

**Testimony of Katherine N. Probst
before the
Committee on Energy and Commerce,
Subcommittee on the Environment**

Hearing on Modernizing the Superfund Cleanup Program

January 18, 2018

Members of the Subcommittee, thank you for inviting me to testify before you today.

My name is Kate Probst, and I am an independent consultant. For over 20 years, I have worked as a researcher and policy analyst evaluating the Superfund program and making recommendations for improvement. I was the sole author of the report *Superfund 2017: Cleanup Accomplishments and the Challenges Ahead*, an independent report commissioned by the American Council of Engineering Companies that was released in June 2017. I was also the lead author and project director of the 2001 Report to Congress *Superfund's Future: What Will It Cost?* which was requested by the Senate and House Appropriations Committees and published by Resources for the Future (RFF), a Washington, DC think tank where I was a Senior Fellow for 20 years. The conclusions, recommendations, and opinions in my testimony today are mine and mine alone, and do not represent any other person or organization. I would appreciate it if the full text of the report *Superfund 2017: Cleanup Accomplishments and the Challenges Ahead* were submitted for the record.

After presenting a few key facts about the status and funding of the Superfund remedial program, I have organized my testimony today around three key issues:

1. Improving the effectiveness of the Superfund remedial program, that is, the program to address sites on the National Priorities List (NPL);
2. Estimating the current and future funding needs for the Superfund program; and
3. Administrator Pruitt's *Superfund Task Force Recommendations* report that was released July 25, 2017, as well as the December 8, 2017 list of 21 contaminated sites targeted for "*immediate, intense action.*"

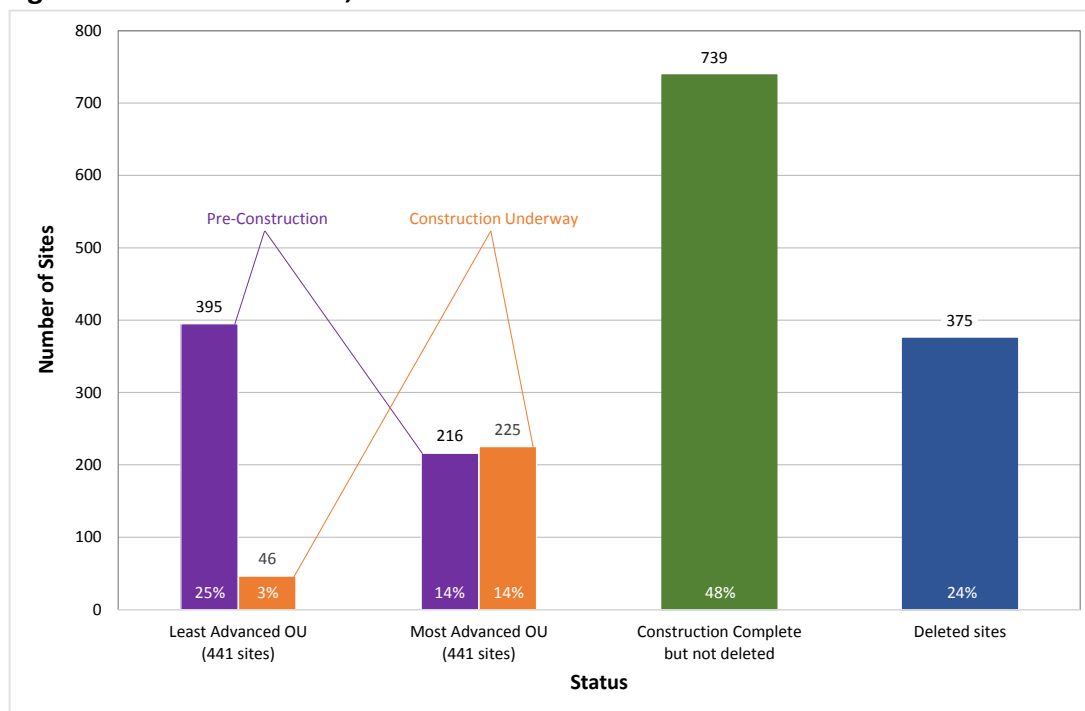
All of the information presented today is for sites that are on the EPA's National Priorities List (NPL) that are not owned or operated by a federal agency, referred to inelegantly as "non-federal" sites. While federal facilities that are on the NPL are important and deserve attention, funding and management of these sites differ in important ways from non-federal sites, and thus present a host of different issues. Information on federal facilities, proposed (but not final) NPL sites, and Superfund Alternative sites is *not* included in any of the data or information herein. Most of the data is drawn from my recent report (*Superfund 2017*) and is as of the end of FY 2016. In some cases, I provide more recent information from the EPA

Superfund website or from data obtained at the end of May 2017, which is so noted. Finally, my testimony does not address the Superfund “removal” program.

