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

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OFFICE OF CONGRESSIONAL
AND INTERGOVERNMENTAL RELATIONS

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

Thank you for your letter of July 10, 2012, to Gina McCarthy requesting responses to Questions for the Record following the June 19, 2012, hearing before the Committee on Environment and Public Works entitled, "Review of Recent Environmental Protection Agency Air Standards for Hydraulically Fractured Natural Gas Wells and Oil and Natural Gas Storage."

The responses to the questions are provided as an enclosure to this letter. If you have any further questions, please contact me, or your staff may contact Josh Lewis in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-2095.

Sincerely,

Laura Vaught
Deputy Associate Administrator
for Congressional Affairs

Enclosure

cc: The Honorable James M. Inhofe
Ranking Member

Enclosure

Environment and Public Works Committee Hearing
June 19, 2012
Follow-Up Questions for Written Submission

Questions for Gina McCarthy
Questions from: Senator James Inhofe

New Source Review Aggregation

1. In September 2009, you withdrew (without notice and comment rulemaking) the previous Administration's determination that oil and gas fields do not need to be aggregated for purposes of New Source Review permitting. You replaced the previous law and policy that provided certainty to oil and gas development with a case-by-case subjective analysis, which has created uncertainty, lawsuits, and challenges to oil and gas permits throughout the United States. What led the Agency to determining the previous law or policy was incorrect? Was there any concern at the Agency that replacing the previous law or policy with a case-by-case subjective analysis would lead to substantial uncertainty in the development of oil and gas resources?

Response:
Source determinations under the New Source Review (NSR) program have always been made on a case-by-case basis, using three regulatory criteria (whether activities are under common control, are contiguous or adjacent, and whether they are part of the same industrial grouping). The January 12, 2007, guidance memorandum "Source Determinations for Oil and Gas Industries" issued by Acting Assistant Administrator William Wehrum (the 2007 memo) was not a "determination that oil and gas fields do not need to be aggregated" and did not mandate application of a particular approach to determining whether oil and gas fields need to be aggregated for purposes of NSR and Title V permitting. Rather, it was a non-binding policy statement that set forth a possible methodology for making source determinations in the oil and gas industry. The 2007 memo attempted to simplify the analysis required by the existing NSR and title V regulations by focusing on only one of the three regulatory criteria for source determinations, looking at proximity to determine whether activities are "contiguous or adjacent." This focus on just one of the three regulatory factors caused confusion. To avoid this confusion, in 2009 the EPA withdrew the 2007 memo and affirmed that all three regulatory criteria still apply, and must be assessed as usual when making a case-by-case determination of whether activities should be aggregated. This is consistent with our existing NSR regulations (40 C.F.R. 52.21), as explained in the 1980 preamble to the promulgation of those regulations (45 FR 52676) and as demonstrated through almost 30 years of historical practice making source determinations across a number of industries, including the oil and gas industry.

2. I understand that there is an on-going pilot program in EPA Region 8 that resulted from an appeal of a permit issued pursuant to the case-by-case subjective policy that you placed into effect. The pilot program requires the oil and gas industry to provide a vast amount of information in its permit applications that were never before required to demonstrate why oil and gas fields should not be treated as a traditional industrial facility. Why and under what authority did EPA require such an increase burden on the oil and gas industry? What affects would EPA estimate this new level of documentation would have on future litigation, paperwork, and regulatory certainty to oil and gas developers?

Response:
As discussed in the response to question one above, the EPA has not changed the regulatory factors used to determine whether emissions activities belong to the same major stationary source. The pilot program was developed for the purpose of studying, improving, and streamlining the way the regulatory criteria are used in making oil and gas source determinations in new or renewal title V permits. The pilot program was developed to settle a challenge to a permit-to-operate issued by the EPA. In this case, the applicant had to provide similar information to the EPA fairly late in the permitting process so that the Agency could provide a required response to public comments regarding the source determination. The pilot program avoided further proceedings in that matter, while developing information that could strengthen the EPA's record in making future source determinations. This will ultimately result in less paperwork and provide earlier and greater regulatory certainty as to the application of the regulatory criteria to the oil and gas sector. The pilot program is time and location limited. It only applies to the first six title V permit applications (new or renewal) submitted to EPA Region 8, or until October 2013, whichever comes first. To date, no permit applications have been received under the pilot program.

3. Does EPA intend for New Source Review permitting to be applicable to oil and gas fields? How could an oil and gas field be permitting under the NSR pre-construction permitting program when the expansion and development of an oil and field evolves over time and is not a traditional industrial source?

Response:
The Clean Air Act requires that NSR permitting apply to any new or modified source that has the potential to emit regulated pollutants greater than threshold amounts. NSR permitting is not limited to specific industry categories and thus also applies to oil and gas sources if they have sufficiently large potential emissions. There are oil and gas sources that are major sources and have sought permits. Many industries have sources that evolve over time, and the NSR program applies to changes at sources that make physical or operational changes that result in an increase in emissions greater than the significance threshold.

4. Emissions at well-sites have never been regulated under NSPS because well pad emissions are extremely low. How does EPA justify regulating the oil and gas industry given that emissions from these sites are well below any threshold of concern?

Response:
Natural gas well completion activities are a significant source of volatile organic compound (VOC) emissions, which occur when natural gas and non-methane hydrocarbons are vented to the atmosphere during flowback of a hydraulically fractured gas well. VOCs are precursors to ozone and PM2.5, both of which have been shown to have adverse health effects at low levels of exposure. The EPA estimates that uncontrolled gas well completions involving hydraulic fracturing vent substantially (approximately 200 times) more VOCs than uncontrolled completions not involving hydraulic fracturing (i.e., conventional gas wells). Specifically, the EPA estimates that uncontrolled well completion emissions for a hydraulically fractured gas well are approximately 23 tons of VOCs, whereas emissions for a conventional gas well completion are around 0.12 tons VOCs. Prior to this rulemaking, the last NSPS for the Oil and Gas Sector was promulgated in 1985. At that time, hydraulically fractured gas wells were not common, thus VOC emissions at wells sites were far lower than they are today. Additionally, the

information the EPA received on hydraulically fractured oil wells suggests that emissions from these wells are far lower than gas wells, and thus emissions from hydraulic fracturing of oil wells are not covered under this NSPS.

5. Other Clean Air Act programs, such as minor source permitting programs that are implemented by the States, were already regulating the low emitting sources in the oil and gas industry. Why did EPA find it necessary to regulate these low emitting sources when the States were already doing so under the Clean Air Act?

Response:
This rulemaking draws from successful aspects of existing state programs in Wyoming and Colorado and applies these standards nationally, leveling the playing field across all states and providing substantial and cost-effective health and environmental benefits. As described in the response to question four, well completions at hydraulically fractured gas wells are a substantial source of VOC emissions. Colorado and Wyoming are already regulating these emissions, but hydraulic fracturing is rapidly spreading across the country and into states without permitting programs designed for this new form of gas exploration and production. A national program based on the successes of existing state programs yields significant benefits to human health and the environment.

6. In the 2008 Consolidated Appropriations Act, Congress directed EPA to inventory of greenhouse gas (GHG) emissions above "appropriate thresholds." Subpart W is the section of the resultant EPA rule targeting onshore oil and natural gas production. In theory, only a facility that meets the threshold of 25,000 tons/year would be required by the rule to purchase and install monitoring equipment and report GHG emission levels to EPA. However, even though most individual wells would never come close to meeting the GHG thresholds, EPA's sweeping definition of a single "facility" will require operators to install costly equipment on every well. This is because in its novel definition, EPA defines a "facility" as a bundling of all petroleum or natural gas equipment on a well pad or associated with a well pad in a single hydrocarbon basin. Significantly, some of these hydrocarbon basins are so large that under this expansive approach all wells under common ownership along the Gulf Coast of Texas and Louisiana and are treated as one facility. Likewise, all wells under common ownership in State of Pennsylvania would be considered one facility. Why has EPA created this unprecedented definition of "facility?" Why did EPA not use a definition equivalent to the definition of a facility under the Clean Air Act as modified by the intent of Section 112 (n)(4)?

Response:
When the EPA proposed subpart W of the Greenhouse Gas Reporting Rule, its goal was to provide a facility definition that all producers can directly apply, and that would be both practical and cost-effective. The EPA sought public comment on a range of possible options for defining the facility that would report with respect to onshore petroleum and natural gas production, ranging from defining the facility at the individual well pad, to defining the facility at the field-level, to defining the facility at the basin-level. Taking into account public comments, the EPA finalized the definition of a facility with respect to onshore petroleum and natural gas production using a basin-level approach because the operational boundaries and basin demarcations are clearly defined, widely known, and the approach covered over 80 percent of emissions from onshore petroleum and natural gas production.

In addition, the EPA developed subpart W in a way that would maximize rule coverage while keeping reporting burden to a minimum, including the reporting burden on small facilities. For example, the EPA provided a threshold for reporting, and certain methodologies for specific emission sources allow for alternative methods that would reduce burden and maintain data quality. The GHG calculation methodologies used in the rule generally include the use of engineering calculations, emissions modeling software, and emission factors, or, when other methods are not feasible, direct measurement of emissions.

Subpart W is a reporting rule that collects information on the location and magnitude of GHG emissions from petroleum and natural gas systems. In contrast, Clean Air Act section 112 is a standard setting requirement to regulate air toxics (also referred to as "hazardous air pollutants" or "HAP") listed in that section.

7. Despite the exploration and production industry being such a small contributor to GHG emissions, with the more significant amounts coming from an even smaller subset of wells, EPA has put forth a proposal that would impose costly, confusing compliance burdens on almost all operators. Even of the smallest wells, at the real risk of having them be shut-in, must conduct what was supposed to be one year inventory on whether industry's GHG emissions are closer to 3 or 6 percent. What was EPA's rationale for selecting an this expansive approach burdening all producers as opposed to a more strategic proposal that would target the few sources with the greatest potential to emit GHGs?

Response:
All producers are not required to report under subpart W of the Greenhouse Gas Reporting Rule. The EPA did consider options to minimize burden, and finalized a threshold for reporting from onshore petroleum and natural gas production of 25,000 metric tons CO_2 equivalent, meaning that facilities that fall below the threshold are not required to report. Many industry stakeholders expressed support for a 25,000 metric ton CO_2 equivalent threshold because it sufficiently captures the majority of GHG emissions in the United States, while excluding many of the smaller facilities and sources.

8. Inexplicably, EPA has already promulgated NESHAPS and NSPS for the very emissions it purports to inventory. If this rule really needed for EPA to obtain accurate and reliable emissions measures, why did EPA already set NESHAPS and NSPS requirements before obtaining these inventories?

Response:
The purpose of the oil and gas regulations was not to inventory GHG emissions, but to control VOC and hazardous air pollutant (HAP) emissions from this sector. The EPA used several sources of data in order to base these rules on the most accurate information on the oil and gas industry possible. Some examples of these sources are:

- Data provided by the oil and natural gas industry to the EPA Natural Gas STAR Program. The program has been working collaboratively with industry since 1993.
- Data provided as part of the formal public notice and comment process during the rulemaking.
- Gas composition profiles from the Western Regional Air Partnership (WRAP).
- Data from the National Emissions Inventory (NEI) to perform the Risk Assessment.
- Data from the 2011 update of the U.S. Inventory of Greenhouse Gas Emissions, which included over 1,000 production wells across the United States.

While the EPA is confident that our current rules were based on the best information available when they were released, including the 2011 update of the U.S. Inventory of Greenhouse Gas Emissions, the EPA will continue to refine and improve our knowledge of the oil and gas industry as data and information become available. This process of continual improvement requires updating the U.S. Inventory of Greenhouse Gas Emissions as emissions change and new data become available.

General

9. EPA cannot regulate technology into existence. Experts have serious concerns that the equipment prescribed to conduct Reduced Emission Completions will simply not be available in time to comply with the final rule schedule. If it takes years to manufacture sufficient specialized equipment and adequately train operators how to safely conduct these operations, how will EPA accommodate these anticipated impracticabilities?

Response:
Through EPA and industry events and collaborative studies, the EPA has interacted with operating companies that have extensive experience implementing reduced emissions completions (REC). In particular, the EPA developed a detailed study on RECs in collaboration with oil and gas companies (Lessons Learned from Natural Gas STAR Partners Reduced Emissions Completions for Hydraulically Fractured Natural Gas Wells, available at:
http://www.epa.gov/gasstar/documents/reduced_emissions_completions.pdf). Based on information received in public comments following proposal, the EPA believes that, currently, there is already significant demand for REC equipment. For example, Colorado, Wyoming, the City of Fort Worth, Texas, and the City of Southlake, Texas, require REC under certain conditions. Additionally, public comments, reports to the EPA's Natural Gas STAR Program and press statements from companies indicate that some producers implement REC voluntarily, based upon economic and environmental objectives.

Under the rule, RECs are not immediately required of all well completions. Through 2014, the required "best system of emission reduction" (BSER) for well completions is to combust completion emissions. REC as an alternative to combustion is permitted by the rule so that facilities that are able to obtain REC equipment may still capture completion emissions using REC. This period will provide flexibility for industry to ensure equipment is available to capture natural gas in time to meet compliance deadlines. After January 1, 2015, capturing completion emissions using REC will be considered the BSER and will be required under the NSPS.

10. How do the EPA's economic analyses take into consideration the vast differences between formations and types of operations? Specifically what did EPA study and consider related to considerations and variations based on: (1) wet v. dry plays; (2) tight formations; (3) wildcat and exploratory wells; (4) depth of the fracturing; (5) directional drilling; and (6) size, type, and complexity of operation. Does EPA include all possible compliance costs and operational variables? When or under what circumstances do completion controls cease to be economically profitable?

Response:
Economic analyses conducted by the EPA to support the NSPS rulemaking can be found in the

Regulatory Impact Analysis released with the final rule. In the United States, thousands of hydraulically fractured natural gas wells are completed annually across a wide geographic range. These gas wells are completed in a variety of formation types using a wide range of technical approaches. Given this high variability and the fact that the economic analysis supporting the NSPS must rely upon forecasts of future natural gas exploration and development, the data are not available to estimate cost impacts for every possible combination of factors. Rather, to estimate national-scale cost impacts of the NSPS, the EPA relied upon costs estimates that were representative of a wide range of conditions using the best data available to the EPA. It should be noted, however, that Reduced Emissions Completions (RECs) requirements in the NSPS do not apply to all hydraulically fractured natural gas well completions. RECs are not required of hydraulically fractured wildcat and delineation natural gas wells and hydraulically fractured natural gas wells where reservoir pressure is not sufficient to perform an REC. These low pressure wells are predominantly located in coalbed methane basins.

However, the EPA recognizes that the variability of certain assumptions used to estimate the national-level regulatory costs can influence national cost estimates, such as the assumptions about natural gas prices at the wellhead, the costs to perform green completions, and the potential emissions from hydraulically fractured natural gas well completions. As result, the EPA performed sensitivity analyses of the influence of these key factors on the engineering costs estimate of the final NSPS. These sensitivity analyses identify the combinations of wellhead natural gas prices, green completion costs, and potential emissions levels at which the NSPS requirements break-even financially. For further details on this sensitivity analysis, please refer to Section 3.2.2 of the Regulatory Impact Analysis (RIA) for this rulemaking.

11. What was the price of natural gas used by when completing the economic analyses for these rules? Did EPA's economic analysis accommodate for vast swings in spot prices for natural gas? Did EPA review historic figures and analysis? Did EPA make future pricing projections?

Response:
In its economic analysis, the EPA assumed that onshore producers in the lower 48 states received $4/Mcf for natural gas at the wellhead, an assumption that was based on the commonly referenced Annual Energy Outlook 2011 forecast. As the price assumption is very influential on estimated annualized engineering costs, the EPA performed a sensitivity analysis of the influence of the assumed wellhead price paid to natural gas producers on the overall engineering annualized costs estimate of the promulgated NSPS. For further details on this sensitivity analysis, please refer to Regulatory Impact Analysis (RIA) for this rulemaking. The EPA also examined historical gas prices in the Industry Profile chapter of the RIA.

12. The Director of Wyoming Department of Environmental Quality, John Corra, explained a very unique phenomenon experienced in the Upper Green River Basin during the winter of 2008. When the problem arose, the state had the immediate flexibility to rapidly study the localized issue, pinpoint the problem, and work with industry to quickly tailor unique solutions and contingency plans. This agile model is the antithesis of a nationalized, one-size-fits-all approach. What steps is the EPA taking to ensure that the new oil and gas NSPS and future regulations will not interfere with the minor source programs states have in place? How can EPA replicate the speed, accuracy, and efficiency demonstrated by local regulators working in conjunction with industry to find workable solutions to unique problems? What is EPA doing to ensure the local

flexibility required to create effective, common-sense regulations?

Response:
This rulemaking draws from the successful aspects of existing state programs in Wyoming and Colorado and applies them nationally, leveling the playing field across all states and providing substantial and cost-effective health and environmental benefits. Colorado, Wyoming and Fort Worth, Texas already require reduced emission completions (RECs) at hydraulically fractured well sites. The NSPS does not impose additional requirements for control of emissions from well completions on operators in those locations.

Throughout the development of the rule, the EPA consulted with state agencies through teleconferences and site visits. In August of 2010, the project team conducted several days of site visits arranged and accompanied by the Colorado Department of Public Health and Environment and by the Wyoming Department of Environmental Quality. These consultations and site visits enabled the EPA to design a rule that works in conjunction with successful existing state programs and avoids undermining those programs. For example, notifications submitted by operators per state advance well completion notification requirements are considered by the EPA to satisfy the advance notification requirements for well completions under the NSPS. Additionally, the rule is not prescriptive regarding the steps that must be performed as part of an REC, allowing flexibility for operators to adjust to site-specific situations. The EPA has continued its consultation with state agencies as it has moved into the implementation phase of the rule.

13. What is the anticipated carbon footprint of compliance with the rules? (Including the life-cycle impact of paper work, man hours, transit, recordkeeping, technology, and other related compliance costs?)

Response:
Based on available data, the EPA believes that the carbon footprint associated with complying with these rules would be small, particularly in relation to the very large climate co-benefits associated with reducing methane emissions. The control techniques used to avoid VOC and HAP emissions can create secondary impacts, which may partially offset the benefits of these rules by increasing emissions of carbon monoxide, NOx, particulate matter and other pollutants. Also, these rules could slightly alter the distribution of national fuel consumption between natural gas, petroleum, and coal (which have different carbon footprints). The EPA estimated the magnitude of these secondary impacts in the Regulatory Impact Assessment (RIA) for the rules, finding that the magnitude of these secondary air pollutants is likely to be small. According to the RIA, the averted CO_2-equivalent emissions reductions from new sources are estimated at 19.2 million metric tons in 2015, while additional CO_2-equivalent emissions from control techniques and shifts in fuel consumption are estimated at 1.6 million metric tons in 2015, indicating a net decrease of CO_2-equivalent emissions of 17.6 million metric tons. The EPA does not have data regarding the carbon footprint of paperwork and recordkeeping, but it is likely to be very small.

14. EPA has indicated that it expects all future fossil fueled power plants to use natural gas rather than coal. Now EPA has issued a proposal to tighten the PM standards and create non-attainment areas in the very states (PA & OH) where that natural gas is and will be produced. How will we be able to tap that gas, fuel our electricity and create jobs if EPA proceeds with its proposal to

create more non-attainment areas?

Response:
The EPA has not proposed additional nonattainment areas for PM. Rather, on June 14, 2012, the Agency issued a proposal to strengthen the nation's air quality standards for fine particle pollution to improve public health and visibility. The EPA anticipates that if these standards are finalized, few additional areas would have air quality that does not meet the standards. Furthermore, the EPA's modeling indicates that virtually all areas, including all counties in Pennsylvania and Ohio, would be in attainment with the standards by 2020 due to existing rules and programs.

If new PM standards are finalized in December 2012, the EPA anticipates making attainment/nonattainment designations for any counties that do not meet the standards by December 2014, with those designations likely becoming effective in early 2015. States would have until 2020 (five years after designations are effective) to meet the proposed health standards.

Recent Clean Air Act rules are projected to help states meet the proposed standards by dramatically cutting pollution both regionally and across the country. These rules include rules to reduce pollution from power plants, clean diesel rules for vehicles, and rules to reduce pollution from stationary diesel engines. The EPA does not anticipate that investments in oil and gas development would significantly interfere with this rapid progress toward reducing particle pollution.

15. Industry recently released a comprehensive study relying on data from ten times the number of wells as the previous EPA estimate for methane emissions and found that EPA's emissions estimate in some instances were a factor of2 too high and other studies have found overestimations of closer to 1400%. How long will it take for EPA to update its emissions inventory to reflect the more comprehensive data? How does the more comprehensive industry methane emissions data affect EPA's cost-effectiveness assertions in the oil and gas rule?

Response:
The EPA evaluated all data received through the comment period to the New Source Performance Standards, including the above referenced emissions study on hydraulically fractured well completions. As a result of this assessment, the EPA concluded that the original EPA emission factor provides a valid central estimate of emissions from this source in the U.S. The EPA is confident that its emissions estimates and cost analyses were based on the best data available at the time of the calculations. More details on our review of emissions data and comments received through the NSPS can be found in the Technical Support Document to the NSPS at:
http://www.epa.gov/airquality/oilandgas/pdfs/20120418tsd.pdf.

The EPA notes that the most recent industry study it is aware of does not include new emissions data on sources covered by the NSPS, but rather only includes new activity data (e.g., hydraulically fractured wells counts). The EPA will continue to evaluate all new data relevant to estimating emissions, including data received after the NSPS comment period, such as the recent industry study, for potential incorporation in the Inventory of U.S. Greenhouse Gas Emissions and Sinks (Inventory). The EPA welcomes stakeholder feedback on the natural gas sector estimates in the Inventory, and new data and information on updates to the estimates. For the upcoming Inventory development cycle, the EPA will be holding a stakeholder workshop on key aspects of the estimates of GHG emissions from the natural

gas sector in the Inventory.

16. Methane occurs naturally in ambient air. Atmospheric methane surveys and soil gas sampling can be used to establish baseline methane levels and then detect changes in methane concentration as shale gas well development occurs. DOE's NETL lab is undertaking such a research effort, which will include fugitive emissions in PA. For example, methane from both natural seeps and from pre-existing wells and pipelines is expected to be present at the Washington County site prior to development. What is EPA's role in this effort? What are the opportunities for the broader oil and natural gas industry (not just the single operator) to participate in this study? How is the information being shared with interested stake holders? How will these results be used to re-evaluate the rules?

Response:
The EPA is not involved in the DOE/NETL research effort to measure methane from fugitive sources in Pennsylvania. Although there may be opportunities for the broader oil and natural gas industry to participate in the study, such opportunities would need to be explored through DOE. DOE has consistently shared information from their studies with interested stakeholders, and the approaches to such information transfer will be determined by DOE. The information they develop can provide data that will add to our understanding of fugitive methane emissions from oil and gas development activities. This may allow the EPA to update methane emission estimates in certain EPA programs, such as the U.S. Greenhouse Gas Inventory.

17. The proposed rule purports to not regulate GHGs, but rather VOCs. However, many natural gas streams produced today contain little or no VOCs. Despite this, EPA calculated cost effectiveness based on natural gas that is 18% by weight VOC. The cost effectiveness (in dollars per ton of VOC reduced) approaches infinity as VOC content approaches zero. How does EPA economically justify its regulations for not just for the average "model" facility, but for reasonably expected variations? Why did EPA ignore this reality and select a one-size-fits-all approach instead of focusing regulations on streams with a minimum VOC content? Do these rules regulate any facilities that emit no VOC's or HAP's at all? If so, how does the Agency justify this?

Response:
The EPA did not set a VOC threshold for well completions, because available data does not support establishing a threshold and because of implementation concerns. Specifically, even if such a VOC concentration threshold were applied, to ensure compliance with the rule, an operator would have to determine with certainty before the beginning of flowback whether a particular well was going to be above or below the threshold in order to mobilize the necessary capture equipment and secure a flow line, etc. This would require the operator to determine the reservoir composition, e.g., the gas composition prior to separation, in advance of the well completion (i.e., the determination of whether the well would be subject to the NSPS would have to be performed before the information on which to base such a determination would be available). Although nearby existing wells could potentially provide some indication of the general VOC content of the gas from the future well in question, there would be no assurance of certainty. Although the EPA did not set a VOC threshold for well completions, it improved the final rule by including a subcategory of "low pressure" wells that will not be required to perform green completions. This will remove over 85 percent of the coalbed methane wells (which may be relatively low in VOC content) from those required to perform green completions (these wells will

only be required to use flaring to control emissions).

The EPA did include a VOC emissions threshold for application of the storage vessel standards. During the rulemaking, the EPA evaluated the cost-effectiveness of regulating storage tanks with various levels of crude oil and condensate throughput rates. The EPA estimated that storage vessels with a throughput rate of one barrel per day of crude oil, or twenty barrels per day of condensate, emit about six tons per year of VOC. The EPA determined that regulation at these throughput levels was cost-effective. Accordingly, affected storage vessels are limited to those which emit at least six tons per year of VOCs.

With regard to low VOC streams, the EPA did not finalize proposed requirements for pneumatic controllers and compressors located in the transmission and storage segment, since these devices handle and emit pipeline quality gas, which is very low in VOC content.

18. Emissions data was recorded from several NOAA observation towers throughout the country, including two in California, two in Colorado, and one each in Texas, Oklahoma, and Wisconsin. According to the NOAA study, the Wisconsin tower, "in the middle of the Chequamegon National Forest" recorded a higher methane level than the tower in the middle of the Denver-Julesburg Basin. Why would a tower located in a federally protected forest and far removed from any industrial activity record higher methane emissions than measurements taken in a natural gas field?

Response:
The EPA did not participate in this study and cannot comment on the specific conditions and data collected from the towers in the study.

19. Economic analysis of emission control strategies should be representative of real-world operations, include the full variety of conditions, and consider all of the costs of compliance with the proposed rule. For example, API found the cost effectiveness for tanks to vary from $5,271/ton of VOC to $1,519,667/ton of VOC. The "average model facilities" that EPA has used in the economic analysis do not represent the great variation seen across the U.S. Why did EPA ignore these realities and refuse to narrow the proposed regulations to operations in which the proposed emission control practices can be applied in a cost effective manner?

Response:
As discussed in question ten, natural gas exploration and development in the United States is highly variable across geography, formation type, and technical approach. Given this high variability and the fact that the economic analysis supporting the NSPS must rely upon forecasts of future natural gas exploration and development, the data are not available to estimate cost impacts for every possible combination of factors. Rather, to estimate national-scale cost impacts of the NSPS, the EPA relied upon costs estimates that were representative of a wide range of conditions using the best data available to the EPA. As noted in the response to question seventeen, the EPA could not set a VOC threshold for well completions, because available data did not support establishing a threshold and because of implementation concerns. However, the EPA did set a VOC emissions threshold for application of the storage vessel standards based on cost-effectiveness.

20. Most producers do not normally track the information EPA requires to be reported for this rule. To begin tracking the GHG emissions required by this rule, America's oil and natural gas producers will be required to purchase costly equipment to affix to their operations merely to inventory GHG emissions. As the rule goes into effect, it is most damaging to America's smaller independents who will have to bear the cost of affixing this inventory equipment to their operations. What specifically is EPA doing to ensure that the rule will be economically feasible for these smaller producers?

Response:
The EPA established the Greenhouse Gas Reporting Program in 2009 and finalized the requirements for the petroleum and natural gas sector (subpart W) in 2010 after a full notice and comment process. The EPA developed subpart W of the Greenhouse Gas Reporting Rule in a way that would maximize rule coverage while keeping reporting burden to a minimum, including reporting burdens to small facilities. For example, the EPA provided a threshold for reporting, and certain methodologies for specific emission sources, which allow for alternative methods that would reduce burden and maintain data quality. In addition, the GHG calculation methodologies used in the rule generally include the use of engineering calculations, emissions modeling software, and emission factors, or, when other methods are not feasible, direct measurement of emissions.

21. Ms. McCarthy, in your testimony you stated that ICAC estimated that the implementation of the Clean Air Interstate Rule Phase I created jobs in the air pollution control industry. How many jobs were lost (or alternatively, you used the term "shifted") in other sectors?

Response:
ICAC did not look at jobs gained or lost in other industries. However, investing in control technologies to reduce air pollution from the U.S. power sector does lead to new opportunities for American businesses, including steel manufacturers, by increasing demand for American workers to install, operate, and maintain pollution control equipment. ICAC looked at the employment effect of CAIR in the control technology industry and estimated that implementation of CAIR Phase 1 resulted in 200,000 jobs in the air pollution control industry. This large-scale assessment is supported by evidence from specific emission reduction projects. For example, at its peak, Alabama Power's $1.7 billion scrubber initiative, which was launched in 2005 and contributes to CAIR compliance, created more than 2,300 jobs. According to Charles McCrary, Alabama Power president and CEO, "this investment [was] not only good for the environment, it [was] also good for Alabama's economy."

22. 42 USC 7411(f) requires consultation with State Governors and air pollution control agencies before expanding the listed categories or promulgating new NSPS. Has EPA conducted the required consultations with the States with significant the oil and gas transportation and distribution sectors? Will EPA revise the requirements for reduced emission completions requirements, storage vessels, pneumatic controllers, and compressors in NSPS, Subpart OOOO based on continued consultation?

Response:
The EPA interprets 111(f)(3) to apply only to the initial promulgation of the NSPS regulation for a listed source category. The NSPS regulation for the listed oil and natural gas source category was promulgated in 1985. Furthermore, the EPA did not expand the category listing in the recent revision to

the oil and natural gas NSPS, because the EPA concluded that the current listing covers the new emission sources. The EPA therefore does not believe that section 111(f)(3) is implicated in this instance.

However, during development of the rule, the EPA consulted with state agencies. In August of 2010, the project team conducted several days of site visits arranged and accompanied by the Colorado Department of Public Health and Environment and by the Wyoming Department of Environmental Quality. The EPA arranged several teleconferences with the States of Texas, Colorado, and Wyoming as we continued to develop the rulemaking. Further, the EPA briefed the Western Regional Air Partnership (WRAP), participated in WRAP teleconferences, and referred to data developed by WRAP in our rulemaking. The EPA participated in several teleconferences, and, in February of 2011, briefed the Marcellus Shale Working Group, which included the EPA, industry, and state agencies. After the public comment period, the EPA arranged teleconferences to obtain further clarification of comments submitted by Colorado and Wyoming. The EPA believes this state consultation improved the quality of the final action. In addition, the EPA incorporated provisions in the final rule that it believes will help minimize permitting burden on state agencies, owners, and operators. For example, existing gas wells that are refractured are not "affected facilities" under the NSPS if the well completion operation is conducted using REC and meets notification, reporting, and recordkeeping requirements. By not being "affected facilities" under the NSPS, these sources may not be subject to state permitting requirements. Another example of this concept is that, in provisions for pneumatic controllers located in the oil and natural gas production segments (upstream of custody transfer to gas processing plants or oil pipelines), the EPA limited applicability of the final NSPS to only "high bleed" natural gas driven pneumatic controllers. All other pneumatic devices in these segments are not "affected facilities" under the NSPS. Similarly, the EPA removed centrifugal compressors with dry seal systems from final NSPS applicability. The final rule therefore provides flexibility for industry while maintaining the environmental benefits from the rule.

23. The notifications, monitoring, recordkeeping, testing and reporting requirements for a major source NESHAP regulation are overly burdensome for NSPS Subpart OOOO. Because of the remote, dispersed and unmanned nature of facilities that lack electrical power, make the requirements logistically impractical, technically difficult and uneconomic. Furthermore, the use of NESHAP compliance requirements for storage vessels is confusing and unjustifiably stringent for NSPS. With these considerations in mind, what specific O&G industry appropriate notification, recordkeeping, reporting, and performance testing sections requirements will be included in Subpart OOOO?

Response:
The EPA understands that the upstream oil and natural gas production industry is unique with regard to the number and remote location of facilities. With this in mind, the final NSPS will achieve significant emission reductions while minimizing burden on operators. In the final rule, the EPA streamlined notification, recordkeeping, and reporting requirements significantly. For example, operators are required to provide only a 2-day advance notification of well completions. This notification may be submitted via e-mail. To avoid duplicative and potentially conflicting advance notification requirements,

the final rule provides that operators who have met advance well completion notification requirements under state regulations are considered to have met the advance notification requirements of the NSPS. Further, the final NSPS exempts operators from pre-construction notifications for wells, pneumatic controllers, and storage vessels that would have been required under the NSPS general provisions. The EPA has also added flexibility to annual reporting requirements by providing a streamlined annual reporting option for well completions in which operators need only submit digital images of each green completion in progress, combined with a list identifying all wells completed during the reporting period, in lieu of submitting detailed records of each well completion.

Monitoring and testing requirements have been balanced with operator burden as well. Operators may rely on results of manufacturer-conducted performance tests for specific models of combustor control devices, instead of conducting performance field tests on each individual combustor.

To avoid confusion, and in response to public comments on the proposed NSPS, the EPA incorporated the storage vessel requirements directly into the NSPS, rather than referring to the NESHAP provisions for storage vessels.

24. The equipment necessary to comply with the REC requirements is currently not available and will require time to manufacture. Furthermore, industry will have a shortage of experienced contractors or staff for safely doing "reduced emissions completions." Due to the limited availability of appropriate and safe equipment and experienced and trained personnel to perform REC's, what steps is EPA taking to ensure timely manufacturing of equipment and training of operators without premium costs associated with short time-frames?

Response:
Capturing completion emissions using REC will not be required under the NSPS until January 1, 2015. This period will provide flexibility for industry to ensure equipment is available to capture natural gas in time to meet compliance deadlines. See the response to question nine for more detail.

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

THE ADMINISTRATOR

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

I am pleased to support the charter renewal of the Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The Federal Insecticide, Fungicide, and Rodenticide Act Scientific Advisory Panel is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

I am filing the enclosed charter with the Library of Congress. The Committee will be in effect for two years from the date it is filed with Congress. After two years, the charter may be renewed as authorized in accordance with Section 14 of FACA (5 U.S.C. App. 2 § 14).

If you have any questions or require additional information, please contact me or your staff may contact Christina J. Moody in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely,

Lisa P. Jackson

Enclosure

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

NOV 7 - 2012

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Harold Rogers
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

I am transmitting the U.S. Environmental Protection Agency's response to the July 2012 Government Accountability Office report entitled "*Information Security: Environmental Protection Agency Needs to Resolve Weaknesses*" (GAO-12-696). The EPA prepared this response pursuant to 31 U.S.C. 720.

This response reflects the EPA's continuing effort to ensure that all information assets are protected at a level that is commensurate with the sensitivity level of the data. Specifically, the GAO provided the agency with 12 recommendations structured to assist with the full implementation of all elements of the EPA's information security program. The EPA is in agreement with the spirit of these findings and recommendations. Currently, the agency's Chief Information Officer is taking action to implement the GAO's recommendations. Below are the GAO recommendations, followed by the agency's responses.

GAO Recommendations

To help establish an effective and comprehensive information security program for EPA's information and information systems, we recommend that the Administrator of EPA direct the Assistant Administrator for the Office of Environmental Information to take the following 12 actions:

- Update configuration management procedures to ensure they include guidance for documenting records of approved changes.
- Finalize the 17 agencywide interim information security policies and draft procedures.
- Update system security plans to reflect current policies and procedures.
- Include current NIST Special Publication 800-53 guidance in system security plans.
- Develop and finalize a role-based security training procedure that tailors specific training requirements to EPA users' role/position descriptions and details the actions information security officers must take when users do not complete the training.
- Conduct testing of management, operational, and technical controls, based on risks, to occur no less than annually, for the clean air markets division system identified.
- Include features in the planned remedial action tracking tool that will require users to enter all information required by OMB policy, including descriptions of each weakness and the source of the finding.
- Include features in the planned remedial action tracking tool that block inappropriate alteration of data.

