also suggests several strategies on how programs can use workload tools to better understand manage their program, operations and resources. (The updated guidance is currently with OMB for its review.)

The EPA will continue to work with the OIG on its current Superfund workload allocation review and use workload and trend analyses to better understand agency programs, and as one factor to help inform budget decisions. Making difficult trade-offs between many different environmental programs remains one of the agency's senior management's greatest responsibilities and challenges.

11. EPA Continues to Need Improved Management Oversight to Combat Waste, Fraud and Abuse

Summary of Challenge: *Recent events and activities indicate a possible "culture of complacency" among some supervisors at the EPA regarding time and attendance controls, employee computer usage, and real property management. As stewards of taxpayer dollars, the EPA managers must emphasize and reemphasize the importance of compliance and ethical conduct throughout the agency and ensure it is embraced at every level of the organization.*

Agency Response: The agency believes that enhancements and improved internal controls implemented over the past fiscal year address concerns raised by OIG. Since FY 2013, the EPA has made considerable efforts to strengthen internal controls over time and attendance reporting and employee travel. The agency revised its T&A procedure, which enhanced senior leadership attention and support to ensure that employees report, review, correct, and attest to the accuracy of their time promptly in the agency's payroll system. Additionally, the agency continues to audit 100 percent of its travel vouchers prior to payment to confirm all expenses over $75 are verified by a receipt and expenses are consistent with regulations and policy.

As for concerns regarding segregation of duties for key financial transactions, OIG states that the agency has not taken steps to ensure the new financial system, Compass, contain an automated control to ensure personnel could not process financial transactions that are inconsistent with the agency's policy. The EPA has a continued need to waive the segregation of duties until a systemic internal control process to prevent the inadvertent processing of financial transactions is developed. The current waiver process includes effective internal controls, which are reviewed routinely by management, to detect and prevent fraudulent transactions.

OIG believes the agency's current mindset toward sprinting allows for the storing of large quantities of printed materials. The agency acknowledges that it has one centralized in-house print plan approved by the Joint Committee on Printing for which decentralized authorization within the regions is not applicable. Currently, the agency is updating the Printing Management Manual (PMM) to provide guidance and direction for printing. The updated manual will outline roles and responsibilities, include efficient and economical methods for printing, and an inventory management concept. Additionally, the agency convened a work group, consisting of printing control officers, to review and recommend updates and/or changes to the PMM roles and responsibilities. The agency anticipates the updates to the PMM will be completed by 4th Quarter FY2017.

EPA User Fee Program

In FY 2018, the EPA will have several user fee programs in operation. These user fee programs and proposals are as follows below.

Current Fees: Pesticides

Fees authorized by the Federal Insecticide, Fungicide, and Rodenticide Act of 1988, as amended by Public Law 112-177 (PRIA-3), will expire on September 30, 2017. If the current draft version of PRIA-4 passes, the authority would be extended to September 30, 2023.

- **Pesticides Maintenance Fee**

The Maintenance Fee provides funding for the Reregistration and Registration Review programs and a certain percentage supports the processing of applications involving inert ingredients and expedited processing of similar applications, such as fast track amendments. In FY 2018, the EPA expects to collect approximately $31.0 million from this fee program.

If PRIA-4 legislation is not enacted, the EPA's authority to collect maintenance fees will terminate on September 30, 2017.

- **Enhanced Registration Services**

Entities seeking to register pesticides for use in the United States pay a fee at the time the registration action request is submitted to the EPA, setting specific timeframes for the registration decision service. This process has introduced new pesticides to the market more quickly. In FY 2018, the EPA expects to collect approximately $17.0 million from this fee program.

If PRIA-4 is not enacted, after September 30, 2019, the regulations in 40 CFR Part 152 Subpart U that imposes registration fees would apply again and applicants would need to pay these fees. Moneys collected through these regulations would go to the U.S. Treasury and would not be available to the EPA.

Current Fees: Other

- **Pre-Manufacturing Notification Fee**

The Pre-Manufacturing Notification (PMN) fee is collected for the review and processing of new chemical pre-manufacturing notifications submitted to the EPA by the chemical industry. These fees are paid at the time of submission of the PMN for review by the EPA's Toxic Substances program. PMN fees are authorized by the Toxic Substances Control Act. Fees collected for this activity are currently deposited in the U.S. Treasury. The EPA estimates that $0.5 million will be deposited in FY 2018. On June 22, 2016, the Frank R. Lautenberg Chemical Safety for the 21st Century Act (P.L. 114-182) was signed into law, amending numerous sections of the Toxic Substances Control Act (TSCA), including providing new authority for fees. The rule to require payment of additional fees is expected to be finalized in FY 2018.

- **Lead Accreditation and Certification Fee**

The Toxic Substances Control Act, Title IV, Section 402(a)(3), mandates the development of a schedule of fees to cover the costs of administering and enforcing the standards and regulations for persons operating lead training programs accredited under the Section 402/404 rule and for lead-based paint contractors certified under this rule. The training programs ensure that lead paint abatement and renovation professionals are properly trained and certified. Fees collected for this activity are deposited in the U.S. Treasury. The EPA estimates that $4.6 million will be deposited in FY 2018.

- **Motor Vehicle and Engine Compliance Program Fee**

This fee is authorized by the Clean Air Act of 1990 and is administered by the Air and Radiation Program. Fee collections began in August 1992. Initially, this fee was imposed on manufacturers of light-duty vehicles, light- and heavy-duty trucks, and motorcycles. In 2004, the EPA promulgated a rule that updated existing fees and established fees for newly-regulated vehicles and engines. The fees established for new compliance programs also are paid by manufacturers of heavy-duty and non-road vehicles and engines, including large diesel and gas equipment (earthmovers, tractors, forklifts, compressors, etc.), handheld and non-handheld utility engines (chainsaws, weed-whackers, leaf-blowers, lawnmowers, tillers, etc.), marine (boat motors, watercraft, jet-skis), locomotive, aircraft and recreational vehicles (off-road motorcycles, all-terrain vehicles, snowmobiles) for in-use testing and certification. In 2009, the EPA added fees for evaporative emissions requirements for non-road engines. The EPA intends to apply certification fees to additional industry sectors as new programs are developed. In FY 2018, the EPA expects to collect approximately $22 million from this fee program based upon a projection of the original rulemaking cost study adjusted for inflation.

- **WIFIA Program Fees**

The FY 2018 Budget requests authorization for the Administrator to collect and obligate fees established in accordance with Title V, Subtitle C, Sections 5029 and 5030, of Public Law 113-121, the Water Resources Reform and Development Act of 2014. These funds shall be deposited in the Water Infrastructure Finance and Innovation Program Account and remain available until expended. WIFIA fee regulations were promulgated in FY 2017.

Fee Proposals: Other

- **Service Fees for the Administration of the Toxic Substances Control Act (TSCA Fees Rule)**

On June 22, 2016, the Frank R. Lautenberg Chemical Safety for the 21st Century Act (P.L. 114-182) was signed into law, amending numerous sections of the Toxic Substances Control Act (TSCA). The amendments provide authority to the agency to establish fees for certain activities under Sections 4, 5, and 6 of TSCA, as amended, to defray a portion of the costs of administering these Sections as well as TSCA Section 14. The Act removed the cap that the agency may charge

for a pre-manufacturing notification review and provided the EPA with broader authority to establish a fee designed to collect up to 25 percent of the costs associated with administering TSCA Sections 4, 5, 6, and 14 (or $25,000,000, whichever is less, during the first three fiscal years following enactment). The EPA expects to propose a draft TSCA Fee rule in calendar year 2017 and anticipates a final TSCA Fee rule in FY 2018. Fees collected under the TSCA Fees Rule will be deposited in the TSCA Service Fee Fund. This fee proposal, once finalized, will replace the existing Pre-Manufacturing Notification Fee.

- **FIFRA and PRIA Fee Spending Restrictions**

Current statutory language in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Pesticide Registration Improvement Act (PRIA) restricts what activities the EPA can fund from collections deposited in the Reregistration and Expedited Processing Revolving Fund and PRIA Fund. The budget proposes new statutory language that would ease spending restrictions related to both the FIFRA pesticide maintenance fees and the PRIA registration fees. Since the FIFRA fees are mandatory, separate language has been prepared that will be transmitted to the authorizing committee at a later date. The PRIA fees are discretionary and the proposed language, similar to the FIFRA mandatory proposal, is included in the Administrative Provisions section.

- **Hazardous Waste Electronic Manifest**

The Hazardous Waste Electronic Manifest Establishment Act (Public Law 112-195) provides the EPA with the authority to establish a program to finance, develop, and operate a system for the electronic submission of hazardous waste manifests supported by user fees. In accordance with the Act, the EPA established the e-Manifest program, including the e-Manifest 1-Year final rule in 2014 and ongoing development of the e-Manifest system. In FY 2018, the EPA intends to publish the final User Fee rule approximately 90 days before national system deployment. Fees will be implemented once the system is operational (anticipated in June 2018).

The FY 2018 Budget requests an upfront appropriation of $3.67 million from the general fund for necessary costs to implement the e-Manifest program. In FY 2018, the EPA will collect and deposit e-Manifest system user fees in the Hazardous Waste Electronic Management System Fund in accordance with Section 3024 of the Solid Waste Disposal Act (42 U.S.C. 6939g). The funds the agency receives in FY 2018 will be credited as offsetting collections and will reimburse the federal government for its initial appropriation so that the appropriation from the General Fund nets to $0 by the end of the fiscal year. Any excess user fee collections in FY 2018 will be used for necessary program expenses. In FY 2018, the EPA expects to collect approximately $13.0 million from this fee program.

Working Capital Fund

In FY 2018, the agency will be in its twenty-second year of operation of the Working Capital Fund (WCF). It is a revolving fund, authorized by law to finance a cycle of operations, where the costs of goods and services provided are charged to users on a fee-for-service basis. The funds received are available without fiscal year limitation, to continue operations and to replace capital equipment. The EPA's WCF was implemented under the authority of Section 403 of the Government Management Reform Act of 1994 and the EPA's FY 1997 Appropriations Act. Permanent WCF authority was contained in the agency's FY 1998 Appropriations Act.

The Chief Financial Officer (CFO) initiated the WCF in FY 1997 as part of an effort to: (1) be accountable to agency offices, the Office of Management and Budget, and Congress; (2) increase the efficiency of the administrative services provided to program offices; and (3) increase customer service and responsiveness. The agency has a WCF board which provides policy and planning oversight and advises the CFO regarding the WCF financial position. The Board, chaired by the Associate Chief Financial Officer, is composed of twenty-three permanent members from the program and regional offices.

In FY 2018, there are ten agency activities provided under the WCF. These are the agency's information technology and telecommunications operations and data services, managed by the Office of Environmental Information; agency postage costs, Cincinnati voice services, certain minor facilities alterations costing less than $150,000 per project, and background investigations managed by the Office of Administration and Resource Management; financial and administrative systems, employee relocations, and a budget formulation system managed by the Office of the Chief Financial Officer; the agency's continuity of operations site, managed by the Office of Land and Emergency Management; and regional information technology service and support managed by Region 8. A new activity for the Research Triangle Park operations and maintenance service has been proposed for addition in FY 2018.

In FY 2018, the RTP facility operations and maintenance service is being proposed to begin operations within the WCF. A total of $3.3 million is estimated to be shifted to the WCF, commensurate with what is being spent for FY 2017. These funds will cover preventative maintenance inspections, repairs and service calls.

The agency's FY 2018 budget request includes resources for these ten activities in each National Program Manager's submission, totaling approximately $270 million. These estimated resources may be adjusted during the year to incorporate any program office's additional service needs during the operating year. To the extent that these increases are subject to Congressional reprogramming notifications, the agency will comply with all applicable requirements. In FY 2018, the agency will continue to market its relocation services to other federal agencies in an effort to deliver high quality services external to the EPA, which will result in lower costs to the EPA customers.

In FY 2018, there are funding increases for several IT improvements. A total of $26.8 million has been added to the WCF for continuing cyber security requirements, continuous diagnostic and mitigation (CDM) program implementation, scheduled personal computer asset replacement, electronic form workflow enhancements and bandwidth enhancements. These funds are located in the Facilities Infrastructure and Operations and the IT/Data Management programs.

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Other funding increases and shifts have been included in the FY 2018 WCF plan that relate to the necessary telecommunications and computer support needed by every employee. The base costs for this package of services has increased over the last four years, and funding has been revised to incorporate these changes, which includes recent increases in cybersecurity investments. As part of an overall review and rebalancing of these costs, funds have been shifted across program projects to reflect FTE changes as well.

Environmental Protection Agency

Acronyms For Statutory Authority

ADA: Americans with Disabilities Act

ADEA: Age Discrimination in Employment Act

AEA: Atomic Energy Act, as amended, and Reorganization Plan #3

AHERA: Asbestos Hazard Emergency Response Act

AHPA: Archaeological and Historic Preservation Act

APA: Administrative Procedures Act

ARRA: American Recovery and Reinvestment Act

ASHAA: Asbestos in Schools Hazard Abatement Act

ASTCA: Antarctic Science, Tourism, and Conservation Act

BEACH Act of 2000: Beaches Environmental Assessment and Coastal Health Act

BRERA: Brownfields Revitalization and Environmental Restoration Act

CAA: Clean Air Act

CAAA: Clean Air Act Amendments

CAIR: Clean Air Interstate Rule

CCA: Clinger Cohen Act

CCAA: Canadian Clean Air Act

CEPA: Canadian Environmental Protection Act

CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act (1980)

CFOA: Chief Financial Officers Act

CFR: Code of Federal Regulations

CICA: Competition in Contracting Act

CRA: Civil Rights Act

CSA: Computer Security Act

CWA: Clean Water Act (1972)

CWAP: Clean Water Action Plan

CWPPR: Coastal Wetlands Planning, Protection, and Restoration Act of 1990

CWSRF: Clean Water State Revolving Fund

CZARA: Coastal Zone Management Act Reauthorization Amendments

CZMA: Coastal Zone Management Act

DPA: Deepwater Ports Act

DREAA: Disaster Relief and Emergency Assistance Act

DWSRF: Drinking Water State Revolving Fund

ECRA: Economic Cleanup Responsibility Act

EFOIA: Electronic Freedom of Information Act

EISA: Energy Independence and Security Act of 2007

EPAct: Energy Policy Act of 2005

EPAA: Environmental Programs Assistance Act

EPAAR: Environmental Protection Agency Acquisition Regulation

EPCA: Energy Policy and Conservation Act

EPCRA: Emergency Planning and Community Right to Know Act (1986)

ERD&DAA: Environmental Research, Development and Demonstration Authorization Act

ESA: Endangered Species Act

ESECA: Energy Supply and Environmental Coordination Act

FACA: Federal Advisory Committee Act

FAIR: Federal Activities Inventory Reform Act

FASA: Federal Acquisition Streamlining Act (1994)

FCMA: Fishery Conservation and Management Act

FEPCA: Federal Environmental Pesticide Control Act; enacted as amendments to FIFRA.