I. Status of NPL Cleanups at Non-Federal Facilities¹

- 1. At the end of FY 2016, over two-thirds of the 1,555 non-federal sites on the NPL either had been deleted from the NPL (meaning that all response actions had been completed and all cleanup goals had been achieved) or were construction complete (meaning all remedies had been constructed).** As of the end of FY 2016, 24% (375) of non-federal NPL sites had been deleted from the NPL and another 48% (739) were construction complete but not deleted, meaning that all remedies had been constructed but all cleanup objectives had not been achieved. The remaining 28% (441) of sites were in some stage of the remedial pipeline and require additional EPA work or oversight. See Figure 1, below.

Figure 1. Status of 1,555 Non-Federal NPL Sites at the End of FY 2016



Source: US EPA

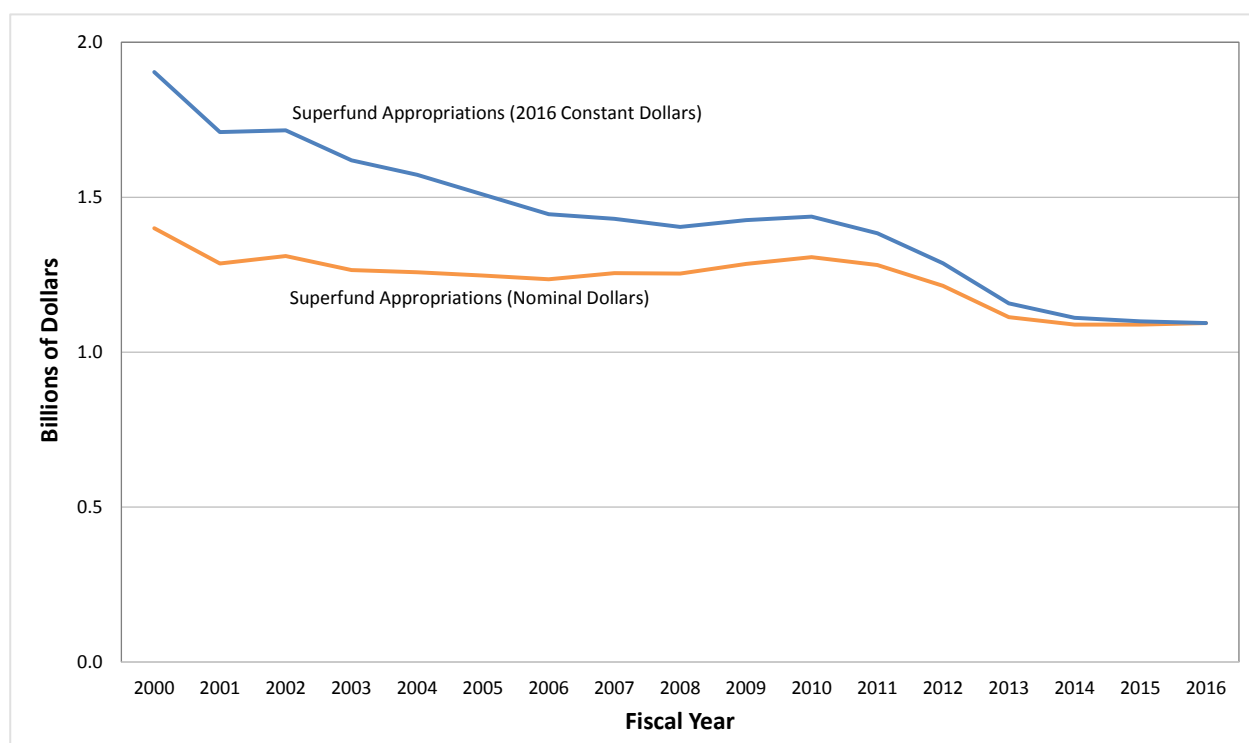
- 2. At the end of FY 2016, there were over 100 non-federal NPL sites where human exposure was not under control, and over 150 sites where there was insufficient information to determine if human exposure was under control (or not).** Seven percent of non-federal NPL sites were categorized by EPA as “human exposure not

¹ Information from this section is not included in my oral statement.

under control” at the end of FY 2016. At another 10% of non-federal NPL sites, there was insufficient data to determine whether human exposure was under control or not.