- Implement an agencywide, uniform method for approving contingency plans.
- Develop and implement procedures to annually test the viability of contingency plans for agency systems.
- Develop and implement procedures to ensure that both work and home contact information are included for each individual in a contingency plan's emergency contact list.
- Implement procedures to verify the accuracy of system inventory information.

In a separate report with limited distribution, we are also making 94 detailed recommendations to correct weaknesses in access controls and in other information security controls.

The following are the EPA's responses to the GAO recommendations:

GAO Recommendation:

Update configuration management procedures to ensure they include guidance for documenting records of approved changes.

EPA Response:

The EPA agrees with the recommendation and has updated configuration management procedures to include guidance for documenting records of approved changes.

GAO Recommendation:

Finalize the 17 agencywide interim information security policies and draft procedures.

EPA Response:

The EPA agrees with the recommendation and has finalized and disseminated the overarching information security policy and accompanying 17 interim procedures.

GAO Recommendation:

Update system security plans to reflect current policies and procedures.

EPA Response:

The EPA agrees with recommendation and will update system security plans accordingly.

GAO Recommendation:

Include current NIST Special Publication 800-53 guidance in system security plans.

EPA Response:

The EPA agrees with recommendation and will update system security plans to reflect current 800-53 guidance.

GAO Recommendation:

Develop and finalize a role-based security training procedure that tailors specific training requirements to EPA users' role/position descriptions and details the actions information security officers must take when users do not complete the training.

EPA Response:

The EPA agrees with recommendation and will continue coordinating with the EPA Office of Inspector General to analyze the EPA roles and responsibilities for personnel with significant security responsibilities. The EPA will develop and implement tailored role based training based on the analyses. Related procedures will be included in existing procedures.

GAO Recommendation:

Conduct testing of management, operational, and technical controls, at least annually for the clean air markets division system identified.

EPA Response:

The EPA agrees with recommendation and will continue with transition to third party annual assessments for moderate and high categorized systems across the EPA started in October 2011.

GAO Recommendation:

Include features in the planned remedial action tracking tool that will require users to enter all information required by OMB policy, including descriptions of each weakness and the source of the finding.

EPA Response:

The EPA agrees with recommendation and is scheduled to complete transition to planned remedial action tracking tool by the end of November 2012 to address shortcomings of current tool.

GAO Recommendation:

Include features in the planned remedial action tracking tool that block inappropriate alteration of data.

EPA Response:

The EPA agrees with recommendation and is scheduled to complete transition to planned remedial action tracking tool by the end of November 2012 to address shortcomings of current tool.

GAO Recommendation:

Implement an agencywide, uniform method for approving contingency plans.

EPA Response:

The EPA agrees with recommendation and will implement an agencywide, uniform method for approving contingency plans.

GAO Recommendation:

Develop and implement procedures to annually test the viability of contingency plans for agency systems.

EPA Response:

The EPA agrees with the recommendation and has developed and disseminated procedures for annually testing system contingency plans.

GAO Recommendation:

Develop and implement procedures to ensure that both work and home contact information are included for each individual in a contingency plan's emergency contact lists.

EPA Response:

The EPA agrees with the recommendation and will include work information at a minimum and home contact information as required based on individual roles.

GAO Recommendation:

Implement procedures to verify the accuracy of system inventory information.

EPA Response:

The EPA agrees with recommendation and will implement procedures to verify the accuracy of system inventory information.

Thank you for the opportunity to respond to this recommendation. We appreciate the information and detailed feedback provided by the GAO concerning areas addressed in this audit. If you have any questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Barbara J. Bennett
Chief Financial Officer

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

JUL 3 1 2013

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510-6175

Dear Chairman Boxer:

Thank you for the opportunity to respond to the questions for the record following the July 24, 2012, hearing on "Oversight of EPA Authorities and Actions to Control Exposures to Toxic Chemicals." The attached document has responses to the questions. I hope that this information is useful to you and the members of the committee.

If you have any further questions, please contact me or your staff may call Sven-Erik Kaiser in my office at (202) 566-2753.

Sincerely,

Arvin Ganesan
Associate Administrator

Attachment

Senate Environment and Public Works Committee
Hearing on "Oversight of EPA Authorities and Actions to Control Exposures to Toxic Chemicals"
Questions for the Record
Jim Jones, Acting Assistant Administrator
Office of Chemical Safety and Pollution Prevention
July 24, 2012

Senator Barbara Boxer, Chairman

Boxer 1. A study by researchers at the University of California at San Francisco detected certain PBDEs, PCBs, phthalates, pesticides, perchlorate and other chemicals in the blood of 99 to 100% of pregnant women that they tested.

1a. Can pre-term exposure to chemicals increase the risk of harmful health effects?

Answer: As a general matter, the mere presence of chemicals in the blood does not necessarily indicate harmful effects. Observational studies with human subjects and laboratory studies with animals can be used to study health effects from exposure to chemicals. Some laboratory studies with animals have shown that pre-term exposure to some chemicals can cause harmful health effects to the offspring if the exposure or dose to the pregnant animal is high enough, and occurs during a critical period of fetal development.[1] Observational studies with human subjects can also demonstrate health effects from exposure to chemicals.

1b. If so, please describe the range of such harmful health effects that can occur as a result of such exposures, including any impacts that may harm reproduction or development in later generations of people?

Answer: Both the effects of exposure and the likelihood (risk) that people might develop that effect vary significantly by chemical (mode and mechanism of action), the dose received, and the timing of exposure. Laboratory animal and non-animal studies to understand reproductive and developmental effects in later generations of people is currently an active research area, but uncertainties remain regarding such studies' relevance to humans, at the doses where effects are seen in test systems. The EPA's Guidelines for Developmental Toxicity Risk Assessment[2] provides a description of the endpoints commonly measured in laboratory animal studies and human epidemiological studies. The EPA also uses multigenerational reproductive toxicity assays in laboratory animals to assess potential impacts on future generations.

Boxer 2. One study published last year by researchers from the California Department of Toxic Substances Control and the University of California at San Francisco studied blood samples from pregnant women in California – and found that they generally had higher levels of PBDEs than other women in the United States, as well as Europe and Asia, and that the women also had lower levels of hormones produced by the thyroid.

2a. What impact does the thyroid have on ensuring the healthy development of infants and children?

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[1] http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3114826/pdf/ehp-119-878.pdf
[2] http://www.epa.gov/raf/publications/pdfs/DEVTOX.PDF

Answer: Please note that the observation of the presence of a chemical in human blood samples coupled with observations of altered hormone levels or other outcomes does not establish causation. The thyroid gland and thyroid hormones play an important role in the body throughout life. Every cell in the body relies on thyroid hormones to work properly. Important functions mediated by thyroid hormones include, but are not limited to: metabolism; muscle and joint function; cardio vascular fitness; digestions; bone health; hormone balance; and brain function. In infants and children, proper levels of thyroid hormone influence these functions as well as the normal progression of development. A known consequence of abnormal thyroid hormone levels during development is abnormal neurological development. For example, extremely low dietary iodine levels over a significant amount of time, most commonly in parts of the world with iodine-deficient diets, results in lowered production of thyroid hormones and this has resulted in neonatal hypothyroidism with severe physical and mental retardation in children. Note that there is a range of normal variability in hormone levels; the presence and severity of adverse effects depends on the magnitude of hormone level alteration. With less extreme hypothyroidism and poor iodide intake, the National Academy of Sciences has stated[3]:

> "Newborn infants who have hypothyroidism may have other abnormalities, including lethargy, poor muscle tone, poor feeding, constipation, and persistent jaundice, if not at birth then thereafter. The changes are similar to those which occur in older children and adults who have hypothyroidism, and, in contrast with the neurologic abnormalities, they are reversible with adequate T4 [thyroid hormone] treatment."
>
> "Pregnant women who have subclinical hypothyroidism or overt hypothyroidism and are inadequately treated or not treated at all have an increased risk of fetal loss. The infants of those mothers who do not miscarry have normal thyroid function at birth and thereafter, but their neurodevelopment may be slightly impaired."

2b. What impact can lower levels of thyroid hormones have on a woman's ability to become pregnant and to carry that pregnancy to term?

Answer: In adult females, if altered sufficiently, thyroid hormone levels can influence a woman's ability to become pregnant and to maintain that pregnancy. Important functions relevant to reproduction that are mediated by thyroid hormones include, but are not limited to: sexual function and libido, hormone balance, and ovulation. With regard to carrying pregnancy to term, the National Academy of Sciences stated[4]: "Pregnant women who have subclinical hypothyroidism or overt hypothyroidism and are inadequately treated or not treated at all have an increased risk of fetal loss."

2c. How can the differing levels of PBDE in the blood of pregnant women help to inform risk assessment and risk management decisions?

Answer: Biomonitoring studies provide valuable information on exposure and are most beneficial when used with an understanding of a chemical's toxicity. Blood levels (or levels in urine or a tissue such as fat) of a specific chemical reflect exposure from ingestion, inhalation and other exposure

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[3] From: Chapter 2, "The Thyroid and Disruption of Thyroid Function in Humans" in Health Implications of Perchlorate Ingestion (2005).
[4] *Ibid.*

pathways. With an understanding of how a chemical is distributed and transformed in the body, biomonitoring data can be used in conjunction with toxicity data to inform the potential risk from exposure to that specific chemical. Thus, knowledge of the levels of a chemical in people's blood can have a significant impact on risk assessment. Further, when coupled with knowledge of the sources and pathways of exposure, biomonitoring can be of value in informing decisions on risk reduction through reduction in specific exposures.

Boxer 3. In 2012, EPA issued an Existing Chemicals Program Strategy to identify chemicals for review based on various factors, including a chemical's potential for exposure, persistence, and bioaccumulation. The Agency issued Work Plans to begin assessing 83 chemicals in 2012. The EPA has also issued work plans to assess 18 more chemicals, including 3 flame retardants – beginning in 2013. In your testimony, you state that EPA is currently developing a strategy, scheduled for completion by the end of this year, to address flame retardant chemicals.

3a. Please describe whether TSCA provides EPA with the necessary tools to fully assess the risks of flame retardant chemicals?

Answer: When the Toxic Substances Control Act (TSCA) was enacted in 1976, it represented an important step forward in addressing the risks from industrial chemicals by granting the EPA jurisdiction over chemicals produced, used, and imported in the United States. Today, TSCA is the only major environmental statute that has not been reauthorized. Unlike the laws applicable to drugs and pesticides, TSCA does not have a mandatory program where the EPA must conduct a review to determine the safety of the more than 84,000 existing chemicals. In addition, TSCA places challenging legal and procedural requirements on the EPA before the agency can request the generation and submission of any health and environmental effects data on existing chemicals.

The EPA has developed a more effective program under TSCA to review new chemicals before introduction to the marketplace. The EPA uses professional judgment and information on similar chemicals to evaluate existing chemicals.

3b. Please describe whether TSCA provides EPA with the necessary tools to fully address the risks posed by such chemicals through implementing and enforcing risk management decisions?

Answer: When the EPA determines that a chemical poses a significant health concern, taking action under TSCA to limit or ban a chemical is challenging. For example, in 1989, after years of study and nearly unanimous scientific opinion, the EPA issued a rule phasing out most uses of the cancer causing substance asbestos. Yet, a federal court overturned most of this action because the EPA failed to clear the hurdles imposed under TSCA before existing chemicals can be controlled.

The agency is committed to utilizing the current statute to the fullest extent possible and taking risk management actions to address chemicals that may pose a concern— including brominated flame retardants (BFRs). For example, in late 2009, the EPA released an Action Plan on polybrominated diphenyl ethers (PBDEs), a group of BFRs, that highlighted concerns and specific steps the agency is taking to address those concerns.[5] In April 2012, the EPA proposed a rule requiring additional testing of

[5]U.S. EPA, Polybrominated Diphenyl Ethers (PBDEs) Action Plan Summary (2009), http://www.epa.gov/oppt/existingchemicals/pubs/actionplans/pbdes_ap_2009_1230_final.pdf.

these chemicals and the requirement that any new uses of these chemicals be submitted to the agency for review.[6] The EPA is also working with the industry and a wide range of stakeholders, under our Design for the Environment Program, on assessing alternatives to some of these chemicals to inform choices of alternatives.[7]

On March 27, 2013, the EPA made public a list of 23 chemicals for assessment beginning in 2013. The EPA will conduct full risk assessments on four flame retardant chemicals. The four flame retardant chemicals are 2-Ethylhexyl ester 2,3,4,5- tetrabromobenzoate (TBB); 1,2- Ethylhexyl 3,4,5,6-tetrabromo-benzenedicarboxylate, or (2-ethylhexyl)-3,4,5,6 tetrabromophthalate (TBPH); Tris(2-chloroethyl) phosphate (TCEP); and Hexabromocyclododecane (HBCD). The EPA will utilize a new structure based approach, grouping chemicals with similar characteristics together with the chemicals targeted for full assessment under the TSCA Workplan. The review of similar chemicals in related groupings, and the environmental fate investigations for other chemicals, complements the risk assessments by focusing the identification of data needs on chemical classes with members that rank high for specific criteria in the Work Plan methodology, but lack sufficient data to conduct risk assessment. The EPA will use the information from these assessments to better understand the other chemicals in the group, which currently lack sufficient data for a full risk assessment. The agency will also begin environmental fate investigations of eight additional flame retardant chemicals that rank high for persistence, bioaccumulation and/or exposure potential, but for which there are not adequate data to conduct risk assessments.

Boxer 4. Please describe how the existing TSCA assessment process fails to identify chemical hazards and how TSCA reform will allow EPA to identify such persistent, bioaccumulative and toxic chemicals before they commercialized and allow EPA to take effective action after such chemicals are in commerce, when needed.

Answer: For new chemicals, TSCA requires that they must go through a pre-manufacture review at the EPA 90 days prior to commencing manufacture. The required notification provides the EPA with the opportunity to evaluate the chemical and, if necessary, to impose restrictions on activities that give rise to human health or environmental risk or exposure concerns before they occur.

As stated in the response to question 3 above, TSCA does not have a mandatory program where the EPA must conduct a review to determine the safety of existing chemicals. The statute places challenging legal and procedural requirements on the EPA before the agency can request the generation and submission of any health and environmental effects data on existing chemicals. As the EPA explained in its announcement of Essential Principles for Reform of Chemicals Management Legislation,[8] all chemicals should be reviewed against a science based safety standard that reflects risk based criteria protective of human health and the environment, including the health of children and other vulnerable populations, and, manufacturers should be required to provide the EPA with the necessary information to conclude that new and existing chemicals are safe. When manufacturers do not submit sufficient information, the EPA should have the necessary authority and tools to quickly and efficiently require testing or obtain other information from manufacturers that is relevant to determining the safety of chemicals. The EPA

[6] U.S. EPA, Significant New Use and Test Rules: Certain Polybrominated Diphenylethers, 2012, http://www.regulations.gov/#!documentDetail;D=EPA-HQ-OPPT-2010-1039-0001.
[7] U.S. EPA, http://www.epa.gov/dfe/alternative_assessments.html.
[8] http://www.epa.gov/oppt/existingchemicals/pubs/principles.html

should also have clear authority to take risk management actions when chemicals do not meet the safety standard, with flexibility to take into account a range of considerations.

Boxer 5. The National Academy of Sciences (NAS) published "Science and Decisions: Advancing Risk Assessment" in 2009, which recommended several actions that EPA should take to modernize its approach to assessing chemicals' risks to human health, including for infants and children. For each of the recommendations below, list and describe the specific activities that EPA has ongoing or plans to take, including timelines for completing such actions, in order to fully implement the recommendations.

5a. NAS recommendations for EPA to modernize its methodology for assessing chemical risks, including:

i. Revising its default assumptions on the risks posed by chemicals;
ii. Developing explicit defaults about chemical risks, including for cancer and some non-cancer health effects, rather than continuing to use more informal approaches for approximating such risks (such as using "implied" defaults); and
iii. Over a two-to-five year period, developing clear criteria on the information needed to justify the use of alternative risk assumptions, rather than explicitly-stated risk defaults for chemicals.

Answer: EPA's Science and Technology Policy Council (STPC)[9] recently established the NRC Risk Assessment Reports Workgroup to address the NRC recommendations from four recent NRC reports: "Science and Decisions: Advancing Risk Assessment", "Phthalates and Cumulative Risk Assessment", "Toxicity Testing in the 21st Century", and "Exposure Science in the 21st Century: A Vision and A Strategy". This workgroup is charged with developing options and recommendations to the STPC and the EPA Science Advisor on additional steps that could be taken by the Agency to address recommendations from the relevant NRC reports, and with reviewing communications materials and summaries regarding the progress to date on incorporating the NRC recommendations into the EPA activities, including those to be sent to the SEPW.

The EPA policies regarding the current use of defaults are described in several agency documents. For example, the "Guidelines for Carcinogen Risk Assessment"[10] explain that the assessor must critically analyze the available relevant information before using a default to address uncertainty in the absence of critical information.

The EPA continues to evaluate the National Research Council (NRC) recommendations on the use of defaults and will develop additional guidance as necessary to incorporate new methods into agency practice. Concurrently, the EPA released the draft "Guidance for Applying Quantitative Data to Develop Data-Derived Extrapolation Factors for Interspecies and Intraspecies Extrapolation"[11] in 2011. This document outlines approaches for using data to develop factors to compensate for uncertainties in extrapolating from animal toxicity studies to humans and to address human variability. The external review draft is publically available and is expected to be released in final form in 2013.

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[9] U.S. EPA, Science and Technology Policy Council, http://www.epa.gov/stpc/.

[10] U.S. EPA, Guidelines for Carcinogen Risk Assessment (2005), U.S. Environmental Protection Agency, Washington, DC, EPA/630/P-03/001F, 2005, http://www.epa.gov/cancerguidelines.

[11] U.S. EPA, External Review Draft of the Guidance for Applying Quantitative Data to Develop Data-Derived Extrapolation Factors for Interspecies and Intraspecies Extrapolation, U.S. Environmental Protection Agency, Washington, DC, EPA/100/J-11/001, 2011, http://www.epa.gov/osa/raf/ddefreview.htm.

The NRC highlighted an issue they termed "missing defaults", i.e., understanding risk only for those chemicals with a robust toxicity database. Through its Chemical Safety for Sustainability (CSS)[12] and Human Health Risk Assessment (HHRA)[13] research programs, the EPA is developing new methods and databases to assess chemicals with limited traditional toxicity data. Consistent with science and decisions as well as the recommendations from the 2007 NRC report, "Toxicity Testing in the 21st Century: A Vision and A Strategy," the ultimate goal is to compile all available chemical information and data, including chemical screening data generated from innovative chemical evaluation methods, into one accessible online application that interested users can access and select chemicals and data of interest in order to make informed decisions about chemical risks. CSS is building these accessible online applications using data generated from these innovative chemical screening methods that can be used to understand how chemicals perturb pathways that potentially lead to adverse effects. This will help reduce uncertainty related to species specificity, lifestage susceptibility, and dose response characterization, and allow the EPA to focus resources on those chemicals and endpoints of highest concern. The methods and databases developed through these efforts will be made publically available.

Likewise, through the HHRA research program, building from and expanding upon approaches used to develop Integrated Science Assessments, the EPA is addressing the NRC recommendations and applying new approaches to Integrated Risk Information System (IRIS) assessments, including increased transparency regarding alternative risk methodologies.

One example of a product resulting from these efforts is the Aggregated Computational Toxicology Online Resource,[14] a web based application that provides public access to more than 1,000 public sources of information on more than 500,000 environmental chemicals, 30 years worth of animal toxicity testing data, innovative chemical screening (called high-throughput data) from over 1,000 chemicals tested in more than 650 different tests, chemical structure information for 8,000 chemicals and chemical exposure predictions. Additionally, the EPA and several other federal agencies initiated the Toxicity Testing in the 21st Century (Tox21) collaboration,[15] which will use robotics technology to screen 8,000 chemicals for potential toxicity, and will continue to improve models for predicting both hazard (ToxCastDB[16]) and exposure (ExpoCastDB[17]). These projects will provide screening level data and methods on thousands of chemicals that do not have robust traditional toxicity and exposure datasets, which will inform the risk assessment of these chemicals.

5b. NAS recommendations for EPA to modernize its methodology for assessing non-cancer health effects, including:

i. Over the short-term, using contemporary methods ("probabilistic methods) for determining health effects from low-dose exposure to chemicals; considering factors such as vulnerable populations, background exposures to chemicals, the impact of existing disease burdens in people, as well as developing default risk estimates and guidance on the consideration of such factors; and using information and estimates of human susceptibility to cancer; and
ii. Over the long-term, better understanding the occurrence of human vulnerability and susceptibility to chemicals by expanding the Agency's research on such issues, and better

[12] U.S. EPA, Chemical Safety for Sustainability, http://www.epa.gov/research/progressreport/chemical.htm.
[13] U.S. EPA, Human Health Risk Assessment, http://www.epa.gov/research/progressreport/humanhealth.htm.
[14] U.S. EPA, Aggregated Computational Toxicology Online Resource, http://www.epa.gov/ncct/actor/.
[15] NIH, Toxicology in the 21st Century, http://www.ncats.nih.gov/research/reengineering/tox21/tox21.html.
[16] U.S. EPA, ToxCast Database, http://www.epa.gov/ncct/toxcast.
[17] U.S. EPA, ExpoCastDB: Exposure Forecaster Database. http://www.epa.gov/ncct/expocast/.

understanding how multiple chemical exposures can add together to harm human health by researching the interaction of chemicals that can have the same type of toxic impact, but have potentially different ways of causing such harm.

Answer: The EPA recognizes that addressing background in dose-response and exposure assessment is a complex issue. When data are available, the agency considers both background exposures (in the environment and within the body) in dose response analysis, and background incidence of disease processes in characterizing susceptibility and variability in human response. In Integrated Risk Information System (IRIS) assessments, multiple sources of background data are discussed and considered when they occur: endogenous background (produced within the body), anthropogenic (man-made) and natural background as it pertains to dose-response, and background exposure to essential nutrients/trace metals. In addition, the Integrated Science Assessments of ozone[18], carbon monoxide[19], and particulate matter[20] consider background disease processes such as asthma in evaluating susceptibility and human vulnerability.

The EPA is also developing a cumulative health assessment for six phthalates that cause a common health endpoint (male developmental/reproductive outcomes): butyl benzyl phthalate (BBP), dibutyl phthalate (DBP), diisobutyl phthalate (DIBP), diisononyl phthalate (DINP), di(2-ethylhexyl) phthalate (DEHP), and dipentyl phthalate (DPP). This cumulative assessment may serve as a future framework for evaluating other groups of compounds that cause similar adverse outcomes.

The EPA's Risk Assessment Forum, under the oversight of the agency's Science and Technology Policy Council, has been charged with developing Guidelines for Cumulative Risk Assessment (CRA). Previously, the forum developed a "Framework for Cumulative Risk Assessment[21] published in 2003. Since then, the EPA conducted three workshops and prepared several white papers. Additionally, a series of case studies focusing on CRA issues and methods was developed for internal use to inform development of the CRA Guidelines. Draft CRA Guidelines for internal review are anticipated in 2013, followed by external peer review in 2014.

Probabilistic risk analysis (PRA) plays an increasingly important role in agency risk assessments since the 1997 EPA publication, "Guiding Principles for Monte-Carlo Analysis."[22] It was also a major focus in an associated review of the EPA practices by the agency's Science Advisory Board in September 2006.[23] The importance of using PRA is reflected by a number of advisory scientific panels and is an integral part of the EPA guidelines. The Risk Assessment Forum is developing two white papers that examine the use of probabilistic approaches in agency risk assessment and risk management. The papers provide a general overview of the value of probabilistic analyses and similar or related methods, and

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[18] U.S. EPA, Integrated Science Assessment of Ozone and Related Photochemical Oxidants (Second External Review Draft), U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-10/076B, 2011, http://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=242490.

[19] U.S. EPA Integrated Science Assessment for Carbon Monoxide, U.S. Environmental Protection Agency, Research Triangle Park, NC, EPA/600/R-09/019F, 2010, http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=218686.

[20] U.S. EPA, Integrated Science Assessment for Particulate Matter, U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-08/139F, 2009, http://cfpub.epa.gov/ncea/cfm/recordisplay.cfm?deid=216546.

[21] U.S. EPA. Framework for Cumulative Risk Assessment. U.S. Environmental Protection Agency, Office of Research and Development, National Center for Environmental Assessment, Washington Office, Washington, DC, EPA/600/P-02/001F, 2003, http://www.epa.gov/raf/publications/framework-cra.htm.

[22] U.S. EPA. Guiding Principles for Monte Carlo Analysis. U.S. Environmental Protection Agency, Risk Assessment Forum, Washington, DC, EPA/630/R-97/001, 1997, http://www.epa.gov/raf/publications/guiding-monte-carlo-analysis.htm.

[23] U.S. EPA SAB, Consultation on Enhancing Risk Assessment Practices and Updating EPA's Exposure Guidelines, February 28, 2007, http://yosemite.epa.gov/sab/sabproduct.nsf/02ad90b136fc21ef85256eba00436459/55E1B2C78C6085EB8525729C00573A3E/$File/sab-07-003.pdf.

case studies of current applications across the agency are also included. The external review draft is publically available[24] and expected to be released in final form in 2013.

[24] U.S. EPA, Two External Review Drafts on Probabilistic Risk Assessment, http://www.epa.gov/raf/prawhitepaper/index.htm

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

OCT 2 6 2012

THE ADMINISTRATOR

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

I am pleased to support the charter renewal of the Clean Air Act Advisory Committee in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The Clean Air Act Advisory Committee is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

I am filing the enclosed charter with the Library of Congress. The Committee will be in effect for two years from the date it is filed with Congress. After two years, the charter may be renewed as authorized in accordance with Section 14 of FACA (5 U.S.C. App. 2 § 14).

If you have any questions or require additional information, please contact me or your staff may contact Christina J. Moody in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely,

Lisa P. Jackson

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY CHARTER

CLEAN AIR ACT ADVISORY COMMITTEE

1. Committee's Official Designation (Title):

Clean Air Act Advisory Committee

2. Authority:

This charter renews the Clean Air Act Advisory Committee (CAAAC) in accordance with the provisions of the Federal Advisory Committee Act (FACA), 5 U.S.C. App.2. The CAAAC is in the public interest and supports the Environmental Protection Agency (EPA) in performing its duties and responsibilities under the Clean Air Act Amendments of 1990.

3. Objectives and Scope of Activities:

The CAAAC will provide advice, information and recommendations on policy and technical issues associated with implementation of the Clean Air Act Amendments of 1990 (the Act). These issues include the development, implementation, and enforcement of the new and expanded regulatory and market-based programs required by the Act, with the exception of the provisions of the Act that address acid rain. The programs falling under the purview of the committee include those for meeting National Ambient Air Quality Standards, reducing emissions from vehicles and vehicle fuels, reducing greenhouse gas emissions, reducing air toxic emissions, issuing operating permits and collecting fees, and carrying out new and expanded compliance authorities. The CAAAC may advise on issues that cut across several program areas.

The major objectives are to provide advice and recommendations on:

a. Approaches for new and expanded programs, including those using innovative technologies and policy mechanisms to achieve environmental improvements.

b. The potential health, environmental, and economic effects of Clean Air Act programs on the public, the regulated community, State and local governments, and other Federal agencies.

c. The policy and technical contents of proposed major EPA rulemaking and guidance required by the Act in order to help effectively incorporate appropriate outside advice and information.

d. The integration of existing policies, regulations, standards, guidelines, and procedures into programs for implementing requirements of the Act.

4. Description of Committees Duties:

The duties of the CAAAC are solely to provide advice to EPA.

5. Official(s) to Whom the Committee Reports:

The CAAAC will submit advice and recommendations and report to the EPA Administrator, through the Office of Air and Radiation.

6. Agency Responsible for Providing the Necessary Support:

The EPA will be responsible for financial and administrative support. Within the EPA, this support will be provided by the Office of Air and Radiation.

7. Estimated Annual Operating Costs and Work Years:

The estimated annual operating cost of the CAAAC is $650,000 which includes 1.5 person-years of support.

8. Designated Federal Officer:

A full-time or permanent part-time employee of EPA will be appointed as the DFO. The DFO or a designee will be present at all of the advisory committee's and subcommittee meetings. Each meeting will be conducted in accordance with an agenda approved in advance by the DFO. The DFO is authorized to adjourn any meeting when he or she determines it is in the public interest to do so, and will chair meetings when directed to do so by the official to whom the committee reports.

9. Estimated Number and Frequency of Meetings:

The CAAAC expects to meet approximately three (3) times a year. Meetings may occur approximately once every four (4) months or as needed and approved by the Designated Federal Officer (DFO). EPA may pay travel and per diem expenses when determined necessary and appropriate.

As required by FACA, the CAAAC will hold open meetings unless the EPA Administrator determines that a meeting or a portion of a meeting may be closed to the public in accordance with subsection c of Section 552(b) of Title 5, United States Code. Interested persons may attend meetings, appear before the committee as time permits, and file comments with the CAAAC.

10. Duration and Termination:

The CAAAC will be examined annually and will exist until the EPA determines the committee is no longer needed. This charter will be in effect for two years from the date it is filed with Congress. After this period, the charter may be renewed as authorized in accordance with Section 14 of FACA.

11. Member Composition:

The CAAAC will be composed of approximately forty-five (45) members who will serve as Representative members of non-federal interests, Regular Government Employees (RGEs), or Special Government Employees (SGEs). Representative members are selected to represent the points of view held by organizations, associations, or classes of individuals. In selecting members, EPA will consider candidates from business and industry, academic institutions, State, local and tribal governments, EPA officials, unions, public interest groups, environmental organizations and service groups.

12. Subgroups:

EPA, or the CAAAC with EPA's approval, may form CAAAC subcommittees or workgroups for any purpose consistent with this charter. Such subcommittees or workgroups may not work independently of the chartered committee and must report their recommendations and advice to the CAAAC for full deliberation and discussion. Subcommittees or workgroups have no authority to make decisions on behalf of the chartered committee nor can they report directly to the Agency.

13. Recordkeeping:

The records of the committee, formally and informally established subcommittees, or other subgroups of the committee, shall be handled in accordance with NARA General Records Schedule 26, Item 2 and EPA Records Schedule 181 or other approved agency records disposition schedule. Subject to the Freedom of Information Act, 5 U.S.C. 552, these records shall be available for public inspection and copying, in accordance with the Federal Advisory Committee Act.

October 5, 2012
Agency Approval Date

October 16, 2012
GSA Consultation Date

OCT 2 6 2012
Date Filed with Congress

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

JAN 3 1 2013

OFFICE OF
AIR AND RADIATION

The Honorable John M. Shimkus
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Shimkus:

Thank you for your letter dated November 9, 2012, co-signed by six of your colleagues, regarding a waiver of volume requirements under the Renewable Fuels Standard (RFS) program. The Administrator asked me to respond on her behalf.

Governors from several states and a number of organizations cited the drought conditions affecting much of the country in their request for a waiver of the national volume requirements for the RFS pursuant to the Clean Air Act. After extensive analysis, review of thousands of comments, and consultation with the Department of Agriculture (USDA) and the Department of Energy (DOE), the EPA denied the requests for a waiver in a decision published in the *Federal Register* on November 27, 2012.

The EPA recognizes that last year's drought has created significant hardships in many sectors of the economy, particularly for livestock producers. However, the agency's extensive analysis makes clear that Congressional requirements for a waiver have not been met and that waiving the RFS would have little, if any, impact on ethanol demand or energy prices over the time period analyzed.

The *Federal Register* notice contains a detailed description of the analysis the EPA conducted in conjunction with DOE and USDA, along with a discussion of relevant comments we received through our public comment process.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Cheryl Mackay in EPA's Office of Congressional and Intergovernmental Relations at 202-564-2023.

Sincerely,

Gina McCarthy
Assistant Administrator

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

NOV 0 9 2012

THE ADMINISTRATOR

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

I am pleased to support the charter renewal of the Advisory Council on Clean Air Compliance Analysis in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The Advisory Council on Clean Air Compliance Analysis is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

I am filing the enclosed charter with the Library of Congress. The Committee will be in effect for two years from the date it is filed with Congress. After two years, the charter may be renewed as authorized in accordance with Section 14 of FACA (5 U.S.C. App. 2 § 14).

If you have any questions or require additional information, please contact me or your staff may contact Christina J. Moody in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely,

Lisa P. Jackson

Enclosure

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

NOV 09 2012

THE ADMINISTRATOR

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

I am pleased to support the charter renewal of the National Environmental Education Advisory Council in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The National Environmental Education Advisory Council is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

I am filing the enclosed charter with the Library of Congress. The Committee will be in effect for two years from the date it is filed with Congress. After two years, the charter may be renewed as authorized in accordance with Section 14 of FACA (5 U.S.C. App. 2 § 14).

If you have any questions or require additional information, please contact me or your staff may contact Christina J. Moody in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely,

Lisa P. Jackson

Enclosure

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

DEC 1 1 2012

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

The Honorable John M. Shimkus
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Shimkus:

Thank you for your letter of November 8, 2012, supporting the Brownfields Coalition Assessment Grant Proposal from the Southwestern Illinois Development Authority (SWIDA). I appreciate your interest in the Brownfields Program and your support of the proposal.

As you know, the Small Business Liability Relief and Brownfields Revitalization Act assists states and communities throughout the country in their efforts to revitalize and reclaim brownfields sites. This program is an excellent example of the success that is possible when people of all points of view work together to improve the environment and their communities.

Last year's application process was highly competitive, with the EPA evaluating more than 600 grant proposals. From these proposals, the EPA announced the selection of approximately 200 grants.

The EPA's selection criteria for grant proposals are available in the *Proposal Guidelines for Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants (September 2012)*, posted on our brownfields website at ***www.epa.gov/brownfields***. Each proposal will be carefully reviewed and evaluated by a selection panel that applies these objective criteria in this highly competitive program. Be assured that the grant proposal submitted by the SWIDA will be given every consideration.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Raquel Snyder, in EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-9586.

Sincerely,

Mathy Stanislaus

Mathy Stanislaus
Assistant Administrator

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

DEC 13 2012

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Harold Rogers
Chairman
Committee on Appropriations
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

I am transmitting the U.S. Environmental Protection Agency's response to the September 2012 Government Accountability Office report entitled, *Organizational Transformation: Enterprise Architecture Value Needs to be Measured and Reported* (GAO-12-791). The EPA prepared this response pursuant to 31 U.S.C. 720.

GAO is making recommendations to the 27 federal agencies and OMB to improve measurement and reporting of architecture outcomes.

GAO Recommendations

To enhance federal agencies' ability to realize enterprise architecture benefits, we recommend the following actions.

We recommend that the Secretaries of the Departments of Agriculture, the Air Force, the Army, Commerce, Defense, Education, Energy, Homeland Security, the Interior, Labor, the Navy, State, Transportation, the Treasury, and Veterans Affairs; the Attorney General; the Administrators of the Environmental Protection Agency, General Services Administration, National Aeronautics and Space Administration, and Small Business Administration; the Commissioners of the Nuclear Regulatory Commission and Social Security Administration; and the Directors of the National Science Foundation and the Office of Personnel Management ensure the following two actions are taken:

- fully establish an approach for measuring enterprise architecture outcomes, including a documented method (i.e., steps to be followed) and metrics that are measurable, meaningful, repeatable, consistent, actionable, and aligned with the agency's enterprise architecture's strategic goals and intended purpose; and

- periodically measure and report enterprise architecture outcomes and benefits to top agency officials (i.e., executives with authority to commit resources or make changes to the program) and to OMB.

EPA Response

The EPA agrees with the GAO's comment that EPA has defined its architecture goals, objectives, and output metrics but needs to develop outcomes and benefits metrics. In recognition of the GAO's comment, the EPA plans to analyze the results of the enterprise architecture maturity self assessment to determine areas of improvement in performance management. In addition, the EPA review will include the Office of Management and Budget's planned December 2012 guidance for enterprise architecture value measurement and reporting.

The EPA will develop a performance measurement plan by September 2013. The plan will identify processes to measure enterprise architecture outcomes and benefits. The EPA will then periodically measure and report enterprise architecture outcomes and benefits to top agency officials and to the OMB in accordance with the GAO report recommendations for executive action.