FFDCA: Federal Food, Drug, and Cosmetic Act

FGCAA: Federal Grant and Cooperative Agreement Act

FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act (1972)

FLPMA: Federal Land Policy and Management Act

FMFIA: Federal Managers' Financial Integrity Act (1982)

FOIA: Freedom of Information Act

FPA: Federal Pesticide Act

FPAS: Federal Property and Administration Services Act

FPPA: Federal Pollution Prevention Act

FPR: Federal Procurement Regulation

FQPA: Food Quality Protection Act (1996)

FRA: Federal Register Act

FSA: Food Security Act

FSMA: Food Safety Modernization Act

FTTA: Federal Technology Transfer Act

FUA: Fuel Use Act

FWCA: Fish and Wildlife Coordination Act

FWPCA: Federal Water Pollution and Control Act (aka CWA)

GISRA: Government Information Security Reform Act

GMRA: Government Management Reform Act

GPRA: Government Performance and Results Act (1993)

HMTA: Hazardous Materials Transportation Act

HSWA: Hazardous and Solid Waste Amendments of 1984

IGA: Inspector General Act

IPA: Intergovernmental Personnel Act

IPIA: Improper Payments Information Act

ISTEA: Intermodal Surface Transportation Efficiency Act

ITMRA: Information Technology Management Reform Act of 1995-aka Clinger/Cohen Act

LPA-US/MX-BR: 1983 La Paz Agreement on US/Mexico Border Region

MPPRCA: Marine Plastic Pollution, Research and Control Act of 1987

MPRSA: Marine Protection Research and Sanctuaries Act

NAAEC: North American Agreement on Environmental Cooperation

NAAQS: National Ambient Air Quality Standard

NAWCA: North American Wetlands Conservation Act

NEPA: National Environmental Policy Act

NHPA: National Historic Preservation Act

NIPDWR: National Interim Primary Drinking Water Regulations

NISA: National Invasive Species Act of 1996

ODA: Ocean Dumping Act

OMTR: Open Market Trading Rule

OPA: Oil Pollution Act of 1990

OWBPA: Older Workers Benefit Protection Act

PBA: Public Building Act

PFCRA: Program Fraud Civil Remedies Act

PHSA: Public Health Service Act

PLIRRA: Pollution Liability Insurance and Risk Retention Act

PR: Privacy Act

PRA: Paperwork Reduction Act

PRIA: Pesticide Registration Improvement Act

PRIEA: Pesticide Registration Improvement Extension Act of 2012 (known as PRIA 3)

PRIRA: Pesticide Registration Improvement Renewal Act

QCA: Quiet Communities Act

RCRA: Resource Conservation and Recovery Act of 1976

RFA: Regulatory Flexibility Act

RICO: Racketeer Influenced and Corrupt Organizations Act

RLBPHRA: Residential Lead-Based Paint Hazard Reduction Act

SARA: Superfund Amendments and Reauthorization Act of 1986

SBLRBRERA: Small Business Liability Relief and Brownfields Revitalization and Environmental Restoration Act

SBREFA: Small Business Regulatory Enforcement Fairness Act of 1996

SDWA: Safe Drinking Water Act

SICEA: Steel Industry Compliance Extension Act

SMCRA: Surface Mining Control and Reclamation Act

SPA: Shore Protection Act of 1988

SWDA: Solid Waste Disposal Act

SWTR: Surface Water Treatment Rule

TCA: Tribal Cooperative Agreement

TSCA: Toxic Substances Control Act

UMRA: Unfunded Mandates Reform Act

UMTRLWA: Uranium Mill Tailings Radiation Land Withdrawal Act

USC: United States Code

USTCA: Underground Storage Tank Compliance Act

WQA: Water Quality Act of 1987

WRDA: Water Resources Development Act

WSRA: Wild and Scenic Rivers Act

WWWQA: Wet Weather Water Quality Act of 2000

FY 2018 Stag Categorical Program Grants

Statutory Authority and Eligible Uses
(Dollars in Thousands)

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
State and Local Air Quality Management	CAA, Section 103	Air pollution control agencies as defined in section 302(b) of the CAA	S/L monitoring and data collection activities in support of the $PM_{2.5}$ monitoring network and associated program costs.	$44,916.0	$41,875.0	$41,875.0	$29,313.0
State and Local Air Quality Management	CAA, Section 103	Air pollution control agencies as defined in section 302(b) of the CAA	S/L monitoring and data collection activities in support of air toxics monitoring.	$6,797.0	$8,959.0	$8,959.0	$6,271.0
State and Local Air Quality Management	CAA, Section 103	Air pollution control agencies as defined in section 302(b) of the CAA	S/L monitoring procurement activities in support of the NAAQS.	$3,971.0	$3,971.0	$3,971.0	$2,780.0

[3] Do not reflect STAG rescissions.

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
State and Local Air Quality Management	CAA, Sections 103, 105, 106	Air pollution control agencies as defined in section 302(b) of the CAA; Multi-jurisdictional organizations (non-profit organizations whose boards of directors or membership is made up of CAA section 302(b) agency officers and whose mission is to support the continuing environmental programs of the states); Interstate air quality control region designated pursuant to Section 107 of the CAA or of implementing Section 176A, or Section 184 NOTE: only the Ozone Transport Commission is eligible.	Carrying out the traditional prevention and control programs required by the CAA and associated program support costs, including all monitoring activities, including PM 2.5 monitoring and associated program costs (Section 103 and/or 105); Coordinating or facilitating a multi-jurisdictional approach to carrying out the traditional prevention and control programs required by the CAA (Sections 103 and 106); Supporting training for CAA Section 302(b) air pollution control agency staff (Sections 103 and 105); Supporting research, investigative, and demonstration projects (Section 103).	$171,211.0 Section 105 grants $0.0 $639.0 Section 106 grants **Total:** **$227,534.0**	$172,814.0 Section 105 grants $0.0 $600.0 Section 106 grants **Total:** **$228,219.0**	$172,380.0 Section 105 grants $0.0 $600.0 Section 106 grants **Total:** **$227,785.0**	$120,666.0 Section 105 grants $0.0 $420.0 Section 106 grants **Total:** **$159,450.0**

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
Tribal Air Quality Management	CAA, Sections 103 and 105; Tribal Cooperative Agreements (TCA) in annual Appropriations Acts.	Tribes; Intertribal Consortia; State/Tribal College or University	Conducting air quality assessment activities to determine a Tribe's need to develop a CAA program; Carrying out the traditional prevention and control programs required by the CAA and associated program costs; Supporting CAA training for Federally-recognized Tribes.	$9,104.5 Section 103 grants $4,000.0 Section 105 grants **Total: $13,104.5**	$8,829.0 Section 103 grants $4,000.0 Section 105 grants **Total: $12,829.0**	$8,805.0 Section 103 grants $4,000.0 Section 105 grants **Total: $12,805.0**	$6,163.0 Section 103 grants $2,800.0 Section 105 grants **Total: $8,963.0**
Radon	TSCA, Sections 10 and 306	State Agencies, Tribes, Intertribal Consortia	Assist in the development and implementation of programs for the assessment and mitigation of radon.	$8,114.2	$8,051.0	$8,036.0	$0.0
Multipurpose Grants	P.L. 114-113	State Agencies, Tribes	Implementation of environmental programs and projects that complement existing environmental program grants.	$20,642.7	$21,000.0	$20,960.0	$0.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
Water Pollution Control (Section 106)	FWPCA, as amended, Section 106; TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia, Interstate Agencies	Develop and carry out surface and ground water pollution control programs, including NPDES permits, TMDLs, WQ standards, monitoring, and NPS control activities.	$233,154.4	$230,806.0	$230,367.0	$161,257.0
Nonpoint Source (NPS – Section 319)	FWPCA, as amended, Section 319(h); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Implement EPA-approved State and Tribal nonpoint source management programs and fund priority projects, as selected by the state.	$166,177.0	$164,915.0	$164,601.0	$0.0
Wetlands Program Development	FWPCA, as amended, Section 104 (b)(3); TCA in annual Appropriations Acts.	States, Local Governments, Tribes, Interstate Organizations, Intertribal Consortia, Non-Profit Organizations	To develop new wetland programs or enhance existing programs for the protection, management, and restoration of wetland resources.	$13,562.2	$14,661.0	$14,633.0	$10,243.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
Public Water System Supervision (PWSS)	SDWA, Section 1443(a); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Assistance to implement and enforce National Primary Drinking Water Regulations to ensure the safety of the Nation's drinking water resources and to protect public health.	$100,104.1	$101,963.0	$101,769.0	$71,238.0
Underground Injection Control (UIC)	SDWA, Section 1443(b); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Implement and enforce regulations that protect underground sources of drinking water by controlling Class I-V underground injection wells.	$10,053.6	$10,506.0	$10,486.0	$7,340.0
Beaches Protection	BEACH Act of 2000; TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia, Local Governments	Develop and implement programs for monitoring and notification of conditions for coastal recreation waters adjacent to beaches or similar points of access that are used by the public.	$9,487.0	$9,549.0	$9,531.0	$0.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
Hazardous Waste Financial Assistance	RCRA, Section 3011; FY 1999 Appropriations Act (PL 105-276); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Development & Implementation of Hazardous Waste Programs	$98,994.1	$99,693.0	$99,503.0	$69,652.0
Brownfields	CERCLA, as amended by the Small Business Liability Relief and Brownfields Revitalization Act, Section 128(a) (42 U.S.C. 9628); GMRA (1990)a; FGCAA.	States, Tribes, Intertribal Consortia	Establish and enhance state and tribal response programs which will timely survey and inventory brownfields sites; develop oversight and enforcement authorities to ensure response actions are protective of human health and the environment; develop ways for communities to provide meaningful opportunities for public participation; and develop mechanisms for approval of a cleanup plan and verification and certification that cleanup is complete.	$48,466.0	$47,745.0	$47,654.0	$33,358.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
Underground Storage Tanks (UST)	SWDA, Section 2007(f), 42 U.S.C. 6916(f)(2); EPAct of 2005, Title XV – Ethanol and Motor Fuels, Subtitle B – Underground Storage Tank Compliance, Sections 1521-1533, P.L. 109-58, 42 U.S.C. 15801.	States	Provide funding for States' underground storage tanks and to support direct UST implementation programs.	$1,495.4	$1,498.0	$1,495.0	$0.0
Pesticides Program Implementation	FIFRA, Sections 20 and 23; the FY 1999 Appropriations Act (P.L. 105-276); FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Implement the following programs through grants to States, Tribes, partners, and supporters for implementation of pesticide programs, including: Certification and Training Worker Protection; Endangered Species Protection Program (ESPP) Field Activities; Pesticides in Water; and Tribal Programs.	$12,285.0 – States formula $556.3 HQ Programs: - Tribal - PREP **Total: $12,841.3**	$11,423.0 – States formula $1,278.0 HQ Programs: - Tribal - PREP **Total: $12,701.0**	$11,401.0 – States formula $1,276.0 HQ Programs: - Tribal - PREP - Pollinator Protection **Total: $12,677.0**	$7,712.0 – States formula $1,162.0 HQ Programs: - Tribal - PREP - Pollinator Protection **Total: $8,874.0**

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
Lead	TSCA, Section 404 (g); FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Provide assistance to states, territories, the District of Columbia, and tribes to develop and implement authorized lead-based paint abatement programs and authorized Renovation, Repair, and Painting (RRP) programs. The EPA directly implements these programs in all areas of the country that are not authorized to do so and will continue to operate the Federal Lead-based Paint Program Database (FLPP) of trained and certified lead-based paint professionals.	$12,864.0 404(g) State/ Tribal Certification _____ $1,830.6 404(g) Direct Implementation **Total:** **$14,694.6**	$12,067.0 404(g) State/ Tribal Certification _____ $1,982.0 404(g) Direct Implementation **Total:** **$14,049.0**	$12,044.0 404(g) State/ Tribal Certification _____ $1,978.0 404(g) Direct Implementation **Total:** **$14,022.0**	$0.0 404(g) State/ Tribal Certification _____ $0.0 404(g) Direct Implementation **Total:** **$0.0**

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
Toxic Substances Compliance	TSCA, Sections 28(a) and 404 (g); TCA in annual Appropriations Acts.	States, federally recognized Indian Tribes, Intertribal Consortia, and Territories of the U.S.	Assist in developing, maintaining, and implementing compliance monitoring programs for PCBs, asbestos, and Lead Based Paint. In addition, enforcement actions by: 1) the Lead Based Paint program and 2) States that obtained a "waiver" under the Asbestos program.	$5,220.0	$4,919.0	$4,910.0	$3,437.0
Pesticide Enforcement	FIFRA § 23(a)(1); FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Federally recognized Indian Tribes, Intertribal Consortia, and Territories of the U.S.	Assist with implementation of cooperative pesticide enforcement programs.	$17,845.0	$18,050.0	$18,016.0	$11,050.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
National Environmental Information Exchange Network (NEIEN, aka "the Exchange Network")	Consolidated Appropriations Act 2016; P.L. 114-113, EPA Annual appropriations; Paperwork Reduction Act Section 3520 The E-Government Act of 2002 (Pub.L. 107–347, 116 Stat. 2899, 44 U.S.C. § 101, H.R. 2458/S. 803) As appropriate, CAA, Section 103; CWA, Section 104; RCRA, Section 8001; FIFRA, Section 20; TSCA, Sections 10 and 28; MPRSA, Section 203; SDWA, Section 1442; Indian Environmental General Assistance Program Act of 1992, as amended; Pollution Prevention Act of 1990, Section 6605.	States, U.S. Territories, Federally Recognized Tribes and Native Villages, Interstate Agencies, Tribal Consortia, Other Agencies with Related Environmental Information Activities.	Helps States, U.S. Territories, Tribes, and intertribal consortia develop the information management and technology (IM/IT) capabilities they need to participate in the Exchange Network, to continue and expand data-sharing programs, and to improve access to environmental information.	$9,696.4	$9,646.0	$9,628.0	$6,739.0

Grant Title	Statutory Authorities	Eligible Recipients	Eligible Uses	FY 2016 Actuals Dollars (X1000)	FY 2016 Enacted Dollars[3] (X1000)	FY 2017 Annualized CR Dollars[3] (X1000)	FY 2018 President's Request (X1000)
Pollution Prevention	Pollution Prevention Act of 1990, Section 6605; TSCA Section 10; FY 2000 Appropriations Act (P.L. 106-74); TCA in annual Appropriations Acts.	States, Tribes, Intertribal Consortia	Provides assistance to States and State entities (i.e., colleges and universities) and Federally-recognized Tribes and intertribal consortia to deliver pollution prevention technical assistance to small and medium-sized businesses. A goal of the program is to assist businesses and industries with identifying improved environmental strategies and solutions for reducing waste at the source.	$5,417.7	$4,765.0	$4,756.0	$0.0
Tribal General Assistance Program	Indian Environmental General Assistance Program Act (42 U.S.C. 4368b); TCA in annual Appropriations Acts.	Tribal Governments, Intertribal Consortia	Plan and develop Tribal environmental protection programs.	$67,888.7	$65,476.0	$65,352.0	$45,746.0