- 3. Funding for the Superfund program has declined markedly since FY 2000, and it appears that the remedial program is facing a funding shortfall.** In constant 2016 dollars, annual Superfund appropriations declined from a high of \$1.9 billion in FY 2000 to a low of \$1.09 billion in FY 2016, a decrease of 43% in real dollars, as shown in Figure 2 below. Not surprisingly, funding for the remedial program declined as well, from a high of \$749 million in FY 2004 to a low of \$501 million in FY 2016, a decrease of 33% in constant dollars.

Figure 2. Superfund Appropriations in Constant and Nominal Dollars, FY 2000–FY 2016



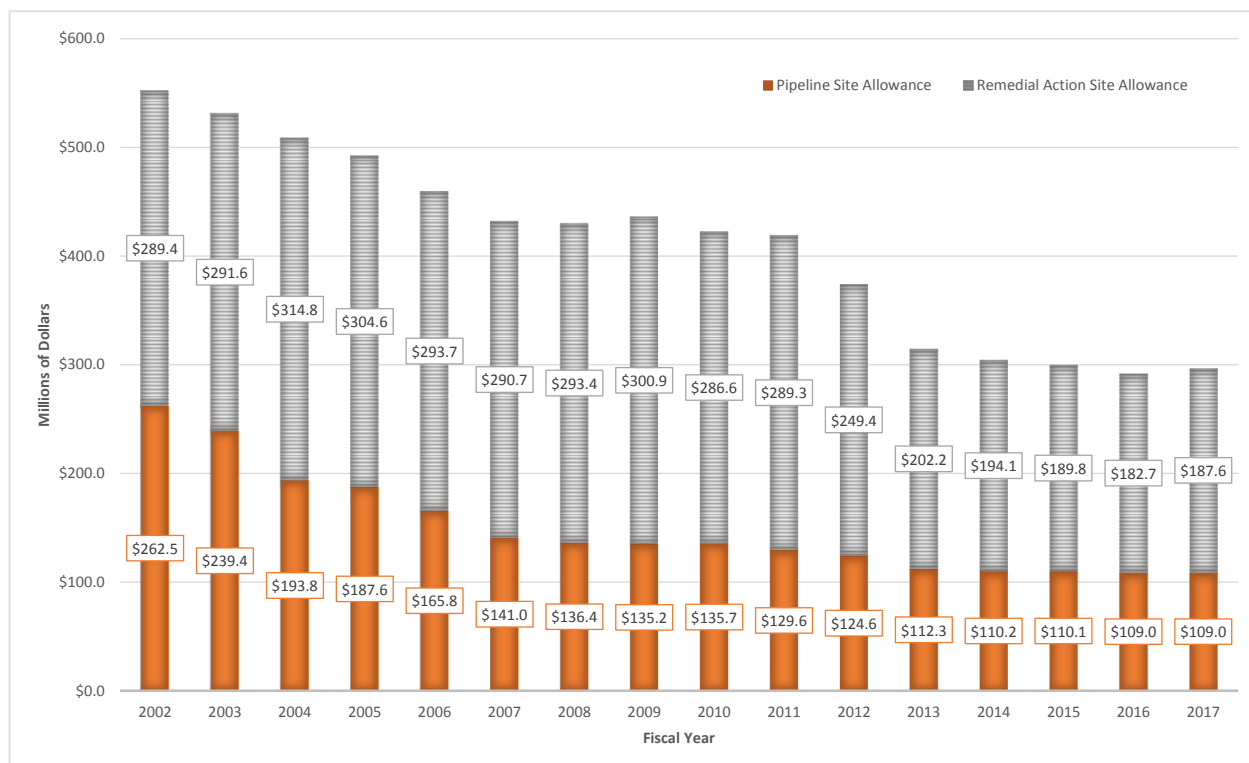
Source: U.S. EPA

Note: Funds from the American Recovery and Reinvestment Act (ARRA) of 2009 that were allocated to the Superfund program in FY 2009 are not included in this figure.