Thank you for the opportunity to respond to these recommendations. We appreciate the information and detailed feedback provided by the GAO concerning areas addressed in this audit. If you have any questions, please contact me or your staff may call Christina Moody in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Barbara J. Bennett
Chief Financial Officer

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

FEB 14 2013

OFFICE OF
AIR AND RADIATION

The Honorable Harold Rogers
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Rogers:

Thank you for your letter of November 21, 2012, co-signed by 46 of your colleagues, to U.S. Environmental Protection Agency Administrator Lisa P. Jackson, regarding the agency's review of the National Ambient Air Quality Standards (NAAQS) for particulate matter. The Administrator asked me to respond on her behalf.

On December 14, 2012, the EPA took important steps to protect the health of Americans from fine particle pollution by strengthening the primary annual standard for fine particles ($PM_{2.5}$) to 12.0 micrograms per cubic meter ($\mu g/m^3$) and retaining the 24-hour fine particle standard of 35 $\mu g/m^3$. The agency also retained the existing standards for coarse particle pollution (PM_{10}). The strengthened annual $PM_{2.5}$ standard will provide increased public health protection from a range of serious adverse impacts, including premature death and harmful effects on the cardiovascular system, and decrease hospital admissions and emergency department visits for heart attacks, strokes and asthma attacks.

Importantly, emissions reductions from EPA, state and local rules already on the books will help 99 percent of counties with monitors meet the revised $PM_{2.5}$ standards without additional emissions reductions. These rules include clean diesel rules for vehicles and fuels, and rules to reduce pollution from power plants, locomotives and marine vessels, among others. The EPA estimates that meeting the new fine particle standard will provide health benefits worth an estimated $4 billion to $9.1 billion per year in 2020 – a return of $12 to $171 for every dollar invested in pollution reduction.

Your comments and recommendations on the proposed rule were included in the public docket for this rulemaking and were considered, along with other public comments on the proposal, in the final decision-making process.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Cheryl Mackay in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-2023.

Sincerely,

Gina McCarthy
Assistant Administrator

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

APR 15 2013

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

The Honorable John Shimkus
Chairman
Subcommittee on Environment and the Economy
Committee on Energy and Commerce
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

Thank you for your letter of November 30, 2012, to the U.S. Environmental Protection Agency (EPA) Administrator Lisa P. Jackson. I am pleased to respond on behalf of the Agency.

The EPA appreciates suggestions for how transparency can be improved, and regularly considers specific requests for making certain types of information available publicly on an ongoing basis, in addition to providing documents to requesters through the standard Freedom of Information Act (FOIA) process.

You requested that the Agency provide, on a public website, all notices of intent to sue. The EPA is committed to doing just that. The Agency has recently begun providing notices of intent to sue the agency on the EPA's publicly available website. We expect to provide copies of all notices of intent to sue EPA received by EPA's Office of General Counsel (OGC) on or after January 1, 2013. The website currently provides all such notices received through the end of March 2013. Going forward, newly received notices will be added on an ongoing basis. These notices will be available for viewing here: http://epa.gov/ogc/noi.html.

The EPA is also considering requests to make petitions for rulemaking available in a publicly accessible location.

Again, thank you for your letter. If you have further questions, please contact me or have your staff contact Tom Dickerson in my office at (202) 564-3638.

Sincerely,

Arvin Ganesan
Associate Administrator

cc: The Honorable Paul Tonko
Ranking Member

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

DEC 31 2012

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

The Honorable Barbara A. Mikulski
United States Senate
Washington, D.C. 20510

Dear Senator Mikulski:

Thank you for your letter of November 29, 2012, supporting the Brownfields Grant Proposal from Montgomery County in Maryland. I appreciate your interest in the Brownfields Program, and your support of the proposal.

As you know, the Small Business Liability Relief and Brownfields Revitalization Act assists states and communities throughout the country in their efforts to revitalize and reclaim brownfields sites. This program is an excellent example of the success that is possible when people of all points of view work together to improve the environment and their communities.

Last year's application process was highly competitive, with the EPA evaluating more than 600 grant proposals. From these proposals, the EPA announced the selection of approximately 200 grants.

The EPA's selection criteria for grant proposals are available in the *Proposal Guidelines for Brownfields Assessment, Revolving Loan Fund, and Cleanup Grants (September 2012)*, posted on our brownfields website at ***www.epa.gov/brownfields***. Each proposal will be carefully reviewed and evaluated by a selection panel that applies these objective criteria in this highly competitive program. Be assured that the grant proposal submitted by the Montgomery County will be given every consideration.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Raquel Snyder, in EPA's Office of Congressional and Intergovernmental Relations, at 202-564-9586.

Sincerely,

Mathy Stanislaus

Mathy Stanislaus
Assistant Administrator

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

DEC 14 2012

THE ADMINISTRATOR

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, DC 20510

Dear Chairman Boxer:

I am pleased to support the charter renewal of the National Drinking Water Advisory Council in accordance with the provisions of the Federal Advisory Committee Act, 5 U.S.C. App. 2. The National Drinking Water Advisory Council is in the public interest and supports the U.S. Environmental Protection Agency in performing its duties and responsibilities.

I am filing the enclosed charter with the Library of Congress. The Committee will be in effect for two years from the date it is filed with Congress. After two years, the charter may be renewed as authorized in accordance with Section 14 of FACA (5 U.S.C. App. 2 § 14).

If you have any questions or require additional information, please contact me or your staff may contact Christina J. Moody in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely,

Lisa P. Jackson

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY CHARTER

NATIONAL DRINKING WATER ADVISORY COUNCIL

1. Committee's Official Designation (Title):

National Drinking Water Advisory Council

2. Authority:

This charter renews the National Drinking Water Advisory Council (NDWAC or Council) in accordance with the provisions of the Federal Advisory Committee Act (FACA), 5 U.S.C. App.2. NDWAC is in the public interest and supports EPA in performing its duties and responsibilities. The Council was created by Congress on December 16, 1974, as part of the Safe Drinking Water Act of 1974, P.L. 93-523, 42 U.S.C. § 300j-5.

3. Objectives and Scope of Activities:

NDWAC will provide advice, information, and recommendations on matters related to activities, functions, policies, and regulations of the Environmental Protection Agency (EPA or Agency) under the Safe Drinking Water Act, including:

a. Providing practical and independent advice on matters and policies related to drinking water quality and public health protection.

b. Maintaining an awareness of developing issues and problems in the drinking water area and advising EPA on emerging issues.

c. Advising on regulations and guidance as required by the Safe Drinking Water Act.

d. Recommending policies with respect to the promulgation of drinking water standards.

e. Recommending special studies and research.

f. Assisting in identifying emerging environmental or health problems related to potentially hazardous constituents in drinking water.

g. Proposing actions to encourage cooperation and communication between EPA and other governmental agencies, interest groups, the general public, and technical associations and organizations on drinking water quality.

h. Analyzing sustainable infrastructure issues with special emphasis on the security of the nation's drinking water systems.

4. Description of Committees Duties:

The duties of NDWAC are to provide advice to EPA.

5. Official(s) to Whom the Committee Reports:

The NDWAC will report its advice and recommendations to the EPA Administrator.

6. Agency Responsible for Providing the Necessary Support:

EPA will be responsible for financial and administrative support. Within EPA, this support will be provided by the Office of Water.

7. Estimated Annual Operating Costs and Work Years:

The estimated annual operating cost of NDWAC is $252,000 which includes approximately 1.0 person-years of support.

8. Designated Federal Officer:

A full-time or permanent part-time employee of EPA will be appointed as the DFO. The DFO or a designee will be present at all of the advisory committee's and subcommittee meetings. Each meeting will be conducted in accordance with an agenda approved in advance by the DFO. The DFO is authorized to adjourn any meeting when he or she determines it is in the public interest to do so and will chair meetings when directed to do so by the official to whom the committee reports.

9. Estimated Number and Frequency of Meetings:

NDWAC expects to meet two (2) times a year. Meetings are expected to occur approximately once every six (6) months or as needed and approved by the Designated Federal Officer (DFO). As required by the Safe Drinking Water Act, EPA will pay members' travel and per diem expenses when members are "away from their homes or regular places of business in the performance of services for the Council." 42 U.S.C. § 300j-5(c).

As required by FACA, the Council will hold open meetings unless the EPA Administrator determines that a meeting or a portion of a meeting may be closed to the public in accordance with subsection c of the Government in the Sunshine Act, 5 U.S.C. § 552b. Interested persons may attend meetings, appear before the committee as time permits, and file comments with the NDWAC.

10. Duration and Termination:

As provided in the Safe Drinking Water Act, "section 14(a) of the Federal Advisory Committee Act (relating to termination) shall not apply to the Council." 42 U.S.C. § 300j-5(d). However, the Charter is subject to the renewal process upon the expiration of each successive two-year period following the date of enactment of the Act establishing this Council.

11. Member Composition:

NDWAC will be composed of fifteen (15) members who will serve as Special Government Employees (SGE). Members will be appointed by EPA's Administrator after consultation with the Secretary of the Department of Health and Human Services. As required by the Safe Drinking Water Act, five (5) members will be appointed from appropriate State and local agencies concerned with public water supply and public health protection; five (5) members will be appointed from private organizations or groups demonstrating an active interest in the field of water hygiene and public water supply, of which two (2) members will represent small, rural public water systems; and five (5) members will be appointed from the general public. 42 U.S.C. § 300j-5(a). .

In addition, up to five (5) Federal employees will be appointed as technical advisors to the Council. The technical advisors may include individuals representing the EPA's Science Advisory Board (SAB), the Centers for Disease Control and Prevention's (CDC) National Center for Environmental Health and National Center for Infectious Diseases, and such additional Federal officials as the EPA deems necessary for the NDWAC to carry out its function. Technical advisors may participate in Council discussions, but not Council deliberations.

12. Subgroups:

EPA, or NDWAC with EPA's approval, may form NDWAC subcommittees or working groups for any purpose consistent with this charter. Such subcommittees or working groups may not work independently of the chartered committee and must report their recommendations and advice to the entire Council for full deliberation and discussion. Subcommittees or working groups have no authority to make decisions on behalf of the chartered Council and they cannot report directly to the Agency.

13. Recordkeeping:

The records of the committee, formally and informally established subcommittees, or other subgroups of the committee, shall be handled in accordance with NARA General Records Schedule 26, Section 2 and EPA Records Schedule 181 or other approved agency records disposition schedule. Subject to the Freedom of Information Act, 5 U.S.C. § 552, these records shall be available for public inspection and copying, in accordance with the Federal Advisory Committee Act.

DEC 11 2012

Agency Approval Date

DEC 14 2012

Date Filed with Congress

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

MAR 13 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, D.C. 20510

Dear Madam Chairwoman:

I am transmitting the U.S. Environmental Protection Agency's response to the June 2012 Government Accountability Office report entitled, *Anthrax – DHS Faces Challenges in Validating Methods for Sample Collection and Analysis* (GAO-12-488). The EPA prepared this response pursuant to 31 U.S.C. 720. The EPA appreciates the GAO's diligence and efforts in its review of this highly visible and important program.

The GAO conducted this review to identify the extent to which (1) the Department of Homeland Security's actions have addressed the GAO's recommendations in its earlier report regarding sampling, (2) the environmental sampling methods for *B. anthracis* spore detection in initial public health sampling and microbial forensic investigations have been validated, and (3) any challenges remain to completing validation.

The GAO has made three recommendations in this report, two addressed to the Secretary of the DHS and the third directed to the Administrator of the EPA and the Secretary of the Department of Health and Human Services. The GAO has made recommendations that DHS (1) update the strategic plans and roadmap's scope and timelines and (2) complete the validation project and (3) that the HHS and the EPA should support achieving the DHS's goal of validated sampling methods and the development of a mutually acceptable statistically-based sampling approach.

Below are the EPA's most significant comments on the report's recommendation for the development of a mutually acceptable statistically-based sampling approach.

GAO Recommendations

To ensure that federal agencies have validated sampling methods for detecting *B. anthracis* in indoor environments and—in the case of negative results—the option of using appropriate sampling approaches to make statistical confidence statements about the likelihood that a building is free of contamination when potentially there has been a low-level release, we

recommend that the Secretary of Homeland Security take steps to complete the validation project. Statistically-based sampling designs for such purposes would encompass any sampling with a statistical basis, including a probabilistic only approach as well as one that combines judgmental and probabilistic sampling. Achieving a sufficiently rigorous validation of the sampling methods and ensuring that statistically rigorous and mutually acceptable sampling approaches are available will provide options that will better prepare decision makers to respond to a future bioterrorism incident.

DHS should

- update the strategic plan and its roadmap with an agreed-on scope and revised timelines and
- complete the validation project, including validating the collection methods in a laboratory setting in a manner that determines the potential sources of variation in collection method performance, including variation that could be introduced by individual samplers, and related ongoing studies.

We also recommend that the Secretary of the Department of Health and Human Services and the Administrator of the Environmental Protection Agency support DHS in its goal of achieving (1) validated sampling methods to understand the limitations of the data that would be provided to decision makers, and (2) a mutually acceptable statistically-based sampling approach that can be employed when decision makers—such as Incident Commanders and others—conclude that statistical confidence statements need to be made about the level of contamination in a particular indoor environment.

EPA Response

The EPA does not agree with the GAO's recommendation. The EPA has significant concerns about the GAO's recommendation of a statistically-based approach for anthrax contamination, including its three recommendations that flow from that statistically-based approach. The EPA's concerns are based on (1) the successful real-world and multi-agency exercises that have used targeted sampling, (2) the difficulties both in achieving, and on-the-ground implementation of, the statistical-based approach, and (3) existing larger and more critical gaps needed to be filled in order to address *B. anthracis* decontamination.

Given today's realities, a statistically-based approach is not necessary from a scientific perspective, nor is it needed to make statistical confidence statements about the level of contamination in a particular indoor environment.

From a scientific perspective, studies such as those conducted at Idaho National Laboratories have continued to reinforce the effectiveness of targeted sampling that the EPA used in its 2001 Capitol Hill response. The GAO's report references the INL-1 and INL-2 experiments. These experiments validated that use of targeted sampling resulted in the identification of all contaminated locations but with a much smaller number of samples compared to statistical sampling.

In addition, the EPA is concerned that the GAO's recommendations do not consider that the real-world response on Capitol Hill in 2001 was successful due to the implementation of targeted sampling.[1,2] Although the GAO's final report references the anthrax response in 2001 which notably was the EPA's first time to respond to such an incident, it does not mention that the response was successful without any subsequent illnesses.

The GAO's recommendation is based on an assumption that there is a need for statistical sampling in order to enable decision makers to make determinations regarding decontamination. However, the GAO's recommendation does not take into account the time a building may be shut down while decision-makers wait on laboratory analysis and the costs that would be incurred. Currently, and for the foreseeable future, the environmental laboratory analytical capacity and the manpower or resources to conduct the sampling that is required for a timely response do not exist. On the other hand, the EPA typically collects targeted composite samples thus allowing us to collect from a similar number of locations as a statistical sampling but with less overall samples. For example, if an area requires 100 samples to make a statistical confidence statement, we can collect 25 4-point composite samples (equaling 100 locations). Therefore, we have reduced the number of individual samples by 75 percent and the time it takes to collect them as well. This further reduces the number of individual samples to be analyzed and reduces the chance that contamination will spread to uncontaminated sites. In other words, it is appropriate to designate that collection activities at composite sampling locations are conducted room by room so that if contamination is spread it is confined to that room.

To support its recommendations, the GAO's final report advises that rather than take a simplistic approach to sampling, we should be relying on professional samplers with substantive knowledge to devise sampling approaches. This is exactly what the EPA intended in its argument for targeted sampling. In statistical sampling, a software tool drives the number of samples based on a desired confidence level – not the judgment of a professional sampler.

With respect to development of the statistically-based approach, the GAO's recommendations are not clear in its expectations from the EPA. For example, the GAO explains that the Visual Sampling Plan software already includes a Pacific Northwest National Laboratory validated sampling approach for a random and a combined judgmental and random (CJR) sampling approach. Specifically, the report states, "the CJR algorithm can be used to determine the required number and location of probability based samples to provide a specified confidence that a specified level of contamination is not exceeded, including very low levels." It is not clear what

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[1] Although there were two instances when samples were collected that yielded negative results; it was the result of not following appropriate sampling protocols. When the sample collection was repeated, contamination was in fact found, the discrepancy was immediately resolved. The initial failure to capture contamination in the samples could occur in either statistically-based or targeted sampling, and therefore, does not support the use of a statistically-based approach over a targeted approach.

[2] There are a couple of typos in the final report's discussion of the rapid-viability PCR method for detection of live, virulent *B. anthracis* spores in wipe, air, and water samples, page 89. The spore background levels are off by significant factors due to dropped superscripts. Live *B. anthracis* Ames spores detected in heat-killed *B. anthracis* spore backgrounds of "106 colony-forming units per sample" should be "10^6 colony-forming units per sample" and in the combined non-target backgrounds of "103 live *B. atrophaeus* subspecies *globigii* and 106 live *Pseudomonas aeruginosa*" should be "10^3 live *B. atrophaeus* subspecies *globigii* and 10^6 live *Pseudomonas aeruginosa*".

other work needs to be done for response leaders to have a useful tool should they choose to implement a statistically-based approach.

Given the work already completed, the EPA's prior statements that it does not believe statistically-based sampling is necessary, and the GAO's statements that statistically-based sampling may be rarely used but is still needed – why not rely on the VSP tool as is to fulfill the gap as the GAO sees it? This approach would enable the limited funding available to prepare for recovery from an anthrax incident to be directed to the more critical gaps that need to be filled to protect human health and the environment.

It is worth noting that despite spending millions of dollars on the development of the VSP tool, the PNNL has not created a user-friendly version that would enable the federal responders to use the software with ease. However, at this time, the EPA believes investments should not continue any further into the software because if the VSP tool was needed it could be used with the support of the PNNL during the response. The EPA also recommends the PNNL no longer act as a voting member on the VSP Work Group, driving the content of the strategy and roadmap in a manner that appears to result in a financial conflict of interest for the PNNL.

Finally, there are critical gaps that are not addressed in the final report such as the lack of established health levels to determine from sampling what should and shouldn't be cleaned. Resource limitations (i.e., sustained lab gaps) and timelines for decontamination in terms of the protection of human health and economical survival are also critical gaps that are not given adequate consideration in the GAO's recommendations.

In summary, the EPA can certainly participate with the DHS in updating its strategic plan and in completing validation efforts as appropriate. The EPA's goal is always to protect human health and the environment, whether the contamination exists in a single building or in 100 buildings, the approach is the same. However, the EPA does not agree with the GAO's recommendation that a statistically-based sampling approach is appropriate given our successful real-world and the multi-agency exercises that use targeted sampling; the difficulties in achieving, and on-the-ground implementation of, the statistically-based approach; and that there are larger and more critical gaps needed to be filled in order to address *B. anthracis* decontamination.

If you have any questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Barbara J. Bennett
Chief Financial Officer

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

FEB 21 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, D.C. 20510

Dear Madam Chairwoman:

I am transmitting the U.S. Environmental Protection Agency's response to the October 2012 Government Accountability Office report entitled, *Water Pollution: EPA Has Improved Its Review of Effluent Guidelines but Could Benefit from More Information on Treatment Technologies* (GAO-12-845). The EPA prepared this response pursuant to 31 U.S.C. 720. The agency appreciates the time and effort the GAO invested to produce this report and its findings and recommendations.

In 2011-2012, the GAO conducted an audit of the industrial wastewater review process under the EPA's Effluent Limitations Guidelines Program. The EPA is required under Sections 301, 304 and 306 of the Clean Water Act to annually review all industrial wastewater discharges to determine if new or revised standards are needed. Upon completion of the audit, the GAO published a report describing the EPA's industry review process and provided its findings and recommendations for improvement of the process.

In its report, the GAO made three recommendations for the EPA. In response to the recommendations, the EPA's Office of Water prepared a plan of action which compiles actions that it has taken, has underway, or will be taking over the next two to three years to make improvements to its Effluent Limitations Guidelines Program industrial wastewater review process. The agency believes this plan will be helpful to the GAO in assessing the progress we make towards improving our program. The following information provides the GAO's recommendations followed by the EPA's response.

GAO Recommendation

To improve the effectiveness of the EPA's efforts to update or develop new effluent guidelines, we recommend that the Administrator of the EPA direct the effluent guidelines program to take the following three actions, as it considers revisions to its screening and review process:

- Identify and evaluate additional sources of data on the hazards posed by the discharges from industrial categories.
- Identify and evaluate sources of information to improve the agency's assessment in the screening phase of treatment technologies that are in use or available for use by industrial categories, including better use of National Pollutant Discharge Elimination System data.

- Modify the screening phase of its review process to include thorough consideration of information on the treatment technologies available to industrial categories.

EPA Response

The EPA concurs with the recommendation and is taking the following actions:

In 2011 and 2012, the EPA strategically examined the following new sources of data on hazards for its 2012 Annual Review of Effluent Limitations Guidelines:

- Air quality regulations and associated documentation, to identify industrial sectors potentially generating a new waste stream due to wet air pollution controls.
- The 2009 EPA Targeted National Sewage Sludge Survey showing concentrations of pollutants in sewage sludge that may link to industrial wastewater discharges.
- New chemicals identified in the EPA's Chemical Action Plans, including perfluorinated compounds, as well as nine other chemicals. The agency investigated health and environmental hazard data for chemicals manufactured in or imported into the United States, which may or may not be regulated by Effluent Limitations Guidelines and manufacturing processes of new pollutants with unregulated discharges.
- Recent analytical methods that identify new pollutants of concern that are not already regulated by the Effluent Limitations Guidelines (e.g., perfluorinated compounds and other contaminants of emerging concern).
- The EPA drinking water protection priorities that could identify industries and contaminants of emerging concern, such as hydraulic fracturing.
- Data for industries considered for the Toxics Release Inventory reporting expansion that might indicate new wastewater pollutants of concern.
- Publications on pollutants of emerging concern and the United States Geological Survey data warehouses that focus on ambient water quality.
- Impaired waters data to identify potential new pollutants of concern.
- Water quality criteria currently under development to determine if any industry discharges relate to a specific pollutant for which criteria are proposed.
- The EPA compliance initiatives for industry that might indicate new industrial wastewater discharges, new pollutants, or treatment technology that might need to be tightened.

In 2012, the EPA thoroughly investigated the following new sources of data on hazards for its 2012 Annual Review of Effluent Limitations Guidelines. The methods, results and conclusions of its investigation will be published in the EPA's 2012 Annual Review Report:

- Air quality regulations and the associated potential increase in the use of wet scrubbers.
- The 2009 Targeted National Sewage Sludge Survey, paired with the Toxics Release Inventory data to determine potential industrial pollutants interfering with biosolids.
- The EPA Chemical Action Plans for nine chemicals or chemical categories.

- Industry sector regulations in other EPA program offices, particularly the proposed Toxics Release Inventory sector expansion industries.

During its 2013 Annual Review, the EPA will be taking the following actions to improve the hazard data it currently employs:

- The EPA will review additional Discharge Monitoring Report data for minor industrial dischargers.
- To improve the screening-level reviews, the EPA will be using the Discharge Monitoring Report Loading Tool, available at http://cfpub.epa.gov/dmr/. This web application provides public access to Discharge Monitoring Report data, including the industrial rankings used in the annual review process. The web application also links to an automated error correction function (see http://cfpub.epa.gov/dmr/error_correction.cfm), which has already improved data quality and will continue to do so. The increase in electronic submittal of Discharge Monitoring Report data at the facility level is leading to more completeness of Discharge Monitoring Report data for all facilities.
- The EPA is exploring ways to include even more functionality in the Discharge Monitoring Report Loading Tool, such as (1) allowing for real-time access to corrected data through migration of Discharge Monitoring Report data to the EPA's Data Mart and (2) including treatment technology information that is available in the National Pollutant Discharge Elimination System permit applications and National Pollutant Discharge Elimination System permit fact sheets.
- The EPA will be soliciting input from states, pretreatment program coordinators, National Pollutant Discharge Elimination System permit writers, the EPA regions and other stakeholders on industrial wastewater hazard data and treatment technology through attending stakeholder meetings and workshops, holding teleconferences and through other means.
- The EPA will evaluate the state survey findings collected by the GAO during the audit.

During its 2014 and 2016 Annual Reviews, the EPA will investigate additional new sources of data on hazards, including targeted outreach to request data on hazardous constituents from industrial discharges collected by states, pretreatment programs, permit writers, the EPA regions, and other stakeholders.

The EPA already routinely uses treatment technology information to evaluate industry categories that pose a high hazard risk from their discharges to determine if better treatment levels can be achieved. This remains an ongoing effort.

- When the EPA screens all high hazard industry categories during its toxicity ranking analysis, the EPA reviews treatment technology for those categories flagged as posing a risk to human health and the environment.
- When the EPA identifies an industry category for further study based on its screening and review analysis, the EPA reviews the best available treatment technology for that industry.

The EPA has started to comprehensively evaluate new and innovative treatment technology information to factor into its Annual Reviews.

- The EPA is expanding its treatment technology evaluation by reviewing and analyzing all new treatment technology literature collected to date. (In the 2011 and 2012 annual reviews, the EPA

began a comprehensive assessment of recent publications to evaluate new or improved industrial wastewater treatment technologies.)

- The EPA will generate a treatment technology database. The database will hold cost and performance information on treatment technologies, listed by pollutant and by industry.
- The EPA is considering how to account for the many variables related to wastewater treatment performance, such as which pollutant removals were targeted, industry-specific wastewater characteristics, unit operations grouped differently in treatment trains, and other differences in operations that directly affect treatment performance.
- The EPA is searching for a viable permanent repository for all the new treatment technology information it gathers that would be publicly accessible.
- The EPA attended the 2012 Water Environment Federation's Annual Technical Exhibition and Conference to gather information on wastewater treatment technology research and testing. The EPA is compiling and reviewing every paper and presentation collected from three days of presentations. Also on November 11-15, 2012, the EPA attended the Society of Environmental Toxicology and Chemistry Annual Meeting to achieve the same objective.

The EPA is examining effective and efficient ways to more comprehensively consider treatment technology information in the screening phase of its annual review of industrial dischargers.

As noted previously, the EPA is collecting available new and innovative treatment technology information. Once the EPA analyzes it for valid and useful performance data and cost information, we will explore methods by which the treatment technology information can be applied in its annual review of all 57 existing industrial categories that currently have effluent limitations guidelines.

Again, the agency appreciates the GAO's review of the Effluent Guidelines program, and the opportunity to review and respond to the GAO's final report. If you have any questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Barbara J. Bennett
Chief Financial Officer

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

JAN 2 9 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, D.C. 20510

Dear Madam Chairwoman:

I am transmitting the U.S. Environmental Protection Agency's response to the October 2012 Government Accountability Office report entitled, *Rural Water Infrastructure, Additional Coordination Can Help Avoid Potentially Duplicative Application Requirements, GAO-13-111."* The EPA prepared this response pursuant to 31 U.S.C. 720.

The EPA is fully committed to working with its federal and state partners to ensure that federal funding supports the missions of our respective agencies and is accessible to communities in need. The agency supports the GAO recommendations with the caveat that there are limitations to the EPA's authority and what we can require of our state partners within the Clean Water State Revolving Fund and Drinking Water State Revolving Fund programs. The GAO recommendations are summarized below, followed by the EPA's response and a statement of action reflecting current interagency collaboration efforts.

GAO Recommendation:

To improve coordination and to reduce the potential for inefficiencies and duplication of effort, we recommend that the Secretary of Agriculture and the Administrator of the EPA take the following three actions:

- ensure the timely completion of the interagency effort to develop guidelines to assist states in developing their own uniform preliminary engineering reports to meet federal and state requirements;

- work together and with state and community officials to develop guidelines to assist states in developing uniform environmental analyses that could be used, to the extent appropriate, to meet state and federal requirements for water and wastewater infrastructure projects; and

- work together and with state and community officials through conferences and workshops, Webinars, and sponsored training to reemphasize the importance of coordinating in all four key areas in the 1997 memorandum.

EPA Response

The EPA concurs with the recommendation and is taking the following actions:

In February of 2012, the EPA began participation in an interagency workgroup of federal and state partners, including representatives from United States Department of Agriculture, the United States Department of Housing and Urban Development, the Bureau of Indian Health Service in the United States Department of Health and Human Services, and 13 states. The purpose of this workgroup is to establish uniform best practices for preliminary engineering reports across funding agencies. The workgroup has produced a draft interagency memorandum that explains the purpose of the workgroup, a general outline of a preliminary engineering report, and a detailed template of each desired component. This is an ongoing project and federal partners will continue to cooperate as the draft documents undergo review and are finalized. The EPA anticipates that these materials will be ready to share with state partners in early 2013.

The EPA and its federal and state partners are committed to conducting the necessary outreach to ensure that these best practices are fully understood and can be utilized by state partners. A first step in this process was undertaken at the fall Council of Infrastructure Financing Authorities conference on November 11-13, 2012. The EPA and the USDA took part in a panel that discussed current collaboration efforts, including the forthcoming preliminary engineering report template and the 2011 memorandum of agreement focusing on the sustainability of rural water and wastewater systems.

The EPA believes that the publication of the template will be a significant step forward in attempting to establish greater consistency among the preliminary engineering reports submitted by applicants. Although the EPA fully endorses this collaborative effort, adopting the template for the SRF purposes will be left to the states' discretion because preliminary engineering reports are not a federal requirement for the SRF programs. If the template is adopted, states may not require it for every SRF project or may waive portions of the template that are not applicable.

Environmental review requirements for the CWSRF program are detailed in 40 CFR 35.3140. Requirements for the DWSRF are detailed in 40 CFR 35.3580. In practice, states adhere to a "NEPA-like" state environmental review process. A state may elect to apply the procedures at 40 CRF Part 6, Subpart E and related subparts, or apply its own "NEPA-like" SERP for conducting environmental reviews. Before a state may utilize a "NEPA-like" process it must first receive approval from the appropriate EPA region. The purpose of allowing states to adopt their own "NEPA-like" SERP was not to deviate from NEPA, but rather, to delegate environmental review responsibility to the states while still conforming to NEPA.

While we cannot require states to use a more uniform environmental review process, the EPA will work with the USDA to determine what specific issues they have with the SRF environmental analyses. The agency's tentative goal is to schedule an interagency staff level meeting in early 2013. After this information has been obtained, we can work with state partners to examine the possibility of whether their SERP can be modified or whether some other option can be pursued.

The agency looks forward to continued dialogue with the USDA to explore how we can encourage states to continue the development of policies and processes that align with the key areas of the 1997

memorandum[1]. Ongoing examples of our commitment include the EPA's collaboration with: 1) the Small Communities Water Infrastructure Exchange, a network of federal and state water infrastructure funding officials, that holds quarterly calls to discuss best practices; and 2) the Council of Infrastructure Financing Authorities, a national organization of state, regional and local financing authorities that meets twice a year to discuss pressing issues related to the nation's growing infrastructure needs.

As mentioned above, the EPA and the USDA participated in a panel focusing on preliminary engineering reports at the fall Council of Infrastructure Financing Authorities conference. The EPA will continue to collaborate with these organizations and look for additional opportunities to foster communication with federal and state partners.

In light of emerging sustainability and water workforce issues facing communities across the United States, the EPA and the USDA's Rural Development-Rural Utilities Service signed a memorandum of agreement last year to lay the groundwork for a series of joint activities to increase the sustainability of rural water and wastewater systems. The four areas addressed by the MOA include: 1) Sustainability of Rural Communities; 2) System Partnerships; 3) Water Sector Workforce; and 4) Compliance of Small Rural Public Water and Wastewater Systems with Drinking Water and Clean Water Regulations.

To date, the two agencies have conducted joint activities to promote water sector careers and system partnerships and have conducted workshops with small water systems focusing on sustainability. The EPA is currently planning 2013 activities with the USDA and will consider these recommendations during the discussions. The MOA is a clear example of our continued commitment to work collaboratively, leverage resources and identify opportunities to address potential duplication of effort.

If you have any questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Barbara J. Bennett
Chief Financial Officer

[1] Joint Memorandum between USDA, EPA and HUD. *Cooperation and Coordination on Jointly Financed Water and Wastewater Activities.* (Washington, D.C.: April 3, 1997)

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

OFFICE OF CONGRESSIONAL AND
INTERGOVERNMENTAL RELATIONS

MAR 0 7 2013

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510-6175

Dear Chairman Boxer:

Thank you for your letter of August 2, 2012 requesting responses to questions for the record following the July 12, 2012 hearing before the Committee on Environment and Public Works entitled, "The Latest Science on Lead's Impacts on Children's Development and Public Health".

The responses to your questions are provided as an enclosure to this letter. Again, thank you for your letter. If you have any further questions, please contact me or your staff may contact Laura Gomez in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-5736.

Sincerely,

Arvin Ganesan
Associate Administrator

cc: Sen. David Vitter
Ranking Member
Committee on Environment and Public Works

Enclosure

UNITED STATES SENATE
COMMITTEE ON ENVIRONMENT AND PUBLIC WORKS

"The Latest Science on Lead's Impacts on Children's Development and Public Health"
July 12, 2012

Hearing Questions for the Record

The Honorable Barbara Boxer

QUESTION:

1. Your testimony states that EPA's 2008 decision to lower the Clean Air Act's standard pollution was based on the expanded evidence of health effects, including the impacts of lead on learning children. Could you please go into a little more details about the types of harmful health impacts from lead that EPA considered?

RESPONSE:

Lead has been demonstrated to exert a broad array of adverse effects on multiple organ systems, as the EPA has concluded in previous and ongoing assessments. [1,2] This includes strong evidence of effects on the nervous system, cardiovascular system, effects on immune function, kidney function, reproduction and development, as well as heme (a component of red blood cells) synthesis and red blood cell function. Lead exposure may also cause cancer.

The most substantial evidence is available for effects on the nervous system in children and cardiovascular effects in adults. Prenatal exposure to lead and exposure during childhood have been associated with effects on cognitive function, as measured in IQ tests and other measures of learning and memory. In addition, lead exposure is linked to attention related behavioral problems in children. In adults with potentially longer exposure histories, lead exposure is associated with effects on the cardiovascular system, with the strongest body of evidence for effects on blood pressure (hypertension) and additional evidence indicating a broad array of effects on the cardiovascular system, including cardiovascular mortality.

QUESTION:

2. Your testimony states that EPA's current review of whether to lower the Clean Air Act's standard for lead pollution relies on more than 2,900 scientific studies, and that these studies demonstrate "human exposure to lead involves multiple pathways including hand to mouth contact or inhalation of lead-dust, eating peeling paint chips, drinking water conveyed through lead pipes, and exposure to soil, which can act as a reservoir for deposited lead emissions."

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[1] U.S. EPA (2006) Air quality criteria for lead: Volume I of II (EPA/600/R-05/144aF). Research Triangle Park, NC: U.S. Environmental Protection Agency.

[2] U.S. EPA (2012) Integrated Science Assessment for Lead (EPA/600/R-10/075B) Research Triangle Park, NC: U.S. Environmental Protection Agency

RESPONSE:
Preventing lead pollution is the best way to protect public health and the environment. We have long known that lead persists in the environment and accumulates in the human body. Many of the neurotoxic effects of exposures to lead during childhood appear to be irreversible and may even cause effects that appear later in life. Further, medical interventions, such as chelation, that reduce lead burden in the body present additional health risks and are not shown to reverse the effects of lead on childrens' ability to learn. There is no question that reducing exposure is the best approach. We have seen the impact of removing lead from gasoline in this regard. As a result of the EPA's regulatory efforts to remove lead from on-road motor vehicle gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions to the air today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline.

QUESTION:
3. In general, how would you describe the results of the studies that examine the impacts of even low blood lead levels on children's cognitive development?