Environmental Protection Agency
FY 2018 Annual Performance Plan and Congressional Justification

Program Projects By Program Area
(Dollars in Thousands)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Science & Technology				
Clean Air				
Clean Air Allowance Trading Programs	$8,149.6	$7,793.0	$5,739.0	($2,054.0)
GHG Reporting Program	$8,824.2	$8,003.0	$0.0	($8,003.0)
Federal Support for Air Quality Management	$6,234.3	$7,453.0	$3,959.0	($3,494.0)
Federal Vehicle and Fuels Standards and Certification	$85,613.6	$93,070.0	$76,010.0	($17,060.0)
Subtotal, Clean Air	**$108,821.7**	**$116,319.0**	**$85,708.0**	**($30,611.0)**
Indoor Air and Radiation				
Indoor Air: Radon Program	$378.9	$172.0	$0.0	($172.0)
Radiation: Protection	$2,064.5	$1,831.0	$0.0	($1,831.0)
Radiation: Response Preparedness	$3,716.5	$3,774.0	$3,339.0	($435.0)
Reduce Risks from Indoor Air	$260.4	$209.0	$0.0	($209.0)
Subtotal, Indoor Air and Radiation	**$6,420.3**	**$5,986.0**	**$3,339.0**	**($2,647.0)**
Enforcement				
Forensics Support	$13,949.7	$13,643.0	$10,444.0	($3,199.0)
Homeland Security				
Homeland Security: Critical Infrastructure Protection	$9,807.2	$10,497.0	$0.0	($10,497.0)
Homeland Security: Preparedness, Response, and Recovery	$26,800.2	$26,004.0	$22,597.0	($3,407.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	$551.0	$551.0	$500.0	($51.0)
Subtotal, Homeland Security	**$37,158.4**	**$37,052.0**	**$23,097.0**	**($13,955.0)**
IT / Data Management / Security				
IT / Data Management	$2,892.6	$3,083.0	$2,725.0	($358.0)
Operations and Administration				
Facilities Infrastructure and Operations	$71,332.8	$68,209.0	$68,339.0	$130.0
Workforce Reshaping	$0.0	$0.0	$10,995.0	$10,995.0
Subtotal, Operations and Administration	**$71,332.8**	**$68,209.0**	**$79,334.0**	**$11,125.0**

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Pesticides Licensing				
Pesticides: Protect Human Health from Pesticide Risk	$3,772.1	$3,122.0	$2,274.0	($848.0)
Pesticides: Protect the Environment from Pesticide Risk	$1,737.5	$2,324.0	$2,195.0	($129.0)
Pesticides: Realize the Value of Pesticide Availability	$427.4	$570.0	$527.0	($43.0)
Subtotal, Pesticides Licensing	**$5,937.0**	**$6,016.0**	**$4,996.0**	**($1,020.0)**
Research: Air and Energy				
Research: Air and Energy	$104,407.9	$91,731.0	$30,592.0	($61,139.0)
Research: Safe and Sustainable Water Resources				
Research: Safe and Sustainable Water Resources	$114,874.9	$107,230.0	$68,520.0	($38,710.0)
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	$154,349.4	$139,709.0	$54,211.0	($85,498.0)
Research: Chemical Safety and Sustainability				
Human Health Risk Assessment	$36,007.0	$37,530.0	$22,516.0	($15,014.0)
Research: Chemical Safety and Sustainability				
Endocrine Disruptors	$15,980.1	$0.0	$10,122.0	$10,122.0
Computational Toxicology	$23,937.4	$0.0	$17,165.0	$17,165.0
Research: Chemical Safety and Sustainability (other activities)	$53,405.9	$89,158.0	$34,386.0	($54,772.0)
Subtotal, Research: Chemical Safety and Sustainability	$93,323.4	$89,158.0	$61,673.0	($27,485.0)
Subtotal, Research: Chemical Safety and Sustainability	**$129,330.4**	**$126,688.0**	**$84,189.0**	**($42,499.0)**
Water: Human Health Protection				
Drinking Water Programs	$3,975.8	$3,512.0	$3,657.0	$145.0
Congressional Priorities				
Water Quality Research and Support Grants	$10,378.5	$14,073.0	$0.0	($14,073.0)
Total, Science & Technology	**$763,829.4**	**$733,251.0**	**$450,812.0**	**($282,439.0)**
Environmental Program & Management				
Clean Air				
Clean Air Allowance Trading Programs	$17,343.4	$16,112.0	$12,791.0	($3,321.0)
GHG Reporting Program	$106,864.3	$95,255.0	$13,580.0	($81,675.0)
Federal Stationary Source Regulations	$21,958.0	$22,899.0	$16,653.0	($6,246.0)
Federal Support for Air Quality Management	$138,050.2	$124,506.0	$96,456.0	($28,050.0)
Stratospheric Ozone: Domestic Programs	$5,195.6	$4,906.0	$3,687.0	($1,219.0)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Stratospheric Ozone: Multilateral Fund	$8,907.0	$8,911.0	$0.0	($8,911.0)
Subtotal, Clean Air	**$298,318.5**	**$272,589.0**	**$143,167.0**	**($129,422.0)**
Indoor Air and Radiation				
Indoor Air: Radon Program	$2,759.3	$2,904.0	$0.0	($2,904.0)
Radiation: Protection	$8,371.0	$8,427.0	$0.0	($8,427.0)
Radiation: Response Preparedness	$2,047.1	$2,545.0	$2,257.0	($288.0)
Reduce Risks from Indoor Air	$12,972.9	$13,707.0	$0.0	($13,707.0)
Subtotal, Indoor Air and Radiation	**$26,150.3**	**$27,583.0**	**$2,257.0**	**($25,326.0)**
Brownfields				
Brownfields	$24,718.6	$25,544.0	$16,082.0	($9,462.0)
Compliance				
Compliance Monitoring	$103,713.4	$101,472.0	$86,431.0	($15,041.0)
Enforcement				
Civil Enforcement	$174,120.9	$171,051.0	$140,470.0	($30,581.0)
Criminal Enforcement	$47,844.7	$46,225.0	$40,341.0	($5,884.0)
Environmental Justice	$7,347.6	$6,724.0	$0.0	($6,724.0)
NEPA Implementation	$15,761.3	$16,179.0	$13,496.0	($2,683.0)
Subtotal, Enforcement	**$245,074.5**	**$240,179.0**	**$194,307.0**	**($45,872.0)**
Geographic Programs				
Geographic Program: Chesapeake Bay	$77,543.8	$72,861.0	$0.0	($72,861.0)
Geographic Program: Gulf of Mexico	$5,392.3	$4,473.0	$0.0	($4,473.0)
Geographic Program: Lake Champlain	$4,395.0	$4,391.0	$0.0	($4,391.0)
Geographic Program: Long Island Sound	$3,935.6	$3,932.0	$0.0	($3,932.0)
Geographic Program: Other				
Lake Pontchartrain	$947.0	$0.0	$0.0	$0.0
S.New England Estuary (SNEE)	$4,975.0	$0.0	$0.0	$0.0
Geographic Program: Other (other activities)	$1,460.0	$7,379.0	$0.0	($7,379.0)
Subtotal, Geographic Program: Other	$7,382.0	$7,379.0	$0.0	($7,379.0)
Great Lakes Restoration	$288,091.8	$299,430.0	$0.0	($299,430.0)
Geographic Program: South Florida	$1,733.0	$1,701.0	$0.0	($1,701.0)
Geographic Program: San Francisco Bay	$4,600.7	$4,810.0	$0.0	($4,810.0)
Geographic Program: Puget Sound	$28,046.3	$27,947.0	$0.0	($27,947.0)
Subtotal, Geographic Programs	**$421,120.5**	**$426,924.0**	**$0.0**	**($426,924.0)**

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Homeland Security				
Homeland Security: Communication and Information	$4,025.3	$3,870.0	$3,512.0	($358.0)
Homeland Security: Critical Infrastructure Protection	$627.1	$970.0	$0.0	($970.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	$4,987.0	$5,336.0	$4,986.0	($350.0)
Subtotal, Homeland Security	**$9,639.4**	**$10,176.0**	**$8,498.0**	**($1,678.0)**
Information Exchange / Outreach				
State and Local Prevention and Preparedness	$15,044.1	$15,289.0	$10,011.0	($5,278.0)
TRI / Right to Know	$13,292.4	$13,856.0	$8,680.0	($5,176.0)
Tribal - Capacity Building	$14,056.3	$14,358.0	$11,731.0	($2,627.0)
Executive Management and Operations	$47,798.4	$46,930.0	$37,106.0	($9,824.0)
Environmental Education	$10,138.8	$8,685.0	$0.0	($8,685.0)
Exchange Network	$17,066.5	$16,984.0	$11,784.0	($5,200.0)
Small Minority Business Assistance	$1,464.0	$1,667.0	$0.0	($1,667.0)
Small Business Ombudsman	$2,378.0	$1,995.0	$1,965.0	($30.0)
Children and Other Sensitive Populations: Agency Coordination	$6,252.7	$6,535.0	$2,018.0	($4,517.0)
Subtotal, Information Exchange / Outreach	**$127,491.2**	**$126,299.0**	**$83,295.0**	**($43,004.0)**
International Programs				
US Mexico Border	$2,913.7	$3,057.0	$0.0	($3,057.0)
International Sources of Pollution	$6,345.0	$6,418.0	$4,051.0	($2,367.0)
Trade and Governance	$6,231.3	$5,896.0	$0.0	($5,896.0)
Subtotal, International Programs	**$15,490.0**	**$15,371.0**	**$4,051.0**	**($11,320.0)**
IT / Data Management / Security				
Information Security	$27,152.6	$28,132.0	$11,997.0	($16,135.0)
IT / Data Management	$83,883.2	$83,790.0	$70,069.0	($13,721.0)
Subtotal, IT / Data Management / Security	**$111,035.8**	**$111,922.0**	**$82,066.0**	**($29,856.0)**
Legal / Science / Regulatory / Economic Review				
Integrated Environmental Strategies	$13,429.0	$11,469.0	$9,151.0	($2,318.0)
Administrative Law	$4,984.0	$4,765.0	$4,141.0	($624.0)
Alternative Dispute Resolution	$1,442.1	$1,043.0	$0.0	($1,043.0)
Civil Rights Program	$11,216.7	$10,052.0	$8,266.0	($1,786.0)
Legal Advice: Environmental Program	$49,227.0	$48,473.0	$42,565.0	($5,908.0)
Legal Advice: Support Program	$14,692.6	$15,450.0	$15,548.0	$98.0
Regional Science and Technology	$1,602.1	$1,529.0	$0.0	($1,529.0)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Science Advisory Board	$4,203.8	$3,875.0	$3,567.0	($308.0)
Regulatory/Economic-Management and Analysis	$15,218.6	$14,546.0	$15,208.0	$662.0
Subtotal, Legal / Science / Regulatory / Economic Review	**$116,015.9**	**$111,202.0**	**$98,446.0**	**($12,756.0)**
Operations and Administration				
Central Planning, Budgeting, and Finance	$70,707.8	$72,047.0	$64,709.0	($7,338.0)
Facilities Infrastructure and Operations	$304,456.9	$310,948.0	$301,001.0	($9,947.0)
Acquisition Management	$30,174.3	$30,406.0	$24,978.0	($5,428.0)
Human Resources Management	$40,756.0	$43,185.0	$40,512.0	($2,673.0)
Financial Assistance Grants / IAG Management	$27,202.6	$25,248.0	$18,564.0	($6,684.0)
Workforce Reshaping	$0.0	$0.0	$46,719.0	$46,719.0
Subtotal, Operations and Administration	**$473,297.6**	**$481,834.0**	**$496,483.0**	**$14,649.0**
Pesticides Licensing				
Science Policy and Biotechnology	$1,362.5	$1,172.0	$0.0	($1,172.0)
Pesticides: Protect Human Health from Pesticide Risk	$57,708.1	$57,699.0	$48,568.0	($9,131.0)
Pesticides: Protect the Environment from Pesticide Risk	$39,651.4	$37,222.0	$31,930.0	($5,292.0)
Pesticides: Realize the Value of Pesticide Availability	$7,727.5	$6,074.0	$5,028.0	($1,046.0)
Subtotal, Pesticides Licensing	**$106,449.5**	**$102,167.0**	**$85,526.0**	**($16,641.0)**
Resource Conservation and Recovery Act (RCRA)				
RCRA: Corrective Action	$37,967.0	$36,860.0	$31,947.0	($4,913.0)
RCRA: Waste Management	$57,022.8	$58,986.0	$41,146.0	($17,840.0)
RCRA: Waste Minimization & Recycling	$8,510.8	$8,832.0	$0.0	($8,832.0)
Subtotal, Resource Conservation and Recovery Act (RCRA)	**$103,500.6**	**$104,678.0**	**$73,093.0**	**($31,585.0)**
Toxics Risk Review and Prevention				
Endocrine Disruptors	$6,035.4	$7,539.0	$0.0	($7,539.0)
Pollution Prevention Program	$11,982.4	$13,115.0	$0.0	($13,115.0)
Toxic Substances: Chemical Risk Review and Reduction	$56,030.4	$58,443.0	$65,036.0	$6,593.0
Toxic Substances: Lead Risk Reduction Program	$13,051.2	$13,250.0	$0.0	($13,250.0)
Subtotal, Toxics Risk Review and Prevention	**$87,099.4**	**$92,347.0**	**$65,036.0**	**($27,311.0)**
Underground Storage Tanks (LUST / UST)				
LUST / UST	$11,083.4	$11,273.0	$5,612.0	($5,661.0)
Water: Ecosystems				