Due to lack of funding, EPA has had to delay the start of some cleanups for 14 out of the past 17 years. Over the past five years, the end-of-year funding shortfalls for remedial action projects have averaged \$67 million in constant 2016 dollars. Most likely, this is only the tip of the iceberg in terms of underfunding, as unfunded remedial action starts are among the easiest items to track. Much more difficult to quantify are more subtle results of funding constraints: sites not added to the NPL, site study and remedial projects spread out over a longer time-period, and other less visible actions not taken or delayed due to lack of resources.

Funding for site-specific activities has also declined over time. Figure 3, below, shows the decline in remedial site allowances from FY 2002 through FY 2017 in constant 2016 dollars. The “remedial action site allowance” is the amount of annual appropriations from Congress that is available for fund-lead construction work at NPL sites. As documented below, in FY 2017, this amount totaled approximately \$187 million.

Figure 3. Remedial Site Allowances in Constant 2016 Dollars, FY 2002 - FY 2017

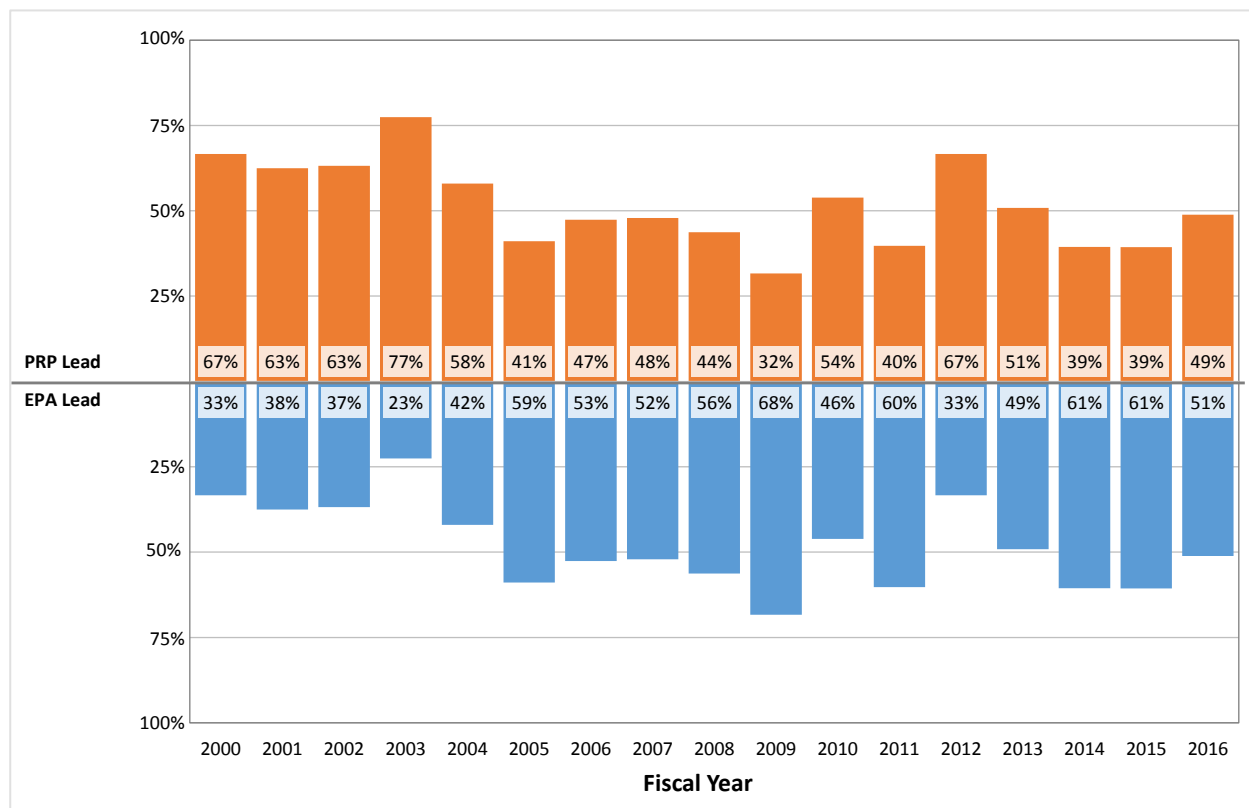


Source: U.S. EPA

Note: Additional funds for remedial pipeline actions come from special accounts, PRP-lead actions and state contributions.