RESPONSE:
Our understanding of what constitutes a "low" blood lead level has been evolving as the population mean blood lead (Pb) levels decline. Based on the 2009-2010 National Health and Nutrition Examination Survey (NHANES) data, the median blood Pb level for the U.S. population is 1.1 micrograms per deciliter (μg/dL), with a 95th percentile blood Pb level of 3.3 μg/dL. Among children aged 1-5 years, the median and 95th percentiles are slightly higher at 1.2 μg/dL and 4.0 μg/dL, respectively.

The EPA's previous assessments[3] concluded that the "overall weight of the available evidence provides clear substantiation of neurocognitive decrements being associated in young children with blood-Pb concentrations in the range of 5-10 μg/dL, and possibly somewhat lower". There is remarkable consistency in these findings across numerous studies involving varying study designs, different developmental assessment protocols, and diverse populations. The studies demonstrated impacts of lead on neurocognitive function, and these effects generally appeared to persist into adolescence and young adulthood. Both epidemiologic studies (in children) and 11 toxicological studies, demonstrated neurocognitive deficits in association with blood Pb levels at and below 10 micrograms per deciliter (μg/dL).

The EPA's second draft Integrated Science Assessment for Lead (2012)[4] synthesizes results of recent studies with those reviewed in previous assessments and has concluded that there is a causal relationship between lead exposure and cognitive effects in children. The most well studied effect is IQ. Studies have also demonstrated associations with indices of cognitive function, such as reading and verbal skills, memory, learning, and visuospatial processing. Findings in human studies are supported by extensive

[3] U.S. EPA (2006) Air quality criteria for lead: Volume I of II (EPA/600/R-05/144aF). Research Triangle Park, NC: U.S. Environmental Protection Agency. p. E9

[4] U.S. EPA (2012) Integrated Science Assessment for Lead (Second External Review Draft) (EPA/600/R-10/075B) Research Triangle Park, NC: U.S. Environmental Protection Agency

evidence in animals that early-life lead exposures result in impaired learning and memory, including tests of spatial memory and rule learning and reversal.

QUESTION:

4. EPA's Children's Health Protection Committee recently wrote a letter about the science of lead's impacts on children's health that stated "the harm that lead does to children, pregnant women and breast feeding mothers is even worse than we thought previously, with sufficient evidence now available to conclude that at levels of exposure less than 5 [micrograms of lead per deciliter], a relationship clearly exits linking lead with decreased academic achievement and specific cognitive measures, increased incidence of attention deficit hyperactivity disorder (ADHD) and problem behaviors." Do you agree that the science showing that lead's health effects are far more serious than we previously thought?

RESPONSE:

It is important to note that, in assessments over past decades, the EPA has concluded that lead is associated with serious health effects in many organ systems. We generally agree with the statement above, but would clarify that new evidence indicates that known health effects may occur with lower lead concentrations than previously observed. Several studies included in the 2006 Air Quality Criteria Document for lead found effects on intellectual attainment at average blood lead levels as low as 2-8 ug/dL. More recent studies have expanded upon this evidence, providing further support for serious health effects in populations with average blood lead levels of less than 5 ug/dL. As stated in Dr. Vandenberg's testimony, the EPA's draft Integrated Science Assessment for lead finds that recent studies generally expand upon evidence for effects identified previously, with some studies showing effects with lower lead exposure levels.

QUESTION:

5. EPA's Children's Health Protection Advisory Committee wrote a letter to the Agency stating: "EPA has not updates its dust lead standard, despite reports from its Science Advisory Board (SAB) and well-documented evidence that the existing standards promulgated more than a decade ago do not protect children adequately. A recently published study also shows that even in high risk houses treated 12 years ago in the [Department of Housing and Urban Development] lead hazard control grant program, dust lead levels of 10ug/ft2 on floors and 100ug/ft2 on window sills can be readily obtained and are feasible. These levels are far lower than the current EPA dust lead standards, which are 40ug/ft2 for floors and 250ug/ft2 for window sills".

   On August 10, 2009, EPA received a petition from several public health organizations requesting, among other things, that EPA lower the Agency's dust-lead hazard standards.

   What is the status of any EPA reconsideration of its dust lead standard? What is the time table for the Agency to propose a revision of the standard? Does the Agency have sufficient information to move forward with such a proposal? If not, what specific data does the Agency lack and how would that information affect EPA's ability to propose a revision to the existing regulations?

RESPONSE:

In October 2009, the EPA responded to the petition, agreeing to revisit the current lead-dust hazard standards, but did not commit to a specific rulemaking outcome – including the specific level of the lead-dust hazard standard. The EPA has initiated a number of activities to determine if the current residential lead-dust hazard standards should be modified. These activities include:

- The EPA conducted a review of information found in the open literature and government reports on sampling and chemical analysis technologies for lead in dust and residual lead-dust levels after various lead-based paint activities and cleaning.
- The EPA developed analytical approaches to evaluate the lead-dust hazard standards and had them reviewed by the agency's Science Advisory Board in November 2010. Since receiving the SAB's input in July 2011, the EPA has been actively working to revise the approaches based on SAB recommendations and implementing the approaches to evaluate lead-dust hazard standards. (SAB report: http://yosemite.epa.gov/sab/sabproduct.nsf/0/9c733206a5d6425785257695004f0cb1!OpenDocument&TableRow=2.3#2.)
- In collaboration with the Department of Housing and Urban Development (HUD), the EPA has developed an Information Collection Request (ICR) to collect information from HUD Lead Hazard Control Grantees "as to their ability to achieve clearance at the current level for floors and windowsills, and whether it would be technically feasible to achieve clearance at potentially lower levels". (77 FRN 63321: http://www.gpo.gov/fdsys/search/pagedetails.action?granuleId=2012-25406&packageId=FR-2012-10-16&acCode=FR). The information collection activity and compilation of results are expected to occur in 2013.

These have been important contributions. When completed, the EPA will evaluate all the available information to determine whether the lead-dust hazard standards should be modified.

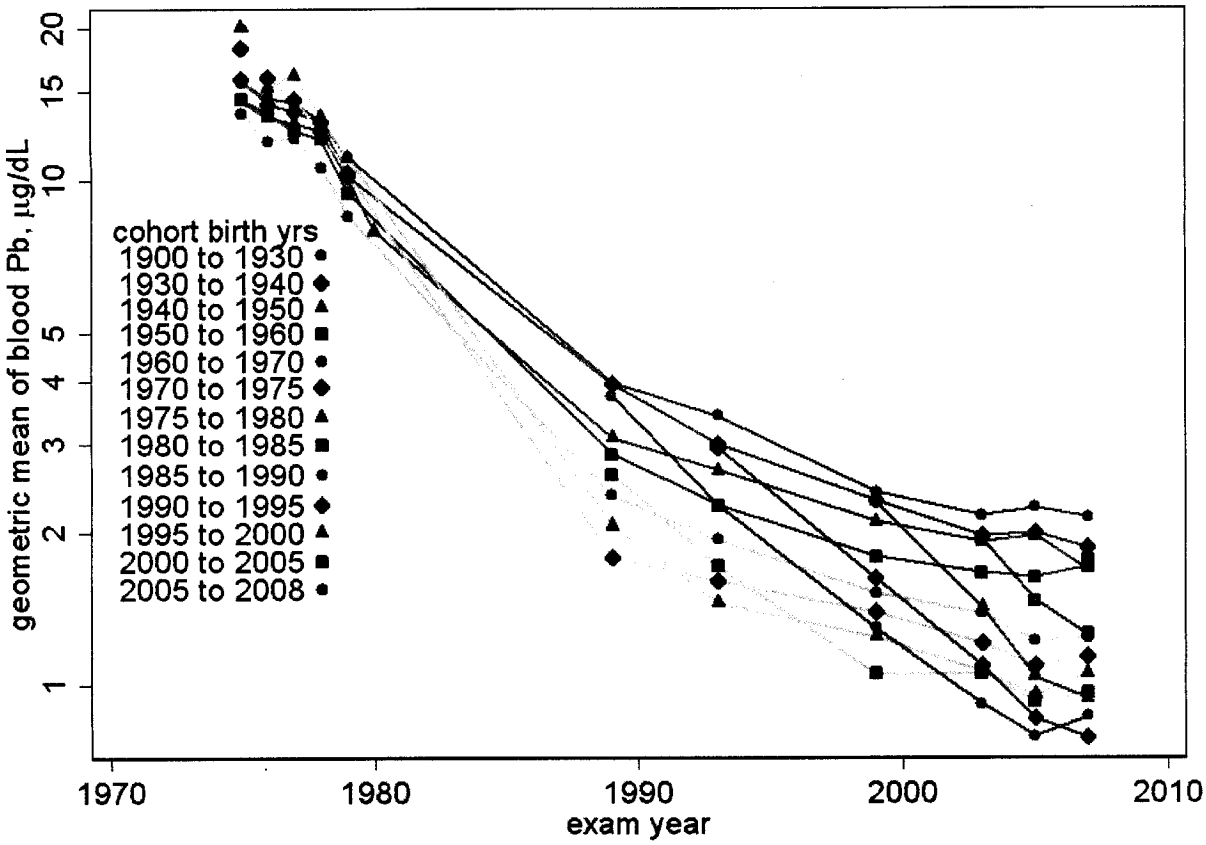
The Honorable James Inhofe

QUESTION:

1. Do you agree that the biggest contributors to the drop in blood lead levels is the removal of lead from gasoline and the removal of lead added to paint? How great was this drop?

RESPONSE:

Data from the National Health and Nutrition Examination Survey show dramatic decreases in blood lead concentrations since the late 1970s, as shown in the figure below (from the second draft Integrated Science Assessment for Lead). We agree that a major contributor to this decline is the reduction of lead in gasoline and paint. There have been important contributions to lead exposure reduction from other actions, such as drinking water regulations, cleanup of lead-contaminated sites, and the elimination of lead solder in U.S. canned food. Having said this, it is important to note that paint that contains lead is still present in many housing units, and is a potential source of exposure even decades after the phase out of paint containing lead.



Source: Adapted from data from the NHANES (NCHS, 2010)
Note: The means of logged blood Pb were weighted to represent national averages. Data were from the publically NHANES II, NHANES III for 1988-1991 and 1992-1994, and the continuous NHANES in 1999-2000, 2003-2004, 2005-2006, 2007-2008. Continuous NHANES data from 2001-2002 and 2009-2010 are not included because there were only 551 blood Pb samples in each of those data sets. The year plotted for exam year was the reported exam year for NHANES II, the middle year of each of the phases of NHANES III, and the second year of each of the continuous NHANES.

Figure 4-17 Blood Pb cohort means versus year of exam. [second draft Integrated Science Assessment for Lead; http://cfpub.epa.gov/ncea/isa/recordisplay.cfm?deid=235331]

QUESTION:

2. On May 6, 2010 EPA issues an advanced notice of proposed rulemaking to extend the Lead Renovation Repair and Painting rule to commercial buildings. When will the study and report to congress regarding this proposal be finalized? Will EPA ensure that Congress had proper time to review this study before any additional proposals are made?

RESPONSE:

The Lead-based Paint Hazard Reduction Act of 1992, which does not include a reporting requirement, directed the EPA to promulgate regulations addressing renovations that disturb lead-based paint in "public buildings constructed before 1978, and commercial buildings." In response to this statutory directive and a settlement agreement the EPA entered into in 2009, on May 6, 2010, the EPA announced the commencement of proceedings to propose lead-safe work practices and other requirements for renovations on public and commercial buildings.

The EPA has not yet completed further regulatory action on this subject, but has completed extensive studies on renovation activities conducted on a variety of buildings, both residential and public and commercial (http://www.epa.gov/lead/pubs/leadtpbf.htm#Renovation), including:

- Lead Exposure Associated with Renovation and Remodeling Activities, Final Summary Report, January 2000 (EPA 747-S-00-001) [primarily residential buildings, but also includes data on schools, office and industrial buildings]
- Executive Summary - Lead Exposure Associated with Renovation and Remodeling Activities: Phase IV, Worker Characterization and Blood-Lead Study of R&R Workers Who Specialize in Renovation of Old or Historic Homes, March 1999 (EPA 747-R-99-001) [residential buildings]
- Executive Summary - Lead Exposure Associated with Renovation and Remodeling Activities: Phase III, Wisconsin Childhood Blood-Lead Study, March 1999 (EPA 747-R-99-002) [residential buildings]
- Lead Exposure Associated with Renovation and Remodeling Activities: Summary Report, May 1997 (EPA 747-R-96-005) [primarily residential buildings, but also includes data on schools, office and industrial buildings]
- Lead Exposure Associated with Renovation and Remodeling Activities: Phase II, Worker Characterization and Blood-Lead Study, May 1997 (EPA 747-R-96-006) [residential and commercial buildings]
- Lead Exposure Associated with Renovation and Remodeling Activities: Phase I, Environmental Field Sampling Study, Volume I: Technical Report, May 1997 (EPA 747-R-96-007) [primarily residential buildings, but also includes data on schools, office and industrial buildings]
- Lead Exposure Associated with Renovation and Remodeling Activities: Phase I, Environmental Field Sampling Study, Volume II: Appendices, May 1997 (EPA 747-R-96-008) [primarily residential buildings, but also includes data on schools, office and industrial buildings]
- Draft final report on characterization of dust lead levels after renovation, repair, and painting activities. http://www.epa.gov/lead/pubs/duststudy01-23-07.pdf [primarily residential, but includes data from a school building]

These studies provide a comprehensive picture of lead-dust generation by renovation activities and lead exposure associated with renovation and remodeling activities. The EPA will use these studies, along with any other suitable studies and information identified as the result of a search of the scientific literature (e.g., NIOSH Health Hazard Evaluation Report #99-0113-2853; Department of Health and Human Services, July 2001), to identify lead paint hazards generated by renovation activities on public and commercial buildings. In addition, the EPA anticipates holding a public meeting regarding this rule in 2013.

QUESTION:

3. What is EPA doing to encourage the development of Phase 2 test kits for the Lead Renovation Repair and Painting rule? When will EPA have a test kit available that meets the specifications set forth in the Lead Renovation Repair and Painting Rule?

RESPONSE:

At this time the EPA has not been contacted by any manufacturers seeking recognition of new test kits that may meet both the false negative and false positive test kit performance criteria, and the agency has no plans to sponsor additional testing of kits as was done previously through the agency's Environmental Technology Verification program.

As a reminder, the 2008 Lead-based Paint Renovation Repair and Painting Rule (RRP rule) does not require a certified renovator to use lead test kits. In addition to using a recognized lead test kit they have other options to determine if they need to use the lead-safe work practices. They can also choose to:

- assume that lead is present and therefore use lead-safe work practices;
- collect a paint chip sample and send it to an EPA accredited lead laboratory for analysis of the lead; or
- hire a lead inspector or risk assessor to determine the level of lead in paint through either paint chip sampling and lab analysis or using an X-Ray Fluorescence (XRF) analyzer in the field.

QUESTION:

4. What Public education activities has EPA undertaken to inform the public about hiring lead safe renovators? Are there any additional activities that EPA plans to undertake in the next year or two?

RESPONSE:

The EPA's second phase of outreach will include renewed efforts to educate consumers about the importance of using lead-safe certified renovators for remodeling/repair projects to protect themselves and their families. This phase will also include a focus on the regulated community (renovators, painters, etc) and key influencers (state licensing agencies, major users, etc.).

The EPA plans to capitalize on the outreach conducted during the initial outreach phase by further distributing informational materials through direct (mailing fliers, attending trade shows) and indirect (providing targeted online content and print media) activities. The EPA also plans to discuss and coordinate outreach efforts with new and existing partners in the federal, state, local, and private organizations that focus on children's health protection issues.

In FY13, the EPA will continue certifying firms, accrediting training providers, and encouraging states to become authorized programs. The EPA also plans additional Public Service Announcement (PSA) radio spots, a lead-safe segment on the nationally syndicated home improvement program, Hometime, and a mass postcard mailing to over 500,000 uncertified firms.

QUESTION:

5. What guidance has EPA given regional offices to ensure that the Lead Renovation Repair and Painting Rule is being consistently enforced across the country?

RESPONSE:

To ensure consistent enforcement across the country, EPA Headquarters provided the Regional offices with numerous guidance documents relating to enforcement of the Lead-based Paint Renovation Repair and Painting (RRP) Rule and the resolution of enforcement actions. These include:

- Two memos issued by Cynthia Giles, the Assistant Administrator for the Office of Enforcement and Compliance Assurance, in 2010 providing implementation guidance to the EPARegions for the Lead-based Paint RRP Rule. Specifically, these memos explained the agency's decision to not pursue enforcement of certain, date-specific, firm certification and training requirement violations. Please refer to the linked memos for more detailed description.
  http://www.epa.gov/lead/pubs/owens20100420.pdf
  http://www.epa.gov/lead/pubs/giles_RRP_memo.pdf

- National Program Managers (NPM) Guidance which identifies national areas of focus, program-specific guidance and operational measures in accordance with the EPA's Strategic Plan and Annual Plan and Budget. The annual NPM Guidance serves as a national framework for EPA Regions to use as they establish individual work plans and work-sharing strategies with the states, tribes, and other implementation partners. http://nepis.epa.gov/Exe/ZyPDF.cgi?Dockey=P100F6FG.PDF

- Lead-based Paint Consolidated Enforcement Response and Penalty Policy (LBP Consolidated ERPP), which sets forth guidance for case teams to use in determining an appropriate enforcement response and penalty amount. This policy ensures consistent, fair and equitable treatment of the regulated community, predictable enforcement responses, and comparable penalty assessments for comparable violations, with flexibility to allow for consideration of the individual facts and circumstances of a particular case. http://www.epa.gov/enforcement/documents/policies/leadbasedpaint-consolidatederpp0810.pdf

In addition to these guidance documents, EPA Headquarters works closely with Regional case teams on case development issues and hosts monthly conference calls with the Regional offices to discuss Lead RRP compliance monitoring and enforcement issues. The agency has also developed a Question and Answer document to provide guidance to the regulated community on frequently asked questions regarding implementation of the RRP Rule. This document, available on the EPA's website, also helps ensure that Regions are applying the RRP Rule consistently across the country. See http://www.epa.gov/lead/pubs/rrp-faq.pdf

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

THE ADMINISTRATOR

FEB 0 6 2013

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, D.C. 20510

Dear Madam Chairwoman:

I am responding to your letter dated January 22, 2013, requesting information about the impact that sequestration will have on the U.S. Environmental Protection Agency's ability to protect the nation's environment and public health. As stewards of taxpayers' dollars, we have set priorities, made tough choices and managed our budget carefully. Sequestration, however, will force us to make cuts we believe will directly undercut our congressionally-mandated mission of ensuring Americans have clean air, clean water and clean land. I am enclosing our preliminary assessment of some of the impacts of sequestration, should it be implemented. Our assessment highlights a number of immediate impacts to programs, people and services.

Should you have any questions about the information included, please have your staff contact Ed Walsh of my staff at (202) 564-4594.

Sincerely,

(for)

Lisa P. Jackson

Enclosure

Potential Impacts of Sequestration

Air Programs

ENERGY STAR

- ENERGY STAR is relied upon by millions of Americans and thousands of companies to save money and protect the environment through energy efficient products and practices.
  - Results are already adding up. Americans, with the help of ENERGY STAR, prevented 210 million metric tons of GHG emissions1 in 2011 alone— equivalent to the annual emissions from 41 million vehicles—and reduced their utility bills by $23 billion.
- Under sequestration, there would be three specific impacts that could jeopardize, delay or impair further progress: (1) EPA's ability to keep ENERGY STAR product specifications up to date across more than 65 categories would slow down, including electronics, appliances and home heating and cooling systems; (2) EPA would have to reduce the number of energy-intensive industrial sectors it works with to develop energy performance indicators and Energy Efficiency Guides; and (3) EPA would reduce support for our Portfolio Manager, both the planned upgrade and our ability to support its users, including the approximately 10 major cities and states as well as the federal government, which use the tool in emissions and energy disclosure and benchmarking policies.

Vehicle Certification

- Before new vehicles can be sold in the United States, EPA must first certify that they are in compliance with emissions standards.
- Sequestration would harm EPA's ability to confirm in a timely manner that manufacturers are complying with all vehicle emission standards and creates the risk that some manufacturers would be delayed in their ability to certify their products. Without this certification, they would be unable to sell these products in the United States, thus depriving car-buyers access to the latest vehicles and potentially harming vehicle sales and the economy.

State Air Monitors

- Air quality monitoring is vital to the protection of public health from harmful air pollution.
- Sequestration would reduce the funding EPA provides states to monitor air quality, likely forcing the shutdown of some critical air monitoring sites. Lost monitoring for high priority pollutants such as ozone and fine particles would impact the collection of data necessary for determining whether areas of the country meet, or do not meet, the Clean Air Act's health-based standards.
- Sequestration would force the Agency to eliminate or significantly reduce essential air quality data systems like AIRNow, a popular air quality reporting and forecasting system. Americans that have or care for individuals with respiratory and cardiac health issues rely on AIRNow for information about when to take action to avoid health impacts from air pollution. The Agency would eliminate upgrades for the Emission Inventory and Air Quality Systems – the Agency would only fund operations for these systems. These systems store and process air quality monitoring and emissions data from across the nation that informs EPA, state, tribal, and local air agencies' decisions on steps needed to improve air quality. Without this monitoring data, future improvements in air quality would be hampered or delayed.

Potential Impacts of Sequestration

Enforcement and Compliance Programs

Civil and Criminal Enforcement

Americans expect their government to protect them from violations of the nation's environmental laws that could harm their families and impact the safety and prosperity of their communities. Sequestration's reduction to EPA's enforcement budget would:

- Reduce EPA's ability to monitor compliance with environmental laws – as fewer environmental cops are on the "beat" to enforce environmental laws (note implementation of the sequester could result in 1,000 fewer inspections in FY 2013.)
- Limit EPA's capacity to identify toxic air emissions, water discharges, and other sources of pollution that directly affect public health and the environment.

National Environmental Policy Act

- EPA's comments on environmental reviews are required by law and help to ensure that federal agencies understand the potential environmental impacts and have considered alternatives to proposed projects on federal lands. Sequestration would reduce support for environmental reviews and could slow the approval of transportation and energy related projects.

Superfund Enforcement

Superfund enforcement ensures that responsible parties pay for necessary and often costly cleanups at the nation's most polluted sites. Sequestration would cut work to press responsible parties to clean up contaminated sites in communities and restore clean up funds for use at other sites – putting the costs back on the American public. (note: estimated $100 million loss in clean-up commitments and cost reimbursements to the government).

Tribal Programs

EPA tribal funding supports environmental protection for 566 tribes on 70 million acres of tribal lands. This funding includes the most significant grant resources to help tribal governments build the core capacity necessary to protect public health and the environment. Funds are used to support staffing of environmental directors and technicians to implement environmental projects, including safe drinking water programs and development of solid waste management plans. Reduced funds under sequestration would directly impact some of the country's most economically disadvantaged communities, resulting in loss of employment, and hindering tribal governments' ability to ensure clean air and clean and safe water.

Research and Development Programs

Air, Climate and Energy

- Under sequestration, cuts to EPA climate research would limit the ability of local, state and the federal government to help communities adapt to and prepare for certain effects of climate change, such as severe weather events. Without information provided by climate research, local

governments would not know how climate change would affect water quality, and therefore would be unable to develop adaptation strategies to maintain protection of water quality as the climate changes.

- Implementation of the sequester would eliminate research to increase our understanding of exposures and health effects of air pollutants on susceptible and vulnerable populations, such as asthmatics, the growing aging population, and individuals living near air pollution sources which would impact the development of national air quality standards as required by the Clean Air Act.

Chemical Safety for Sustainability

- Under sequestration, the reduction in funding would impede EPA's ability to assess and understand the effect of nanomaterials on human health and dispose of rare earth materials used in electronics, thereby limiting innovation and manufacturing opportunities with these materials in the US. The reduction in funding for endocrine disrupting chemicals research would limit our nation's ability to determine where and how susceptible people are exposed to endocrine disrupting chemicals, and to understand how these toxic exposures impact their health and welfare. Limiting the use of advanced chemical evaluation approaches recommended by the National Academy of Sciences would impair the ability of business, states and EPA to make decisions on both the safety of existing industrial chemicals, as well as on the development and use of safer chemicals.

Sustainable & Healthy Communities

- Under sequestration EPA would reduce the number of undergraduate and graduate fellowships (STAR and GRO) by approximately 45, thus eliminating any new fellowships. The Fellowship program, one of the most successful fellowship programs in government, is educating the next generation of environmental scientists, which is critical to a strong and competitive economy.
- Reductions under Sequestration would discontinue funding for two joint EPA/National Institutes of Health Centers of Excellence for Children's Health Research. These centers are providing a greater understanding of how the environment impacts today's most pressing children's health challenges, including asthma, autism, attention deficit hyperactivity disorder (ADHD), neurodevelopmental deficits, childhood leukemia, diabetes, and obesity. Eliminating funding would negatively impact graduate students and faculty who would have to look for new funding to keep their research going and ultimately slow down the pace of scientific research in these important areas. Research in these areas translates to improved public health.
- EPA research and grants to academic institutions for studies to understand human health disparities at the community-level would both be severely curtailed by reductions under sequestration. This would be especially significant to disproportionately affected communities across the US. Important research would be stopped mid-stream and graduate students would be without expected funding. This would delay scientific research in these fields, which are important to advancing public health.

Safe and Sustainable Water Resources

- Under sequestration Reductions to green infrastructure (GI) research would slow the Agency's ability to provide GI best-management practices to municipalities dealing with costly stormwater enforcement actions. Other benefits of GI, such as wildlife habitat, flood and erosion control, recreational opportunities, jobs and increased property values, would also be lost.
- Sequestration would cut research to find cleaner and cheaper solutions to help states and cities address the nation's crumbling water infrastructure that is contaminating clean drinking water and

causing substantial loss of valuable quantities of water.

Human Health Risk Assessment

- Reductions under Sequestration would result in the significant delay of crucial Integrated Risk Information System (IRIS) human health related assessments (e.g. arsenic, styrene, ethylbenzene, naphthalene and manganese) that would limit the ability of EPA and states to make decisions to protect people's health.
- Sequestration reductions delaying the delivery of four major Integrated Science Assessments would limit the ability of EPA to make decisions that would protect people from certain air pollutants.

Homeland Security Research

- Sequestration would stall development of approaches to manage waste from radiological contaminants following a terrorist attack or a nuclear accident. Opportunities to learn lessons from the Japanese Fukushima Disaster would be lost.
- Under sequestration, reductions in practical research on preparedness following disasters would inhibit the development of techniques and procedures for communities to prepare for and recover from natural disasters and industrial accidents (e.g., Deepwater Horizon, Superstorm Sandy). This would lead to longer recovery times and higher costs at the local, state, and national levels.

Water Programs

State Revolving Fund Program (SRFs):

- Under sequestration, cuts to Clean Water and Drinking Water SRFs would deprive communities from access to funding to build or repair decaying water and wastewater infrastructure that provides safe drinking water and removes and treats sewage.

Water Program State Implementation Grants:

- Reductions under sequestration would impact states' ability to meet drinking water public health standards and to reduce the nitrogen and phosphorus pollution that contaminate drinking water supplies, cause toxic algae blooms, and deprive waters of oxygen that fish need to survive. This reduction would result in the elimination of more than 100 water quality protection and restoration projects throughout the United States. Examples of specific projects that would be impacted include but are not limited to:
  - Assisting small and/or disadvantaged public drinking water systems that need assistance to improve the safety of the drinking water delivered to communities.
  - Protecting children from harmful exposure to lead in drinking water by revising the Lead and Copper Rule
  - Protecting public health from cancer-causing Volatile Organic Compounds in drinking water

EPA 's Water Program Implementation:

- Reductions under sequestration would limit assistance provided to states and tribes to ensure safe and clean water, including protecting children from exposure to lead in drinking water; protecting rivers and streams from industrial and municipal pollution discharges, identifying and developing

cleanup plans for polluted waterways, and developing science to support human health and aquatic life.

Superstorm Sandy Appropriation:

- Sequestration would reduce funding available to enhance resiliency and reduce flood damage risk and vulnerability at treatment works in communities impacted by Superstorm Sandy.

Community Protection Reduced

The Agency's cleanup programs protect communities from the risks posed by hazardous waste sites and releases and returns formally contaminated properties to beneficial use.

- The Superfund Remedial program would be unable to fund an estimated 3-5 new construction projects to protect the American public at Superfund National Priority List sites due to constrained funding from the sequestration.
- Under sequestration, the Agency may have to stop work at one or more ongoing Superfund Remedial construction projects. Stopping any ongoing work would increase costs in the long run (due to contract termination penalties and the need to demobilize and re-mobilize construction contractors).
- The sequestration would reduce funding available for other parts of the Superfund Remedial program as well. Critical steps leading up to construction would be curtailed.
- Cuts to the Brownfield Program's budget under sequestration would limit the Agency's ability to provide cleanup, job training, and technical assistance to brownfield communities. The Program leverages nearly $17 dollars of private and public sector funding for every dollar expended by the Brownfields program to clean up sites and help revitalize communities and support economic development.
- Under sequestration, funding cuts would reduce Risk Management Plan (RMP) Program inspections and prevention activities. Both high-risk and non high-risk RMP facility inspections would be reduced by approximately 26 inspections per year, from 500 to 474. Of the reduced inspections, approximately 8 would be from high risk facilities and the RMP inspector training program would be reduced.
- Cuts to the Oil Spill program under sequestration would reduce protection of US waters from oil spills by reducing inspection and prevention activities. The largest program impact of an oil budget reduction would be on inspections at regulated facilities. EPA currently conducts approximately 840 inspections per year at SPCC-regulated facilities (which represents 0.13 % of the total universe of 640,000) and 290 FRP inspections/ unannounced exercises (about 6.5% of the universe of 4,400). EPA would reduce approximately 37 FRP inspections in FY 2013 and limit the development of a third party audit program for SPCC facilities, which may lead to a decrease in compliance with environmental and health regulations.

EPA / State Cleanup and Waste Program Cuts

- Under sequestration state cleanup program funding would be cut reducing site assessments.
- Cuts in Leaking Underground Storage Tank state grants under sequestration would result in nearly 290 fewer cleanups completed at contaminated sites, limiting further reductions to the backlog of sites awaiting cleanup. It would reduce the number of sites and acres ready for reuse or continued

use, and therefore, fewer communities would receive the redevelopment benefit of cleaning up LUST sites.

- Under sequestration, cuts in state grants would result in approximately 2,600 fewer inspections, and would limit the States' ability to meet the statutory mandatory 3-year inspection requirement. Decreased frequency of inspections may lead to a decline in compliance rates and could result in more UST releases.
- Since 75% of state clean up grants and 80% of state prevention grants support state staff, these cuts under sequestration could lead to the loss of state jobs.
- Under sequestration, cuts to the Brownfield Program would reduce funds to states and tribes for the development of voluntary response programs.
- A cut of $2.5 million to CERCLA 128(a) State and Tribal response program Brownfields categorical grants program under sequestration would reduce the ability to fund new grantees (7 tribal grantees) without further reducing the allocations of existing grantees, and would decrease the number of properties that could be overseen by Voluntary Cleanup Programs by nearly 600.
- Cuts under sequestration would delay work on a three-year project to develop a fee-based system for managing hazardous waste transport (e-Manifest) that would produce the estimated $77 million to $126 million in annual projected savings to industry and the states.
- Sequestration cuts would reduce funding for maintenance to the only national system for tracking state and federal RCRA permitting and corrective action. RCRA Info is vital to the U.S. economy since it enables states to prioritize and implement their hazardous waste programs by tracking facility activities regarding the handling hazardous waste (generators, or treatment, storage, or disposal facilities).

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

MAR 1 2 2013

OFFICE OF
ADMINISTRATION
AND RESOURCES
MANAGEMENT

The Honorable Harold Rogers
Chairman, Committee on Appropriations
U.S. House of Representatives
Washington, D.C. 20515-6015

Dear Mr. Chairman:

Thank you for your January 30, 2013, letter regarding the new detail opportunities on the House Appropriations Committee. At the U.S. Environmental Protection Agency, employee development continues to be a top priority. Through these types of partnerships, employees provide and gain invaluable insight that helps strengthen this agency and our nation.

We forwarded this information to our EPA program and regional offices for their consideration. We will work with your staff to identify possible candidates for these detail positions.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Christina Moody in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely,

Craig E. Hooks
Assistant Administrator

cc: The Honorable Nita Lowey
Ranking Member, Committee on Appropriations

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

APR - 5 2013

OFFICE OF
RESEARCH AND DEVELOPMENT

The Honorable Barbara Boxer
United States Senate
SH-112 Hart Senate Office Building
Washington, DC 20510

Dear Senator Boxer:

Thank you for your letter dated February 5, 2013, concerning the application submitted by Humboldt State University in partnership with Oregon Institute of Technology in response to the U.S. Environmental Protection Agency Request for Application (RFA), Centers for Water Research on National Priorities Related to a Systems View of Nutrient Management, Funding Opportunity Number: EPA-G2012-STAR-H1.

Proposals submitted in response to this RFA will be evaluated according to the published criteria outlined in this solicitation. Applicants will be notified of the outcome of the Review Process this spring.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Laura Gomez in EPA's Office of Congressional and Intergovernmental Relations at (202) 564-5736.

Sincerely,

Lek Kadeli
Principal Deputy Assistant Administrator
Office of Research and Development

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

MAR 07 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, D.C. 20510

Dear Madam Chairwoman:

I am transmitting the U.S. Environmental Protection Agency's response to the July 2012 Government Accountability Office report entitled, *EPA Regulations and Electricity: Better Monitoring by Agencies Could Strengthen Efforts to Address Potential Challenges* (GAO-12-635). The EPA prepared this response pursuant to 31 U.S.C. 720.

In its review, the GAO examined (1) actions power companies may take in response to four final or proposed EPA regulations applicable to power plants;[1] (2) the potential electricity market and reliability implications of such actions; and (3) the extent to which these implications can be mitigated.

The EPA appreciates the GAO's attention to the important issues surrounding implementation of the agency's power plant rules and their effect on the electricity market and the power system. These rules will provide very substantial public health benefits and important environmental protections. As the GAO report acknowledges, the rules are being implemented during a period of significant change in the power sector, driven, in large part, by a substantial decline in natural gas prices, rising coal prices, and reduced demand for electricity. In addition, a majority of coal plants in the fleet have been in service for 40 years or longer, and many of these older plants are significantly less efficient than newer generation, resulting in very low utilization rates. As a result, the owners of some coal- and oil-fired power plants appear to be finding that these plants' revenues no longer cover their operating costs, leading, in turn, to business decisions to retire these plants. In a separate report, the GAO found that coal-fueled units being retired tend to be "older, smaller and more polluting" than units not retiring.[2]

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[1] The relevant rules are the final Mercury and Air Toxics Standards and the final Cross-State Air Pollution Rule under the Clean Air Act, the proposed cooling water intake structures rule under section 316(b) of the Clean Water Act, and the proposed coal combustion residuals rule under the Resource Conservation and Recovery Act. Since the GAO report was issued, the U.S. Court of Appeals for the D.C. Circuit on August 21, 2012, issued an opinion that would vacate the Cross State Air Pollution Rule. On January 24, 2013, the court denied the EPA's petition for rehearing en banc of that decision. In addition, the expected date for signature of the cooling water intake structure rule under section 316(b) of the Clean Water Act has been extended to June 2013.

[2] GAO, "Significant Changes Are Expected in Coal-Fueled Generation, but Coal is Likely to Remain a Key Fuel Source" (GAO-13-72) (Oct. 2012).

The GAO has made two recommendations in this report, the first is addressed to the Chairman of the Federal Energy Regulatory Commission, the Secretary of Energy, and the Administrator of the EPA and the second is directed solely to the Chairman of FERC. The GAO's first recommendation and the EPA's response follow below.