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
National Estuary Program / Coastal Waterways	$25,862.3	$26,672.0	$0.0	($26,672.0)
Wetlands	$21,065.5	$21,025.0	$18,115.0	($2,910.0)
Subtotal, Water: Ecosystems	**$46,927.8**	**$47,697.0**	**$18,115.0**	**($29,582.0)**
Water: Human Health Protection				
Beach / Fish Programs	$1,779.8	$1,978.0	$0.0	($1,978.0)
Drinking Water Programs	$96,372.2	$96,341.0	$80,044.0	($16,297.0)
Subtotal, Water: Human Health Protection	**$98,152.0**	**$98,319.0**	**$80,044.0**	**($18,275.0)**
Water Quality Protection				
Marine Pollution	$10,757.8	$10,142.0	$0.0	($10,142.0)
Surface Water Protection	$202,080.5	$199,875.0	$174,975.0	($24,900.0)
Subtotal, Water Quality Protection	**$212,838.3**	**$210,017.0**	**$174,975.0**	**($35,042.0)**
Congressional Priorities				
Water Quality Research and Support Grants	$12,678.0	$12,676.0	$0.0	($12,676.0)
Total, Environmental Program & Management	**$2,650,794.7**	**$2,630,269.0**	**$1,717,484.0**	**($912,785.0)**
Inspector General				
Audits, Evaluations, and Investigations				
Audits, Evaluations, and Investigations	$39,802.3	$41,410.0	$37,475.0	($3,935.0)
Total, Inspector General	**$39,802.3**	**$41,410.0**	**$37,475.0**	**($3,935.0)**
Building and Facilities				
Homeland Security				
Homeland Security: Protection of EPA Personnel and Infrastructure	$7,366.2	$6,664.0	$6,176.0	($488.0)
Operations and Administration				
Facilities Infrastructure and Operations	$37,184.2	$35,573.0	$33,377.0	($2,196.0)
Total, Building and Facilities	**$44,550.4**	**$42,237.0**	**$39,553.0**	**($2,684.0)**
Hazardous Substance Superfund				
Indoor Air and Radiation				
Radiation: Protection	$2,194.2	$1,981.0	$0.0	($1,981.0)
Audits, Evaluations, and Investigations				
Audits, Evaluations, and Investigations	$8,975.4	$9,920.0	$3,900.0	($6,020.0)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Compliance				
Compliance Monitoring	$844.1	$993.0	$605.0	($388.0)
Enforcement				
Criminal Enforcement	$6,883.7	$7,110.0	$4,161.0	($2,949.0)
Environmental Justice	$681.7	$544.0	$0.0	($544.0)
Forensics Support	$1,739.3	$1,087.0	$708.0	($379.0)
Superfund: Enforcement	$154,117.5	$150,342.0	$94,418.0	($55,924.0)
Superfund: Federal Facilities Enforcement	$6,217.9	$6,976.0	$0.0	($6,976.0)
Subtotal, Enforcement	**$169,640.1**	**$166,059.0**	**$99,287.0**	**($66,772.0)**
Homeland Security				
Homeland Security: Preparedness, Response, and Recovery	$36,411.9	$35,209.0	$16,457.0	($18,752.0)
Homeland Security: Protection of EPA Personnel and Infrastructure	$833.6	$1,084.0	$542.0	($542.0)
Subtotal, Homeland Security	**$37,245.5**	**$36,293.0**	**$16,999.0**	**($19,294.0)**
Information Exchange / Outreach				
Exchange Network	$1,291.4	$1,325.0	$838.0	($487.0)
IT / Data Management / Security				
Information Security	$6,008.0	$6,071.0	$3,186.0	($2,885.0)
IT / Data Management	$14,968.1	$13,776.0	$8,213.0	($5,563.0)
Subtotal, IT / Data Management / Security	**$20,976.1**	**$19,847.0**	**$11,399.0**	**($8,448.0)**
Legal / Science / Regulatory / Economic Review				
Alternative Dispute Resolution	$486.5	$674.0	$0.0	($674.0)
Legal Advice: Environmental Program	$652.4	$577.0	$349.0	($228.0)
Subtotal, Legal / Science / Regulatory / Economic Review	**$1,138.9**	**$1,251.0**	**$349.0**	**($902.0)**
Operations and Administration				
Central Planning, Budgeting, and Finance	$21,331.2	$22,084.0	$12,226.0	($9,858.0)
Facilities Infrastructure and Operations	$69,168.0	$74,137.0	$59,072.0	($15,065.0)
Acquisition Management	$22,129.0	$22,418.0	$14,036.0	($8,382.0)
Human Resources Management	$4,908.5	$6,333.0	$4,580.0	($1,753.0)
Financial Assistance Grants / IAG Management	$2,845.0	$2,889.0	$1,591.0	($1,298.0)
Workforce Reshaping	$0.0	$0.0	$10,437.0	$10,437.0
Subtotal, Operations and Administration	**$120,381.7**	**$127,861.0**	**$101,942.0**	**($25,919.0)**

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	$13,622.3	$14,005.0	$5,655.0	($8,350.0)
Research: Chemical Safety and Sustainability				
Human Health Risk Assessment	$2,751.4	$2,838.0	$5,305.0	$2,467.0
Superfund Cleanup				
Superfund: Emergency Response and Removal	$210,668.5	$180,961.0	$147,212.0	($33,749.0)
Superfund: EPA Emergency Preparedness	$8,148.1	$7,622.0	$7,216.0	($406.0)
Superfund: Federal Facilities	$21,799.4	$21,085.0	$19,553.0	($1,532.0)
Superfund: Remedial	$539,387.1	$500,048.0	$341,803.0	($158,245.0)
Subtotal, Superfund Cleanup	**$780,003.1**	**$709,716.0**	**$515,784.0**	**($193,932.0)**
Total, Hazardous Substance Superfund	**$1,159,064.2**	**$1,092,089.0**	**$762,063.0**	**($330,026.0)**
Leaking Underground Storage Tanks				
Enforcement				
Civil Enforcement	$758.0	$619.0	$559.0	($60.0)
Operations and Administration				
Central Planning, Budgeting, and Finance	$426.0	$423.0	$423.0	$0.0
Facilities Infrastructure and Operations	$785.2	$782.0	$785.0	$3.0
Acquisition Management	$152.5	$145.0	$138.0	($7.0)
Subtotal, Operations and Administration	**$1,363.7**	**$1,350.0**	**$1,346.0**	**($4.0)**
Underground Storage Tanks (LUST / UST)				
LUST / UST	$9,159.3	$9,222.0	$6,364.0	($2,858.0)
LUST Cooperative Agreements	$55,832.9	$54,935.0	$38,840.0	($16,095.0)
LUST Prevention	$26,273.2	$25,321.0	$0.0	($25,321.0)
Subtotal, Underground Storage Tanks (LUST / UST)	**$91,265.4**	**$89,478.0**	**$45,204.0**	**($44,274.0)**
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	$315.5	$319.0	$320.0	$1.0
Total, Leaking Underground Storage Tanks	**$93,702.6**	**$91,766.0**	**$47,429.0**	**($44,337.0)**
Inland Oil Spill Programs				
Compliance				
Compliance Monitoring	$143.3	$139.0	$124.0	($15.0)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Enforcement				
Civil Enforcement	$2,444.0	$2,408.0	$2,266.0	($142.0)
Oil				
Oil Spill: Prevention, Preparedness and Response	$14,553.9	$14,382.0	$12,144.0	($2,238.0)
Operations and Administration				
Facilities Infrastructure and Operations	$679.6	$583.0	$680.0	$97.0
Research: Sustainable Communities				
Research: Sustainable and Healthy Communities	$862.0	$663.0	$503.0	($160.0)
Total, Inland Oil Spill Programs	**$18,682.8**	**$18,175.0**	**$15,717.0**	**($2,458.0)**
State and Tribal Assistance Grants				
State and Tribal Assistance Grants (STAG)				
Infrastructure Assistance: Alaska Native Villages	$19,499.9	$19,962.0	$0.0	($19,962.0)
Brownfields Projects	$88,874.4	$79,848.0	$69,000.0	($10,848.0)
Infrastructure Assistance: Clean Water SRF	$1,350,884.4	$1,391,237.0	$1,393,887.0	$2,650.0
Infrastructure Assistance: Drinking Water SRF	$853,752.7	$961,592.0	$863,233.0	($98,359.0)
Infrastructure Assistance: Mexico Border	$10,345.6	$9,981.0	$0.0	($9,981.0)
Diesel Emissions Reduction Grant Program	$53,750.5	$49,905.0	$10,000.0	($39,905.0)
Targeted Airshed Grants	$9,934.4	$19,962.0	$0.0	($19,962.0)
Subtotal, State and Tribal Assistance Grants (STAG)	**$2,387,041.9**	**$2,532,487.0**	**$2,336,120.0**	**($196,367.0)**
Categorical Grants				
Categorical Grant: Nonpoint Source (Sec. 319)	$166,177.0	$164,601.0	$0.0	($164,601.0)
Categorical Grant: Public Water System Supervision (PWSS)	$100,104.1	$101,769.0	$71,238.0	($30,531.0)
Categorical Grant: State and Local Air Quality Management	$227,533.6	$227,785.0	$159,450.0	($68,335.0)
Categorical Grant: Radon	$8,114.2	$8,036.0	$0.0	($8,036.0)
Categorical Grant: Pollution Control (Sec. 106)				
Monitoring Grants	$18,838.3	$0.0	$12,470.0	$12,470.0
Categorical Grant: Pollution Control (Sec. 106) (other activities)	$214,316.1	$230,367.0	$148,787.0	($81,580.0)
Subtotal, Categorical Grant: Pollution Control (Sec. 106)	$233,154.4	$230,367.0	$161,257.0	($69,110.0)
Categorical Grant: Wetlands Program Development	$13,562.2	$14,633.0	$10,243.0	($4,390.0)
Categorical Grant: Underground Injection Control (UIC)	$10,053.6	$10,486.0	$7,340.0	($3,146.0)
Categorical Grant: Pesticides Program Implementation	$12,841.3	$12,677.0	$8,874.0	($3,803.0)

	FY 2016 Actuals	FY 2017 Annualized CR	FY 2018 Pres Bud	2018 Pres Bud vs. 2017 Annualized CR
Categorical Grant: Lead	$14,694.6	$14,022.0	$0.0	($14,022.0)
Categorical Grant: Hazardous Waste Financial Assistance	$98,994.1	$99,503.0	$69,652.0	($29,851.0)
Categorical Grant: Pesticides Enforcement	$17,845.0	$18,016.0	$11,050.0	($6,966.0)
Categorical Grant: Pollution Prevention	$5,417.7	$4,756.0	$0.0	($4,756.0)
Categorical Grant: Toxics Substances Compliance	$5,220.0	$4,910.0	$3,437.0	($1,473.0)
Categorical Grant: Tribal General Assistance Program	$67,888.7	$65,352.0	$45,746.0	($19,606.0)
Categorical Grant: Underground Storage Tanks	$1,495.4	$1,495.0	$0.0	($1,495.0)
Categorical Grant: Tribal Air Quality Management	$13,104.5	$12,805.0	$8,963.0	($3,842.0)
Categorical Grant: Environmental Information	$9,696.4	$9,628.0	$6,739.0	($2,889.0)
Categorical Grant: Beaches Protection	$9,487.0	$9,531.0	$0.0	($9,531.0)
Categorical Grant: Brownfields	$48,465.8	$47,654.0	$33,358.0	($14,296.0)
Categorical Grant: Multipurpose Grants	$20,642.7	$20,960.0	$0.0	($20,960.0)
Subtotal, Categorical Grants	**$1,084,492.3**	**$1,078,986.0**	**$597,347.0**	**($481,639.0)**
Congressional Priorities				
Congressionally Mandated Projects	$13,302.0	$0.0	$0.0	$0.0
Total, State and Tribal Assistance Grants	**$3,484,836.2**	**$3,611,473.0**	**$2,933,467.0**	**($678,006.0)**
Hazardous Waste Electronic Manifest System Fund				
Resource Conservation and Recovery Act (RCRA)				
RCRA: Waste Management	$2,910.2	$3,667.0	$0.0	($3,667.0)
Total, Hazardous Waste Electronic Manifest System Fund	**$2,910.2**	**$3,667.0**	**$0.0**	**($3,667.0)**
Water Infrastructure Finance and Innovation Fund				
Water Quality Protection				
Water Infrastructure Finance and Innovation	$0.0	$20,000.0	$20,000.0	$0.0
Total, Water Infrastructure Finance and Innovation Fund	**$0.0**	**$20,000.0**	**$20,000.0**	**$0.0**
Cancellation of Prior Year Funds	$0.0	($40,000.0)	($369,000.0)	($329,000.0)
SUB-TOTAL, EPA	**$8,258,172.8**	**$8,244,337.0**	**$5,655,000.0**	**($2,589,337.0)**
Hurricane Sandy Supplemental	**$238.8**	**$0.0**	**$0.0**	**$0.0**
TOTAL, EPA	**$8,258,411.6**	**$8,244,337.0**	**$5,655,000.0**	**($2,589,337.0)**

*For ease of comparison, Superfund transfer resources for the audit and research functions are shown in the Superfund account.

Eliminated/Discontinued Programs

Eliminated Program Projects

Alternative Dispute Resolution (FY 2016 Enacted: $1.720 million, 6.7 FTE)
This program provides alternative dispute resolution (ADR) services to the EPA Headquarters, the EPA Regional Offices, and external stakeholders. This funding level eliminates the centralization of conflict prevention and ADR program. Programs across the agency may pursue ADR support services and training individually.

Beach / Fish Programs (FY 2016 Enacted: $1.982 million, 3.8 FTE)
This program provides science, guidance, technical assistance and nationwide information to state, Tribal, and federal agencies on the human health risks associated with eating locally caught fish/shellfish or wildlife with excessive levels of contaminants, as well as beach monitoring and notification programs. The agency will encourage states to continue this work within ongoing core programs.

Categorical Grant: Beaches Protection (FY 2016 Enacted: $9.549 million, 0.0 FTE)
Grants authorized under the Beach Act support continued development and implementation of coastal recreational water monitoring and public notification programs. After over 17 years of technical guidance and financial support, state and local governments now have the technical expertise and procedures to continue beach monitoring without federal support.

Categorical Grant: Lead (FY 2016 Enacted: $14.049 million, 0.0 FTE)
The program provides support to authorized state and Tribal programs that administer training and certification programs for lead paint professionals and contractors. Lead paint certification will continue under the Chemical Risk Review Reduction program.

Categorical Grant: Multipurpose Grants (FY 2016 Enacted: $21.000 million, 0.0 FTE)
This program provides grants to states and tribes to assist with the implementation activities that complement environmental programs. States can continue to fund work through the EPA's core grant programs and statutes. The agency will work with states to target funds to address their priorities.

Categorical Grant: Nonpoint Source (Sec. 319) (FY 2016 Enacted: $164.915 million, 0.0 FTE)
This program provides grants to assist states and tribes in implementing approved elements of Nonpoint Source Programs including: regulatory and non-regulatory programs, technical assistance, financial assistance, education, training, technology transfers, and demonstration projects. The agency will continue to coordinate with the United States Department of Agriculture on targeting funding where appropriate to address nonpoint sources.

Categorical Grant: Pollution Prevention (FY 2016 Enacted: $4.765 million, 0.0 FTE)
The Pollution Prevention (P2) program is a tool for advancing environmental stewardship by federal, state and Tribal governments, businesses, communities and individuals. In FY 2018 the EPA will focus its resources on core environmental work.

Categorical Grant: Radon (FY 2016 Enacted: $8.051 million, 0.0 FTE)
The program provides funding for the development of state radon programs and disseminates public information and educational materials. The program also provides information on equipment training, data storage and management, and toll-free hotlines. For over 29 years the EPA's radon program has provided important guidance and significant funding to help states establish their own programs.

Categorical Grant: Underground Storage Tanks (FY 2016 Enacted: $1.498 million, 0.0 FTE)
The program provides funding for petroleum and hazardous substance release prevention and detection activities including: compliance assistance, state program approvals, and technical equipment reviews and approvals. States could elect to maintain core program work with state resources rather than federal.

Endocrine Disruptors (FY 2016 Enacted: $7.553 million, 8.9 FTE)
The program develops and validates scientific test methods for the routine, ongoing evaluation of pesticides and other chemicals to determine their potential interference with normal endocrine system function. The ongoing functions of the program can be absorbed into the pesticides program.