4. Responsible parties play a critical role paying for and implementing actions at non-federal NPL sites. As envisioned in CERCLA, responsible parties take the lead – and pay for – many actions at non-federal NPL sites. Since FY 2000, potentially responsible parties (PRPs) have taken the lead for from 32% to 77% of the remedial action project starts each year, as shown in Figure 4 below. Discussion of how to improve the cleanup program needs to include the role of PRP-lead cleanups. Encouraging more PRP-lead cleanups and ensuring EPA has the enforcement resources and financial leverage to encourage PRP-cleanups is a critical element in an effective program.

Figure 4. Percentage of Remedial Action Project Starts at Non-Federal NPL Sites that were PRP and EPA Lead, FY 2000 - FY 2016



Source: U.S. EPA

Note: Remedial actions starts are tracked at the project, not the operable unit, level. Percentages may not add to 100% due to rounding.

II. Improving the Effectiveness of the Superfund Program

The Subcommittee’s background memo for this hearing asks many salient questions about the Superfund program. Key among them is: “Are there changes that need to be made to make the program more efficient and effective?” The answer, is surely “yes.” However, it is not possible to solve a problem if we do not know what is causing it. The Agency must invest, with the full support of the Subcommittee, in evaluating key aspects of the Superfund remedial program in order to develop effective and workable solutions to the issues of concern. Recommendations for improving the program should be based on sound, objective analysis – not on anecdotes about individual sites.

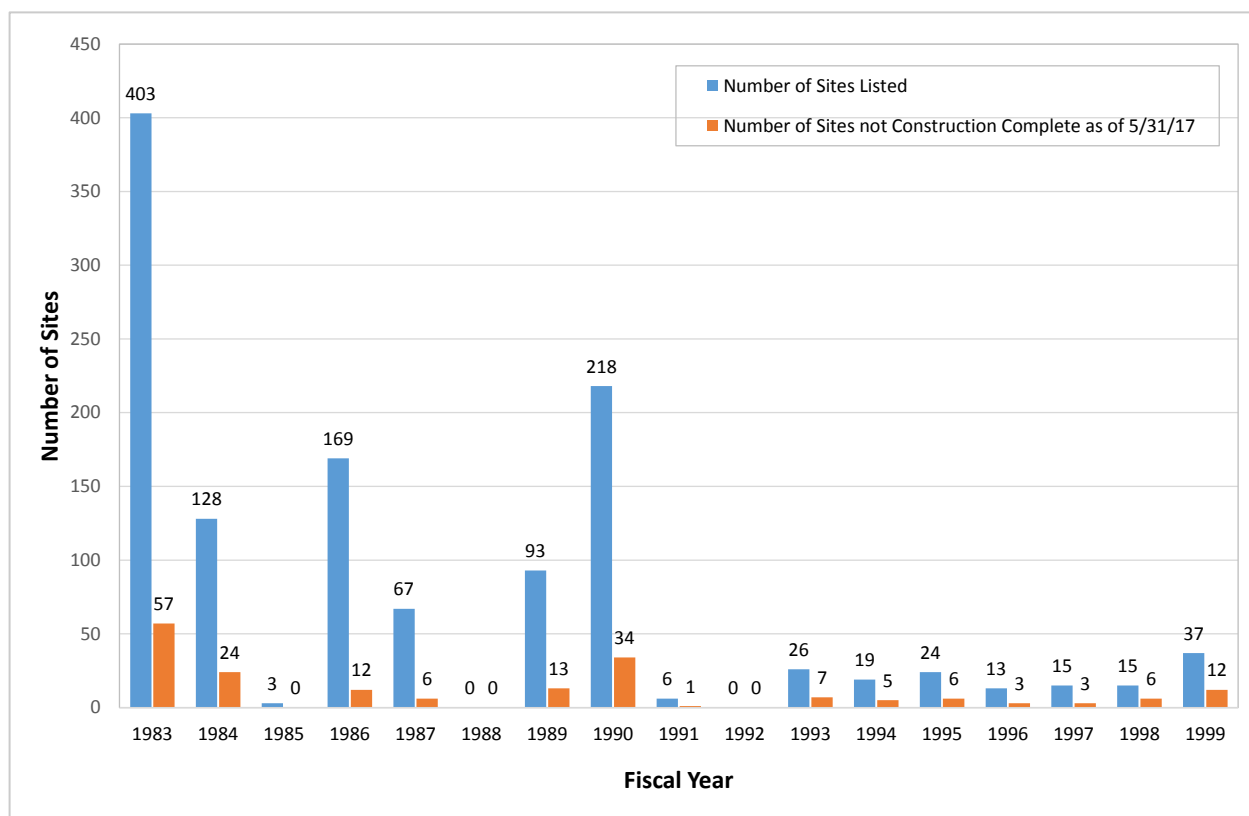
While there are myriad issues once could address, I have chosen to focus my testimony on three key issues: duration of cleanup, sites where human exposure is not under control, and the need to better understand state financial capabilities to address NPL-caliber sites.