GAO Recommendation

To further strengthen agency efforts to understand whether existing tools are adequate, or additional tools are needed, we recommend that the Chairman of FERC, the Secretary of Energy, and the Administrator of the EPA develop and document a formal, joint process consistent with each agencies' respective statutory authorities to monitor industry's progress in responding to the EPA regulations until at least 2017. Each agency, to the extent practical, should leverage resources and share the results of its efforts with the other agencies. The agencies should consider providing Congress with the results of their monitoring efforts, including whether additional statutory authority is needed to address any potential adverse implications.

EPA Response

The EPA, the DOE and FERC have taken a number of steps to assure that the relevant EPA rules do not interfere with electric reliability. Before the Mercury and Air Toxics Standards rule was finalized, the EPA and the DOE both conducted analyses of electric generation resources.[3] The EPA and the DOE modeling indicated that regional resource adequacy problems as a consequence of MATS and the Cross State Air Pollution Rule were unlikely. The GAO's assessment of the available studies concluded that "[t]he actions power companies take in response to the four key EPA regulations are not likely to cause widespread reliability challenges...."[4] Nevertheless, the agencies recognized the potential for localized reliability challenges and, accordingly, have focused on working with utilities and grid planning organizations to help them anticipate and proactively address any such issues that may arise.

The EPA appreciates the GAO's recommendation that we work with the DOE and FERC to further coordinate, formalize and document our ongoing activities to monitor industry's progress with regard to the implementation of the EPA regulations and to share information among the three agencies. This effort is already underway and the agencies' coordination, outreach and monitoring efforts have grown progressively more extensive and regularized over time.

Consistent with the Presidential Memorandum issued on December 21, 2011, entitled "Flexible Implementation of the Mercury and Air Toxics Standards Rule," the EPA has offered flexibility in compliance timing where a serious risk to electric reliability has been identified. Further, the three agencies have developed a coordinated approach to engagement with grid planning authorities, state public utility commissions, and a range of other power sector stakeholders to support early and coordinated planning and implementation of MATS and other regulatory requirements in a manner that maintains electric reliability. The agencies are monitoring the implementation of MATS, primarily through regular communication with the Regional Transmission Organizations and other planning

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[3] Environmental Protection Agency (2011). "Resource Adequacy and Reliability in the IPM Projections for the MATS Rule" http://www.epa.gov/ttn/atw/utility/revised_resource_adequacy_tsd.pdf; Department of Energy (2011). "Resource Adequacy Implications of Forthcoming EPA Air Quality Regulations" http://energy.gov/sites/prod/files/2011%20Air%20Quality%20Regulations%20Report_A_120911.pdf

[4] GAO, EPA Regulations and Electricity: Better Monitoring by Agencies Could Strengthen Efforts to Address Potential Challenges (GAO-12-636) at 41 (July 2012).

authorities that are responsible for grid planning and the assessment and mitigation of grid reliability concerns. We hold regularly scheduled meetings between the three federal agencies and the RTOs, with a primary focus on the four key regions most affected by MATS. In addition, we have participated jointly in engagement with other planning authorities, state regulatory agencies, and the North American Electric Reliability Corporation and the NERC-affiliated Regional Entities, to monitor and address reliability issues that may arise. These have been productive exchanges that provide information that will help the EPA, the DOE and FERC to anticipate potential concerns well in advance, to better target our outreach and engagement with key stakeholders, and to ensure that we are adequately prepared to address any reliability concerns that may arise.

Again, the EPA appreciates the GAO's review of these issues and the opportunity to review and respond to the GAO's final report. Going forward, we will continue to develop the joint efforts of the three agencies described above, consistent with the GAO recommendations. The agency remains committed to ensuring that our power sector rules are implemented in a manner that is flexible, cost-effective, and that maintains electric reliability.

If you have any questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Barbara J. Bennett
Chief Financial Officer

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

APR 05 2013

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

The Honorable Barbara A. Mikulski
United States Senate
Washington, D.C. 20510

Dear Senator Mikulski:

Thank you for your February 15, 2013, letter to the U.S. Environmental Protection Agency on behalf of your constituent, (b) (6) [redacted], regarding media reports about pesticides and bees. I responded to Ms. Wehden directly and I have enclosed a copy of that reply for your records.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Mr. Sven-Erik Kaiser in the EPA's Office of Congressional and Intergovernmental Relations at (202) 566-2753.

Sincerely,

James J. Jones
Acting Assistant Administrator

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

APR 05 2013

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

The Honorable Barbara A. Mikulski
United States Senate
Washington, D.C. 20510

Dear Senator Mikulski:

Thank you for your February 7, 2013, letter to the U.S. Environmental Protection Agency on behalf of your constituent, (b) (6) [redacted], regarding the impact of clothianidin on bees. I responded to Dr. Frost directly and I have enclosed a copy of that reply for your records.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Mr. Sven-Erik Kaiser in the EPA's Office of Congressional and Intergovernmental Relations at (202) 566-2753.

Sincerely,

James J. Jones
Acting Assistant Administrator

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

MAR 2 8 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Madam Chairwoman:

I am transmitting the U.S. Environmental Protection Agency's response to the July 2012 Governmental Accountability Office report entitled, *Information Security: Environmental Protection Agency Needs to Resolve Weaknesses,* GAO-12-530SU. The EPA prepared this response pursuant to 31 U.S.C. 720.

The GAO was asked to determine whether the agency has effectively implemented appropriate information security controls to protect the confidentiality, integrity, and availability of the information and systems that support its mission. Specifically, the GAO provided the EPA with 94 recommendations designed to enhance access and other information security controls over the EPA's information systems. The EPA is in agreement with the spirit of these findings and recommendations and is currently taking action to implement the recommendations.

Enclosed is the EPA's response to each recommendation. The responses reflect the EPA's continuing efforts to ensure that all information assets are protected at a level that is commensurate with the sensitivity level of the data. The EPA appreciates the GAO's review of its Information Security Program and the opportunity to respond to the final report.

If you have any questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely,

Barbara J. Bennett
Chief Financial Officer

Enclosure

BOUNDARY PROTECTION

Public Access Networks - EPA did not adequately segregate its internal networks from public access. NIST guidance states that organizations should provide adequate protection for their networks and employ information control policies and enforcement mechanisms to control the flow of information between designated sources and destinations within an information system. However, we were able to reach critical internal network and system management assets from an EPA public library at the Research Triangle Park location. Access obtained included a TACACS+[1] console for managing EPA network devices, a network management server, and a network logging server. Although EPA had employed physical access controls to library facilities, the risk remains that the public could gain access to internal systems through library computer systems.

GAO Recommendation:
1. Restrict library networks from being used to gain unauthorized access into internal EPA networks.

EPA Response:
The EPA concurs with the recommendation. The procedures for accessing EPA-RTP library patron computers have been modified as follows:

1. Only EPA staff and contractors with EPA LAN userids and passwords can access the patron computers.
2. Members of the public wishing to visit the library must follow the steps below:
   - The visitor must first go through building security before being escorted into the library.
   - Once in the library, the patron must sign in as a library visitor.
   - The visitor will then consult with a library staff person who assesses their need. If it is determined that a member of the public requires information from an online resource that is available through a publicly available or other authorized website, a library staff person logs onto a patron computer using a station-restricted EPA userid and password. The library staff person then performs any necessary information searches for the patron. At no time is the visitor allowed to operate the EPA computer or gain access to the EPA network.

It is estimated that on an annual basis fewer than five members of the public visit the library for the purpose of obtaining online resource materials. For EPA procedures that govern public access to library materials please see EPA Classification No.: CIO 2170.2-P-12.0 for the document titled EPA Library Public Access Procedures, http://www.epa.gov/irmpoli8/policies/public_access_procedures.pdf.

3. EPA is taking action to separate the headquarters library network from the headquarters' network.

[1] TACACS+ is a Cisco proprietary protocol that provides access control for routers, network access servers, and other network computing devices via one or more centralized servers. TACACS+ also provides separate authentication, authorization, and accounting services.

SSH Inbound Connections - EPA allowed inbound use of the encrypted protocol, Secure Shell (SSH), for the e-Rulemaking initiative's[2] Federal Docket Management System without adequate authorization.[3] NIST guidance states that system-specific controls are the primary responsibility of information system owners and their respective authorizing officials, and should be configured to the most restrictive mode consistent with operational requirements. However, EPA allowed unrestricted inbound SSH connections that were not approved by the system owner's authorizing official. The stated purpose for the firewall rule established for the connection is for agencies to be able to transfer batches of scanned documents over a secure connection. As a result, any port or protocol could be forwarded from the internal network through the encrypted tunnel where an inbound connection could be used to remotely control and provide access to the internal network from any Internet location.

GAO Recommendations:
2. Restrict the use of SSH inbound connections for the e-Rulemaking initiative's Federal Docket Management System to that consistent with operational requirements.
3. Provide appropriate authorization(s) for inbound use of SSH for the e-Rulemaking initiative's Federal Docket Management System.

EPA Response:
The EPA will update the SDWIS security plan to reflect current policies and procedures per Agency standards and NIST 800-18 guidance.

IDENTIFICATION AND AUTHENTICATION

Cisco Wireless Access Control Server Password Policy - EPA did not implement sufficient password policy controls on its Cisco wireless access control server at EPA headquarters. NIST guidance on password management states that agencies are to establish password complexity and lifetime restrictions for passwords on information systems. Additionally, agency policy states that passwords should be changed at least every 90 days. However, EPA did not provide sufficient password policy controls to manage access to its Cisco wireless access control server at EPA headquarters. This server is used to establish wireless network encrypted sessions that also provide access into EPA's production network[4] and enable wireless users' authentication to EPA's Active Directory. For example, we found the following policy violations:

- Password setting allowed for use of username and a default password.
- Password length was set to a minimum length of 4 characters.
- Password complexity settings were not enabled.
- Passwords had no maximum lifetime requirements set.

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[2] The eRulemaking Initiative's Federal Docket Management System is an online public docket and comment system being implemented to expand public access to and the ability to comment on federal agencies' rulemaking activities. It facilitates the submission of public comments to federal agencies' rulemaking dockets by allowing the public to comment online. While the Federal Docket Management System is a centralized system, each federal agency is the sole owner of its data and each agency manages its internal users' access and roles within the system as well as the posting of data on the system as part of its rulemaking procedures.

[3] This protocol is used for remote access and communicating over the Internet and allows users to bypass firewall and network-based monitoring controls.

[4] Per EPA's wireless standard configuration document, wireless networks, because of the economies of scale in implementation, are used to extend employees' reach into the agency's production network.

As a result, the EPA wireless access control server is vulnerable to compromise, which could enable an attacker to create a new user account profile that could bypass EPA's centralized Active Directory authentication and encryption and be used to initiate unauthorized sessions into EPA wireless networks.

GAO Recommendation:
4. Establish password controls for password length, complexity, and lifetime requirements in accordance with EPA policy.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. All security concerns regarding Wireless Access Control Server Password policy have been addressed. All Policies are created off of NIST standards and DoD STIG guidelines and recommendations, as well as industry standards.

TACACS+ Password Policy – EPA did not effectively manage password policy on its TACACS+ server. NIST guidance on procedures to implement identification and authentication policy states that agencies should establish minimum password complexity requirements, such as number of characters and ix of upper case letters, lower case letters, numbers, and special characters, including minimum requirements for each type, and should define and enforce password minimum and maximum lifetime restrictions and prohibitions on password reuse. Additionally, agency policy states that passwords should be changed at least every 90 days. However, account policies were not effectively implemented in accordance with policy, as the following examples illustrate:

- The default for password length was set to a minimum of 4 characters.
- Passwords were not required to have any complexity.
- Password expiration was not applied to a cisco access control server account and a local operating system administrative account.

Without strong password policies, EPA's TACACS+ system and network resources are at increased risk of compromise.

GAO Recommendation:
5. Establish controls for password length, complexity, and expiration for the TACACS+ server.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA conducted a thorough review of settings and made corrections to the TACACS settings to reflect:

- Administrator Password has been set to a minimum of 8 characters;
- The password complexity has been set to – Passwords must contain upper, lower, non-alphabetic and numeric characters; and
- All accounts have been verified to have password expiration in place. NSOC developed a TACACS SOP [NSO-SOP-006 TACACS Administration] which specifies "The password policy for TACACS administrators requires a minimum of 8 characters, and must contain a lowercase alphabetic character, an upper case character, and one numeric character. Users' passwords expire every 90 days with a 5 day warning that the password will expire and a 5 day grace period that the password can still be changed."

Shared Account - A privileged local operating system account on the TACACS+ server had shared administrative privileges. NIST provides guidance on procedures to facilitate the implementation of the identification and authentication policy, which includes assigning unique identifiers to users.

Additionally, agency policy states that information managers should create unique system accounts for each authorized user. However, a local operating system administrative account on the TACACS+ server was shared, and the password had not been changed in more than 2 years. As a result, individual accountability could be lost in monitoring for authorized as well as unauthorized system activity.

GAO Recommendation:
6. Remove the shared account if there is not a valid business need to share the account; if the account remains, change the password on a regular basis.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA reviewed all shared accounts and removed all shared accounts that were not required for daily operations. There are no local accounts in the local administrator's group. Only individual and service domain accounts have local administer privileges. The EPA also developed a SOP to address shared accounts: " Shared, group, or custodial UserIDs are not allowed."

Oracle Database Passwords - EPA had not implemented sufficient password controls for many of its Oracle production database systems. NIST guidance states that complex passwords should be established in systems to reduce the likelihood of a successful attack. However, EPA did not require or enforce complex passwords for its databases that support EPA applications, as illustrated in these examples:

- Active user accounts on the databases supporting CBITS, the Central Data Exchange (CDX), and Oracle's Collaboration Suite (OCS)[5]had default or weak passwords. This included those for database administrator roles supporting these applications, one user account with a default password, and two user accounts with weak passwords.
- Failed login attempts were not limited on the CBITS systems in the Oracle monitoring profile that includes sensitive privileged accounts.
- Password life and password verify functions had not been enabled in default and system profiles that included privileged accounts for 13 database systems in support of CBITS, CDX, and Electronic Greenhouse Gas Reporting Tool (e-GGRT),[6] CERCLIS, [7] Superfund Enterprise Management System (SEMS)[8], and Oracle's Application Server[9]Infrastructure and Collaboration Suite (OAS/OCS) applications.

As a result, heightened risk exists that unauthorized individuals could exploit these vulnerabilities to guess passwords and use them to obtain unauthorized access to EPA databases.

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[5] 5OCS is a suite of communication and collaboration applications that allows internal group sharing of information through, for example, establishing team workspaces for content services,

[6] The e-GGRT is a web-based system EPA developed to support reporting under the Greenhouse Gas Reporting Program.

[7]CERCLIS is the official repository for site- and non-site-specific Superfund data in support of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980. It contains information on hazardous waste site assessment and remediation from 1983 to the present.

[8] SEMS is intended to provide repositories of, or access to, a variety of program data, including many key Superfund records.

[9] OAS is a comprehensive deployment platform designed to streamline application deployment by leveraging a single security, directory, and product metadata framework for all applications.

GAO Recommendation:
7. Strengthen and enforce password settings on Oracle database systems.

EPA Response:
The EPA concurs with the recommendation. The EPA implemented additional Oracle password controls including removing any default\weak passwords, limiting failed logon attempts, and enabling password life and verify functions. All users' profiles now have a password validation function attached, enforcing password complexity and an expiration period, enforcing password lifetime. Additional restrictions now enforced prevent password reuse and lock the account after a specified number of failed login attempts.

The replacement application (CIS) and new Oracle 11g backend will have enhanced security measures in place which will address these deficiencies. Oracle 11g will be able to mediate user access to data via their assigned authorities and labels, allowing data separation by sensitivity within single databases.

CBITS was designated to be decommissioned in September 2012. Additional CIS developments delayed the system deployment. CIS will be put into production in March 2013 with CBITS full decommission by 3rd quarter, FY 2013.

Database Remote Log-in -EPA did not fully control remote login access by system administrators logging in remotely to its Oracle database systems. NIST guidance and agency policy state that information systems should uniquely identify and authenticate users (or processes on behalf of users). However, remote login access by system administrators was not fully controlled on EPA database systems using Oracle, specifically, the CBITS, CDX, e-GGRT, CERCLIS, SEMS, and OAS/OCS applications. Remote users could directly authenticate into the database using the powerful INTERNAL account, or using SYSDBA and SYSOPER modes. As a result, increased risk exists that unauthorized users could gain access to these databases since access can occur outside of secure terminal service connections.

GAO Recommendation:
8. Provide controls to ensure remote access to Oracle database systems are appropriately restricted.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The replacement application (CIS) and new Oracle 11g backend will have enhanced security measures in place which will address these deficiencies. Oracle 11g will be able to mediate user access to data via their assigned authorities and labels, allowing data separation by sensitivity within single databases.

CBITS was designated to be decommissioned in September 2012. Additional CIS developments delayed the system deployment. CIS will be put into production in March 2013 with CBITS full decommission by 3rd quarter FY, 2013.

The internal connection is now only available to users directly logged into the server as the oracle user. Sys/System passwords are changed every 90 days, password complexity is enforced, reuse of old passwords is not allowed by database restriction, and the passwords are not shared with the user community.

MS SQL Server Database Accounts and Passwords - EPA did not adequately implement account and password controls for its VCenter VMWare MS SQL server database system, which supports system administrators of its VMWare ESXi environment10[10]in configuring virtual machines to deploy EPA business applications. NIST guidance and agency policy state that agencies should uniquely identify and authenticate users and provide strong password management controls. However, EPA did not always adequately implement account and password controls for its VCenter VMWare MS SQL server database system in support of configuring virtual machines in its VMWare ESXi environment, as shown here.

- Password expiration policy had not been applied to a system administrator account and two system SQL login accounts with administrator privileges.
- Strong password policy had not been applied to an account with administrator privileges (System administrator account).
- A guest account was enabled for the SQL MSDB database. The MSDB database is used by SQL servers for scheduling notifications/alerts and jobs such as backups, replication, and log shipping.
- The default BUILTIN Administrator SQL login account exists, which allows any account in the Windows Local Administrators group to also have SQL server system administrator rights.

As a result, there is a heightened risk that unauthorized individuals could exploit these vulnerabilities to gain unauthorized access to EPA systems.

GAO Recommendations:
9. Strengthen and enforce password settings for system administrator accounts, including SQL login accounts with administrator privileges on the VCenter VMWare MS SQL server database system.
10. Disable the guest account on the SQL database.
11. Remove the default BUILTIN Administrator SQL login account on the VCenter VMWare MS SQL server database system.

EPA Response:
The EPA concurs with the recommendations and has corrected the weaknesses as follows.

- Recommendation 9 - The EPA has strengthened the passwords for the "SA" login and service accounts to comply with password complexity standards. All of the other sysadmin logins are Windows AD logins, so they already comply with the standards.
- Recommendation 10 - The guest account is disabled on SQL Server instances.
- Recommendation 11 - The default BUILTIN\Administrator login was removed.

Routing Protocol Authentication - EPA did not always ensure that authenticated routing protocols were used on all of its Cisco network devices. NIST guidance states that information systems should identify and authenticate specific devices before establishing a connection. Additionally, National Security Agency (NSA) guidance states that organizations should configure security settings on Cisco routers and switches to provide for router authentication to prevent a router from accepting and employing unauthorized, malicious, or corrupted routing updates that would compromise the security or availability of the network. However, EPA did not authenticate the Enhanced Interior Gateway Routing Protocol[11] or Open Shortest Path First on all of its internal network devices. Additionally, EPA's vendor

[10] The VMWare ESXi environment via ESXi host servers provides the platform on which virtual machines reside.
[11] Enhanced Interior Gateway Routing Protocol is a Cisco proprietary advanced distance-vector routing protocol, with optimizations to minimize the routing instability incurred after topology changes. Routers that support it will automatically redistribute route information to routing neighbors.

providing Multiprotocol Label Switching[12] WAN communications did not authenticate the Border Gateway Protocol to its customer edge routers located onsite at EPA. Finally, EPA and its vendor providing the Managed Trusted Internet Protocol Service (MTIPS)[13] did not authenticate the Border Gateway Protocol between each organization's border routers. As a result, an incorrect route could be injected into EPA and its vendor routing tables, intentionally or unintentionally, potentially degrading the availability of the network.

GAO Recommendation:
12. Implement authenticated routing on all EPA Cisco network devices, including vendor devices providing WAN support to EPA.

EPA Response:
The EPA concurs with the recommendation and has addressed this issue by implementing MD5 level authentication for all routing protocols across OEI/OTOP/NCC managed devices. Also, the EPA implemented BGP from OEI/OTOP/NCC's internal devices to AT&T customer edge routers. The EPA will implement authenticated routing on Headquarters Cisco switches, and a plan of action and milestones will be established for this action.

Network Time Protocol Authentication on Network Devices - EPA did not use the Network Time Protocol authentication on all of its network devices. This protocol enables devices to maintain accurate time when synchronized to a trusted and reliable time server. NSA recommends that protocols be authenticated to prevent accidental or malicious changes to system clocks. Industry best practices recommend that protocols be authenticated to reduce the chance that an attacker can spoof the device's trusted time server and alter its system clock. However, EPA had not configured Network Time Protocol for networking devices to provide authentication. Consequently, EPA had diminished assurance that time stamps of facility access systems and security logs were accurate.

GAO Recommendation:
13. Configure the Network Time Protocol feature on all EPA network devices.

EPA Response:
The EPA concurs with the recommendation. On June 6, 2012 NSOC enabled NTP authentication to be used between all networking devices in the OEI/OTOP/NCC. This change enabled NTP peering and authentication between all network devices. This change was captured under CRQ#6182. The EPA has verified all Windows servers nationwide are operating on Domain Time Synchronization via Active Directory. Other Headquarters devices (e.g. VOIP, UNIX/LINUX, switches) will be checked to synchronize with National Bureau of Standards network clock, and a plan of action and milestones will be established for this action.

Remote Internet Access to E-Mail - EPA's e-mail system does not provide adequate authentication in providing remote Internet access to it. NIST guidance states that information systems should protect passwords from unauthorized disclosure and modification using a two-factor authentication: when stored and transmitted, and by establishing a trusted communication path between the user and the

[12] Multiprotocol Label Switching is a mechanism in high-performance telecommunications networks that directs data from one network node to the next based on short path labels rather than long network addresses, avoiding complex lookups in a routing table.

[13] MTIPS was developed by the General Services Administration to allow federal agencies to physically and logically connect to the public Internet and other external connections in compliance with OMB's Trusted Internet Connection initiative.

information system. However, two externally accessible websites that provide remote Hypertext Transfer Protocol Secure access to e-mail did not require two-factor authentication. As a result, EPA's network was at an increased risk of compromise.

GAO Recommendation:
14. Require two-factor authentication for remote Internet access to e-mail.

EPA Response:
The EPA concurs with the recommendation and has created a plan of action and milestones for remediation; the plan of action and milestone number is 120265. This remediation will be completed when EPA moves to Cloud email, scheduled to be completed by March 31, 2013.

Storage Area Network Switches User Account Management - EPA did not effectively manage user accounts on its Storage Area Network (SAN) switches. NIST guidance states that centralized password management helps organizations reduce the number of account identifiers and passwords that users need to remember. Moreover, NIST guidance and agency policy state that account and password policies should be established for information systems, including establishing minimum password complexity requirements, account lockout, and password minimum and maximum lifetime restrictions. However, centralized authentication was not applied for managing user accounts on SAN switches, and local user accounts on the switches were not controlled with password policies that included an account lockout control. Consequently, the switches were vulnerable to compromise and brute force password attacks.

GAO Recommendations:
15. Use centralized authentication in managing user accounts on SAN switches.
16. Apply password policy and account lockout controls to user accounts on SAN switches.

EPA Response:
The EPA concurs with the recommendations. A RADIUS Appliance software is being researched that can be used to manage access limitations on the network environment.

Network Device Remote Administration - EPA used a default password to remotely access and administer a router used for establishing a site-to-site virtual private network (VPN) in connecting contractors to its production network. NIST guidance and agency policy state that easily guessed default passwords should not be used for access to information systems. However, a default Cisco line password was used for remote administration into EPA's virtual private network router that connects contractors to its production network. As a result, remote administration into the VPN router is limited and highly susceptible to compromise.

GAO Recommendation:
17. Change the default password on the router used for establishing a site-to-site VPN in connecting contractors to EPA's production network.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA made the following changes to address the finding on NCC-NSOC-VPN: (1) enabled password encryption; (2) enabled encryption of VPN pre-shared keys; (3) changed the default password; (4) added account of last

resort; (5) corrected Access Control Lists; (6) disabled Telnet and HTTP services; added welcome banner ; added AAA authentication; and upgraded IOS to FIPS 140-2 approved encryption standards.

AUTHORIZATION

Excessive Unix File Permissions - EPA did not always adequately restrict access to system files. NIST guidance states that privileges granted to user accounts should include only those privileges required for the users to perform their job functions. However, EPA's Linux-based intrusion-prevention servers provided world writeable access to system files. This level of access is inappropriate for all users and unnecessarily exposes the servers to compromise that could render them non-operational or limit their capability to function as intended.

GAO Recommendation:
18. Remove world-writeable access to EPA's Linux-based intrusion-prevention servers' system files.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA decommissioned all affected IDS systems identified in this finding once new UTM Firewalls were implemented on September 8, 2012.

User Account Management - EPA had an excessively large number of inactive accounts across its network domains. NIST guidance states that unneeded user accounts should be disabled. Moreover, agency policy states that managers/supervisors must provide immediate notification to designated support systems and applications administrative personnel when an agency employee or contractor no longer requires access and managers should review access logs to identify and delete dormant accounts (those not used for 30 days), as appropriate. However, many non-disabled accounts applicable to the EPA CBITS[14] local area network, CDX,[15] Demilitarized Zone Active Directory (DMZ AD), and intranet domains were never used or never logged into for 90 days or longer, as illustrated here in examples of user accounts not being locked or disabled:[16]

EPA Intranet domain (52,507 accounts)

- More than 9,400 accounts created but never used
- More than 700 accounts with a last logon in 2008
- More than 3,400 accounts with a last logon in 2009
- More than 3,400 accounts with a last logon in 2010
- More than 1,700 accounts with a last logon occurring on or before May 31, 2011

CDX domain (81 accounts)

- 37 created but never used

[14] Original CBI export notices are maintained in the CBI center and are tracked using CBITS. The CBI center is responsible for maintaining the official CBI export notice records. Information on the CBI notices submitted to EPA is kept in a log book. This information includes the CBI document control number, the name of the chemical exported, the country of import, and the date the export notification letter was sent to the foreign government.

[15] CDX is the point of entry on the Environmental Information Exchange network for environmental data exchanges for the agency. CDX enables EPA and participating program offices to work with stakeholders–including state, tribal, and local governments and regulated industries–to enable streamlined, electronic submission of data via the Internet.

[16] Based on GAO analysis of user account management records reported as of January 11, 2012.

DMZ AD domain (82 accounts)

- 52 created but never used

CBI local area network domain (838 users)

- 120 accounts created but never used
- 41 accounts with a last logon occurring on or before September 29, 2011

Additionally, complete account logon information was not available for many of the domain controllers reviewed, which indicates that many more non-disabled accounts that were not identified could also be inactive or never used. As a result, there is an increased risk that a significant number of EPA user accounts across major domains not reviewed could be vulnerable to malicious use.

GAO Recommendation:
19. Disable or delete all EPA intranet, CDX, DMZ AD, and CBI local area network domains' user accounts that are unused or that have been inactive for more than 90 days.

EPA Response:
The EPA concurs with the recommendation.

- For CDX a Plan Of Actions & Milestones is scheduled to delete domain user accounts that are unused or inactive in excess of 90 days by the end of July 2012.
- For CBI LAN the inactive and dormant user accounts will be disabled from the CBI LAN. An audit script program will be enabled to verify that accounts have been disabled and/or deleted. CBI LAN account management procedures will be revised to comply with NIST and FISMA security requirements.
- For Intranet and DMZ AD appropriate actions have been completed.
- The CDX and CBI support teams have been notified of items identified in the report which are accounts that were created and never used: CDX, DMZ and CBI will be responsible for removing unnecessary accounts per this report by January 31, 2013. Regarding the EPA Intranet Domain Accounts, some of these accounts are not only user accounts but are service accounts. The user accounts that are no longer active or have not logged in during the time period per the NIST guidelines will be disabled/deleted. This action will be completed by January 31, 2013.

Wireless Access Control Server Access Restrictions - EPA did not effectively limit access to its Cisco wireless access control server. The purpose of the access control server is to manage access to EPA headquarters' wireless networks, which includes establishing wireless network encrypted sessions and enabling wireless users' authentication to EPA's Active Directory. NSA guidance recommends creating a set of filtering rules that permit and prohibit certain traffic from accessing network devices. However, EPA did not use the Cisco wireless access control server Internet Protocol (IP) address filtering option to regulate traffic to the device. Moreover, the access control server can be reached from any source, as we found out by accessing the device from the Research Triangle Park library. As a result, the Cisco access control server is unnecessarily susceptible to unauthorized access attempts from any source.

GAO Recommendation:
20. Apply the IP address filtering option to restrict access to EPA's Cisco wireless access control server.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. All security concerns regarding Wireless Access Control Server Password policy have been addressed by OEI/EDSD Wireless team. All Policies are created off of NIST standards and DoD STIG guidelines and recommendations, as well as industry standards.

Windows Account Enumeration - EPA did not always prohibit anonymous enumeration of user account names on its Windows systems. NIST guidance states that information systems should uniquely identify and authenticate users (or processes on behalf of users). However, two CBI domain controllers, two servers, and an administrator workstation were not configured for adequate identification and authentication by allowing anonymous logins of users (also known as null session connections). Additionally, a CDX domain controller and two servers (authentication and web), and a CBITS domain controller and server (input Accel) allowed the logon to the Windows dialog box to display the name of the last user to logon to the computer. As a result, an unauthorized user could anonymously list account names and use the information to perform social engineering attacks or attempt to guess passwords. Moreover, an unauthorized user with physical or remote terminal access could view the name of the last user who logged onto the server and then try to guess the password, use a dictionary, or use a brute-force attack to try to logon.

GAO Recommendation:
21. Configure network access to not allow anonymous enumeration of Windows user accounts.

EPA Response:
The EPA concurs with the recommendation. A Group Policy has been implemented on domain to disable the NULL session

Remote Root Login - EPA system owners did not always adequately protect the root account on a Linux server. NSA network security guidance recommends prohibiting the root account user from logging directly into a remote system through proper configuration in files. However, EPA system owners allowed remote root logins to a jump server (Stargate) used to access National Computer Center (NCC) network infrastructure devices. Allowing direct remote root logons increases the risk of a host compromise and reduces accountability for user actions, since root is by design a shared account.

GAO Recommendation:
22. Prevent direct remote root logon to the EPA Linux server cited.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA disabled direct root login on the affected system.

Source Routing - EPA did not always disable source routing. NSA guidance states that IP source routing should be disabled. However, IP source routing was enabled on 56 network devices. Source routing is a technique whereby the sender of a packet can specify the route that a packet should take through the network. Source routing can be used for hacking, since it allows an attacker to reach a sensitive server by directing packets to reach that server. As a result, an attacker could bypass access controls and routing tables to view sensitive data transmitted on the network, including unencrypted passwords for critical systems.

GAO Recommendation:
23. Disable source routing on the 56 network devices.

EPA Response:
The EPA concurs with this recommendation and has corrected the weakness. The Group Policy that was implemented on domain to disable the NULL session resolved this issue. On May 23, 2012 the EPA disabled IP Source Routing on the OEI/OTOP/NCC managed devices.

Database Remote Access - EPA's CDX production database system does not adequately prevent remote access by database users. NIST guidance and agency policy state that users' access should be appropriately restricted based on least privilege and need-to-know principles. However, the CDX production database, through an enabled Oracle-supplied global utility (utl_file_dir), allowed any database user on any client server to remotely read or write to any directory that the owner of the Oracle software had rights to access. This level of access by any user leaves this system highly vulnerable to compromise by escalating privileges to the system level.

GAO Recommendation:
24. Disable the use of the Oracle-supplied global file access utility on the CDX production database system.

EPA Response:
The EPA concurs with this recommendation. The Oracle-supplied global file access utility (utl_file_dir) was disabled during the first week of July 2012. The CDX production database now uses a CREATE directory, which is safer than the UTL file, and appropriately restricts based on least privilege and need-to-know principles.

Oracle Database Privileges and Roles - EPA did not always adequately restrict access to sensitive database system privileges and roles. NIST guidance and agency policy state that a user should be granted only the access and rights to information and information systems that are needed to perform the functions of the job. However, sensitive system privileges and roles applicable to database administration were not always adequately restricted, as illustrated in these examples:

- Public roles were granted to execute permissions to sensitive Oracle database administration functions, referred to as packages, for EPA database systems supporting CBITS, CDX, eGGRT, CERCLIS, SEMS, and OAS/OCS applications.
- The CBITS database system data dictionary was accessible with any level of privilege.
- An SQL security parameter (SQL92) was not enabled for databases supporting CBITS, CDX, and OAS/OCS applications that required a user to have the select privilege on a table in order to be able to execute "update" and "delete" statements on a given table.
- "Resource" roles in all EPA database systems reviewed had been granted highly sensitive system "create procedure" privileges. Moreover, "connect" roles in EPA's CBITS database had been granted highly sensitive system "create" privileges. Oracle recommends revoking these privileges from the roles and providing for these privileges in newly-defined roles for database administrator use only.

As a result of these weaknesses, there is heightened risk that the database systems could be compromised through privileged escalation, execution of arbitrary commands via scripts, denial of

service, or unauthorized access where sensitive system files can be modified and sensitive information disclosed via SQL-injected queries.

GAO Recommendations:
25. Remove sensitive privileges and roles related to Oracle database administration functions from general application users.
26. Restrict access to the CBITS database system data dictionary to only those access levels needed to perform functions of the job.
27. Enable the SQL security parameter, SQL92.
28. Revoke system privileges from the "resource" and "connect" roles, and redefine system privileges from the "resource" and "connect" roles to newly created roles for database administrator use only.

EPA Response:
The EPA concurs with the recommendations and has corrected the weaknesses as follows:

- Recommendation 25 - User role restrictions have been strengthened. Resource role is now restricted to users who require it (i.e. schema owners and TCs) for day to day functions. The replacement application (CIS) and new Oracle 11g backend will have enhanced security measures in place which will address these deficiencies. Oracle 11g will define roles and responsibilities for all CIS users. The SysAdmin and SysDBA will be the designated system managers with the appropriate access rights for the CIS Oracle administration functions.
- Recommendation 26 - The replacement application (CIS) and new Oracle 11g backend will have enhanced security measures in place which will address these deficiencies. Oracle 11g will define roles and responsibilities for all CIS users. The SysAdmin and SysDBA will be the designated system managers with the appropriate access rights for the CIS Oracle administration functions.
- Recommendation 27 - Oracle separates the insert, update, delete, and select permissions into separate privileges. Having select privilege does not grant permission to alter the data in any way. The SQL92 option is not currently enabled as enabling it would actually reduce the security in the databases. Developers often have programs update audit tables in the database where they do not wish the users to see the contents. With the current setting of SQL92, this is possible. Enabling SQL92 would force developers to give users select permissions on such audit tables, allowing them to see the content.
- Recommendation 28 - Resource role is now restricted to schema owners and administrators. The connect role has been reduced to be a synonym for "create session" only. We are working through replacing the resource role with a renamed role to remove it from the public namespace.

MS SQL Extended Stored Procedures - EPA did not have adequate restrictions on sensitive MS SQL extended stored procedures[17] on its VCenter VMWare MS SQL server database system used in support of centrally managing ESXi servers. NIST guidance and agency policy state that users should be granted only the access and rights to information and information systems that are needed to perform the functions of their jobs. However, EPA did not have adequate restrictions on MS SQL extended stored procedures, as illustrated in the following examples:

- Several extended stored procedures inappropriately allowed interaction with the system registry using the privileges of the account that the SQL server was running (normally SYSTEM versus restricted to system administrator). These procedures included xp_regaddmultistring,

[17] An extended stored procedure is a way to extend the capabilities of Transact-SQL (T-SQL) to include any resources or services available to Microsoft Win32 system applications.

xp_regdeletekey, xp_regdeletevalue, xp_regenumvalues, xp_regremovemultistring, and xp_regwrite.