Environmental Education (FY 2016 Enacted: $8.702 million, 11.1 FTE)
This program promotes delivery of environmental education through science-based methodologies that promote public engagement. In recognition of the significant guidance and financial support the EE program has provided to non-profit organizations, local education agencies, universities, community colleges, and state and local environmental agencies, funding for some of the environmental stewardship activities could be leveraged at the state or local level.

Environmental Justice (FY 2016 Enacted: $7.282 million, 40.3 FTE)
The program provides support to address environmental and human health concerns in minority, low-income, Tribal, and other communities. Environmental Justice will continue to be supported in the work done at the EPA, when applicable. EJ work impacting the entire agency will be incorporated into future policy work within the Integrated Environmental Strategy program, which is a part of the EPA's Office of the Administrator

Geographic Program: Chesapeake Bay (FY 2016 Enacted: $73.000 million, 39.9 FTE)
The program includes the States of Delaware, Maryland, New York, Virginia, Pennsylvania, West Virginia, the District of Columbia, the Chesapeake Bay Commission, the EPA, and other federal partners working together to protect and restore the Chesapeake Bay's ecosystem. The EPA will encourage the six Chesapeake Bay states and Washington D.C. to continue to make progress in restoring the Bay from within core water programs.

Geographic Program: Gulf of Mexico (FY 2016 Enacted: $4.482 million, 14.3 FTE**)**
The program is a partnership of the five Gulf states, Gulf coastal communities, citizens, nongovernmental organizations, and federal agencies working together to initiate cooperative actions by public and private organizations to achieve specific environmental results. The EPA will encourage the five Gulf of Mexico states to continue to make progress in restoring the Gulf of Mexico from within core water programs.

Geographic Program: Lake Champlain (FY 2016 Enacted: $4.399 million, 0.0 FTE)
The program creates a pollution prevention, control, and restoration plan for protecting the Lake Champlain Basin. The EPA will encourage New York and Vermont to continue to make progress in restoring Lake Champlain from within core water programs.

Geographic Program: Long Island Sound (FY 2016 Enacted: $3.940 million, 0.0 FTE)
The program supports the implementation of the Comprehensive Conservation and Management Plan for the Long Island Sound National Estuary Program. The EPA will encourage Long Island Sound states and local entities to continue to make progress in restoring the Sound from within core water programs.

Geographic Program: Other (FY 2016 Enacted: $7.393 million, 4.9 FTE)
The program provides funding to develop and implement community-based approaches to mitigate diffuse sources of pollution and cumulative risk for geographic areas including: Lake Pontchartrain, Southeastern New England Estuary (SNEE), and the Columbia River Basin. The EPA will encourage states and local entities to continue to make progress in restoring these major aquatic ecosystems from within core water programs.

Geographic Program: Puget Sound (FY 2016 Enacted: $28.000 million, 6.0 FTE)
The program works to protect and restore the Puget Sound, focusing on environmental activities consistent with the State of Washington's 2020 Puget Sound Action Agenda. The EPA will encourage state, tribal, and local entities to continue to make progress in restoring the Puget Sound from within core water programs.

Geographic Program: San Francisco Bay (FY 2016 Enacted: $4.819 million, 1.9 FTE)
The program is aimed at protecting and restoring water quality and ecological health of the San Francisco Bay estuary through partnerships, interagency coordination, and project grants. The EPA will encourage the state of California and local entities to continue to make progress in restoring the San Francisco Bay from within core water programs.

Geographic Program: South Florida (FY 2016 Enacted: $1.704 million, 1.4 FTE)
The program leads special initiatives and planning activities in the South Florida region, which includes the Everglades and Florida Keys coral reef ecosystem. The EPA will encourage state, tribal, and local entities to continue to make progress in protecting and restoring sensitive aquatic ecosystems in South Florida from within core water programs.

Great Lakes Restoration (FY 2016 Enacted: $300.000 million, 71.7 FTE)
The EPA and 16 federal agencies develop and implement a Great Lake Restoration Initiative to restore and maintain the Great Lakes Basin Ecosystem. The EPA will encourage the eight Great Lakes states and tribal and local entities to continue to make progress in restoring the Great Lakes from within core water programs.

Homeland Security: Critical Infrastructure Protection (FY 2016 Enacted: $11.489 million, 23.1 FTE)
This program involves the EPA activities that help protect the nation's public infrastructure from threats and intentional acts. Scientific exposure, hazard and risk data on hazardous chemicals is also provided to local communities to directly support chemical emergency planning, response, and prevention programs. The most critical program work will be performed in the S&T Preparedness, Response, and Recovery program.

Indoor Air: Radon Program (FY 2016 Enacted: $3.082 million, 10.6 FTE)
Within this program, the EPA studies the health effects of radon, assesses exposure levels, sets an action level, provides technical assistance, and advises the public of steps they can take to reduce exposure to radon. For over 29 years the EPA's radon program has provided important guidance and significant funding to help states establish their own programs.

Infrastructure Assistance: Alaska Native Villages (FY 2016 Enacted: $20.000 million, 0.0 FTE)
The program supports wastewater and drinking water infrastructure projects in Alaska Native and rural villages. The State Revolving Funds are a source of infrastructure funding that can continue to fund water system improvements in Alaska.

Infrastructure Assistance: Mexico Border (FY 2016 Enacted: $10.000 million, 0.0 FTE)
The program provides for the planning, design, and construction of water and wastewater treatment facilities along the U.S. Mexico border. The State Revolving Funds are a source of infrastructure funding that can continue to fund water system improvements in U.S. communities along the border.

LUST Prevention (FY 2016 Enacted: $25.369 million, 0.0 FTE)
The program provides resources to states, tribes, territories, and intertribal consortia for their Underground Storage Tank (UST) programs, with a focus on inspections, enforcement, development of leak prevention regulations, and other program infrastructure. States could elect to maintain core program work with state resources rather than federal.

Marine Pollution (FY 2016 Enacted: $10.161 million, 37.4 FTE)
The program funds the implementation of regulatory and support activities relating to ocean discharges and related marine ecosystem protection activities. The EPA will seek opportunities to continue to meet statutory mandates through the core national water program.

National Estuary Program / Coastal Waterways (FY 2016 Enacted: $26.723 million, 43.6 FTE)
The program works to restore the physical, chemical, and biological integrity of estuaries and coastal watersheds. The EPA will encourage states to continue this work and continue to implement conservation management plans.

Pollution Prevention Program (FY 2016 Enacted: $13.140 million, 58.1 FTE) The program promotes environmentally sound business practices and the development of safer (green) chemicals, technologies, and processes. Partners can continue the best practices that have been shared through this program and continue efforts aimed at reducing pollution.

Radiation: Protection (FY 2016 Enacted: $12.263 million, 59.1 FTE)
This program includes activities for radiation clean up; federal guidance; risk modeling; radiation air toxics; naturally-occurring radioactive material; radiation waste management; radioactive and mixed waste operations and measurements, and radiation lab-related infrastructure expenses. The EPA will explore alternatives to continue to meet its statutory obligation to implement its regulatory oversight responsibilities for Department of Energy (DOE) activities at the Waste Isolation Pilot Plant (WIPP) facility. The EPA also will explore alternatives for its requirement under the Atomic Energy Act to establish health and environmental protection standards for exposures to radiation.

RCRA: Waste Minimization & Recycling (FY 2016 Enacted: $8.849 million, 51.0 FTE)
The program establishes a framework for redirecting materials away from disposal and towards beneficial uses, such as composting food waste, increasing the recycling of electronics, and reducing waste from federal facilities. The EPA will focus its resources on core environmental work.

Reduce Risks from Indoor Air (FY 2016 Enacted: $13.942 million, 40.7 FTE)
This program addresses indoor environmental asthma triggers, such as secondhand smoke, dust mites, mold, cockroaches and other pests, household pets, and combustion byproducts through a variety of outreach, education, training and guidance activities. This is a mature program where states have technical capacity to continue this work.

Regional Science and Technology (FY 2016 Enacted: $1.532 million, 2.0 FTE)
The program supplies laboratory analysis, field monitoring and sampling, and builds Tribal capacity for environmental monitoring and assessment. Central approach will be replaced with ad hoc efforts.

Science Policy and Biotechnology (FY 2016 Enacted: $1.174 million, 5.4 FTE)
The Scientific Advisory Panel (SAP) organizes and conducts reviews (typically six to ten each year) by independent, outside scientific experts of science documents, science policies, and/or science programs that relate to the EPA's pesticide and toxic program activities. Statutory requirements will be absorbed by the pesticides and toxics programs.

Small Minority Business Assistance (FY 2016 Enacted: $1.670 million, 8.9 FTE)
This program provides technical assistance to small businesses, headquarters, and regional office employees to ensure that small minority businesses, and minority academic institutions receive a fair share of the EPA's procurement dollars and grants, where applicable. The agency will integrate its resources for Small and Disadvantaged Business activities under the Small Business Ombudsman program.

Stratospheric Ozone: Multilateral Fund (FY 2016 Enacted: $8.928 million, 0.0 FTE) This program promotes international compliance with the Montreal Protocol by financing the incremental cost of converting existing industries in developing countries to cost-effective ozone friendly technology. The EPA will continue domestic ozone-depleting substances reduction work.

Targeted Airshed Grants (FY 2016 Enacted: $20.000 million, 0.0 FTE)
This program offers competitive grants to reduce air pollution in the top five most polluted nonattainment areas relative to annual ozone or PM2.5. This program is regional in nature, and affected states can continue to fund work through the EPA's core air grant programs and statutes.

Toxic Substances: Lead Risk Reduction Program (FY 2016 Enacted: $13.275 million, 72.8 FTE)
The program addresses exposure to lead from lead-based paint through regulations, certification, and training programs and public outreach efforts. Lead paint certifications will continue under Chemical Risk Review Reduction program. Other forms of lead exposure are addressed through other targeted programs such as SRF's to replace lead pipes.

Trade and Governance (FY 2016 Enacted: $5.907 million, 18.0 FTE)
This program promotes trade related activities focused on sustaining environmental protection while growing the economy. In FY 2018 the EPA will focus its resources on core statutory work.

U.S. Mexico Border (FY 2016 Enacted: $3.063 million, 14.7 FTE)
The program addresses environmental protection of the U.S Mexico border in partnership with the ten (10) Border States, U.S. Tribal government, and the Government of Mexico. This program is eliminated as part of the effort to limit federal investment in lower priority activities and to focus resources on core environmental work under core statutes.

Water Quality Research and Support Grants (FY 2016 Enacted: $26.800 million, 4.0 FTE)
The program focuses on the development and application of water quality criteria, the implementation of watershed management approaches, and the application of technological options to restore and protect water bodies. States have the ability to develop technical assistance plans for their water systems using Public Water System Supervision funds and set-asides from the Drinking Water State Revolving Fund (DWSRF).

Eliminated Sub-Program Projects

Greenhouse Gas Reporting (FY 2016 Enacted: Estimated $66.000 M)
Eliminated 15 voluntary partnership programs as part of the Administration's commitment to return EPA to its core work. Certification programs like Energy Star have been and continue to be successfully administered by non-governmental entities like industry associated and consumer groups. The eliminated sub-programs are as follows:

> AgSTAR, Center for Corporate Climate Leadership, Coalbed Methane Outreach Program (CMOP), Combined Heat & Power Partnership (CHPP), ENERGY STAR, Global Methane Initiative, GreenChill Partnership, Green Power Partnership (GPP), Landfill Methane Outreach Program (LMOP), Natural Gas STAR, Responsible Appliance Disposal Program (RAD), SF6 Reduction Partnership for Electric Power Systems (EPS), SmartWay, State and Local Climate Energy Program, and Voluntary Aluminum Industrial Partnership (VAIP).

Global Change Research (Research: AE) (FY 2016 Enacted: $19.405 million, 47.3 FTE) The program develops scientific information that supports policy makers, stakeholders, and society at

large as they respond to climate change. This elimination prioritizes activities that support decision-making related to core environmental statutory requirements.

Office of Public Engagement (Executive Management) (FY 2016 Enacted: $1.795 million, 12.0 FTE)
The Office of Public Engagement leads and coordinates EPA programs to promote environmental literacy.

STAR Research Grants (Research: AE, CSS, SSWR, SHC) (FY 2016 Enacted: $39.058 million, 0.0 FTE)
The Science to Achieve Results, or STAR, funds research grants and graduate fellowships in environmental science and engineering disciplines through a competitive solicitation process and independent peer review. The EPA will prioritize activities that support decision-making related to core environmental statutory requirements, as opposed to extramural activities. Note that this total includes $3.533 million of Global Change Research funding.

WaterSense (Surface Water Protection) (FY 2016 Enacted: $3.075 million, 8.0 FTE)
WaterSense is a voluntary partnership program to label water-efficient products as a resource for helping to reduce water use.

Expected Benefits Of E-Government Initiatives

Grants.gov

The Grants.gov initiative benefits the EPA and its grant programs by providing a single location to publish grant opportunities and application packages, and by providing a single site for the grants community to apply for grants using common forms, processes and systems. The EPA believes that the central site raises the visibility of its grants opportunities to a wider diversity of applicants.

The grants community benefits from savings in postal costs, paper and envelopes. Applicants save time in searching for agency grant opportunities and in learning the application systems of various agencies. In order to streamline the application process, the EPA offers *Grants.gov* application packages for mandatory State grants (i.e., Continuing Environmental Program Grants).

Fiscal Year	Account Code	EPA Contribution (in thousands)
2016	020-00-04-00-04-0160-24	$272.0
2017	020-00-04-00-04-0160-24	$217.0
2018	020-00-04-00-04-0160-24	$307.0

Integrated Acquisition Environment

The Integrated Acquisition Environment (IAE) is currently comprised of multiple government-wide automated applications and/or databases that GSA expects to consolidate into a central repository called the System for Award Management (SAM) by FY 2021. Until the consolidation is complete, the EPA continues to leverage both SAM and the legacy systems. Some of the IAE systems are not linked directly to the EPA's acquisition system, but benefit the agency's contracting staff and vendor community as stand-alone resources.

The EPA's acquisition system uses data provided by SAM to replace internally maintained vendor data. Contracting officers can download vendor-provided representation and certification information allowing vendors to submit this information in one place. Further, the agency utilizes SAM to comply with the Federal Funding Accountability and Transparency Act (FFATA) which requires agencies to unambiguously identify contract, grant, and loan recipients and determine parent/child relationship and address information.

The agency also uses SAM to access information essential for contracting actions;

- The Excluded Parties List (EPLS);
- Wage Determination Online (WDOL);
- Federal Procurement Data System (FPDS);
- The Electronic Subcontracting Reporting System (eSRS); and
- The Federal Business Opportunities (FBO) website.

Fiscal Year	Account Code	EPA Service Fee (in thousands)
2016	020-00-01-16-04-0230-24	$245.0
2017	020-00-01-16-04-0230-24	$857.0
2018	020-00-01-16-04-0230-24	$874.0

USA Jobs

U.S. Office of Personnel Management (OPM) USA Jobs simplifies the process of locating and applying for federal jobs. USA Jobs is a standard job announcement and resume builder website. It is the one-stop for federal job seekers to search for and apply to positions on-line. This integrated process benefits citizens by providing a more efficient process to locate and apply for jobs, and assists federal agencies in hiring top talent in a competitive marketplace. The OPM USA Jobs initiative has increased job seeker satisfaction with the federal job application process and is helping the agency to locate highly-qualified candidates and improve response times to applicants.