1. Why does it take so long to complete cleanup at some of the sites on the NPL?

This is a great question. Unfortunately, we really don't have an answer. We know that some cleanups take a very long time, but we don't really know why. While it is true there are some very large and complex sites, it is not only these types of sites that are taking decades to address. And, even for the very large sites, it should be possible to identify the specific factors that have led to cleanup durations of 20 years or more.

At the end of FY 2016, there were 441 non-federal NPL sites that were not yet construction complete. Just over 40% of these sites (189) were added to the NPL before FY 2000, and thus have been on the NPL for almost 20 years, if not longer, as shown in Figure 5 below.

Figure 5. Non-Federal NPL Sites that were not Construction Complete as of May 31, 2017 by Year Added to Final NPL (1983 - 1999)



Source: U.S. EPA

Note: This is a different data set than used in the Superfund 2017 report, thus the total number of sites that are not construction complete is different than the end of FY 2016 data.

Even more astonishing is the fact that 57 of the 403 sites listed in FY 1983 were still not construction complete at the end of May 2017.

Investigating *why* these sites are still not construction complete is critical to understanding the causes of delay and to being able to develop meaningful program reforms. Is the obstacle to getting to construction complete lack of EPA funding? PRP inaction?

Bureaucratic morass? Technical challenges? Or something else? Examining the 189 sites listed on the NPL before FY 2000 that are not construction complete and determining why cleanup is taking so long and what kind of action – if any – could accelerate cleanup would be an efficient way to identify the factors delaying cleanup and provide useful input to making changes to improve program efficiency and effectiveness. And, it is worth noting, that while most of us (including me) tend to focus on lack of EPA funding or EPA inaction as a cause of delay, more than half of remedial actions at NPL sites are PRP-lead. Much more attention needs to be paid to whether at some sites PRPs are in fact responsible for lengthy cleanup durations and, if so, what steps could be taken to address this issue.

There is little or no useful information on the factors that result in cleanups taking so long. Any initiative by EPA to speed cleanup should begin by identifying the specific factors that are contributing to delay at NPL sites. Specific recommendations are below. The analyses below should all be made public to inform effective oversight and reform of the Superfund program.

- a) The Agency should develop a list of no more than 15 possible factors that lead to cleanup delay and identify which factor or factors are most important for each NPL site that is not yet construction complete. Possible factors include: Lack of adequate EPA funding, PRP-inaction, EPA-inaction, lack of adequate EPA staff, bureaucratic or process requirements, State concerns regarding their cost-share, State concerns about proposed remedy, other State issues, the sheer magnitude of the site and contamination, and technical limitations of available cleanup technologies, among other possibilities. Once this information is compiled EPA can: 1) seek to implement actions to accelerate cleanup, where appropriate, at individual sites, and 2) analyze the information to identify what appear to be the most important contributors to delay and develop specific actions to address these factors for the program as a whole. EPA should issue a report describing the factors that contribute to lengthy cleanup durations.
- b) The Agency should examine all sites that have been construction complete for 5 years or more but are not yet deleted, and conduct a similar analysis to identify the key factors making deletion elusive. A different list of factors will need to be developed, and should include: lack of effective technology, unenforceable institutional controls, and technical challenges, among others. EPA should issue a report on the factors making it difficult for sites to be deleted from the NPL and identify those specific sites that are unlikely to be deleted from the NPL for 10 years or more for purely technical reasons, i.e. not because of funding constraints or inaction.
- c) The Agency should develop or commission case studies of a handful of NPL sites that have been on the NPL for 15 years or more and are not construction complete to document the process, including examining the roles of EPA, states and responsible parties, describing the complexity of the sites, including the difficult technical and