- Sensitive extended stored procedures were present that exposed sensitive functions to non-system administrators and could be easily accessed using T-SQL statements (e.g., xp_availablemedia, xp_dirtree, xp_enumerrorlogs, and xp_loginconfig).
- Sensitive SQL system registry-level stored procedures could be inappropriately executed through public role permissions on VCenter VMWare MS SQL server database system (xp_instance_regread and xp_regread).

As a result, heightened risk exists that the VCenter database could be compromised through elevated system privileges that could lead to compromise of the database system (e.g., unauthorized disclosure and use of password/hashes stored in the system registry).

GAO Recommendations:
29. Restrict access to extended stored procedures on the server database system to system administrators only.
30. Remove public role registry permissions to the system registry-level stored procedures on the VCenter VMWare MS SQL server database system.

EPA Response:
The EPA concurs with the recommendations and has corrected the weaknesses. The EPA completed this task as part of the SQL Server security overhaul. This review and overhaul was undertaken, in part, in response to the initial GAO audit. Many user permissions and security settings, especially those associated with the SA user level, were reviewed and revised as part of this review.

Network Device AAA Authorization - Many EPA network devices are not configured for the level of authorization necessary for central management control through EPA's TACACS+ central network management server. NSA guidance states that organizations should configure security settings on Cisco routers and switches to provide for use of the Authentication, Authorization, and Accounting (AAA) network security services.[18] However, EPA did not enable the AAA authorization feature on several network devices. Consequently, authorization in accessing and managing many network devices' configurations was not centrally controlled as intended through EPA's TACACS+ central network management server and could allow unauthorized access into the network.

GAO Recommendation:
31. Enable the use of AAA authorization on all Cisco network devices.

EPA Response:
The EPA concurs with the recommendation. On July 25, 2012, the EPA conducted a review of all managed devices and those identified not covered under TACACS were added and all passwords changed. Work was covered under CRQ #7664. In addition, the EPA will address the Headquarters TACACS corrective action to comply with the recommendation via a plan of action and milestone.

[18] AAA network security services provide the primary framework through which access control is set up on a router or access server. For example, AAA authorization works by assembling a set of attributes that describe what the user is authorized to perform. These attributes are compared to the information contained in a database for a given user and the result is returned to AAA to determine the user's actual capabilities and restrictions. The database can be located locally on the access server or router or it can be hosted remotely on a RADIUS or TACACS+ security server.

Access Control Lists - EPA did not always effectively limit access to many of its network devices. NSA guidance recommends creating a set of filtering rules, also known as access control lists that allow access to the traffic identified on the list and prohibit other traffic. However, EPA did not always define or apply access control lists to hosts or systems, as illustrated by the following examples:

- CBI network devices did not implement access control lists at the Office of Pollution Prevention and Toxics.
- EPA's router used to establish the contractor's VPN connectivity to EPA's production network did not apply access control lists.
- EPA did not configure its virtual teletype interfaces on many of its network devices with access control lists to limit access, including one device managed and owned by its vendor as part of its WAN implementation.
- Transmission Control Protocol wrappers for two Linux infrastructure support servers (Stargate and Defender) did not sufficiently restrict accounts seeking access to the servers where the file (host.deny) for restricting access to the servers was not defined.

GAO Recommendations:
32. Configure access control lists on the Office of Pollution Prevention and Toxics' CBI network devices to limit access.
33. Configure access control lists on the router connecting contractors to the EPA production network.
34. Configure virtual teletype interfaces with access control lists to limit access to network devices, including the network device managed and owned by its vendor as part of its WAN implementation.
35. Define the host.deny file to appropriately restrict user access to the two Linux-based infrastructure support servers.

EPA Response:
EPA concurs with the recommendations. A RADIUS Appliance software is being researched that can be used to manage access limitations on the network environment.

Recommendations 33-35, the EPA added TCP wrappers to explicitly allow and deny access to the identified jump boxes (ie Stargate). Defender was decommissioned as part of the Firewall UTM deployment on September 8, 2012.

Linux Security Policy - EPA did not always effectively implement adequate security on its Linux servers. NIST guidance states that organizations should configure security settings to the most restrictive mode consistent with operational requirements. This is accomplished in Linux by implementing Security-Enhanced Linux (SELinux). SELinux is an enhancement to the Linux kernel that implements mandatory access control and role-based access control. However, EPA had disabled SELinux security on three Linux servers that provide infrastructure support applicable to a jump server, syslog, and Domain Name Services (DNS). Consequently, the security capabilities of these servers to limit accesses of processes and objects based on least privilege concepts in confining damage caused by malicious or flawed applications are significantly diminished.

GAO Recommendation:
36. Enable SELinux or an alternative mandatory access control-based system on all Linux servers.

EPA Response:
The EPA concurs with the recommendation. Note: SELinux was enabled in permissive mode on VitalQIP appliances. Vendor does not support Restrictive mode as this may potentially cause

operational outage. Compensating controls are in place: (1) TCP wrappers restrict access to systems; (2) Security logs are sent to ArcSight for correlation and review; and (3) system administrator accounts are limited to two Network and Security Operations Center (NSOC) personnel.

User Account Removal - EPA did not remove active accounts in a timely manner for several employees who no longer needed it. EPA policies require that information resource access privileges shall be coordinated with staff personnel actions and that access authorizations for staff departing the agency must be promptly disabled. However, EPA did not remove or deactivate active network access for CBI local area network and CBITS accounts for separated employees. One of the individuals with the CBI local area network account separated in October 2011, yet still had an active account in January 2012. The other employee separated in August 2011 and had an active CBITS account in January 2012. As a result of not managing the accounts of separated employees, unauthorized users could access EPA systems and pose a risk to EPA's network.

GAO Recommendation:
37. Deactivate and remove accounts of separated employees with access to EPA's network immediately.

EPA Response:
The EPA concurs with the recommendation. The inactive user accounts will be disabled from the CBI LAN. An audit script program will be enabled to verify that accounts have been disabled and/or deleted. CBI LAN account management procedures will be revised to comply with NIST and FISMA security requirements.

CRYPTOGRAPHY

Virtual Private Network Split Tunneling - EPA had not fully configured its Firepass Secure Sockets Layer (SSL) VPN appliance to prevent the use of split tunneling. Split tunneling occurs when a client server on an external network is not configured to send all its traffic to the organization's gateway and could bypass a VPN tunnel. NIST guidance recommends that the use of split tunneling be prohibited. However, EPA had configured its Firepass SSL VPN appliance to permit the use of split tunneling for more than 140 contractors' user accounts that were not limited to the contractors' own network and to 41 EPA employees in the employee split tunnel group that were primarily serving as system administrators. Consequently, these users could bypass the gateway-level security to communicate directly and simultaneously with many of the organization's internal network subnets and another network (typically the Internet). If a user's workstation is compromised, a remote attacker could connect to the host surreptitiously and use its tunnel to gain unauthorized access to the EPA network.

GAO Recommendation:
38. Configure the Firepass SSL VPN appliance to disable or limit split tunneling to contractors based on operational needs and fully to the EPA employee split tunnel group.

EPA Response:
The EPA believes this item was resolved with GAO through discussions following the draft report.

Secure Shell Keys - EPA did not always encrypt SSH private keys stored on its Unix infrastructure servers. NIST states that authenticator content is to be protected from unauthorized disclosure and modification. However, SSH private keys on its Stargate and Snapper infrastructure support servers were stored without using encryption and passphrases features available in SSH. SSH key-based

authentication provides a mechanism to authenticate users based on the possession of the private key. Unencrypted storage gives anyone with read access to the file the ability to use the key without authorization. As a result, unauthorized users could access the private keys and masquerade as authorized users.

GAO Recommendation:
39. Encrypt Unix infrastructure servers' private keys used for SSH key-based authentication.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA verified and removed all private keys that were not encrypted.

Network Device Encryption - EPA did not always apply encryption to its network devices. NIST guidance states that authenticator content is to be protected from unauthorized disclosure and modification, including passwords encrypted while stored and in transit. Moreover, agency policy states that information managers shall limit access to and encrypt files linking passwords and user IDs. However, four network devices (National Computer Center VPN, pyd-s4a1104, ncc-svr-s1, and nh1112), including the router contractors use to establish a site-to-site VPN connection[19] into EPA, had the service password encryption feature disabled, which encrypts all password types on Cisco network devices. Additionally, the pre-shared keys on the VPN router used to encrypt the site-to-site VPN connection were stored in clear text rather than in encrypted form. Without using encryption, passwords and pre-shared keys used in setting up a VPN connection are at increased risk of compromise.

GAO Recommendations:
40. Enable the service password encryption feature on Cisco network devices cited.
41. Encrypt the pre-shared keys stored on the VPN router.

EPA Response:
The EPA concurs with the recommendations and made the following changes to address the finding on NCC-NSOC-VPN: (1) enabled password encryption; (2) enabled encryption of VPN pre-shared keys; (3) changed the default password; (4) added account of last resort; (5) corrected Access Control Lists; (6) disabled Telnet and HTTP services; (7) added welcome banner; (8) added AAA authentication; and (9) upgraded IOS to FIPS 140-2 approved encryption standards. Other OEI/OTOP/NCC managed device was decommissioned as services were no longer required.

In addition, the EPA will work with GAO to obtain additional detail on the cited devices in order to take action on the service password encryption.

Network Devices' Encryption Algorithm - EPA did not always employ a robust encryption algorithm for its network devices. NSA and Cisco guidance recommend that passwords in Cisco network devices should use the Message Digest Algorithm 5 (MD5)20 [20]versus type 7 Cisco defined algorithm, which is known in the commercial security community to be weak. However, EPA network devices were using the "enable password"[21] with type 7 encryption without the "enable secret"[22] password. The "enable

[19] Site-to-site allows offices in multiple fixed locations to establish secure connections with each other over a public network such as the Internet.
[20] MD5 is a widely used cryptographic checksum algorithm.
[21] The "enable password" on Cisco network devices is used to set a local password to control access to various privilege levels and uses a weak encryption algorithm.

secret" command provides an additional layer of security (using the stronger MD5) for encrypting passwords. Additionally, many Cisco routers, including EPA's VPN router that connects contractors to its production network, in providing alternative fallback authentication into network devices (in the event that the standard TACACS+ server authentication fails), use the "line" password with type 7 encryption instead of the local username account database that uses the stronger MD5 algorithm. The password type 7encryption is very weak, can be cracked instantly, and is no longer recommended by Cisco.

As a result of using weak password algorithms, many devices were susceptible to unauthorized access from an attacker who could compromise privileged accounts using the weaker "line" password.

GAO Recommendations:
42. Use the "enable secret" password feature to provide an additional layer of security over the "enable password" feature.
43. Discontinue use of the "line" password with type 7 encryption and instead use the local username database with MD5 encryption of passwords.

EPA Response:
The EPA concurs with the recommendations. The EPA conducted a review of all managed devices and implemented the following steps: (1) enable secret password was implemented where deficient; and (2) line password with type 7 has been removed and replaced with TACACS authentication.

Insecure Network Protocols - EPA allowed the use of insecure network protocols for managing its IT infrastructure and operations. NIST guidance states that organizations should use secure protocols that can provide encryption of both passwords and data and that can replace less secure protocols (e.g., Telnet, Trivial File Transfer Protocol, and File Transfer Protocol) unless absolutely required and tunneled over an encrypted protocol. However, EPA used insecure protocols, including Telnet for remote administration, Trivial File Transfer Protocol for network management, and File Transfer Protocol for file transfers. All data were being transmitted in clear text, and the three protocols do not have authentication mechanisms to verify whether the user has reached a valid destination, as illustrated in the following examples:

- EPA permitted the use of Telnet, Trivial File Transfer Protocol, and File Transfer Protocol, for example, in providing contractors' and a federal agency's connectivity into EPA's internal network (NE and AGF), a firewall in the DMZ allowing a Telnet connection for network management, and another firewall setup with temporary rules created to support deployment of the CBI local area environment in March 2010.
- Remote administration of network devices include the use of Telnet, Trivial File Transfer Protocol, and File Transfer Protocol, which exposes devices to compromise such as Dynamic Host Configuration Protocol data backed up from a switch containing sensitive IP address and networking information associated with its host that could be retrieved by an attacker in targeting systems to exploit.
- Telnet is used by two management console servers for out-of-band management of network devices.

[22] The "enable secret" command is used to set the password that grants privileged administrative access to the Cisco IOS system. The "enable secret" command should be used rather than the older "enable password" command because it uses a stronger encryption algorithm.

- Unix application and infrastructure support servers include use of Telnet, as well as the Network File System, which is an unencrypted protocol that allows a user on a client computer to access files over a network in a manner similar to how local storage is accessed.

As a result, sensitive data from the use of these protocols were unnecessarily exposed to inappropriate disclosure and possible compromise of EPA systems.

GAO Recommendations:
44. Configure firewalls to prevent the use of Telnet, Trivial File Transfer Protocol, and File Transfer Protocol to and from untrusted networks.
45. Discontinue the use of Telnet, Trivial File Transfer Protocol, and File Transfer Protocol for remote administration of network devices.
46. Disable the use of Telnet for out-of-band management of network devices by the cited console servers.
47. Discontinue the use of Telnet, File Transfer Protocol, and Network File System on Unix application and infrastructure support servers.

EPA Response:
The EPA concurs with the recommendations. In response to the network-related recommendations, the EPA conducted a review of all managed devices and removed use of Telnet, FTP and TFTP where identified as non-mission essential. TFTP is being used for a specified amount of routers in order to transfer DHCP databases to the IPAM. Currently Cisco does not support SCP transfers for this purpose. EPA has applied compensating controls such as traffic being limited internal to the network only.

In response to the application hosting related recommendations, the EPA is phasing out the use of Telnet, File Transfer Protocol, and Network File System on Unix application and infrastructure support servers, but they are currently still required by our customer base. The EPA has created a plan of action and milestones for remediation of this issue.

Solaris Password Encryption - EPA did not always properly encrypt Solaris passwords. NIST requires an encryption algorithm that complies with Federal Information Processing Standard (FIPS) 140-2. However, EPA used the non-FIPS-compliant "crypt" algorithm for Solaris password hashing on three infrastructure support servers (Cerberus, Snapper, and Tortoise). As a result, a malicious user who is able to obtain access to the password file could exploit this weakness to obtain user passwords and gain access to sensitive systems.

GAO Recommendation:
48. Implement a FIPS-compliant encryption algorithm for Solaris password hashing.

EPA Response:
The EPA concurs with the recommendation. Systems are scheduled for decommissioning.

Note: Current systems are EOL and the Solaris version in use does not support FIPS compliant algorithms. Systems are scheduled for replacement in accordance with the NSOC Log Consolidation Plan. The EPA added the following compensating controls: (1) TCP wrappers to explicitly allow and deny access to the identified systems; (2) Cerberus resides on a limited access security VLAN with restrictive ACLs applied; (3) system administrator accounts are restricted to NSOC personnel; and (4) two factor authentication is required on all systems.

Wireless Encryption - EPA allowed the use of (1) multiple authentication modes that were not in accordance with EPA policy on its wireless networks and (2) wireless controllers that are not FIPS-mode enabled (i.e., fully compliant with FIPS 140-2 requirements). NIST guidance recommends and EPA's policy calls for use of the Extensible Authentication Protocol–Transport Layer Service (EAP-TLS) for user workstations to authenticate during the connection process to an organization's enterprise wireless network. The protocol requires strong mutual cryptographic authentication of workstations to the authentication server (both the user's workstation and authentication server must have a certificate).[23] Additionally, NIST guidance recommends that FIPS mode be enabled on wireless controllers,[24] which restricts the use of less secure encryption algorithms. However, EPA allowed use of non-TLS based solutions for authenticating wireless workstations to EPA's enterprise wireless networks, and its wireless controllers were not FIPS mode enabled. As a result, heightened risks exists that wireless workstations can be compromised because they may not be effectively authenticated to EPA's wireless networks with confidentiality and integrity checks in accordance with policy, and weak/less secure encryption algorithms could be used in wireless controllers. Moreover, risk is further heightened since compromised wireless networks would have access to EPA's infrastructure, including the TACACS+ servers.

GAO Recommendations:
49. Use EAP-TLS for authenticating EPA's wireless workstations to the agency's enterprise wireless networks.
50. Enable FIPS mode on EPA's wireless controllers.

EPA Response:
The EPA concurs with the recommendations. The EPA currently uses EAP-TLS for authenticating wireless LANs. The EPA will close down all non-EPA-TLS authentication policies in its ACS servers. A POA&M will be established.

Secure HTTPS Protocol - The secure Hypertext Transfer Protocol for requesting changes to MTIPS[25] connection services was not used on the access provider's web portal. NIST guidance states that organizations should use encryption to protect the confidentiality of remote access sessions. However, we observed that the vendor's web portal, which was used by EPA to request changes to its MTIPS access provider's managed firewall, did not use the Hypertext Transfer Protocol Secure. As a result, communication through the vendor's web portal, including credentials for authenticating onto the portal, is in clear text and therefore more likely to be disclosed to unauthorized individuals.

GAO Recommendation:
51. Enable secure Hypertext Transfer Protocol to encrypt Hypertext Transfer Protocol traffic on the vendor's web portal.

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[23] Mutual TLS authentication is generally more secure than one-way TLS authentication coupled with one or more additional EAP methods. Certificates, along with usernames, are verified during EAP-TLS authentication by the access control server prior to clients being granted access to the wide local area network.
[24] Wireless controllers establish wide local area network connections with access points in managing voice/video/data traffic.
[25] The MTIPS program provides TIC-compliant managed security services through Networx. Networx offers managed security services through the MTIPS program, which complies with the TIC initiative.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA coordinated with AT&T to address this issue. AT&T portals are now HTTPS enabled.

Database Password Encryption - EPA's encrypted passwords were using a weak cryptographic algorithm that was not compliant with FIPS 140-2 and could not be patched. These passwords were for administrative system accounts in a number of files in Oracle database operating systems related to the CBITS database and a database providing support to EPA's Oracle Application Server application. NIST guidance states that passwords should be encrypted in storage and in transmission using a cryptographic algorithm that is FIPS 140-2 compliant. However, a number of logfiles in the database operating systems cited contained weakly encrypted passwords that cannot be patched (i.e., upgraded to a FIPS compliant algorithm) for sensitive SYS, SYSTEM, SYSMAN, and DBSNMP accounts. As a result, the database systems were susceptible to unauthorized access from an attacker compromising database accounts.

GAO Recommendation:
52. Remove or secure the Oracle logfiles if they cannot be removed.

EPA Response:
The EPA concurs with the recommendation. The replacement application (CIS) and new Oracle 11g backend will have enhanced security measures in place which will address these deficiencies.

Database Link System Access - EPA did not adequately encrypt system access to its CBITS database system when connecting to other Oracle servers through database links. NIST guidance states that organizations should encrypt sessions between host systems. In addition, Oracle states that database links should use encrypted passwords. However, the CBITS database link did not encrypt passwords. As a result, CBITS database links were highly vulnerable to compromise.

GAO Recommendation:
53. Encrypt database link passwords for the CBITS database system.

EPA Response:
The EPA concurs with the recommendation. The replacement application (CIS) and new Oracle 11g backend will have enhanced security measures in place which will address these deficiencies.

Router Message Integrity - EPA did not protect the message integrity of a Cisco redundancy protocol used on its enterprise network devices. NIST guidance states that information systems should protect the integrity of transmitted information by using cryptographic mechanisms that recognize changes to information during transmission. However, EPA did not apply MD5 for authentication to protect the message integrity of the Hot Standby Router Protocol[26] that was used to implement redundancy between router network devices including default gateway routers. As a result, anyone on the network could monitor a multicast Hot Standby Router Protocol message packet and compromise the agency's network by crafting a packet that pretended to have a higher priority and allow a malicious user to become the

[26] The Hot Standby Router Protocol provides a mechanism that is designed to support non-disruptive failover of IP traffic in certain circumstances. In particular, the protocol protects against the failure of the first hop router when the source host cannot learn the IP address of the first hop router dynamically.

new active router. We demonstrated this by capturing Hot Standby Router Protocol messages through a network sniffer run in a public area network located in the Research Triangle Park library.

GAO Recommendation:
54. Configure the Hot Standby Router Protocol with MD5 algorithm authentication.

EPA Response:
The EPA concurs with the recommendation and is remediating the weakness. On 12/8/2012 the EPA completed the implementation of HSRP with MD5 encryption on OEI/OTOP/NCC managed devices.

Windows Password Protection - EPA did not enforce sufficiently strong password protection. NIST guidance states that information systems should protect passwords from unauthorized disclosure and modification when stored and transmitted and passwords should be encrypted with a one-way hash function to ensure that the computations used in a dictionary or password cracking attack against a stolen password file cannot be used against similar password files. NSA guidance also recommends protecting passwords and advises against the use of the Windows LAN Manager setting,[27] a weak password algorithm that can be easily compromised. Further, according to the vendor, use of the NT LAN Manager version 2 authentication level is strongly recommended to resolve these issues. However, EPA Windows systems were not always sufficiently configured to protect passwords. Specifically, an administrator workstation and Office of Pollution Prevention and Toxics domain controller had the LAN Manager setting enabled. Additionally, two CERCLIS Citrix servers, a Clean Air Markets Division Business System (CAMDBS) server and a SEMS staging application web server had the NT LAN Manager Only response setting enabled, which did not provide for a secure channel to protect the authentication process.[28] As a result, a malicious user could exploit these weaknesses to obtain user passwords and gain access to sensitive EPA servers.

GAO Recommendation:
55. Configure NT LAN Manager Version 2 authentication on EPA Windows-based systems.

EPA Response:
The EPA concurs with the recommendation. Settings have been implemented accordingly and OEI/OTOP/NCC's Windows systems have been properly configured to protect passwords by disabling NT LAN Manager or by properly configuring NT LAN Manager version 2 authentication.

Windows Terminal Services' Connection - EPA did not configure two Windows-based jump servers on its internal network to fully prevent insecure connections. NIST guidance states that information systems should establish a secure connection between the user and the information system, which includes use of a FIPS-validated cryptographic mechanism to protect the confidentiality and integrity of transmitted information. However, two jump servers were not set to authenticate prior to establishing the connection (certificates set to "none"), which renders encryption ineffective for internal connections. As a result, EPA systems using these services were susceptible to compromise, such as from man-in-the-middle attacks.

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[27] LAN Manager converts passwords to all uppercase characters, creating even weaker passwords. Because of the limited complexity, any eight-character NT LAN Manager password can be cracked in an extremely short period of time.
[28] The NT LAN Manager protocol was the default for network authentication in the Windows NT 4.0 operating system. It is retained in Windows 2003 for compatibility with down-level clients and servers.

GAO Recommendation:
56. Enable authentication on the two Windows servers cited prior to establishing the Windows terminal services connection.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA corrected this deficiency by implementing SSL encryption for Rook & Knight (Jump boxes in question).

AUDIT AND MONITORING

Network Device Audit Logs - EPA did not have effective audit logs for its network devices. NIST guidance states that organizations should retain sufficient audit logs to provide support for after-the-fact investigation of security incidents. This includes centralized review and analysis of audit log records through logging servers that receive log data from host systems that generate the data. However, EPA did not have effective audit logs, as illustrated in the following examples:

- At least 13 network devices did not have remote logging configured.
- More than 150 network devices had remote logging set to a severity level not sufficient to log important security information such as access control list permit/deny matches, login attempts successful and failed, configuration changes, and port tampering.
- The Cisco wireless access control server at headquarters did not have remote logging configured.

As a result, EPA did not have the information needed to enable sufficient audit and monitoring of security-related events.

GAO Recommendation:
57. Enable remote logging on all devices reviewed and at a severity level sufficient to capture important security information.

EPA Response:
The EPA concurs with the recommendation and will work to develop a procedure and schedule updates to IOS, Firmware, Patches – as we do not want to cause a connectivity issue internally or with the Agency WAN. The EPA will also work with GAO to clarify the examples cited and to identify the 13 network devices that did not have remote logging configured and the 150 network devices that had remote logging set to too low a severity level.

Windows Host-Based System Auditing - EPA did not always adequately provide for auditing of Windows host-based systems' security-related events. NIST guidance states that organizations should enable and retain sufficient audit logs to allow monitoring of key activities and provide support for after-the-fact investigations of security incidents. However, EPA did not have auditing enabled on its CDX production domain controller that provides support for receiving sensitive confidential business information from commercial entities. As a result, EPA was not able to monitor key activities on this production domain controller.

GAO Recommendation:
58. Enable auditing on the CDX production domain controller.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA has enabled auditing on the CDX production domain controller.

MS SQL Database Logging - EPA did not set the number of logs to a sufficient level to prevent the logs from being overwritten on its VCenter VMware MS SQL server database system used in support of centrally managing ESXi servers for configuring virtual machines that deploy most of EPA's applications. NIST and agency policy state that sufficient audit logs should be continuously maintained to allow timely monitoring of key user activities. However, the number of error logs retained on the VCenter VMware MS SQL server database system was seven before the oldest log was overwritten. As a result, log information may not be available to effectively monitor and investigate security-related events and incidents.

GAO Recommendation:
59. Set the number of logs retained to a sufficient level to prevent logs from being overwritten.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The number of logs is set to ensure log files are retained based on average up-time. New log files are only started when the system is restarted. The current settings will provide a retention period exceeding 120 days.

Network Traffic Monitoring - EPA's network traffic monitoring had limited capacity and did not include monitoring of contractor connections. NIST guidance states that organizations should employ tools and techniques to monitor events on information systems, detect attacks, and identify unauthorized use of the system. This includes monitoring inbound and outbound communications for unusual or unauthorized activities or conditions, and employing traffic profile analysis to detect deviations from the volume or types of traffic expected within the organization. However, EPA's network monitoring tool (Scrutinizer Netflow Traffic Analysis) used to monitor inbound and outbound traffic was set to retain only 14 days of traffic data for main internal connections and did not collect network traffic data for contractor connections. As a result, malicious users or intruders could attempt attacks against EPA networks and computers with reduced likelihood of detection.

GAO Recommendations:
60. Capture a greater amount of network traffic data sufficient for network traffic analysis in detecting unusual or unauthorized activities or conditions and deviations from expected volumes or types of traffic.
61. Capture network traffic data for contractor connections.

EPA Response:
The EPA concurs with the recommendations. The EPA is currently reviewing options to provide a tool that will maintain a minimum of 1 year of traffic analysis data. The EPA has employed the use of Scrutinizer on the contractor connections.

PHYSICAL SECURITY

Access Authorizations - EPA did not always appropriately restrict or authorize access to the National Computer Center at Research Triangle Park. NIST guidance recommends that organizations develop and keep current a list of personnel who have authorized access to the facility where information systems

reside (except for those areas within the facility officially designated as publicly accessible). Five EPA employees and contractor staff, who were not on the authorized access list, were able to use their badges to gain access to the computer room and its sensitive resources. As a result, the agency has less assurance that physical access controls are being implemented as intended.

GAO Recommendation:
62. Update authorized access lists to include currently authorized personnel or remove access for those no longer requiring it.

EPA Response:
The EPA concurs with the recommendation.

- NCC compared and analyzed data from three sources for the time period in question, namely the week of August 8-12, 2011. Data sources were: (1) the NCC authorized access list archive covering this time period; (2) the OARM-RTP master personnel access list archive covering this time period; and (3) the physical card reader access logs for all NCC raised floor card readers covering this time period. NCC's review and analysis offers these observations:
- From the NCC raised floor card reader logs, 18 people gained access to the computer room that were not on the NCC authorized access list archive.
- Of these 18 people, 13 were authorized by the OARM-RTP master personnel access list archive.
- The five remaining people were Federal NCC employees, who gained access as a result of a discrepancy with raised floor card readers that were inadvertently assigned to another NCC access right. According to OARM-RTP, this discrepancy probably occurred during the migration of the old legacy reader access system to its current replacement facility commander system. This discrepancy was corrected upon its discovery in mid-August 2011 by OARM-RTP.

Visitor Control Log - EPA did not always effectively log visitors at its National Computer Center, Research Triangle Park location. NIST recommends that organizations control all physical access points to their computer facilities and access to information systems independent of the physical access controls for the facility. It also recommends that organizations maintain and review visitor access records to facilities housing information systems and that these records include the name, signature, and organization of the visitor, form(s) of identification, date of access, time of entry and departure, and purpose of the visit, among other things. However, visitors' access control records at the National Computer Center, Research Triangle Park, North Carolina, were not always complete. Visitor logs for server rooms, one of which contained a badging server, and a telecom room did not include information such as visitor's identification, purpose of visit, and time of departure from the rooms. As a result, the agency has reduced assurance that controls are in place to ensure that visitors have an appropriate need to access EPA's computing facilities.

GAO Recommendation:
63. Ensure visitor access log information is complete and includes the visitor's identification, purpose of visit, and exit time.

EPA Response:
The EPA concurs with the recommendation. The server rooms addressed in this report as well as the remaining server rooms identified in the Agency's FDCCI list for the EPA-RTP campus have been decommissioned. Servers have either been moved to the NCC Data Center or the RTF Silo Room.

This list of decommissioned server rooms includes: C160, C131, C240, E460, E460A, E455, E485, and N147. The decommissioning process began in July 2011 with Server Room C160 and completed with the decommissioning of Server Rooms C131 and N147 in May 2012.

CONFIGURATION MANAGEMENT

Virtual Local Area Network Configuration - EPA did not securely configure virtual local area networks on its Cisco network switches. NSA guidance states that Cisco, as a broadcast domain designed to not receive packets sent by a different virtual local area network should be logically separated along functional lines. This includes not using Cisco's default 1 for either out-of-band management or in-band management because it may span an entire network (across many others) and provide attackers easier access and extended reach for their attacks. Additionally, native virtual local area networks should not be assigned to an active virtual local area network. However, EPA did not always adequately configure its virtual local area networks. For example:

- The default virtual local area network 1 was used on many EPA network switches for management of traffic (e.g., devices related to icc, rio, and pyd locations).
- Virtual local area network access was not restricted from spanning EPA's entire enterprise network.
- EPA assigned native virtual local area networks to active virtual local area networks, including in areas where switchports were connected to IP phones that were connected to computers and where some were located in untrusted areas. By assigning native virtual local area networks to active virtual local area networks, the identity enforcement functionality that virtual local area network tagging creates could be undermined.

As a result of these weaknesses, EPA's network was susceptible to known vulnerabilities that could allow an individual with access to a virtual local area network to obtain unauthorized access to another virtual local area network.

GAO Recommendations:
64. Prohibit the use of a virtual local area network 1 for management of traffic.
65. Restrict virtual local area networks from unnecessarily spanning EPA's enterprise network.
66. Do not assign a native virtual local area network to an active virtual local area network.

EPA Response:
The EPA concurs with the recommendations.

- Recommendation 64 - The Potomac Yard and 1310 L Street sites were completed at the end of 2012, as a component of the HQ Core Switch Upgrade - Phase I. Federal Triangle will be fixed by the end of the 3rd quarter in FY '13 once the distribution switches have been upgraded. The EPA will not use vlan 1. There will be separate native vlan with no SVI. Management will be handled by another network. A plan of action and milestones will be created to remove VLAN 1 with a tentative completion date of the beginning of the 4th quarter of FY '13.
- Recommendation 65 – The EPA is following best industry practices by creating VLANs only when operationally necessary, and defining VLANs as a subnet to be able to manage and limit broadcasting across multiple VLANs. A plan of action and milestones will be created to prune Federal Triangle after the installation of the new distribution switches with a tentative completion date of April 30, 2013.
- Recommendation 66 – The Potomac Yard and 1310 L Street sites were completed at the end of 2012, as a component of the HQ Core Switch Upgrade - Phase I. Federal Triangle will be fixed

by the end of the 3rd quarter in FY '13 once the distribution switches have been upgraded. We will not use vlan 1. There will be separate native vlan with no SVI. Management will be handled by another network. A plan of action and milestones will be created to remove VLAN 1 with a tentative completion date of the beginning of the 4th quarter of FY '13.

Network Device Services - EPA enabled the Internetwork Packet Exchange routing protocol on several network devices. The protocol is a legacy Novell routed protocol that was used as an alternative to IP on Novell platforms. NSA guidance states that routers should support only traffic and protocols needed by the network and that unnecessary services should be disabled in the router configuration. However, the Internetwork Packet Exchange Routing Protocol was unnecessarily enabled on 10 network devices where most firewalls and intrusion detection systems could not inspect Internetwork Packet Exchange Routing Protocol traffic. Moreover, security and operational updates to the protocol were no longer provided. As a result, EPA may be vulnerable to Internetwork Packet Exchange Routing Protocol security weaknesses.

GAO Recommendation:
67. Disable Internetwork Packet Exchange Routing Protocol routing on all network devices.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The office (OCSPP) using IPX Protocol has been converted to IP. This occurred in October 2012.

E-Mail Host Configuration - EPA did not adequately filter e-mail attachments and spoofed messages to prevent activity that could be malicious. NIST guidance states that organizations should configure e-mail systems to filter content and take precautionary measures to prevent activity that is likely to be malicious. NIST emphasizes that organizations should take steps to prevent e-mail address spoofing, including ensuring that external users cannot send e-mails to internal users that have one of the organization's e-mail addresses as the spoofed sender.[29] However, EPA did not adequately filter e-mail attachments and prevent spoofing to prevent activity that was likely to be malicious. For example, the EPA Internet e-mail gateways did not adequately implement spoofed e-mail protection, where current practice is to apply anti-spam filter checking with specific rules in place to increase chances for quarantine as spam, but not enough to block the e-mail message for that reason alone. Moreover, the blacklist approach for e-mail attachments used by the e-mail system had limitations because there are many known and unknown attachments that could be potentially dangerous that were not blacklisted (e.g., .bin, .mht, .command, and some but not all .dll). In addition, there were no e-mail gateway products that could detect malware or inspect links to malicious content. As a result, increased risks exist that an attacker using an allowable e-mail attachment file type could successfully distribute malware such as viruses, Trojans, key loggers, spyware, adware, and rootkits; that users could be lured into revealing passwords or other confidential information; and that denial-of-service attacks could be successful.

GAO Recommendations:
68. Filter all e-mail attachments by default and only allow specified file types as attachments or ensure that all dangerous attachments are blocked.
69. Fully prevent spoofed e-mails from being sent by taking steps beyond the use of spam filtering.

[29] E-mail spoofing occurs when a user receives e-mail that appears to have originated from one source when it actually was sent from another source. E-mail spoofing is often an attempt to trick the user into making

EPA Response:
The EPA concurs with the recommendations and has created a plan of action and milestones for remediation. This will be corrected in the new Email and Collaboration to the Cloud project.

Patch Management - EPA did not consistently implement patches for several systems reviewed. NIST guidance recommends that organizations promptly test and install newly released security patches, service packs, and hot fixes. However, EPA did not consistently apply patches to critical systems or patch applications in a timely manner. Specifically, several critical systems had not been patched or were out of date, some of which had known vulnerabilities. The following are examples:

- 53 Cisco network devices were missing Internetwork Operating System patches.
- Five Red Hat Linux servers using versions ranging from 4 thru 5.6 were not applying the latest operating system version 6.2 applicable to the eGGRT applications and infrastructure servers.
- Three Windows 2008 servers related to CDX were missing two critical operating system patches and one important operating system patch from June and May 2011. The critical patches mitigate a vulnerability, permitting remote code execution and a vulnerability that could allow elevation of privileges.
- The domain controller for the Office of Pollution Prevention Technology division's CBI network was missing patches from October 2010 through February 2011.
- Nine Oracle databases missing critical patch updates had not been patched since April 2010 for six databases and April 2011 for three databases supporting these software applications: CBITS, the CDX applications, and OAS/OCS.
- The latest build/hot fix was not installed for EPA's VCenter VMware MS SQL 2008 server database system that is used in support of centrally managing ESXi servers.
- Seven Unix servers were running unpatched versions of Java in support of the CAMDBS, eGGRT, and SEMS applications.
- 5 Unix-based servers' Apache web applications were missing security patches supporting the SEMS, CAMDBS, and eGGRT applications.
- Two Unix-based servers with OpenSSL were missing security patches related to SEMS and OAS applications.
- Two Windows CDX servers, the DMZ Active Directory domain controller and the SEMS production application web server, were missing the cumulative security patch for Internet Explorer 8 that was released on August 9, 2011.
- One Unix server had an unpatched version of Samba.