The agency's integration with USA Jobs eliminates the need for applicants to maintain multiple user IDs to apply for federal jobs across agencies. The vacancy announcement format has been improved for easier readability. The system can maintain up to five resumes per applicant, which allows them to create and store resumes tailored to specific skills. In addition, USA Jobs has a notification feature that keeps applicants updated on the current status of the application, and provides a link to the agency website for detailed information. This self-help USA Jobs feature allows applicants to obtain up-to-date information on the status of their application upon request.

Fiscal Year	Account Code	EPA Service Fee (in thousands)
2016	020-00-01-16-04-1218-24	$97.0
2017	020-00-01-16-04-1218-24	$116.0
2018	020-00-01-16-04-1218-24	$125.0

Human Resources Line of Business

The U.S. Office of Personnel Management (OPM) Human Resources Line of Business (HR LoB) provides the federal government the infrastructure to support pay-for-performance systems, modernized HR systems, and the core functionality necessary for the strategic management of human capital.

The OPM HR LoB offers common solutions that will enable federal departments and agencies to work more effectively, and provide managers and executives across the federal government an improved means to meet strategic objectives. The EPA will benefit by supporting an effective program management activity which evaluates provider performance, customer satisfaction, and compliance with program goals, on an ongoing basis.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2016	020-00-01-16-04-1200-24	$65.0
2017	020-00-01-16-04-1200-24	$65.0
2018	020-00-01-16-04-1200-24	$68.0

Geospatial Line of Business

The Geospatial Line of Business is an intergovernmental project to improve the ability of the public and government to use geospatial information to support the business of government and facilitate decision-making. This initiative will reduce costs and improve agency operations in several areas.

With increased access to implement the National Spatial Data Infrastructure Strategic Plan (NDGA) and many national geospatial data and analytical services into the Geospatial Platform for federal agencies, their partners, and stakeholders, the EPA uses the Geospatial Platform to obtain data and services for internal analytical purposes as well as to publish outward-facing geospatial capabilities to the public.

While the Department of Interior is the managing partner, the EPA continues to be a leader in developing the vision and operational plans for the implementation of OMB guidance on Coordination of Geographic Information and Related Spatial Data Activities and the National Geospatial Platform which incorporates many national geospatial data and analytical services for federal agencies, their partners, and stakeholders. The EPA is expected to contribute to operation of the National Geospatial Platform in FY 2018. The intent is to reduce base costs by providing an opportunity for the EPA and other agencies to share approaches on procurement consolidation and include shared services for hosting geospatial data, services and applications.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2016	020-00-01-16-04-3100-24	$225.0
2017	020-00-01-16-04-3100-24	$225.0
2018	020-00-01-16-04-3100-24	$225.0

eRulemaking

The eRulemaking Line of Business is designed to enhance public access and participation in the regulatory process through electronic systems; reduce the burden on citizens and businesses in finding relevant regulations and commenting on proposed rulemaking actions; consolidate redundant docket systems; and improve agency regulatory processes and the timeliness of regulatory decisions. The EPA is the managing partner for this Line of Business.

The eRulemaking program's Federal Docket Management System (FDMS) currently supports more than 178 federal entities including all Cabinet-level Departments and independent rulemaking agencies, which collectively promulgate approximately 90 percent of all federal regulations each year. FDMS has simplified the public's participation in the rulemaking process and made the EPA's rulemaking business processes more accessible as well as transparent. FDMS provides the EPA's approximately 1,372 active users with a secure, centralized electronic

repository for managing the agency's rulemaking development via distributed management of data and robust role-based user access. The EPA posts regulatory and non-regulatory documents in *Regulations.gov* for public viewing, downloading, bookmarking, email notification and commenting. In FY 2016, the EPA posted 1,176 rules and proposed rules, 1,087 Federal Register notices, and 31,126 public submissions in *Regulations.gov*. The EPA also posted 20,753 documents that consisted of supporting and related materials associated with other postings. Overall, the EPA currently provides public access to 999,131 documents in *Regulations.gov*.

Fiscal Year	Account Code	EPA Service Fee (in thousands)
2016	020-00-01-16-01-0060-24	$941.0
2017	020-00-01-16-01-0060-24	$1,000.0
2018	020-00-01-16-01-0060-24	$1.000.0

Financial Management Line of Business

The Financial Management Line of Business (FM LoB) is a multi-agency effort whose goals include: achieving process improvements and cost savings in the acquisition, development, implementation, and operation of financial management systems. By incorporating the same FM LoB-standard processes as those used by central agency systems, interfaces among financial systems will be streamlined and the quality of information available for decision-making will be improved.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2016	020-00-01-16-04-1100-24	$96.0
2017	020-00-01-16-04-1100-24	$96.0
2018	020-00-01-16-04-1100-24	$96.0

Budget Formulation and Execution Line of Business

The Budget Formulation and Execution Line of Business (BFELoB) allows the EPA and other agencies to access budget-related resources and services. The agency has the option to implement LoB-sponsored tools, training and services.

The EPA has benefited from the BFELoB by sharing valuable information on how systems and software being developed by the LoB have enhanced work processes. This effort has created a government-only capability for electronic collaboration (*Wiki*) in which the Budget Community website allows the EPA to share budget information internally, with OMB, and with other federal agencies. The agency also made contributions to the Human Capital Workgroup, participating in development of on-line training modules for budget activities – a valuable resource to all agency budget staff. The LoB has developed the capability to have secure, virtual on-line meetings where participants can view budget-related presentations from their workspace and participate in the discussion through a conference line. The LoB provides regularly scheduled symposia as an additional training forum for EPA budget employees.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2016	020-00-01-01-04-3200-24	$105.0
2017	020-00-01-01-04-3200-24	$110.0
2018	020-00-01-01-04-3200-24	$110.0

Federal PKI Bridge

Federal Public Key Infrastructure (FPKI) provides the government with a common infrastructure to administer digital certificates and public-private key pairs, including the ability to issue, maintain, and revoke public key certificates. FPKI leverages a security technique called Public Key Cryptography to authenticate users and data, protect the integrity of transmitted data, and ensure non-repudiation and confidentiality. The EPA uses this tool to connect agency and commercial PKIs via a trust framework to then authenticate Personal Identity Verification (PIV) cards for both physical access into the EPA controlled space and logical access into the agency's data systems and networks.

Fiscal Year	Account Code	EPA Contribution (in thousands)
2016	020-00-01-16-04-0090-24	$28.0
2017	020-00-01-16-04-0090-24	$30.0
2018	020-00-01-16-04-0090-24	$32.0

FY 2018 Administrator's Priorities

The Administrator's priorities are allocated by program project in the FY 2018 President's Budget with a total of $2.375 million in the Environmental and Program Management Account and $125 thousand in the Science and Technology Account.

These funds which are set aside for the Administrator's priorities are used to address unforeseen issues that may arise during the year. These funds are used by the Administrator to support critical unplanned issues. The amounts shown in the below table will be reallocated as needed, in accordance with reprogramming limits, to addresses unforeseen issues.

FY 2018 President's Budget Funding for Administrator's Priorities

Appropriation	Program Project	Dollars in Thousands
EPM	Acquisition Management	$150
EPM	Brownfields	$25
EPM	Civil Enforcement	$150
EPM	Civil Rights Program	$75
EPM	Compliance Monitoring	$100
EPM	Criminal Enforcement	$145
EPM	Drinking Water Programs	$100
EPM	Exchange Network	$75
EPM	Federal Stationary Source Regulations	$100
EPM	Federal Support for Air Quality Management	$130
EPM	Human Resources Management	$25
EPM	International Sources of Pollution	$50
EPM	IT / Data Management	$175
EPM	Legal Advice: Environmental Program	$100
EPM	Legal Advice: Support Program	$75
EPM	NEPA Implementation	$100
EPM	Pesticides: Protect Human Health from Pesticide Risk	$150
EPM	Pesticides: Protect the Environment from Pesticide Risk	$150
EPM	Pesticides: Realize the Value of Pesticide Availability	$100
EPM	RCRA: Waste Management	$25
EPM	Science Advisory Board	$100
EPM	State and Local Prevention and Preparedness	$100
EPM	Surface Water Protection	$50
EPM	TRI / Right to Know	$75
EPM	Tribal - Capacity Building	$50
S&T	Federal Support for Air Quality Management	$25
S&T	Research: Air, Climate and Energy	$50
S&T	Research: Chemical Safety and Sustainability	$50
Total		**$2,500**

Proposed FY 2018 Administrative Provisions

To further clarify proposed Administrative Provisions that involve more than a simple annual extension or propose a modification to an existing provision, the following information is provided.

Petroleum Set-Aside for Brownfields Projects Grants

Per the Consolidated Appropriations Act, 2016 (P.L. 114-113), the EPA appreciates the flexibility to use no more than 25 percent of its CERCLA Section 104 (k) funding to address petroleum contaminated sites. In FY 2018, the EPA continues to request the flexibility to use up to 25 percent of its CERCLA 104 (k) funding to address petroleum contaminated sites versus an exact 25 percent identified by statute. Current statutory language requires that exactly 25 percent of Brownfields Projects grants be provided for petroleum cleanups. The proposed language gives the agency more flexibility to award grants to the highest-ranking proposals, regardless of the type of funding requested, while still setting aside money for petroleum cleanups.

$69,000,000 shall be to carry out section 104(k) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended, including grants, interagency agreements, and associated program support costs: Provided, That not more than 25 percent of the amount appropriated to carry out section 104(k) of CERCLA shall be used for site characterization, assessment, and remediation of facilities described in section 101(39)(D)(ii)(II) of CERCLA.

Issuing Grants for $PM_{2.5}$ Monitoring Network Under Clean Air Act Sections 103 and 105

Per the Consolidated Appropriations Act, 2016 (P.L. 114-113), the EPA is directed to use Section 103 of the Clean Air Act to provide grants to states for the $PM_{2.5}$ monitoring network. Accordingly, the EPA continues to issue grants to states for the network exclusively under Section 103. The EPA requests the flexibility to use both Sections 103 and 105 authority under the Clean Air Act to issue grants to states for the $PM_{2.5}$ monitoring network.

$597,347,000 shall be for grants, including associated program support costs, to states, federally recognized tribes, interstate agencies, Tribal consortia, and air pollution control agencies for multi-media or single media pollution prevention, control, and abatement and related activities, including activities pursuant to the provisions set forth under this heading in Public Law 104–134, and for making grants under Sections 103 and 105 of the Clean Air Act for particulate matter monitoring and data collection activities subject to terms and conditions specified by the Administrator.

Current statutory language directs the EPA to issue grants in support of the $PM_{2.5}$ monitoring under Section 103 of the Clean Air Act. However, given the maturity of the $PM_{2.5}$ monitoring network, it is appropriate for the EPA to provide grants to states to fund the network under Section 105 of the Clean Air Act. The $PM_{2.5}$ monitoring network is a continuing activity in support of air quality management, which aligns with authorized activities under Section 105, whereas Section 103 is intended to fund research, demonstration, and other similar activities. The proposed language gives the agency more flexibility to award grants under Section 103 and 105 authority. The Clean Air

Act Section 105 authority provides for cost-sharing between the EPA and the states with up to 60 percent of costs provided by the EPA.

FIFRA and PRIA Fee Spending Restrictions

Current statutory language in the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Pesticide Registration Improvement Act (PRIA) restricts what activities the EPA can fund from collections deposited in the Reregistration and Expedited Processing Revolving Fund and PRIA Fund. The budget proposes language to clarify the agency's authority to utilize resources in the Funds to review existing pesticide registrations for their compliance with current FIFRA standards, ensuring market access for pesticide registrants. Specifically, fees collected would be available for the following activities as they relate to pesticide licensing: processing and review of data submitted in association with a registration, information submitted pursuant to Section 6(a)(2) of FIFRA, supplemental distributor labels, transfers of registrations and data compensation rights, additional uses registered by states under Section 24(c) of FIFRA, data compensation petitions, review of minor amendments and notifications; laboratory support and audits; administrative support; development of policy and guidance; rulemaking support; information collection activities; and the portions of salaries related to work in these areas.

The Budget proposes new statutory language that would ease spending restrictions related to both the FIFRA pesticide maintenance fees and the PRIA registration fees. Since the FIFRA fees are mandatory, separate language has been prepared that will be transmitted to the authorizing committee at a later date. The PRIA fees are discretionary and the accompanying proposed language is as follows:

Notwithstanding any other provision of law, in addition to the activities specified in section 33 of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) (7 U.S.C. 136w-8), fees collected in this and prior fiscal years, under such section, shall be available for the following activities as they relate to pesticide licensing: processing and review of data submitted in association with a registration, information submitted pursuant to section 6(a)(2) of FIFRA, supplemental distributor labels, transfers of registrations and data compensation rights, additional uses registered by States under section 24(c) of FIFRA, data compensation petitions, review of minor amendments, and notifications; laboratory support and audits; administrative support; development of policy and guidance; rulemaking support; information collection activities; and the portions of salaries related to work in these areas.

Attorney Fee And Cost Payments Obligated In FY 2016 Under Equal Access For Justice Act (EAJA) as a Result of Defensive Environmental Litigations under Environmental Statutes

Date of Final Fee Agreement or Court Disposition	Case Name	Court	Case Number	Judge	Case Disposition	Amount of Fees and/or Costs Paid	Source of Funds	Was Amount Negotiated or Court Ordered?	Recipients	Nature of Case
03/07/2016	Hall & Associates v. EPA	US District Court for the District of Columbia	15-286 RBW	Reggie B. Walton	Settlement Ordered	$41,447	EPA Appropriations	Court ordered after litigation of fees	Hall & Associates	Alleged violation of Freedom of Information Act
06/02/2016	Fond du Lac Band of Lake Superior Chippewa v. EPA	US District Court for the District of Minnesota	13-1324 (JRT/LIB)	John R. Tunheim	Settlement Agreement	$11,875	EPA Appropriations	Negotiated Settlement Agreement	Fond du Lac Band of Lake Superior Chippewa	Plaintiff challenged the EPA's approval of site specific revisions to Minnesota's water quality standards for works relating to discharges from a facility in Hoyt Lakes Minnesota.
06/02/2016	Minnesota Center for Environmenta l Advocacy v. EPA	US District Court for the District of Minnesota	13-1393 (JRT/LIB)	John R. Tunheim	Settlement Agreement	$12,080	EPA Appropriations	Negotiated Settlement Agreement	Minnesota Center for Environmental Advocacy	Plaintiff challenged the EPA's approval of site specific revisions to Minnesota's water quality standards for works relating to discharges from a facility in Hoyt Lakes Minnesota.
06/02/2016	WaterLegacy v. EPA	US District Court for the District of Minnesota	13-1323 (JRT/LIB)	John R. Tunheim	Settlement Agreement	$19,800	EPA Appropriations	Negotiated Settlement Agreement	WaterLegacy	Plaintiff challenged the EPA's approval of site specific revisions to Minnesota's water quality standards for works relating to discharges from a facility in Hoyt Lakes Minnesota.