scientific issues, describing the major contamination and risks at the sites, as well as the concerns of the affected community. The goal of the case studies should be to document what has happened in order to identify improvements to the way the remedial program is structured in the future, not to criticize the Agency or second guess past actions. It should be noted, there is no need for extremely long, academic quality case studies, the purpose is to amass a fact-based “picture” of actions at the sites over time to enable senior EPA management to identify which aspects of the cleanup process are in need of reform. Of the 17 final NPL sites (out of the 21) identified by Administrator Pruitt on December 8 as needing immediate attention, 11 were added to the NPL before 2000. These sites might be good candidates for case studies. That said, it would be helpful to evaluate the process at a few NPL sites that are less notorious as well. Again, this work should be made public.

2. Why are there still sites on the NPL where human exposure is not under control, and what – if anything – can be done about it?

The most important goal of the remedial cleanup program is to protect public health. Yet, at the end of FY 2016, there were over 100 non-federal NPL sites where human exposure was not under control, and at another 150 non-federal NPL sites, there was insufficient information to determine if human exposure was under control (or not).

- a) EPA should review all non-federal NPL sites where human exposure (1) is not under control, or (2) where there are insufficient data to determine if it is under control, to determine what steps would be needed to address the potential exposure. This assessment should identify the specific steps that are needed to bring human exposure under control, as well as whether the actions would be paid for and implemented by PRPs, EPA, states or some other entity, and include an estimate of the associated cost. For those sites with insufficient data, the report should detail why this is the case, and what steps would be needed to obtain sufficient data or information to make this determination. In addition, the assessment should examine whether there are technical obstacles to addressing these concerns and identify those specific sites where it is not technically possible to bring human exposure under control in the next decade, and why. For example, there are some sites where it is simply not possible to control exposure and to ensure compliance with institutional controls. EPA should make public the results of this analysis.

This should be a top priority of the Superfund program. And in fact, a very similar task to that outlined above is the first item on page 2 of the July 25, 2017 memorandum from Administrator Pruitt laying out the next steps for reforming the Superfund program. The memorandum directs senior EPA staff to:

“Prioritize and take action to expeditiously effectuate control over any site where the risk of human exposure is not fully controlled. Within 60 days (*Note: this would have been the end of September*) regions should prepare a report to the chair of the task force that identifies these sites and describes when such risks are expected to be controlled.²”

Information has not been made public regarding whether this task has been implemented. If it has, information on the actions taken should be made public immediately, information on this performance measure should be reviewed and updated at least monthly, and more frequently if needed, and should be communicated in a more user-friendly and accessible fashion than is currently the case on the EPA website.

3. Understanding State Financial Capabilities for Addressing NPL-Caliber Sites

Some have suggested there is little or no need for a federal cleanup program and that the program should be delegated to the states, or that states should take on a much larger role for NPL cleanups. Yet few (if any) states have the financial resources to pay for the cleanup of an NPL-caliber site, much less a mega site costing \$50 million or more.

- a) To address this issue, as well as state concerns about their financial burden for cleanup and operation and maintenance costs at NPL sites, EPA should commission an independent analysis of the financial capacity, NPL cost share, and legal authorities of state Superfund programs. This report should be conducted in coordination with the Association of State and Territorial Solid Waste Management Officials, and potentially with the Environmental Council of the States and the National Governors Association. The report should provide information for all 50 states (and any US territories with NPL sites) and include for each state or territory, the names of the NPL sites where the state is currently responsible for 10% of EPA-performed remedial actions and the associated estimated annual and total cost share, as well as the estimated annual cost of operation and maintenance for these sites. In addition, the study should include information on the total amount of monies, if any, in each state’s cleanup fund (that is, funds that could be used to pay for cleanup of contaminated sites similar to those listed on the NPL), whether these funds are replenished on an on-going basis, the average cost of any state-funded non-NPL cleanups implemented over the past 10 years, and whether state Superfund laws have the same liability provisions as CERCLA. This kind of information is critical to a frank assessment of the possible future state role for NPL cleanups. For a number of years, EPA commissioned an in-depth analysis of state Superfund programs that was conducted by the Environmental Law Institute. The last of these reports was issued in 2002.