As a result of these conditions, increased risk exists that unpatched vulnerabilities could be exploited.

GAO Recommendation:
70. Apply the latest patches to the systems identified.

EPA Response:
In response to the network related recommendations, the EPA will work with GAO to identify issues with the 53 Cisco devices. Detailed information such as required patch level and specific vulnerability associated with current IOS levels are needed in order to address this finding.

In response to the hosting related recommendations, all OEI/OTOP/NCC servers that were missing patches have been fully updated\patched.

- OCSPP – CISCO Switches; the bear term action plan is to update the switches. The long term solution will have OEI/OTOP/EDSD to manage the OPPT switches.
- Oracle 11g and SQL; servers will be upgraded with version control patches. Patch management will be performed and maintained regularly as part of the system maintenance procedures. Oracle databases have been patched to the October 2012 PSU level. The VMWare SQL Servers are running version 2008 R2 with Service Pack 1 applied.
- Domain Controller; OCSPP is working with OEI/OTOP/NCC to implement a process to update the system patches and maintain them under the system maintenance procedures.
- Unix/Samba: Further clarification has been requested from GAO to determine if the Unix server missing the updated SAMBA patch is part of the OCSPP hardware inventory.
- Internet Explorer; OCSPP is working with NCC to implement a process to update the system patches and maintain them under the system maintenance procedures.
- OIC and OAR systems have been remediated.

Cisco Discovery Protocol - EPA enabled the Cisco Discovery Protocol on network devices (accessible to users and the general public). The Cisco Discovery Protocol is a proprietary protocol that allows a device to advertise its existence to other devices and receive information about other devices on the same LAN or on the remote site of a WAN. Cisco recommends disabling the protocol since it can cause information about the network to be leaked to potential attackers. However, EPA had not disabled the Cisco Discovery Protocol on network switches. As a result, devices on EPA's network were susceptible to attackers being able to gather information about EPA's network.

GAO Recommendation:
71. Disable the Cisco Discovery Protocol on network devices when there is no operational need for the protocol.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA reconfigured devices to only operate CDP on links between managed devices and trunk ports on May 23, 2012. In addition, the EPA has validated that all switches have been configured to the EDSD SCD which states that CDP on links between managed devices and trunk ports; this was completed October 19, 2012.

Simple Network Management Protocol - EPA did not always securely implement the Simple Network Management Protocol.[30] NIST states that organizations should configure the security settings to the most restrictive mode consistent with operational requirements. In addition, NSA states that the use of Simple Network Management Protocol versions 1 and 2 are insecure and suggests that organizations use version 3. However, EPA used versions 1 and 2 on its network devices that transmit credentials and other sensitive data in clear text. Furthermore, this protocol was enabled in read/write mode on most devices, which could allow an unauthorized user to modify and control the configuration of these devices, thereby facilitating the introduction of many other security weaknesses, including access to unencrypted and weakly encrypted passwords. On many devices, compensatory controls such as access control lists were not used to control read/write privileges. As a result of these weaknesses, increased risk exists that malicious individuals could gain access to, change the configuration of, or disrupt networks.

[30] The Simple Network Management Protocol is a standard protocol for remote management and monitoring of network devices that uses unencrypted community strings as passwords for authentication.

GAO Recommendation:
72. For all network devices using Simple Network Management Protocol, use the secure Simple Network Management Protocol version 3 or, if using Simple Network Management Protocol versions 1 and 2, configure in read mode.

EPA Response:
The EPA partially concurs with the recommendation. All current OARM-RTP devices are using SNMP v2 in the Read Only mode with the following two exceptions: Ciscoworks and Kiwi, which reside on the same device and Opmanager, located on a separate server. These network management tools allow us to perform automated functions; without them we cannot proactively manage the network, with the result being unscheduled down time. These network management tools are critical to the performance of the EPA-RTP local area network and cannot be arbitrarily shut down.

To address the protocol issue, the EPA plans to upgrade the aforementioned network management tools to utilize SNMP v3, as part of the EPA-RTP campus Telecom Switch Upgrade Project. This project will begin in the first quarter of fiscal year 2013. SNMP v3 will be implemented with guidance provided by OEI since SNMP v3 has not yet been adopted as an Agency standard.

Network Devices Configuration - EPA did not adequately configure network devices to prevent security vulnerabilities. NIST states that, based on organizations' operational needs, information systems should be set to the most restrictive mode. However, network devices were not appropriately configured, as the following examples illustrate:

- The Web Cache Communication Protocol[31] enabled on EPA routers as a load-balancing, content-routing protocol to redirect traffic flows in real-time had the MD5 authentication feature disabled and had mis-configured re-direct access control lists. Additionally, group access control lists were not used in restricting access to the Web Cache Communication Protocol.
- DLSw tunnels, which are created to tunnel unroutable, non-IP protocols through an IP network, were active on EPA routers. For example, DLSw tunnels are used to tunnel IBM mainframe systems network architecture through an IP network.

As a result, these routers are vulnerable to a man-in-the-middle attack by an attacker who is redirecting all traffic to their site by using a network sniffer and also to attackers creating a covert communication path into EPA's network.

GAO Recommendations:
73. Enable MD5 authentication for the Web Cache Communication Protocol.
74. Properly configure group access control lists to restrict access to the Web Cache Communication Protocol.
75. Disable all DLSw tunnels that are no longer needed.

EPA Response:
The EPA concurs with the recommendations and has corrected the weaknesses as follows.

- Recommendations 73 & 74 - MD5 has been implemented and ACLs updated.

[31] The Web Cache Communication Protocol is a Cisco-developed content-routing protocol that provides a mechanism to redirect traffic flows in real time. It has built-in load balancing, scaling, fault tolerance, and service-assurance (failsafe) mechanisms.

- Recommendation 75 - There is (1) DLSw tunnel remaining and that is part of a legacy system belonging to the VA.

Voice over Internet Protocol Configuration - The EPA's Voice over Internet Protocol (VoIP) system was not securely configured. NIST states that organizations should configure security settings to the most restrictive mode consistent with operational requirements. However, VoIP systems were not appropriately configured, as the following examples illustrate:

- Telnet was used remotely by administrators to access the Avaya VoIP administration server where all credentials and data are sent in clear text.
- Two servers (Redsky E911 and BCMS) were assigned "superuser" privileges when automatically accessing the VoIP administration server. This allows an attacker who compromises either server to have root-level access to the Avaya VoIP system.
- The Redsky E911 server, which handles 911 functional requirements for the VoIP system, had outbound Internet access when there was no operational need for this level of access. The administrator demonstrated access to various Internet websites.
- Unauthorized remote access software was running on the Redsky E911 server and had not been removed.
- The Windows firewall was not enabled, which allowed any inbound connection to access the Redsky E911 server.

As a result, risk is heightened that EPA's VoIP could be compromised; giving a perpetrator unauthorized access and control of VoIP system resources.

GAO Recommendations:
76. Discontinue use of Telnet for remote administration.
77. Assign lower privileges to systems automatically accessing the VoIP site administration server.
78. Restrict outbound access to the E911 server to only operational requirements.
79. Uninstall the unauthorized remote access software.
80. Enable Windows firewall on the Windows-based E911 server.

EPA Response:
The EPA concurs with the recommendations.

- Recommendation 76 – The telnet is not in use for outbound alarm usage between the ION Defender and the Avaya voice system. It was turned on for the inbound portion of the session between the ION Defender and the Avaya voice system. Telnet will not be required if Secure Access Link (SAL) is approved for access to the voice system. A POA&M will be created to address the transition to SAL and eventually turning off Telnet.
- Recommendation 77 - The HQ Avaya voice system was upgraded from January thru May 2012. No systems automatically access the VOIP site administration server in the present configuration. The RedSky e911 server has been removed. BCMS does not have automatic access to the VOIP administration server; however access to the VOIP administration server from BCMS is directly recognized as BCMS in lieu of a specific userid and has no "superuser" privileges. Access rights of BCMS are the same as other userids who access the VOIP server for VOIP administration.
- Recommendation 78 - The HQ Avaya voice system was upgraded from January thru May 2012. The RedSky e911 system has been removed and is not being used in the present configuration.

- Recommendation 79 - The HQ Avaya voice system was upgraded from January thru May 2012. No remote access software is installed on the present configuration of the Avaya Communication Manager, Avaya Modular Messaging. The RedSky e911 has been removed and is not being used in the present configuration.
- Recommendation 80 - The HQ Avaya voice system was upgraded from January thru May 2012. The RedSky e911 system has been removed and is not being used in the present configuration.

VoIP Access Switches - EPA did not adequately secure its network access switches that control its VoIP network. NIST guidance recommends encrypting voice calls to prevent unauthorized users from eavesdropping on voice sessions and other traffic sent in clear text such as used for backing up network configurations. Cisco best practices also recommend the use of Dynamic Address Resolution Protocol Inspection and IP Source Guard when implementing Dynamic Host Configuration Protocol snooping[32] to prevent Address Resolution Protocol poisoning and IP spoofing.[33] However, EPA did not encrypt its voice calls or implement Dynamic Address Resolution Protocol Inspection and IP source guard on all access switches used with Dynamic Host Configuration Protocol snooping to assure the security of the server allocating VoIP addresses to valid clients. Consequently, EPA is at risk that unauthorized users could eavesdrop on voice sessions. Moreover, without the control mechanisms implemented, an attacker could manipulate Address Resolution Protocol tables and IP addresses, and redirect local area network traffic to where worms and other malware use IP and Address Resolution Protocol spoofing techniques to disguise their origins.

GAO Recommendations:
81. Implement encryption on voice calls.
82. Implement Dynamic Address Resolution Protocol Inspection and IP Source Guard on all access switches with Dynamic Host Configuration Protocol snooping.

EPA Response:
- Recommendation 81 - The EPA concurs with the recommendation and a plan of action and milestones has been created to enable encryption.
- Recommendation 82 - The EPA could neither concur or nonconcur with this recommendation. The EPA requests clarification from GAO on what devices, where they are located, and what the security issue is with the devices to warrant implementation of a Dynamic Address Resolution Protocol.

MS SQL Database Configuration - EPA did not securely configure the MS SQL database system for its VCenter VMware MS SQL 2008 server database system. NIST states that organizations should configure security settings to the most restrictive mode consistent with operational requirements. However, EPA's VCenter MS SQL database, which is used in support of centrally managing ESXi servers, was not appropriately configured, as the following examples illustrate:

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[32] In computer networking, Dynamic Host Configuration Protocol snooping is a series of techniques applied to ensure the security of an existing Dynamic Host Configuration Protocol infrastructure. When Dynamic Host Configuration Protocol servers are allocating IP addresses to the clients on the LAN, Dynamic Host Configuration Protocol snooping can be configured on LAN switches to harden the security on the LAN to allow only clients with specific IP/Media Access Control addresses to have access to the network.

[33] Address Resolution Protocol poisoning allows an attacker to alter routing on a network (i.e., man-in-the-middle attack), and IP spoofing refers to the creation of IP packets with a forged source IP address.

- The xp_cmdshell function as a server configuration option was enabled. It allows users with access to execute any command on the operating system, since it runs with the privileges of the account that the SQL server is running (normally the powerful SYSTEM account).
- The SQL server agent and server service[34] were running as Local System, which is a powerful account that has full access rights to the computer and is a member of the Windows administrators group. This would enable an attacker to take complete control of the database server and the host operating systems by exploiting a vulnerability found in the agent or server service.
- The MS SQL Simple Network Management Protocol registry key was enabled, which allowed community strings to be read from the registry and may represent a broader threat to the network than just the server.

As a result, risk is heightened that EPA VCenter database, server, and potentially other network resources could be compromised.

GAO Recommendations:
83. Remove or restrict access to the xp_cmdshell.
84. Change the SQLO server aent and servr service to operate as a low privileged domain or local account.
85. Disable the SNMP registry key or, if it is necessary to keep it enabled, ensure that appropriate permissions are applied.

EPA Response:
The EPA concurs with the recommendations and has corrected the weaknesses. All agents have been updated to comply with this recommendation. This action was taken as part of the security review. The EPA removed access to the xp_cmdshell, changed the SQL server agent and server service to operate as a low privileged domain or local account, and disabled the SNMP registry key.

Outdated Software - EPA used outdated versions of software and products that were no longer supported by the vendor. NIST guidance states that organizations should promptly test and install the newly released security patches, services, and hot fixes as soon as they become available. However, EPA was using out-of-date or unsupported software and products, as illustrated in the following examples:

- Three Cisco network routers were using platforms that had reached the end of life support:
- A National Computer Center router (ncc-svr-s1) using the Cisco CATOS operating system, which provides connectivity to many sensitive devices such as two terminal console servers used for out-of-band network management, a jump server for logon to network devices, TACACS+ server, and a network syslog server (ncc-svr-s1).
- A National Computer Center, Research Triangle Park, Systems Network Architecture[35] router using the Cisco 2621 platform for network tunneling capabilities in transmitting mainframe

[34] SQL Server Agent is a Microsoft Windows service that executes scheduled administrative tasks, which are called jobs. The SQL Server service runs the database engine. There is one SQL Server service for each instance of SQL Server running on a computer.
[35] Systems Network Architecture, IBM's proprietary networking architecture, was first introduced in 1974.

Systems Network Architecture traffic across EPA's IP network (Rapid Transport Protocol-Systems Network Architecture using a Cisco 2621 platform).

- A National Computer Center router (EXT-C1) using the Cisco IOS RSP software that was providing connectivity between EPA's National Computer Center and the National Oceanic and Atmospheric Administration.
- The National Computer Center was using a Network Simple Network Management Protocol server with HP-Openview Network Node Manager version 6.2, which had reached its end of life on December 31, 2007.
- The database supporting EPA's CBITS application was using Oracle 8.1.7.4.1, which is an unsupported version of Oracle as of December 31, 2004.
- Eight servers providing application support were using RedHat Linux version 3 operating systems, which are at their end of life. EPA had not purchased "extended life cycle" support.

Using outdated or unsupported products increases the risk that an attacker may exploit vulnerabilities associated with these products.

GAO Recommendation:
86. Upgrade to vendor-supported versions of these software products.

EPA Response:
The EPA concurs with the network related recommendation and has corrected the weakness and is working to replace HP Open View with EM7, the network syslog server (ncc-svr-sl) was decommissioned, and all Red Hat Version 3 systems have been removed and replaced with Red Hat Version 6 systems. The EPA purchased a maintenance agreement and license for the Oracle application from the vendor. CIS and the Oracle application will be upgraded as notified by the vendor.

CBITS is being retired in March 2013 and the new system with rely on Oracle 11g.

Switches - EPA had not always implemented security measures to protect switches from vulnerabilities when using the Spanning Tree Protocol.[36] Cisco recommends, as part of this protocol, that organizations enable the Spanning Tree Bridge Protocol Data Unit[37] Guard and Root Guard on switches. Bridge Protocol Data Unit Guard prevents a particular physical network port interface from being used (accidentally or maliciously) as a root bridge, which could crash an entire network or network segment. Root Guard is used to ensure certain ports on switches upstream from the access switches never become the root bridge. Root Guard also allows the device to participate in Spanning Tree Protocol as long as the device does not try to become the root bridge. However, EPA did not always adequately protect switches because Bridge Protocol Data Unit Guard was not enabled on switchports that were connected to user workstations and servers. Additionally, Root Guard was not enabled on EPA switches that restrict upstream switchports from trying to become the root bridge. As a result, a malicious user could adversely affect network operations and capture sensitive data by falsely becoming the root bridge.

[36] The Spanning Tree protocol is a link layer network protocol that ensures a loop-free topology for any bridged local area network (i.e., used to cut loops that redundant links create in bridge networks).

[37] Bridge Protocol Data Unit messages are used in determining what switch will be the root bridge/port where all traffic flows through. Because the protocol does not have a way to verify the authenticity of Bridge Protocol Data Unit messages, an attacker can spoof it and compromise network traffic without using control measures.

GAO Recommendation:
87. Implement Bridge Protocol Data Unit Guard and Root Guard to protect EPA's networked switched environment.

EPA Response:
The EPA concurs with the recommendation.

- On June 10, 2012 under CRQ#6181, the EPA completed the following tasks: (1) Root Guard was applied to trunked interfaces south of the STP Root devices towards STP leaf devices; and (2) Loop Guard was applied to trunked interfaces north of the STP Leaf devices towards STP root devices
- At the end of 2012, the Potomac Yard and 1310 L Street were completed as a component of the HQ Core Switch Upgrade - Phase I.
- Federal Triangle will be fixed by the end of the 3rd quarter in 2013 once the distributions switches have been upgraded.

Exceed Configuration - EPA did not adequately configure security settings on a jump server used to logon to network devices in its Central Data Exchange environment. NIST states that organizations should configure security settings to the most restrictive mode consistent with operational requirements. EPA used the Exceed application to connect its Microsoft Windows jump server to the X-Windows[38] environment. However, the server was not configured to its most restrictive mode. Specifically, the Exceed application was not configured to restrict access, which would allow an attacker to capture all screen inputs from the server. As a result, increased risk exists that sensitive information could be compromised.

GAO Recommendation:
88. Configure the Exceed software on the jump server to restrict access.

EPA Response:
The EPA concurs with the recommendation. Hosting jumpboxes have been patched and reconfigured.

Hypertext Transfer Protocol Configuration - EPA had the Hypertext Transfer Protocol server feature enabled on a router used to establish site-to-site VPN connections for its contractors into the EPA production network. NSA guidance states that network devices should be appropriately configured to protect organization information assets, including disabling the Hypertext Transfer Protocol server, as it is susceptible to several Hypertext Transfer Protocol privilege escalation vulnerabilities. However, EPA had the Hypertext Transfer Protocol server feature enabled on its VPN router. As a result, the device is susceptible to compromise in that a perpetrator could gain full control over these devices by exploiting Hypertext Transfer Protocol privilege escalation vulnerabilities.

GAO Recommendation:
89. Disable use of the Hypertext Transfer Protocol server feature on the router used to establish contractors' site-to-site VPN connections into the EPA production network.

EPA Response:
The EPA concurs with the recommendation and has corrected the weakness. The EPA made the following changes to address the finding on NCC-NSOC-VPN: (1) enabled password encryption; (2)

[38] X-Windows is a standard for a platform-independent, network-based graphical user environment.

enabled encryption of VPN pre-shared keys; (3) changed the default password; (4) added account of last resort; (5) corrected Access Control Lists; (6) disabled Telnet and HTTP services; (7) added welcome banner; added AAA authentication; and (8) upgraded IOS to FIPS 140-2 approved encryption standards.

MEDIA DESTRUCTION AND DISPOSAL

Testing Equipment - EPA did not provide evidence that it had tested equipment to sanitize and dispose of media at Washington, D.C., and Research Triangle Park, North Carolina, locations. NIST states that testing is required for equipment used in sanitization of media. However, EPA did not provide evidence of testing hard drive wiping equipment in the CBITS environment at EPA headquarters and did not provide evidence of testing degaussers in the WAN and National Hosting Systems environments at the National Computer Center, Research Triangle Park. As a result, EPA has less assurance that equipment used to remove sensitive information is operating as intended.

GAO Recommendations:
90. Document testing of the hard drive wiper at EPA in the CBITS environment.
91. Document testing of the degaussers at the National Computer Center in the WAN and National Hosting Systems environments.

EPA Respone:
The EPA concurs with the recommendations. The media sanitization procedures are being revised to include testing as part of the security wipe process. The EPA has added a Degausser section into the Data Center Standards and Procedures Manual which specifies and documents Degausser testing.

Sanitization Records - EPA did not document records of media sanitization at the Washington, D.C., and Research Triangle Park, North Carolina, locations. NIST recommends that organizations maintain records of what media were sanitized, when, how they were sanitized, and the final disposition. However, EPA did not document such records of media sanitization at the CBITS environment at the headquarters location and in the WAN and National Hosting System environments at the National Computer Center, Research Triangle Park. Until EPA documents records of media disposal, the agency may have less assurance that sensitive information is sanitized before media has been disposed.

GAO Recommendations:
92. Document media sanitization at EPA in the CBITS environment.
93. Document media sanitization at EPA in the WAN and National Hosting System environments.

EPA Response:
The EPA concurs with the recommendations. The media sanitization procedures are being revised to include records retention as part of the security wipe process. The EPA has corrected the weakness. The EPA has added a Degausser section into the Data Center Standards and Procedures Manual which also covers media sanitization.

Hard Drive Labels - EPA did not properly label hard drives containing sensitive information and document records of media sanitization at the Washington, D.C., location in its CBITS environment. NIST states the organization should mark removable information system media and information system output as well as indicate the distribution limitations and applicable security markings of the information. However, hard drives that may have contained sensitive or confidential business information, which were to be wiped of such information, were not labeled to distinguish them from

drives that had been wiped of sensitive information. In addition, there were numerous hard drives that may have contained sensitive information stacked beside those where the information had been wiped, but there were no distinguishing markings or labels on the drives. As a result, EPA has increased risk that sensitive information may not be properly protected.

GAO Recommendation:
94. Label hard drives containing sensitive information until the information has been removed.

EPA Response:
The EPA concurs with this recommendation. The media sanitization procedures are being revised to include the proper labeling of CBI hard drives used to process and store sensitive information as part of the security wipe process.

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

MAR 2 8 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, D.C. 20510

Dear Madam Chairwoman:

I am transmitting the U.S. Environmental Protection Agency's response to the December 2012 Government Accountability Office report entitled, *Environmental Protection: EPA Should Develop a Strategic Plan for Its New Compliance Initiative* (GAO-13-115). The EPA prepared this response pursuant to 31 U.S.C. 720.

In its review, the GAO examined (1) actions the EPA has undertaken in Next Generation Compliance to increase transparency and accountability and (2) the extent to which the EPA is developing a strategic plan to integrate Next Generation Compliance into its enforcement and compliance program.

GAO Recommendation

To better integrate Next Generation Compliance into its overall enforcement and compliance program and ensure that the initiative will achieve the goals the EPA envisions for it, we recommend that the Administrator of EPA direct the Assistant Administrator of OECA to take the following two actions:

- Develop a schedule for completing, in a timely manner, a strategic plan for Next Generation Compliance; and
- Ensure that this strategic plan incorporates selected leading practices in federal strategic planning, as appropriate, and describes how Next Generation Compliance is to be integrated into the enforcement and compliance program.

EPA Response

The EPA agrees with the GAO's recommendation that the agency should prepare a strategic plan for the Next Generation Compliance initiative in FY 2013, and we believe the work done so far and underway on Next Generation Compliance will provide a foundation for a thoughtful and well-informed plan. The EPA expects to develop a schedule for completing a strategic plan by March 30, 2013. However, under the continuing resolution, the EPA cannot start any new initiatives. The EPA further agrees that the

strategic plan should incorporate, where appropriate, leading practices in federal strategic planning and describe how Next Generation Compliance will be incorporated into the compliance and enforcement program.

The EPA appreciates the GAO's review of these issues and the opportunity to review and respond to the GAO's report. If you have any questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Barbara J. Bennett
Chief financial Officer

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

APR 2 3 2013

OFFICE OF
CIVIL RIGHTS

The Honorable Barbara Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Madam Chairwoman:

I am pleased to send you the enclosed copy of the U.S. Environmental Protection Agency's Fiscal Year 2012 annual report prepared in accordance with Section 203 of the Notification and Federal Employee Antidiscrimination and Retaliation Act of 2002 (No FEAR Act), Public Law 107-174.

This report provides information regarding the number of cases arising under the respective areas of law cited in the No FEAR Act where discrimination was alleged; the amount of money required to be reimbursed by the EPA to the Judgment Fund in connection with such cases; the number of employees disciplined for discrimination, retaliation, harassment or any other infractions of any provision of law referred to under the Act; an analysis of trends and knowledge gained; and accomplishments.

An identical letter has been sent to each entity designated to receive this report as listed in Section 203 of the No FEAR Act. The U.S. Attorney General, the Chair of the U.S. Equal Employment Opportunity Commission, and the Director of the U.S. Office of Personnel Management will also be sent a copy of the report.

If you have any questions, please contact me; or, your staff may call Christina Moody in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely yours,

Vicki Simons
Acting Director

Enclosure

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

JUL - 9 2013

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

The Honorable Barbara A. Mikulski
United States Senate
Washington, D.C. 20510

Dear Senator Mikulski:

Thank you for your February 15, 2013, letter on behalf of your constituent (b) (6) [redacted] (b) regarding potential impacts of neonicotinoid pesticides on bees. I have responded to Mr. Matulewicz directly. A copy of that reply is enclosed for your records.

Again, thank you for your letter. If you have further questions, please contact me or your staff may call Mr. Sven-Erik Kaiser in the EPA's Office of Congressional and Intergovernmental Relations at (202) 566-2753.

Sincerely,

James J. Jones
Acting Assistant Administrator

Enclosure

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

JUL - 9 2013

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

(b) (6) [redacted]

Dear (b) (6) [redacted]:

Thank you for your email of March 29, 2013, to Senator Barbara A. Mikulski regarding your concerns about potential impacts of neonicotinoid pesticides on bees. I appreciate the opportunity to respond to your concerns on behalf of the Environmental Protection Agency and apologize for the delay in responding.

I want to assure you that the EPA is working aggressively to protect bees and other pollinators from the potential effects of pesticides and is engaged in national and international efforts to address those concerns. We are working with beekeepers, growers, pesticide manufacturers, the U.S. Department of Agriculture and states to apply technologies to reduce pesticide exposure to bees, advance best management practices, enhance enforcement guidance and to ensure that real-world pollinator risks are accounted for in our pesticide regulatory decisions.

The EPA and the USDA announced a major milestone in pollinator protection at our May 2, 2013, joint press conference where we released our comprehensive scientific report on honey bee health.[1] The report states that there are multiple factors playing a role in honey bee colony declines, including loss of habitat, parasites and disease, genetics, poor nutrition and pesticide exposure. The report acknowledges that acute and sublethal effects of pesticides on honey bees have been increasingly documented and are a concern. What is not clear, based on current research, is whether or not pesticide exposure in general, and the neonicotinoid class of pesticides in particular, is a major factor associated with U.S. honey bee health declines. Current scientific consensus suggests that disease-carrying Varroa mites and other factors play more significant roles than do pesticides. We understand that there are many opinions and beliefs about the relative role of the many stressors, and we are working hard to address them.

The scientific issues concerning the role of pesticides are complex, and we are working closely with our global partners to better understand the potential effects of pesticides, including neonicotinoids, on honey bees. Agency personnel are working with a range of international bodies, such as the Organization for Economic Cooperation and Development's Pesticide Effects on Insect Pollinators working group, the International Commission on Plant Pollinator Relationships, and the European Food Safety Authority to develop and implement appropriate tests for evaluating both exposure to and effects of pesticides on honey bees.

The EPA is not currently banning or severely restricting the use of the neonicotinoid pesticides. To date, we are not aware of data demonstrating that a neonicotinoid pesticide applied according to the EPA-approved label instructions has caused long-term harm to bees. These pesticides are currently being re-

[1] http://go.usa.gov/Tzgm

evaluated through EPA's program for periodically re-evaluating registered pesticides to ensure they meet current health and safety standards. The EPA bases its pesticide regulatory decisions on the entire body of scientific literature, including studies submitted by the registrant, journal articles and other sources of peer-reviewed data. While the EPA and the USDA attempt to understand the role pesticides may be playing in pollinator declines, recent declines in commercial honey bees have refocused our efforts to identify and implement regulatory best management practices to minimize pesticide contact with bees. This is particularly challenging given the critical role bees play in pollinating multiple agricultural commodities as well as the important role insecticides play in controlling pests in agriculture.

While these evaluations are under way, the EPA and the USDA are leading collaborative efforts with a wide range of stakeholders to keep bees safe from pesticides. These efforts include, for example:

- The agency has been working with beekeepers, growers, pesticide applicators and pesticide and seed companies – as well as state lead agencies and the extension service in the USDA – to advance new equipment and formulation technologies that keep the pesticide on the seed. We are also developing abrasion-reducing performance standards and "best management practices" (BMPs) that can help avoid pesticide exposure to bees when they are foraging.

- The agency has also taken immediate steps to carry out changes to pesticides to protect bees (*e.g.*, specifying label warnings and the appropriate timing of pesticide applications).

- We are also sharing other BMPs with beekeepers on the use of pesticides to control Varroa mites in their colonies, since miticides (not neonicotinoids, as many people have been led to believe) are the pesticides most often associated with Colony Collapse Disorder. We are also collaborating with state agencies and the North American Pollinator Campaign to advance education and training modules in pesticide applicator certification courses.

- Enforcement is important. The EPA has issued new enforcement guidance to federal, state and tribal enforcement officials to enhance investigations of beekill incidents. We are continuing outreach to stakeholders to ensure all are aware of the many ways they can report beekill incidents to the EPA, should the need arise.

I should also mention that the EPA is already implementing new data requirements and risk assessment approaches for pollinators as we review the registrations of all of the neonicotinoid pesticides. These advances in assessing pollinator risk are based on a public, external, scientific peer review that was held in the fall of 2012; and they reflect a collaborative effort with experts in California, Canada and Europe – including both regulatory authorities and scientists. These new techniques will ensure studies do a more thorough job of assessing the sublethal effects of pesticides on all life stages of the honey bee, as well as effects on colony health in field settings.

Let me close by reiterating that, at the EPA, we are committed to finding and implementing a wide range of actions to effectively address the complex and varied stressors facing pollinators in this country. We believe that staying abreast of evolving science,[2] communicating with our regulatory partners here and abroad, and working with research scientists and practitioners in laboratories and in the field put the agency in the best position to account, in our regulatory decisions, for potential effects of neonicotinoid pesticides on honey bees. The registration review process allows the EPA to act quickly if the data and

[2] http://www.ars.usda.gov/News/docs.htm?docid=15572#research

associated scientific evaluations warrant such action. If the risk posed by a pesticide, supported by the best available, peer-reviewed science, cannot be mitigated or managed through other measures, and the agency determines that the pesticide no longer meets the Federal Insecticide, Fungicide, and Rodenticide Act standard for registration, then the agency will move quickly to take appropriate regulatory action.

Again, thank you for taking the time to write on this important matter. If you have any further questions or concerns, please contact Don Brady, Director, Environmental Fate and Effects Division at brady.don@epa.gov or (703) 305-7695.

Sincerely,

James J. Jones
Acting Assistant Administrator

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

JUL 24 2013

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Chairman Boxer:

I am providing an update on the U.S. Environmental Protection Agency's (EPA) efforts regarding chemical facility safety in response to your request during the Committee's June 27, 2013, hearing on this topic. The Agency shares your commitment to the protection of public health, specifically the prevention of chemical facility incidents like those that occurred in West, Texas and Geismar, Louisiana. We must strive to prevent future accidents by working for stronger safeguards and greater accountability. I appreciate your continued support of the EPA's Risk Management Program, and look forward to a collaborative effort to help address chemical facility safety.

For the past several years, the EPA has focused its chemical safety efforts on facilities that can adversely affect local communities across the country, taking steps to identify potential chemical safety issues. Although the number of chemical accidents continues to decline, with a 20 percent reduction among the largest chemical facilities over a 10 year period, we will continue our efforts to support local responders, advance additional chemical facility safety measures, and support standardizing the best practices of industry leaders. We believe that it is imperative that chemical facility risks be reduced to the greatest extent possible to avoid tragedies such as those that took place in West, Texas and Geismar, Louisiana. Federal agencies have improved their coordination and will continue to work with state and local responders to assist them in preparing and responding to emergencies. An interagency effort, started shortly after the West, Texas incident, is working to produce a number of actions that can be taken to help strengthen chemical facility safety practices and preparations for emergencies and we expect to be able to provide updates in the weeks and months ahead. The agency also believes it is important to understand the root causes of the West Texas accident to inform the appropriate next steps and looks forward to the completion of the root cause analysis by the Chemical Safety Board (CSB).

The EPA has met several times over the past 12 months with petitioners to discuss their suggestions regarding Clean Air Act section 112(r) and Risk Management Program provisions to improve chemical facility safety. While giving careful consideration to this specific petition, the agency is broadly focused on ensuring strong chemical accident prevention and risk management programs through close coordination among federal agencies with relevant authorities and

partnerships with industry, the public and all levels of government. As such, the EPA is focused on the prevention of and the preparation for chemical disasters arising from natural disasters, accidents, or technological failure while the Department of Homeland Security (DHS) is focused on addressing potential acts of terrorism or other security-related causes. Other agencies, such as the Occupational Safety and Health Administration (OSHA) in the Department of Labor, also have a key role in preventing chemical disasters. Accordingly, the agency is working in cooperation with DHS, OSHA, and the other agencies to ensure that industry continues to implement prevention and risk management programs, as we identify opportunities to reduce the likelihood of chemical disasters and work to improve chemical safety.

The EPA is working with stakeholders to explore how our legal authorities and policies are being used and potential adjustments to reduce risk, including determining the need to update the EPA's Chemical Safety Alert, "Explosion Hazard from Ammonium Nitrate." This Alert was published in 1997. It references National Fire Protection Association standards for the storage and handling of ammonium nitrate and the Occupational Safety and Health Administration regulation governing ammonium nitrate. The EPA is also working with other federal, state and local agencies to advance additional chemical facility safety measures and standardize best practices to reduce risk from chemical substances.

The EPA has worked with the CSB and OSHA to convene experts and stakeholders to discuss the complex issue of how reactive hazards might be addressed in not only the EPA regulations, but also OSHA's Process Safety Management standard. As a result, the EPA collaborated with the Center for Chemical Process Safety of the American Institute of Chemical Engineers on guidance on the safe handling of reactive materials. The EPA joined OSHA and the American Chemistry Council on training materials and further distribution of information. The EPA also worked with our partners to develop a software tool to help facilities and communities safely handle reactive chemicals. The EPA is committed to supporting local responders, advancing efforts by the federal government regarding additional chemical facility safety measures, and standardizing the best practices of industry leaders.

Again, thank you for your interest regarding this issue. If you have further questions, please contact me, or your staff may call Carolyn Levine in the EPA's Office of Congressional and Intergovernmental Relations at 202-564-1859.

Sincerely,

Mathy Stanislaus
Assistant Administrator

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

JUN 07 2013

OFFICE OF
SOLID WASTE AND
EMERGENCY RESPONSE

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Chairman Boxer:

Thank you for your April 30, 2013, letter to the U.S. Environmental Protection Agency (EPA) regarding the April 17, 2013 West Fertilizer Co. incident in West, Texas. We share your concern that lessons learned from the West, Texas Fertilizer incident be used to help prevent similar incidents in the future. We have enclosed responses to the questions posed in your letter.

Again, thank you for your interest regarding the West Fertilizer Co. incident and your long-time support of the EPA's Risk Management Program. If you have further questions, please contact me, or your staff may call Carolyn Levine in EPA's Office of Congressional and Intergovernmental Relations at 202-564-1859.

Sincerely,

Mathy Stanislaus

Mathy Stanislaus
Assistant Administrator

Enclosure

Enclosure

EPA Response to April 30, 2013 Senator Boxer Letter Regarding West, Texas Incident

1) Describe EPA's investigation of the West, Texas facility, including timelines and scope.

EPA Response: The EPA's Criminal Investigation Division currently has an open investigation. Once the Bureau of Alcohol, Tobacco, Firearms, and Explosives completes its investigation, the EPA Risk Management Program (RMP) inspectors will visit the facility to conduct further investigations in coordination with other federal agencies. We will evaluate all available records and interview transcripts with regard to the Clean Air Act (CAA) Section 112(r) program.