Date of Final Fee Agreement or Court Disposition	Case Name	Court	Case Number	Judge	Case Disposition	Amount of Fees and/or Costs Paid	Source of Funds	Was Amount Negotiated or Court Ordered?	Recipients	Nature of Case
06/02/2016	Grand Portage Band of Lake Superior Chippewa v. EPA	US District Court for the District of Minnesota	13-1324 (JRT/LIB)	John R. Tunheim	Settlement Agreement	$9,660	EPA Appropriations	Negotiated Settlement Agreement	Grand Portage Band of Lake Superior Chippewa	Plaintiff challenged the EPA's approval of site specific revisions to Minnesota's water quality standards for works relating to discharges from a facility in Hoyt Lakes Minnesota.
06/07/2016	Northwest Environmental Advocates v. EPA	US District Court, for the District of Oregon	C-3:15-cv-01151-HZ	Marco A. Hernandez	Settlement Agreement	$26,000	EPA Appropriations	Court Ordered Settlement	Earthrise Law Center	Plaintiff challenged the EPA's approval of Idaho's water quality criteria for arsenic.
08/08/2016	Pesticide Action Network North America, et al v. EPA	US Court of Appeals for the 9th Circuit	14-72794	O'Scannlain, Tashima and McKeown	Mandamus petition granted	$75,000	EPA Appropriations	Negotiated Settlement Agreement	Pesticide Action Network North America, et al	Plaintiffs petitioned to revoke all tolerances and cancel all registrations for the pesticide chlorpyrifos.
09/23/2016	In re Idaho Conservation League, et al	US Court of Appeals, District of Columbia Circuit Court	14-1149	Millett Rogers	Settlement Agreement	$127,981	EPA Appropriations	Negotiated Settlement Agreement	Idaho Conservation League, Earthworks, Sierra Club, Amigos Bravos, Great Basin Resource Watch and Communities for a Better Environment	Petition for Writ of Mandamus

Fiscal Year 2018: Consolidations, Realignments, Or Other Transfers Of Resources

This table shows consolidations, realignments, or other transfers of resources and personnel from one program/project to another in order to clearly illustrate a transfer of FY 2018 resources (Dollars in Thousands).

Program/ Project	Total Fund Transferred From:	FTE Transferred From:	Total Fund Transferred To:	FTE Transferred To:	Purpose
SF: Audits, Evaluation, and Investigations	($1,000)	(6.4)			This realignment is a shift in resources from the Superfund account to the IG Management account in order to ensure adequate resources for the OIG's high risk audits, evaluations, and investigations.
IG: Audits, Evaluation, and Investigations			$1,000	6.4	
SF: Superfund Federal Facilities Enforcement	($4,450)	(26.7)			This transfer merges the Superfund Federal Facility Enforcement program into the Superfund Enforcement program to optimize resources of the two programs.
SF: Superfund Enforcement			$4,450	26.7	
S&T: Human Health Risk Assessment	($2,964)	(15.2)			This realignment shifts resources for the Integrated Risk Information System into the Superfund program to support site characterization and cleanup.
SF: Human Health Risk Assessment			$2,964	15.2	

EPA Budget By National Program Manager And Major Office

		FY 2017 Annualized Continuing Resolution				FY 2018 President Budget			
NPM	Major Office	Pay ($K)	Non-Pay ($K)	Total ($K)	FT	Pay ($K	Non-Pay ($K)	Total ($K)	FTE
OA	Immediate Office	$3,555.4	$547.1	$4,102.5	23.8	$2,803.2	$515.0	$3,318.2	17.1
	Office of Congressional and Intergovernmental Relations	$7,227.6	$219.3	$7,446.8	51.6	$6,622.2	$206.0	$6,828.2	40.3
	Office of Public Affairs	$5,715.6	$156.5	$5,872.1	38.9	$5,011.9	$147.0	$5,158.9	30.5
	Office of Public Engagement	$1,763.4	$0.0	$1,763.4	12.0	$0.0	$0.0	$0.0	-
	Office of Policy	$23,424.5	$3,973.7	$27,398.2	140.9	$23,515.4	$3,358.0	$26,873.4	124.5
	Children's Health Protection	$2,470.8	$2,951.8	$5,422.6	15.4	$936.0	$539.0	$1,475.0	4.9
	Environmental Education	$859.6	$7,597.2	$8,456.8	6.1	$0.0	$0.0	$0.0	-
	Office of Civil Rights	$5,175.3	$1,085.8	$6,261.1	36.6	$2,987.1	$413.0	$3,400.1	18.5
	Executive Secretariat	$2,145.6	$44.7	$2,190.3	14.6	$1,806.1	$42.0	$1,848.1	11.0
	Executive Services	$2,779.2	$3,094.4	$5,873.7	18.9	$2,502.3	$170.0	$2,672.3	14.9
	Homeland Security	$1,910.8	$431.1	$2,341.9	9.7	$2,039.5	$305.0	$2,344.5	9.3
	Science Advisory Board	$3,129.9	$685.5	$3,815.5	21.6	$3,521.0	$104.0	$3,625.0	18.7
	Small and Disadvantaged Business Utilization	$1,713.3	$1,131.5	$2,844.9	11.3	$475.3	$650.0	$1,125.3	2.4
	Regional Resources	$26,694.9	$2,845.4	$29,540.3	190.9	$21,142.9	$1,712.0	$22,854.9	130.6
	TOTA	**$88,566.0**	**$24,764.0**	**$113,330.0**	**592.3**	**$73,363.0**	**$8,161.0**	**$81,524.0**	**422.7**
OAR	Immediate Office	$10,150.6	$11,621.6	$21,772.2	62.5	$7,741.0	$5,509.3	$13,250.4	42.7
	Office of Air Quality Planning and Standards	$51,036.3	$18,751.4	$69,787.7	349.6	$39,829.9	$8,553.6	$48,383.5	240.7
	Office of Atmospheric Programs	$36,572.2	$75,752.7	$112,324.9	233.7	$21,226.1	$12,488.2	$33,714.4	117.4
	Office of Transportation and Air Quality	$52,459.0	$55,481.2	$107,940.2	353.2	$50,858.3	$25,253.6	$76,111.9	304.3
	Office of Radiation and Indoor Air	$22,482.1	$15,718.1	$38,200.2	144.8	$7,938.8	$3,743.6	$11,682.4	47.0
	Regional Resources	$83,900.9	$342,186.9	$426,087.8	604.8	$63,762.9	$182,434.7	$246,197.5	405.3
	TOTA	**$256,601.0**	**$519,512.0**	**$776,113.0**	**1,748.6**	**$191,357.0**	**$237,983.0**	**$429,340.0**	**1,157.4**
OARM	Immediate Office	$5,900.9	$24,365.3	$30,266.2	45.0	$6,387.3	$18,609.4	$24,996.7	37.0
	Administrative Law Judges	$2,302.0	$231.3	$2,533.3	13.5	$2,209.5	$33.0	$2,242.6	12.5
	Environmental Appeals Board	$2,102.8	$205.5	$2,308.3	12.3	$1,998.1	$29.0	$2,027.1	11.3
	Office of Acquisition Management	$30,968.8	$10,065.0	$41,033.8	216.0	$24,979.6	$6,474.5	$31,454.1	158.8
	Office of Administration	$17,744.2	$331,955.8	$349,700.1	98.8	$18,528.4	$317,469.5	$335,997.9	85.6
	Office of Human Resources	$19,251.5	$10,474.0	$29,725.5	100.9	$19,923.1	$6,919.0	$26,842.0	88.6
	Office of Grants & Debarment	$10,477.4	$5,845.6	$16,323.0	73.0	$8,062.5	$3,917.5	$11,980.0	49.0
	OARM RTP	$9,969.3	$30,589.2	$40,558.4	84.9	$9,561.3	$30,841.5	$40,402.8	78.9
	OARM Cincinnati Office	$9,479.4	$15,493.6	$24,973.0	76.7	$9,883.1	$15,600.0	$25,483.1	70.5
	Regional Resources	$53,985.8	$42,957.5	$96,943.3	358.2	$45,571.1	$33,543.6	$79,114.7	267.0
	TOTA	**$162,182.0**	**$472,183.0**	**$634,365.0**	**1,079.3**	**$147,104.0**	**$433,437.0**	**$580,541.0**	**859.2**

		FY 2017 Annualized Continuing Resolution				FY 2018 President Budget			
NPM	Major Office	Pay ($K)	Non-Pay ($K)	Total ($K)	FT	Pay ($K	Non-Pay ($K)	Total ($K)	FTE
OCFO	Immediate Office	$1,475.6	$2,412.3	$3,887.9	10.5	$1,731.0	$553.9	$2,284.9	11.4
	Center for Environmental Finance	$0.0	$0.0	$0.0	-	$0.0	$0.0	$0.0	-
	Office of Budget	$5,579.3	$2,493.9	$8,073.2	39.7	$5,770.7	$1,779.2	$7,549.9	38.0
	Office of Planning, Analysis and Accountability	$3,401.0	$453.5	$3,854.5	24.2	$3,264.4	$356.2	$3,620.7	21.5
	Office of Financial Management	$6,155.5	$724.3	$6,879.9	43.8	$0.0	$0.0	$0.0	-
	Office of Technology Solutions	$5,045.3	$22,979.9	$28,025.2	35.9	$5,999.0	$21,506.1	$27,505.1	39.5
	Office of Financial Services	$19,014.7	$2,408.8	$21,423.5	135.3	$0.0	$0.0	$0.0	-
	Office of Resource and Information Management	$1,784.8	$1,564.4	$3,349.2	12.7	$1,366.7	$858.0	$2,224.7	9.0
	Office of the Controller					$18,284.7	$2,028.1	$20,312.8	120.4
	OCFO eEnterprise	$758.6	$300.5	$1,059.1	4.0	$621.2	$300.0	$921.3	3.5
	Regional Resources	$27,706.1	$1,692.5	$29,398.6	215.7	$24,928.3	$1,238.3	$26,166.6	168.2
	TOTA	**$70,921.0**	**$35,030.0**	**$105,951.0**	**521.8**	**$61,966.0**	**$28,620.0**	**$90,586.0**	**411.5**
OCSPP	Immediate Office	$5,500.5	$2,197.4	$7,697.8	37.2	$5,618.1	$771.1	$6,389.2	30.5
	Office of Pesticide Programs	$80,954.0	$15,498.7	$96,452.6	509.9	$73,856.8	$3,201.2	$77,058.0	436.9
	Office of Pollution Prevention and Toxics	$48,303.1	$27,070.0	$75,373.1	293.0	$33,266.0	$35,234.9	$68,501.0	197.8
	Office of Science Coordination and Policy	$3,307.0	$6,232.3	$9,539.2	19.7	$950.1	$13.1	$963.2	4.9
	Regional Resources	$20,208.5	$33,014.8	$53,223.2	151.2	$11,576.9	$8,583.7	$20,160.7	77.2
	TOTA	**$158,273.0**	**$84,013.0**	**$242,286.0**	**1,011.0**	**$125,268.0**	**$47,804.0**	**$173,072.0**	**747.3**
OECA	Immediate Office	$7,913.1	$2,661.6	$10,574.7	52.9	$6,618.2	$1,234.4	$7,852.7	35.7
	Office of Civil Enforcement	$22,848.8	$3,083.7	$25,932.5	129.3	$18,832.3	$4,379.2	$23,211.5	98.9
	Office of Criminal Enforcement, Forensics, and Training	$56,699.6	$7,383.2	$64,082.8	325.1	$48,050.8	$9,687.0	$57,737.7	240.1
	Office of Compliance	$19,902.4	$18,006.5	$37,909.0	127.9	$18,153.5	$28,081.2	$46,234.7	104.6
	Office of Environmental Justice	$2,735.6	$1,861.5	$4,597.2	20.6	$0.0	$0.0	$0.0	-
	Office of Federal Activities	$3,915.0	$611.1	$4,526.1	24.2	$3,315.3	$613.7	$3,929.1	18.3
	Federal Facilities Enforcement Office	$2,559.5	$574.3	$3,133.9	14.7	$793.0	$207.6	$1,000.6	4.6
	Office of Site Remediation Enforcement	$11,685.6	$26,183.5	$37,869.1	69.0	$8,857.2	$2,794.8	$11,652.0	48.3
	Regional Resources	$312,094.2	$43,886.6	$355,980.8	2,123.9	$252,270.7	$15,111.1	$267,381.8	1,580.6
	TOTA	**$440,354.0**	**$104,252.0**	**$544,606.0**	**2,887.7**	**$356,891.0**	**$62,109.0**	**$419,000.0**	**2,131.1**
OEI	Office of the Chief Information Officer	$2,667.0	$3,633.0	$6,300.0	16.1	$2,519.5	$1,466.9	$3,986.5	13.8
	Office of Business Operations & Services	$6,236.0	$3,575.0	$9,811.0	38.4	$5,890.9	$2,033.9	$7,924.8	32.8
	Office of Digital Services & Technical Architecture	$4,317.0	$2,521.0	$6,838.0	26.9	$4,077.5	$1,729.8	$5,807.3	22.7
	Office of Enterprise Information Programs	$7,495.0	$8,411.0	$15,906.0	48.0	$7,079.4	$5,770.5	$12,849.8	39.4
	Office of Information Management	$10,746.0	$34,345.0	$45,091.0	64.8	$10,727.8	$21,078.1	$31,806.0	58.5
	Office of Customer Advocacy, Policy & Portfolio Management	$5,877.0	$3,166.0	$9,043.0	36.7	$5,551.2	$2,172.3	$7,723.5	30.9
	Office of Information Security & Privacy	$2,497.0	$31,473.0	$33,970.0	15.3	$2,580.1	$13,155.4	$15,735.5	13.9
	Office of Information Technology Operations	$820.0	$3,621.0	$4,441.0	4.6	$791.3	$2,483.4	$3,274.7	4.0
	Regional Resources	$21,850.0	$17,493.0	$39,343.0	153.4	$19,565.3	$12,056.7	$31,621.9	126.2
	TOTA	**$62,505.0**	**$108,238.0**	**$170,743.0**	**404.2**	**$58,783.0**	**$61,947.0**	**$120,730.0**	**342.2**