2) Why is ammonium nitrate not on the list of covered chemicals that facilities must report to EPA under the Risk Management Program?

EPA Response: The agency developed criteria for listing toxic and flammable chemicals and specified substances on the list of covered chemicals under the Risk Management Program (the "RMP list") after notice and comment rulemaking (59 FR 4478, January 31, 1994). In this rule, the EPA also listed Division 1.1 explosives - a category of high explosives defined by the U.S. Department of Transportation (DOT) classification. Ammonium Nitrate (AN), when produced in its most explosive form intended for use as an explosive (such as an ammonium nitrate-fuel oil mixture), meets Division 1.1 criteria.[1] Ammonium nitrate fertilizer does not meet Division 1.1 criteria as it is not intended to function as an explosive and would not have been regulated under the original RMP list rule.

3) Please provide a list of all chemicals regulated through the Risk Management Program under Section 112(r) and the types of uncovered chemicals EPA could add to the list or otherwise address under the general duty clause of Section 112(r).

EPA Response: The RMP rule covers 77 toxic and 63 flammable substances and mixtures at specified threshold quantities and concentrations (see 40 CFR Part 68.130, http://www.gpo.gov/fdsys/pkg/CFR-2011-title40-vol15/xml/CFR-2011-title40-vol15-sec68-130.xml). Clean Air Act Section 112(r)(3) gives the EPA authority to list substances "which, in the case of an accidental release, are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment." In addition to this EPA listing authority, Section 112(r)(3) named 16 specific substances to be listed and required the EPA to include at least 100 substances which pose the greatest risk of causing death, injury, or serious adverse effects to human health or the environment from accidental releases into the air. The EPA is prohibited from including on the list any air pollutant for which a national primary ambient air quality standard has been established, except anhydrous sulfur dioxide, which the statute required the EPA to list. In listing substances, CAA Section 112(r)(4) requires the EPA to consider specific factors including the severity of any acute adverse health effects associated with accidental releases of the substance, the likelihood of accidental releases of the substance, and the

[1] DOT Division 1.1 explosives are considered explosives that have a mass explosion hazard, i.e. a mass explosion affecting an entire load instantaneously.

potential magnitude of human exposure to accidental releases of the substance. The agency may not list a flammable substance when used as a fuel or held for sale as a fuel at a retail facility under this subsection solely because of the explosive or flammable properties of the substance, unless a fire or explosion caused by the substance will result in acute adverse health effects from human exposure to the substance, including the unburned fuel or its combustion byproducts, other than those caused by the heat of the fire or impact of the explosion. The agency may not regulate CAA title VI (stratospheric ozone protection provisions) pollutants. Within the forgoing constraints, the EPA has authority to add substances to the RMP list via notice and comment rulemaking.

The CAA section 112(r)(1) General Duty Clause (GDC) requires facilities to take steps to ensure compliance with the general duty. The GDC requires facilities to identify hazards which may result from releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary to prevent releases, and to minimize the consequences of accidental releases which do occur. Such steps could include limiting the type or amount of chemical to address unsafe conditions or hazard present at the source.

The GDC applies to all substances listed under Section 112(r)(3) and any other extremely hazardous substance. The CAA does not define the term extremely hazardous substance, but the legislative history of the Clean Air Act suggests criteria which the EPA may use to determine if a substance is extremely hazardous. The Senate Report stated the intent that the term "extremely hazardous substance" would include any agent "which may or may not be listed or otherwise identified by any Government agency which may as the result of short-term exposures associated with releases to the air cause death, injury or property damage due to its toxicity, reactivity, flammability, volatility, or corrosivity" (Senate Committee on Environment and Public Works, Clean Air Act Amendments of 1989, Senate Report No. 228, 101st Congress, 1st Session 211 (1989)). The term "extremely hazardous substance" includes, but is not limited to, all substances listed under Section 112(r)(3), as well as the list of Extremely Hazardous Substances listed under section 302 of the Emergency Planning and Community Right-to-Know Act (EPCRA) (see answer to question 4 below).

4) Provide me with a list of all chemicals that facilities are required to report to state and local emergency planning authorities but are not required to report to EPA.

EPA Response: Under the Emergency Planning and Community Right-to-Know Act (EPCRA), there are two sections under which information is provided to state and local emergency planning authorities but not to the EPA. Those sections are section 302 of the Emergency Planning and Notification Subtitle and sections 311/312 within the Community Right-to-Know Reporting Requirements Subtitle. Under section 302, a facility that has an Extremely Hazardous Substance (EHS) on-site at or above its Threshold Planning Quantity (TPQ) must notify the State Emergency Response Commission (SERC) and Local Emergency Planning Committee (LEPC), as well as participate in local emergency planning activities. That list of chemicals is found here: http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol29/pdf/CFR-2012-title40-vol29-part355-appA.pdf (alphabetical order) or http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol29/pdf/CFR-2012-title40-vol29-part355-appB.pdf (CAS No. order).

Sections 311/312 establish the community right-to-know requirements in order to ensure information on chemicals in the community is provided to help communities prepare for and respond to chemical accidents. Under these sections, facilities that have either: (1) a hazardous chemical present at or above 10,000 pounds; or (2) an EHS present at or above its TPQ or 500 pounds—whichever is the lesser, are required to submit an Emergency and Hazardous Chemical Inventory form (Tier II) and a Material Safety Data Sheet (MSDS) for that chemical to their SERC, LEPC, and local fire department. A chemical is hazardous if defined as such under the Hazard Communication Standard (HCS) of the Occupational Safety and Health Act . If a facility is required by the Occupational and Safety Administration (OSHA) to develop and/or maintain a MSDS for that chemical and it is present at or above the threshold discussed above, it must be reported.

5) How many facilities fall under Sec. 112(r) of the Clean Air Act and where are they located?

EPA Response: Approximately 12,800 facilities are currently covered by the 40 CFR Part 68 Risk Management Program regulations. The EPA knows the identity and location of these facilities because they are required to submit a risk management plan (RMP) to the EPA. Facilities covered by the General Duty Clause of CAA Section 112(r)(1) are not required to register with the EPA (unless they are also subject to 40 CFR Part 68). RMP facilities are located in all 50 states and the District of Columbia, as well as the U.S. territories of Puerto Rico, the U.S. Virgin Islands, and Guam. The name and location of RMP facilities can be found at: http://www.rtknet.org/db/rmp.

6) How often are those covered facilities inspected by EPA officials?

EPA Response: With our existing resources, the EPA inspects approximately 500 RMP facilities each year in 42 states and 3 territories, including approximately 150 high-risk facilities. The EPA has delegated authority to implement the Section 112(r) Risk Management Program to 8 states (Ohio, Delaware, New Jersey, North Carolina, South Carolina, Florida, Georgia, and Mississippi) and 5 counties (Forsyth, NC, Buncombe, NC, Mecklenburg, NC, Jefferson, KY, and Allegheny, PA). State or local implementing agency officials conduct inspections at RMP facilities within these delegated jurisdictions, while the EPA officials conduct RMP inspections in all remaining states, territories, and tribal lands. High risk facilities are identified using the RMP National Database and include facilities that have had serious accidental releases of regulated substances, facilities that have more than 100,000 people in their worst-case release scenario zone, and facilities that have extremely large quantities or numbers of regulated substances on site. High risk facilities receive a higher inspection priority than other RMP facilities and the EPA devotes more inspection resources (i.e., people and time) to high-risk facility inspections.

7) Who at EPA has lead responsibility for Sec. 112(r) of the Clean Air Act, and how does EPA ensure oversight is regularly conducted at covered facilities.

EPA Response: The Office of Emergency Management (OEM) within the EPA's Office of Solid Waste and Emergency Response (OSWER) is the lead headquarters program office for implementation of CAA Section 112(r), and the Office of Civil Enforcement within the Office of Enforcement and Compliance Assurance (OECA) is the lead headquarters office for civil enforcement of section 112(r).

The EPA regional offices also play a key role. They deploy inspectors to regulated facilities to monitor compliance with the RMP and GDC requirements. OSWER, OECA, and the Regions work together closely on this program to develop and implement regulations and policy, carry out inspections and conduct enforcement at covered facilities.

Several activities by the EPA ensure oversight of RMP facilities, including:

- The EPA operates and maintains the RMP reporting system and the RMP National Database. RMP*eSubmit is the EPA's internet-based system for electronic submission of risk management plans. Covered facilities electronically submit, update, and if necessary deregister their RMP with the EPA. The submission system contains a number of automated data validation checks to ensure that RMPs meet minimum data quality criteria before they can be submitted. RMP submissions are electronically collated into the RMP National Database. Using this database, the EPA can review and audit RMPs and conduct various analyses to identify high risk facilities and target facilities for inspections or information requests.

- The EPA oversees eight delegated state and five delegated local agency programs to ensure that delegated agencies also carry out inspections and enforcement at RMP facilities. The EPA also provides support to delegated agencies through grants or cooperative agreements, training, and inspection or case development support when requested.

- The EPA conducts a comprehensive inspector training program to ensure that all of the EPA and delegated agency inspectors have received appropriate inspection training.

- The EPA conducts additional compliance monitoring, compliance assistance, and oversight activities such as RMP audits, information request letters, industry association presentations, training workshops and seminars.

- In addition to the RMP inspections described above, the EPA also conducts some inspections at non-RMP facilities subject to the Clean Air Act General Duty Clause (or at portions of RMP facilities not subject to 40 CFR Part 68). These inspections can occur following serious accidental chemical releases at non-RMP facilities, at non-RMP facilities in particular industry sectors where the agency is emphasizing compliance (e.g., energy extraction facilities), or at other non-RMP facilities where public health or the environment may be endangered by accidental releases.

- If after an inspection or as the result of an information request letter, the EPA determines that a facility is out of compliance with the RMP rules or the CAA Section 112(r)(1) General Duty Clause, the agency may take an enforcement action. Enforcement actions include administrative penalty orders, administrative compliance orders, civil judicial cases, and criminal cases.

8) Describe any and all fines issues against the West facility for failing to comply with safety standards related to chemicals.

EPA Response: The EPA's Region 6 conducted an RMP inspection at the West Chemical & Fertilizer Co. on March 16, 2006. The inspector observed the processes and the equipment at the facility, and reviewed the facility's RMP and associated records. The inspector identified several violations, including failure to:

- update the RMP (the update due on 2004 had not been submitted), including updating the Hazard Assessment and Hazard Review and consequences of deviation in operating procedures;
- properly document new operator training;
- develop a formal mechanical integrity program; and
- conduct compliance audits.

In accordance with the EPA approved penalty policy in place in 2006, on June 5, 2006, the Region issued a proposed Expedited Settlement Agreement (ESA) which assessed a penalty of $2,300 to West Chemical & Fertilizer Co. The company submitted its updated RMP (which corrected the noted deficiencies) on July 7, 2006, and paid the penalty. The agency issued the final ESA on August 14, 2006.

9) Explain how EPA works with other agencies at the local, state, and federal level to plan for accident prevention.

EPA Response: Besides working with delegated states and localities as described above, on a state and local level, the EPA coordinates and collaborates on a continuous basis with the National Association of SARA Title III Program Officials (NASTTPO). Bi-annually we meet with all NASTTPO members to discuss key and emerging issues related to the EPCRA and RMP programs. Additionally, throughout the year we exchange information and provide technical assistance to the states and locals to support them in implementing the EPCRA program.

On a federal level, we have a good working relationship with key federal agencies involved in chemical safety, including OSHA, Department of Homeland Security (DHS), the Chemical Safety Board (CSB), and the U.S. Department of Transportation (DOT). As part of our collaboration and coordination with these agencies, we meet regularly or as issues arise to discuss areas of overlap in our programs and how to work together to better implement our respective programs and promote chemical safety.

10) Describe how EPA can ensure that information about chemical accident prevention and emergency response could be distributed more widely to responsible authorities, including through electronic databases.

EPA Response: All information reported by facilities under the EPCRA program (except for Section 313: Toxic Release Reporting (TRI)) is reported directly to the state and local responsible authorities, including the State Emergency Response Commissions (SERCs), Local Emergency Planning

Committees (LEPCs), and local fire departments. The EPA does not receive any EPCRA information except for the information submitted to the agency under Section 313: TRI. With regard to access to the RMPs facilities submit under the RMP program, state and local responsible authorities can either request a copy of the RMP database on a CD from the EPA or they can request direct secure internet-based access to the RMP database by registering for an on-line Central Data Exchange (CDX) account.

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

MAY 2 1 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Madam Chairwoman:

I am transmitting the U.S. Environmental Protection Agency's response to the January 2013 Government Accountability Office report entitled, *Water Quality: EPA Faces Challenges in Addressing Damage Caused by Airborne Pollutants*, (GAO-13-39). The EPA prepared this response pursuant to 31 U.S.C. 720.

The EPA agrees with the GAO's findings, conclusions, and recommendation. In the report, the GAO found that atmospheric deposition of several pollutants including nitrogen oxides (NOx), sulfur oxides (SOx) and mercury contribute to impairment of the nation's waters. The GAO recognizes that the EPA has attempted to address atmospheric deposition through both the Clean Water Act (CWA) and Clean Air Act (CAA) programs, but faces challenges in doing so. Although the GAO report points out limitations under the CWA in addressing mercury deposition, the report nonetheless recognizes that Total Maximum Daily Loads help to quantify the relative contributions of mercury from air sources and, in turn, the appropriate management actions. The GAO recognizes that many EPA regulations, like the Mercury and Air Toxics Standards and mobile source standards, as well as fuel sulfur standards for ocean going vessels under the North American Emissions Control Area, have reduced and will continue to significantly reduce air emissions and deposition of these pollutants.

The GAO also noted that the EPA recently attempted to address the effects of NOx and SOx deposition during a review of the secondary national ambient air quality standards (NAAQS). These efforts made major progress in the scientific understanding of the effects of atmospheric deposition on waterways, but the EPA concluded that the uncertainties in translating the available information into an appropriate NAAQS were too great to allow the EPA Administrator to set a standard for NOx and SOx deposition. The EPA agrees with the findings and conclusions of the report, especially with regard to the tremendous progress that has been made in reducing emissions and the tools that have been utilized under the CWA and the CAA to better understand the effects of air deposition on waterways and to identify the major sources contributing to the deposition of NOx, SOx and mercury.

GAO Recommendation

To help ensure that EPA can address atmospheric deposition of NOx and SO2 impairing the nation's waters, we recommend that the EPA Administrator determine whether EPA can obtain in a timely manner the data it needs to establish secondary NAAQS adequate to protect against the effects of acid rain and, if not, identify alternative strategies to do so.

EPA Response

The EPA agrees with the GAO recommendation to determine whether the EPA can obtain the data it needs in a timely manner to establish secondary NAAQS for oxides of nitrogen and sulfur. In the final rule for the secondary NAAQS for oxides of nitrogen and sulfur, the EPA Administrator determined that the agency should undertake a field pilot program that would provide additional information to aid the agency in considering an appropriate multi-pollutant standard in future reviews, specifically with respect to the acidifying effects of deposition of oxides of nitrogen and sulfur. Data generated by this program would also support development of an appropriate monitoring network that would work in concert with such a standard to result in the intended degree of protection. The EPA plans to continue to pursue this program as resources permit. Under the CAA, the EPA is required every five years to complete a thorough review of the latest scientific knowledge and data available and, as necessary, make revisions to the NAAQS or promulgate new NAAQS. During the next review in 2018, the EPA will determine if the information available, at that time, supports setting a new secondary NAAQS and, if not, the EPA would then consider alternative strategies as recommended by the GAO.

The EPA remains committed to protecting our nation's waterways from the harmful effects of atmospheric deposition of pollutants. The EPA will continue to investigate how the CWA and CAA can be used in complementary ways to provide the needed protection.

The EPA appreciates the GAO's review of these issues and the opportunity to review and respond to the report. If you have any further questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Maryann Froehlich

Maryann Froehlich
Acting Chief Financial Officer

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

JUN 10 2013

OFFICE OF
THE ADMINISTRATOR

The Honorable Barbara Boxer
Chairman
Committee on Environment and Public Works
United States Senate
Washington, D.C. 20510

Dear Chairman Boxer:

I am pleased to submit the Environmental Protection Agency's (EPA) report entitled the Report to Congress on the Implementation of the Energy Independence and Security Act (EISA) of 2007 (Public Law 110-140), as required under Title IV, Subtitle E "Healthy High-Performance Schools", Section 461.

This report summarizes actions taken by EPA to fulfill the requirements specified in Section 461 of EISA including finalizing guidelines for school sitting and school environmental health programs as well as implementing a grant program. Submission of this report to Congress will fulfill EPA's requirement to EISA.

I hope you find this report useful and informative. If you have any questions or concerns, please contact me or your staff may call Ms. Christina Moody in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-0260.

Sincerely,

Bob Perciasepe

Bob Perciasepe,
Acting Administrator

Enclosure

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

JUN - 7 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Barbara A. Mikulski
Chairwoman
Committee on Appropriations
United States Senate
Washington, DC 20510

Dear Madam Chairwoman:

I am transmitting the U.S. Environmental Protection Agency's response to the March 2013 Government Accountability Office report entitled, *Energy Efficiency: Better Coordination among Federal Programs Needed to Allocate Testing Resources*, (GAO-13-135). The EPA prepared this response pursuant to 31 U.S.C. 720.

The EPA generally agrees with the GAO's findings and recommendation. This report examines three key federal programs involved in advancing energy efficient consumer products – federal minimum efficiency standards, the Energy Guide label and ENERGY STAR. Based on its review, the GAO found that officials managing these programs have taken steps to mitigate the potential consequences of fragmentation and overlap by collaborating towards a common goal. Given the differing missions of the programs, the GAO found that they are not broadly duplicative and that the three programs together provide more value than would any of the efforts alone. That said, the GAO found some amount of duplication in the verification testing of products performed under the ENERGY STAR program and that performed by the Department of Energy.

GAO Recommendation

To limit the potential for duplication in the current Energy Star verification testing activities, we recommend that the Administrator of the EPA develop a process that helps ensure that the Energy Star certification bodies communicate the models they randomly select for testing to the EPA and the DOE as quickly as possible so that the DOE can avoid selecting the same models.

EPA Response

The EPA shares the GAO's interest in minimizing verification testing duplication and agrees that a systematic exchange of verification testing plans is critical to this objective. In April 2013, the EPA performed a final analysis of duplicate tests in 2012 and then met with the DOE to develop targeted improvements to the coordination process. Given the focus of the DOE's testing, the majority of the duplicate tests involved the certification body performing the bulk of the Energy Star verification testing for appliances. This certification body has agreed to provide advance notice of its testing plans directly to the DOE. For the other relevant product categories, the EPA will continue to provide the DOE early notice of nominated models as well as prompt notice of certification body tested models.

The EPA appreciates the GAO's review of these issues and the opportunity to review and respond to the report. If you have any further questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Maryann Froehlich

Maryann Froehlich
Acting Chief Financial Officer

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, Washington 98101-3140

JUL -1 2013

OFFICE OF THE
REGIONAL ADMINISTRATOR

The Honorable Barbara Boxer
United States Senate
701 Washington Street, Suite 203
Oakland, California 94607

The Honorable Maria Cantwell
United States Senator
c/o Mr. Bryan Raines
West 920 Riverside, Suite 697
Spokane, Washington 99201

Dear Senators Boxer and Cantwell:

Thank you for your letters dated May 22, 2013 and June 3, 2013 respectively, to the Environmental Protection Agency Associate Administrator for Congressional and Intergovernmental Relations, which have been forwarded to the EPA Region 10 office in Seattle for a response. Your letter conveyed concerns raised by (b) (6) related to the EPA's cleanup work at the Stubblefield Salvage site located at 980 NE Myra Road in Walla Walla, Washington. (b) (6) letter claims the EPA misused federal funds and is covering up contamination from the Hanford Nuclear Reservation.

As acknowledged in (b) (6) letter, these same concerns have been previously raised to other state and federal agencies and officeholders. The EPA has enclosed three communications for your review in which we responded to the concerns raised in (b) (6) letter. These include two letters to the Small Business Administration National Ombudsman and Assistant Administrator for Regulatory Enforcement Fairness, dated August 16, 2011, and September 21, 2011, and a letter to Senator Dianne Feinstein dated April 4, 2012.

(b) (6) concern related to the misuse of federal funds appears is based on a purported inconsistency between the EPA's determination that a removal action at the Site was necessary to protect human and health and the environment, and a separate report prepared by HDR Engineering, Inc. for the construction of a road through a 2-acre segment of the Site. The HDR report determined that contamination in this 2-acre segment was below action levels. Mrs. Shell interprets this finding as applying to the entire Site, including the area where the EPA is conducting its cleanup, which is incorrect.

In 2009, the Washington State Department of Ecology requested assistance from the EPA to address the Site, which at the time was owned by (b) (6) and her two siblings, and operated by their company Stubblefield Salvage and Recycling, LLC. The EPA's investigation of the Site focused on the scrap metal processing area. The processing area is partially enclosed by a retaining wall and includes a shop building, metal smelter, and bailing and shearing equipment, and is separate and distinct from the 2-acre

segment assessed by HDR for road project. When the EPA first assessed the Site, the processing area contained a large number of leaking and open drums containing liquids including used oil and hazardous substances, discarded batteries, piles of friable asbestos material, and improperly stored pressurized cylinders. The hydraulic shear was also observed to be actively leaking fluid to the soil, which was darkly stained around the shear and in other parts of the processing area. Soil sampling data confirmed the presence of a number of contaminants exceeding regulatory cleanup levels such as polychlorinated biphenyls, lead, arsenic, cadmium, chromium, and mercury. Based on our assessment and investigation of the Site, we determined that a response action in the processing area was necessary to protect public health and the environment. A record of the EPA's actions including investigation and cleanup progress reports is available on our On-Scene Coordinator website at http://www.epaosc.org/site/site_profile.aspx?site_id=5508.

(b) (6) [redacted] also raises the concern that the EPA is covering up contamination from the Hanford Nuclear Reservation by not investigating another metal scrapping business located at 116 North 11th Avenue in Walla Walla. In 2009, the EPA received a similar complaint about this property and competing business from Mrs. Shell's husband. We responded to this complaint by discussing the property with Ecology and determined that there was insufficient information to justify additional investigation by the EPA. Mrs. Shell now raises the concern that the Site is contaminated because it received scrap metal from Hanford. Assuming this is true, the fact that the metal originated from Hanford does not mean it is contaminated material, and Mrs. Shell has provided no evidence that it is. As we previously explained to Mrs. Shell, Ecology routinely inspects the metal salvage business that operates at this property and would be the lead agency for any additional investigation that may be warranted.

I appreciate your concerns and I encourage you to contact me if you have any additional questions. Alternatively, your staff is welcome to contact Region 10's Congressional Coordinator, Cindy Schuster, at 206-553-1815.

Sincerely,

Dennis J. McLerran
Regional Administrator

Enclosures:

1. Letter from Elliot J. Gilberg, Director, Office of Site Remediation and Enforcement, to Esther H. Vasar, National Ombudsman and Assistant Administrator for Regulatory Enforcement Fairness, August 16, 2011

2. Letter from Elliot J. Gilberg, Director, Office of Site Remediation and Enforcement, to Esther H. Vasar, National Ombudsman and Assistant Administrator for Regulatory Enforcement Fairness, September 21, 2011

3. Letter from Daniel D. Opalski, Director, Region 10 Office of Environmental Cleanup, to the Honorable Diane Feinstein, United States Senate, April 4, 2012

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

AUG 21 2013

ASSISTANT ADMINISTRATOR
FOR ENFORCEMENT AND
COMPLIANCE ASSURANCE

The Honorable Hal Rogers
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Rogers:

Thank you for your June 17, 2013, letter to the U.S. Environmental Protection Agency regarding the Clean Air Act (CAA) New Source Performance Standards (NSPS) for Calciners and Dryers in the Mineral Processing Industries (40 CFR, Part 60), and the application of these standards to certain foundry operations. I welcome the opportunity to explain how the EPA addresses probable violations of the NSPS.

By way of background, the NSPS Subpart UUU applies to any facility which processes "industrial sand" in "calciners and dryers." As early as 1986, the EPA stated in the preamble to the Notice of Proposed Rulemaking that the rule "... would apply to new, modified, and reconstructed calciners and dryers at mineral processing plants." In both the proposed and the final rules, the EPA defined a mineral processing plant as "... any facility that processes or produces any of the following minerals ...." In the preamble and in the final rule, the EPA listed "industrial sand" as one of the listed minerals, and broadly defined the affected facility, "dryer," as "... the equipment used to remove uncombined (free) water from mineral material through direct or indirect heating." As a result, where foundries process the listed mineral "industrial sand," they meet the definition of "mineral processing plant," and the "calciners and dryers" that are used by these foundries to process the industrial sand are subject to NSPS Subpart UUU.

The National Industrial Sand Association confirms, on its website, that foundries are one of the primary users of the listed mineral industrial sand, stating that "... [i]ndustrial sand is an essential part of the ferrous and non-ferrous foundry industry." The Association goes on to further state that "... core sand can be thermally or mechanically recycled ...."

In April 2008, as part of the EPA's proposed amendments to the NSPS for Nonmetallic Mineral Processing Plants (Subpart OOO), we requested public comment on the applicability of Subpart UUU to sand and reclamation processes at metal foundries. The addition of this language in the Subpart OOO proposal coincided with inquiries regarding this issue by foundry industry representatives at that time. After further consideration, the EPA determined, for the reasons discussed above, that our prior interpretation that Subpart UUU applied to calciners and dryers processing industrial sand at foundries was correct. In addition, it was also determined that Subpart OOO was not the appropriate vehicle to take action on this matter because that Subpart dealt with a different industry sector.

Consequently, the EPA decided at that time that no further action to amend Subpart UUU, or otherwise change its applicability criteria, was necessary or appropriate. Should the agency decide to re-evaluate the applicability of this rule, it would generally do so under Section 111(b)(1)(B) of the CAA, which authorizes the agency to revise the NSPS from time-to-time. Subpart UUU is not currently scheduled for review under Section 111(b)(1)(B) of the CAA.

Based on the above rationale, the EPA is currently taking enforcement action in the EPA Region 5 for identified violations of NSPS Subpart UUU at subject foundries. There are 138 iron and steel foundries in Region 5. In the last two years, Region 5 has conducted compliance evaluations at 39 of these foundries and, thus far, has found 11 to be in violation of the Clean Air Act; only 3 of the 11 cases included violations of Subpart UUU. To remedy the currently identified Subpart UUU violations, the 3 affected facilities have agreed to conduct some additional testing. Thus far, no penalties have been assessed for the NSPS Subpart UUU violations.

Again, thank you for your letter. If you have further questions, please contact me, or your staff may call Pamela Janifer in the EPA Office of Congressional and Intergovernmental Relations at (202) 564-6969.

Sincerely,

Cynthia Giles

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue, Suite 900
Seattle, WA 98101-3140

OFFICE OF THE
REGIONAL
ADMINISTRATOR

JUL 12 2013

The Honorable Barbara Boxer
United States Senate
SH-112 Hart Senate Office Building
Washington, D.C. 20510

Dear Senator Boxer:

Thank you for your letter to President Obama dated June 11, 2013, regarding the protection of American jobs and economic opportunities in Bristol Bay, Alaska. Both Acting Administrator Perciasepe and I appreciate your expressed support for the Environmental Protection Agency's Bristol Bay Watershed Assessment. We agree that many individuals and businesses in Washington, Oregon, and California have economic interests in the Bristol Bay fishery. My staff has reviewed the recent report you cited by the Institute of Economic and Social Research at the University of Alaska, which documents the significant role that the Bristol Bay fishery plays in the economy of Alaska and other states.

You requested that we move quickly to protect Bristol Bay from large-scale open pit mining. The EPA initiated a Bristol Bay Watershed Assessment in response to petitions from nine federally recognized tribes and other stakeholders who asked us to take action to protect Bristol Bay's salmon populations. They expressed concern that the Bristol Bay salmon fishery would be put at risk due to the effects of potential large-scale mining in the area. We also heard from other tribes and stakeholders who support mining development in the Bristol Bay watershed and have requested we take no action and wait for future permitting processes. The EPA is performing its Assessment in order to develop a better understanding of the watershed and its resources. The Assessment will inform our response to these requests and any future actions the EPA may take.

The agency is engaged in an inclusive and transparent process to allow the public and other stakeholders to provide input on the Watershed Assessment. The agency released a draft Assessment on May 18, 2012 for public comment and peer review. On April 26, 2013, the EPA published a revised draft for public comment and peer review, and the agency accepted public comments on the revised draft until June 30, 2013. To ensure that the agency has adequately responded to comments provided by peer reviewers in 2012, the EPA is working with the 12 original peer reviewers to evaluate the revisions the agency made to the draft Assessment in response to their comments. The EPA intends to finalize the Assessment in 2013 after carefully considering this scientific review and public comments.

We will be happy to continue to provide you and your staff with updates on this important project. If you have any questions or would like more information, please have your staff call Richard Parkin, our EPA lead for conducting this Watershed Assessment, at (206) 553-8574.

Sincerely,

Dennis J. McLerran
Regional Administrator

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

SEP - 6 2013

OFFICE OF
AIR AND RADIATION

The Honorable Hal Rogers
U.S. House of Representatives
Washington, D.C. 20515

Dear Congressman Rogers:

Thank you for your letter of June 24, 2013, expressing your concerns about the U.S. Environmental Protection Agency's proposed new source performance standards for emissions of greenhouse gases from new fossil fuel-fired power plants.

The EPA received over 2 million comments on the proposed rule, many of which addressed issues related to technical achievability and cost. In fact, numerous comments received by the agency addressed the issue of whether new coal-fired power plants should be required to meet the same standard as that set for new gas-fired plants. These comments, along with information about changes in the electricity sector, were carefully considered. Accordingly, as reflected in President Obama's June 25 Memorandum to the Administrator of the EPA, the agency decided to issue a new proposal and has been working to develop that proposal in light of the comments and information.

The June 25 Presidential Memorandum directs the EPA to issue its new proposal by no later than September 20, 2013, and to "issue a final rule in a timely fashion after considering all public comments, as appropriate." You have my assurance that any final rule that the EPA issues will reflect the agency's best analysis of the issues raised in your letter and of overall cost and achievability.

Again, thank you for your letter. If you have further questions or concerns, please contact me or your staff may call Cheryl Mackay in the EPA's Office of Congressional and Intergovernmental Relations at (202) 564-2023.

Sincerely,

Janet G. McCabe
Acting Assistant Administrator

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

AUG - 8 2013

OFFICE OF THE
CHIEF FINANCIAL OFFICER

The Honorable Harold Rogers
Chairman
Committee on Oversight and Government Reform
U.S. House of Representatives
Washington, D.C. 20515

Dear Mr. Chairman:

I am transmitting the U.S. Environmental Protection Agency's response to the March 2013 Government Accountability Office report entitled, *Toxic Substances: EPA Has Increased Efforts to Address and Control Chemicals but Could Strengthen Its Approach* (GAO-13-249). The EPA prepared this response pursuant to 31 U.S.C. 720.

The EPA appreciates the significant amount of time the GAO staff spent on this audit and their efforts to learn the intricacies of the Toxic Substances Control Act and the associated EPA program that implements the statute. The agency believes the report generally reflects the challenges the EPA faces in implementing TSCA. As highlighted in the report, the agency has taken a number of steps over the past few years to strengthen the EPA's existing chemicals program and make information on chemicals more readily available. While progress has been made, it may take some time before the results of our efforts come into fruition and can be truly evaluated.

The agency also appreciates the intent of the GAO's recommendations with respect to improving the chemicals program under the current TSCA legislative framework, and we will consider them as we further develop and implement the program. However, as the EPA has indicated publicly and as highlighted in the GAO report, we cannot be fully successful in ensuring the safety of chemicals absent statutory reform of this badly outdated chemicals management legislation.

The EPA further appreciates the GAO's comments in the final report on the EPA's response to the report's primary recommendations: 1) to develop TSCA Section 8 rules for industry data submitted under the European Community Registration, Evaluation, Authorization and Restriction of Chemical substances regulation[1]; 2) to develop a TSCA Section 8 rule for exposure related information from processors; and 3) to utilize strategic planning to address the challenges of implementing TSCA.

[1] REACH is the European Community Regulation on chemicals and their safe use (EC 1907/2006). It deals with the Registration, Evaluation, Authorization and Restriction of Chemical substances. The law entered into force on 1 June 2007.

GAO Recommendation

To better position EPA to collect chemical toxicity and exposure-related data and ensure chemical safety under existing TSCA authority, while balancing its workload, the Administrator of EPA should consider promulgating a rule under TSCA section 8, or take action under another section, as appropriate, to require chemical companies to report chemical toxicity and exposure-related data they have submitted to the European Chemicals Agency.

EPA Response

The EPA shares the GAO's view that it is important to reduce the development and reporting of duplicative toxicity information from industry. The agency also believes it is important to take a targeted approach to data requirements that use both government and industry resources efficiently. For example, when the EPA identifies a specific need for data available in the REACH database, the agency intends to pursue these data from U.S. companies voluntarily. If U.S. companies are unable or unwilling to provide the REACH data voluntarily, the EPA will take regulatory action such as issuing subpoenas under Section 11 of TSCA, requiring submission of the data. The EPA is currently developing risk assessments on a number of priority chemicals and has identified data that has been submitted under the REACH program. The EPA has contacted the industry consortia who submitted these data to work with them on voluntarily submitting this information.

GAO Recommendation

To better position EPA to collect chemical toxicity and exposure-related data and ensure chemical safety under existing TSCA authority, while balancing its workload, the Administrator of EPA should consider promulgating a rule under TSCA section 8, or take action under another section, as appropriate, to require chemical companies to report exposure-related data from processors to EPA.

EPA Response

The agency also agrees with the GAO on the importance of considering exposure information when making determinations on chemical risks. The EPA is also committed to working toward improving the quality of use and exposure information available to our chemical risk assessments and again in the targeted approach described in the agency response to the recommendation above. As specific needs are identified, we will use both voluntary and regulatory means as necessary to obtain the needed data from manufacturers and processors.

GAO Recommendation

To better position EPA to collect chemical toxicity and exposure-related data and ensure chemical safety under existing TSCA authority, while balancing its workload, and to better position EPA to ensure chemical safety under existing TSCA authority, the Administrator of EPA should direct the appropriate offices to develop strategies for addressing challenges that impede the agency's ability to meet its goal of ensuring chemical safety. At a minimum, the strategies should address challenges associated with:

- obtaining toxicity and exposure data needed to conduct ongoing and future TSCA Work Plan risk assessments,
- gaining access to toxicity and exposure data provided to the European Chemicals Agency,

- working with processors and processor associations to obtain exposure-related data,

- banning or limiting the use of chemicals under section 6 of TSCA and planned actions for overcoming these challenges—including a description of other actions the agency plans to pursue in lieu of banning or limiting the use of chemicals, and

- identifying the resources needed to conduct risk assessments and implement risk management decisions in order to meet its goal of ensuring chemical safety.

EPA Response

The GAO recommended that the EPA develop strategies to address the challenges that impede the agency's ability to meet our goals of ensuring chemical safety. The agency believes that we cannot fully ensure the American public that the chemicals in the products they and their families use are safe until TSCA is updated. The Administration's principles for TSCA reform outline the basic changes that we believe are necessary for a fully successful program. The EPA agrees with the GAO that change is needed in every significant aspect of the program and the EPA is hopeful that legislative reform will address these issues. While the EPA does not believe that strategic planning can substitute for legislative reform, the agency is taking a strategic approach to our efforts to enhance our current program to the fullest extent possible. This approach includes identifying chemicals for risk assessment over the coming years, increasing access to chemical information, and advancing innovation for safer products and greener chemistry.

Again, we appreciate the significant effort that the GAO committed to this report and we look forward to continuing to discuss these matters with the GAO and members of Congress. If you have any further questions, please contact me or your staff may call Christina Moody, in the EPA's Office of Congressional and Intergovernmental Relations, at (202) 564-0260.

Sincerely,

Maryann Froehlich
Acting Chief Financial Officer