		FY 2017 Annualized Continuing Resolution				FY 2018 President Budget			
NPM	Major Office	Pay (SK)	Non-Pay (SK)	Total (SK)	FT	Pay (SK	Non-Pay (SK)	Total ($K)	FTE
OGC	Immediate Office	$2,382.7	$26.5	$2,409.1	12.8	$1,674.0	$38.0	$1,712.0	8.7
	Air and Radiation Law Office	$8,839.6	$11.8	$8,851.5	50.3	$6,551.7	$17.0	$6,568.7	33.8
	Pesticides and Toxic Substances Law Office	$3,806.4	$11.1	$3,817.5	20.4	$3,430.3	$16.0	$3,446.3	17.7
	Solid Waste and Emergency Response Law Office	$2,598.8	$17.4	$2,616.2	13.7	$2,039.4	$25.0	$2,064.4	10.4
	Water Law Office	$4,002.2	$142.8	$4,145.0	21.7	$3,371.6	$10.0	$3,381.6	17.4
	Civil Rights - Title VI					$1,418.6	$341.0	$1,759.6	9.0
	Other Legal Support	$15,936.9	$1,110.4	$17,047.3	98.9	$15,818.2	$2,170.0	$17,988.2	84.0
	Regional Resources	$27,437.3	$535.0	$27,972.3	158.0	$23,745.3	$953.0	$24,698.3	127.4
	TOTA	**$65,004.0**	**$1,855.0**	**$66,859.0**	**375.8**	**$58,049.0**	**$3,570.0**	**$61,619.0**	**308.4**
OIG	Immediate Office	$577.5	$234.7	$812.2	3.2	$659.0	$135.0	$794.0	3.0
	Office of Audit	$12,262.6	$876.6	$13,139.2	92.2	$10,321.0	$506.0	$10,827.0	61.9
	Office of Congressional, Public Affairs and Management	$2,887.9	$96.6	$2,984.6	19.1	$2,431.0	$56.0	$2,487.0	12.8
	Office of Counsel	$0.0	$0.0	$0.0	-	$0.0	$0.0	$0.0	-
	Office of Chief of Staff	$3,018.6	$1,580.7	$4,599.3	22.3	$2,540.0	$912.0	$3,452.0	15.0
	Office of Investigations	$10,307.5	$1,905.3	$12,212.9	66.8	$8,675.0	$1,100.0	$9,775.0	44.7
	Office of Mission Systems	$3,421.1	$1,297.8	$4,719.0	22.3	$2,706.0	$749.0	$3,455.0	14.1
	Office of Program Evaluation	$11,951.7	$911.2	$12,862.9	92.2	$10,059.0	$526.0	$10,585.0	61.9
	TOTA	**$44,427.0**	**$6,903.0**	**$51,330.0**	**318.1**	**$37,391.0**	**$3,984.0**	**$41,375.0**	**213.4**
OITA	Immediate Office	$1,058.9	$54.8	$1,113.7	6.0	$368.4	$46.0	$414.4	2.0
	Office of Regional and Bilateral Affairs	$3,725.8	$2,639.6	$6,365.4	23.7	$922.6	$1,080.6	$2,003.1	5.0
	Office of Global Affairs and Policy	$3,029.3	$219.1	$3,248.5	18.6	$922.6	$85.0	$1,007.6	5.0
	Office of Management and International Services	$1,896.5	$861.6	$2,758.1	13.0	$737.8	$504.3	$1,242.1	4.0
	American Indian Environmental Office	$2,803.8	$853.6	$3,657.4	19.0	$2,570.7	$259.1	$2,829.8	14.3
	Regional Resources	$11,290.6	$66,647.2	$77,937.8	78.5	$9,318.0	$46,118.0	$55,436.0	55.9
	TOTA	**$23,805.0**	**$71,276.0**	**$95,081.0**	**158.8**	**$14,840.0**	**$48,093.0**	**$62,933.0**	**86.2**
OLEM	Immediate Office	$7,855.3	$5,021.9	$12,877.3	45.2	$5,505.1	$3,643.3	$9,148.3	29.5
	Federal Facilities Restoration and Reuse Office	$2,235.6	$880.3	$3,116.0	13.2	$2,202.0	$799.3	$3,001.3	12.5
	Office of Communication, Partnership, and Analysis	$2,184.4	$1,531.2	$3,715.6	15.3	$1,979.1	$1,045.4	$3,024.5	10.8
	Office of Superfund Remediation and Technology Innovation	$25,094.3	$69,055.7	$94,150.0	147.0	$23,894.2	$39,039.5	$62,933.7	134.9
	Office of Resource Conservation and Recovery	$25,428.0	$11,705.6	$37,133.6	165.9	$15,641.2	$6,796.4	$22,437.6	92.3
	Office of Underground Storage Tanks	$4,079.2	$2,840.8	$6,920.0	25.5	$2,971.8	$261.1	$3,232.9	16.3
	Office of Brownfields and Land Revitalization	$2,819.1	$12,570.2	$15,389.2	19.5	$2,089.6	$11,128.9	$13,218.4	12.1
	Office of Emergency Management	$11,816.8	$30,928.8	$42,745.6	69.1	$10,198.0	$16,333.7	$26,531.7	55.1
	Regional Resources	$269,016.3	$749,822.3	$1,018,838.6	1,814.8	$234,550.0	$494,702.6	$729,252.6	1,486.8
	TOTA	**$350,529.0**	**$884,357.0**	**$1,234,886.0**	**2,315.5**	**$299,031.0**	**$573,750.0**	**$872,781.0**	**1,850.3**

		FY 2017 Annualized Continuing Resolution				FY 2018 President Budget			
NPM	Major Office	Pay (SK)	Non-Pay (SK)	Total (SK)	FT	Pay (SK	Non-Pay (SK)	Total ($K)	FTE
ORD	ORD Headquarters	$35,537.3	$55,737.5	$91,274.8	318.3	$35,582.1	$36,582.0	$72,164.1	212.9
	National Center for Environmental Research	$9,177.4	$54,257.8	$63,435.2	52.7	$648.5	$2,162.0	$2,810.5	3.9
	National Exposure Research Laboratory	$51,597.5	$28,697.2	$80,294.7	310.8	$34,164.7	$11,869.0	$46,033.7	204.4
	National Health and Environmental Effects Research Laboratory	$73,782.6	$44,962.6	$118,745.2	473.7	$53,065.3	$21,129.0	$74,194.3	317.8
	National Homeland Security Research Center	$7,093.1	$12,389.4	$19,482.5	41.7	$4,240.6	$5,372.0	$9,612.6	25.5
	National Risk Management Research Laboratory	$43,184.3	$28,955.2	$72,139.5	272.0	$29,161.5	$11,121.0	$40,282.5	175.4
	Office of the Science Advisor	$3,469.0	$3,274.3	$6,743.2	18.0	$2,112.4	$1,484.0	$3,596.4	12.7
	National Center for Computational Toxicology	$5,477.3	$9,657.2	$15,134.5	35.5	$4,108.6	$3,091.0	$7,199.6	24.7
	National Center for Environmental Assessment	$30,575.4	$15,037.9	$45,613.3	181.2	$17,036.4	$3,872.0	$20,908.4	102.5
	TOT	**$259,894.0**	**$252,969.0**	**$512,863.0**	**1,703.9**	**$180,120.0**	**$96,682.0**	**$276,802.0**	**1,079.8**
OW	Immediate Office	$10,952.9	$6,127.9	$17,080.8	66.4	$10,317.6	$3,658.3	$13,975.9	59.1
	Office of Ground Water and Drinking Water	$25,881.0	$41,262.2	$67,143.1	167.0	$21,952.4	$14,555.1	$36,507.5	128.7
	Office of Science and Technology	$19,052.2	$17,027.1	$36,079.4	114.0	$17,502.5	$9,489.7	$26,992.2	101.5
	Office of Wastewater Management	$18,239.8	$17,247.0	$35,486.9	119.7	$19,655.8	$24,375.9	$44,031.7	115.6
	Office of Wetlands, Oceans and Watersheds	$18,352.1	$23,571.2	$41,923.3	114.8	$13,039.1	$9,505.7	$22,544.8	73.2
	Regional Resources	$193,628.0	$3,347,580.5	$3,541,208.5	1,351.8	$159,241.6	$2,510,403.2	$2,669,644.8	1,034.3
	TOT	**$286,106.0**	**$3,452,816.0**	**$3,738,922.0**	**1,933.8**	**$241,709.0**	**$2,571,988.0**	**$2,813,697.0**	**1,512.4**
	Subtotal Agency Resources	**$2,269,167.0**	**$6,018,168.0**	**$8,287,335.0**	**15,050.8**	**$1,845,872.0**	**$4,178,128.0**	**$6,024,000.0**	**11,121.9**
	Less Rescission of Prior Year Funds			($40,000.0)				($369,000.0)	
	Reimbursable FTE				365.0				489.5
	Total Agency Resources	**$2,269,167.0**	**$6,018,168.0**	**$8,247,335.0**	**15,415.8**	**$1,845,872.0**	**$4,178,128.0**	**$5,655,000.0**	**11,611.4**

IG's Comments On The FY 2018 President's Budget

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

THE INSPECTOR GENERAL

APR 14 2017

The Honorable Mick Mulvaney
Director
The Office of Management and Budget
725 17th Street, NW
Washington, D.C. 20503

Dear Director Mulvaney:

As you are aware, the Inspector General Act of 1978, as amended, 5 U.S.C. app. 3, § 6(g)(3)(E), states the following:

> The President shall include in each budget of the United States Government submitted to Congress—any comments of the affected Inspector General with respect to the proposal if the Inspector General concludes that the budget submitted by the President would substantially inhibit the Inspector General from performing the duties of the office.

The proposed fiscal year 2018 budget creates a significant challenge for the U.S. Environmental Protection Agency's (EPA's) Office of Inspector General (OIG) and its ability to accomplish its agency oversight mission. The President's budget proposes a 30-percent reduction to the OIG's payroll account. A budget cut of this magnitude would destabilize the OIG and have an immediate negative impact on the OIG's production capacity. As such, I do not agree with the proposed OIG appropriations cut, and argue that such a cut would substantially inhibit the OIG from performing the duties of the office, including mandatory OIG responsibilities explicitly required by federal law.

The OIG's primary deliverables are audits, program evaluations, and criminal and employee misconduct investigations. All these activities are labor intensive. A 30-percent reduction to the OIG's payroll account will virtually eliminate the OIG's ability to perform discretionary audits and program evaluations. These services assist EPA leadership, taxpayers and Congress; help to hold the agency accountable; and are valuable management tools that represent a substantial source of the OIG's ability to produce a positive return on investment to taxpayers.

Moreover, a 30-percent budget reduction would deprive the OIG's investigative team of its ability to timely respond to criminal activity subject to the OIG's jurisdiction, and impair our ability to comply with the Inspector General Act. The IG Act requires each Inspector General to report expeditiously to the U.S. Attorney General whenever the Inspector General has reasonable grounds to believe that there has been a violation of federal criminal law. Further, the OIG's mandatory investigations and audit activities are not performed by any other entity within the EPA. As such, if the OIG is not able to timely respond, there will be no timely response. This creates an unacceptable risk to the agency and to taxpayers' investment.

Additionally, the proposed budget will negatively impact the OIG's ability to retain and recruit highly skilled staff. As highlighted above, the OIG's work is labor intensive. In the long run, not being able to retain and recruit highly skilled staff will undermine the effectiveness of the EPA OIG. This outcome may manifest itself by negatively impacting the OIG's ability to serve as an effective deterrent to potential mismanagement and misconduct. In short, less oversight may lead to less concern about being discovered, and encourage behavior that otherwise would not have been contemplated.

The OIG historically produces a significant positive dollar return on investment. For example, the OIG had a return on investment of 734 percent in fiscal year 2014; 1,656 percent in 2015; and 2,098 percent in 2016. This return on investment saved taxpayers millions of dollars compared to the amount appropriated and spent by the OIG to carry out its functions; most of which are statutorily mandated.

In addition to the significant return on dollar investment, the OIG makes critical recommendations to assist the EPA in implementing its statutory mandate to protect human health and the environment. During times of significant budget pressures, we believe that OIG oversight is most needed and produces the greatest results. Taking money away from the OIG will have a negative impact on taxpayers' return on investment, as well as significantly reduce oversight of EPA programs that protect human health and the environment. If the OIG is not able to fully perform this important oversight role, who will?

The President's budget proposes an adjusted EPA appropriation that exceeds $5 billion dollars, and a workforce exceeding 13,000 full-time equivalents. Neither of these numbers suggest any substantial risk reduction to EPA resources, or justify decreased oversight by the OIG. In short, both revised budget numbers are substantial and will require adequate OIG resources to assure taxpayers that their investment is being used as intended.

I respectfully request that the President's budget recognize the vulnerability to the agency that any reduction of OIG funding would create, along with the loss of return on investment it represents. I also request that the President's budget restore the OIG request to the fiscal year 2016 level. If this is not possible, consistent with the provisions of the IG Act, I respectfully request that the President include my above comments with the budget that is submitted to Congress.

If you or your staff have any questions, or if you would like to meet and discuss this matter, please contact me at (202) 566-0847 or elkins.arthur@epa.

Sincerely,

Arthur A. Elkins Jr.

cc: The Honorable Michael Horowitz, Chairman, Council of the Inspectors General on Integrity and Efficiency
David Bloom, Acting Chief Financial Officer, EPA

Physicians' Comparability Allowance (PCA) Worksheet For By 2018

Environmental Protection Agency
Table 1

		PY 2016 (Actual)	CY 2017 (Estimates)	BY 2018 (Estimates)
1) Number of Physicians Receiving PCAs		4	4	4
2) Number of Physicians with One-Year PCA Agreements				
3) Number of Physicians with Multi-Year PCA Agreements		4	4	4
4) Average Annual PCA Physician Pay (without PCA payment)		$138,606	$143,326	$144,759
5) Average Annual PCA Payment		$24,917	$24,419	$24,419
6) Number of Physicians Receiving PCAs by Category (non-add)	Category I Clinical Position			
	Category II Research Position	4	4	4
	Category III Occupational Health			
	Category IV-A Disability Evaluation			
	Category IV-B Health and Medical Admin.			

7) If applicable, list and explain the necessity of any additional physician categories designated by your agency (for categories other than I through IV-B). Provide the number of PCA agreements per additional category for the PY, CY and BY.

The EPA expects no additional categories to be applicable in the foreseeable future.

8) Provide the maximum annual PCA amount paid to each category of physician in your agency and explain the reasoning for these amounts by category.

The maximum allowance being paid to a Category II Research Position is $30,000.

9) Explain the recruitment and retention problem(s) for each category of physician in your agency (this should demonstrate that a current need continues to persist).

(Please include any staffing data to support your explanation, such as number and duration of unfilled positions and number of accessions and separations per fiscal year.)

Historically, the number of the EPA Research Physicians is between five and seven positions. This small population experiences modest turnover. The value of the physicians' comparability allowance to the EPA is as a retention tool.

10) Explain the degree to which recruitment and retention problems were alleviated in your agency through the use of PCAs in the prior fiscal year.

(Please include any staffing data to support your explanation, such as number and duration of unfilled positions and number of accessions and separations per fiscal year.)

We are told regularly that absent the allowance, some EPA research physicians would seek employment at federal agencies that provide the allowance.

11) Provide any additional information that may be useful in planning PCA staffing levels and amounts in your agency.

An agency with a very small number of physician positions and a low turn-over rate among them still needs the allowance authority to maintain the stability of the small population. Those who opt for federal employment in opposition to private sector employment still want the maximum pay available in the federal sector. Were it not for the PCA, the EPA would regularly lose some of its physicians to other federal agencies that offer the allowance, requiring the EPA to refill vacant positions. Turn-over statistics should be viewed in this light.