² July 25, 2017 Memorandum “Receipt of Superfund Task Force Report and Next Steps for Revitalizing the Superfund Program” from E. Scott Pruitt, EPA Administrator, pg. 2.

III. Estimating Current and Future Funding Needs for an Effective Superfund Program

As Congress seeks to improve the efficiency and effectiveness of the Superfund remedial program, one key question is whether the program is receiving adequate annual appropriations to successfully carry out its responsibilities. For many years, EPA developed and publicly released an estimate of the future funding needs for the Superfund program, called the “out-year liability model.” While there were criticisms of the estimates (which is why RFF was asked to develop the estimates in the 2001 *Report to Congress* mentioned earlier), it did provide a baseline estimate of future funding needs, with assumptions that could be examined and debated. That report has not been issued in many years. Unfortunately, the 2001 RFF Report to Congress is the last time there has been a comprehensive public analysis of the key building blocks of the program and an estimate of future funding needs.

It is time for Congress to require that EPA estimate future funding needs for the Superfund program on an annual basis. Absent an annual estimate of the future cost of cleaning up non-federal sites on the NPL, it is difficult, if not impossible, to evaluate whether annual funding levels are adequate.

- a) **EPA should estimate the future cost of completing work at all non-federal sites on the NPL.** This estimate, and the assumptions behind it, should be made public and should be updated on an annual basis. To ensure the credibility of the effort, EPA should commission a small advisory panel of outside experts to review the approach, data used, assumptions, and results. This work does not have to be an expensive or time-consuming exercise, as the goal is to have a reasonable ballpark estimate of future costs, not a precise figure. A simple model with site-specific costs for all mega sites (cleanup cost of \$50 million or more) and average unit costs by site type for all other sites, based on the total number of operable units at each site, would be sufficient as a starting point. Over time, the estimate can become more precise. The model should include the cost of future EPA actions and activities at all non-federal NPL sites and of long-term response actions paid for by EPA. The estimate should include both extramural (contract) and intramural (staff) costs and the staff costs to oversee PRP-lead actions.
- b) **EPA should develop an estimate of the amount needed for a “PRP-reserve fund.”** One of the most important tools for EPA to get PRPs to implement actions expeditiously is the threat the EPA will itself implement cleanup actions if PRPs are recalcitrant or drag their feet. In order for this threat to be real EPA needs to have a sizeable reserve fund to draw on so that PRPs know if they don’t take action in a timely manner, EPA will step in and move forward with the cleanup process at NPL sites on its own. In earlier years, when Superfund appropriations were more generous, this threat was real. In recent years, with the amount of cash on hand available for actual cleanup (see Figure 3) much depleted, EPA does not have the cash on hand to step in and take action. This imbalance

needs to be corrected in order to ensure an effective enforcement program. Every dollar paid by a responsible party is a dollar that does not need to be paid for by taxpayers and government revenues.

- c) **EPA should investigate the potential savings of an “optimal cleanup funding” approach for NPL sites.** It is well known that there are some very expensive fund-lead sites that, alone, would dwarf the annual remedial action site allowance, which in 2017 was \$187 million (in 2016 dollars) for *all* sites on the NPL. Given the constraint on annual EPA funding for site construction, the number of active NPL sites, and the average cost of a remedial action, it is almost certain that site cleanups are not funded in an optimal manner and that, due to cash constraints, the work at some sites is spread out over many years. Many believe that this approach increases total site costs, both in terms of staff time and support and the “extramural” cost of cleanup. If the goal is a more efficient program, it would be extremely useful to have a better understanding of the potential total cost savings to a different “optimal” approach to funding cleanups. Thus, EPA should conduct an optimal funding analysis for five or more fund-lead NPL sites each with total cleanup costs of \$50 million or more, to examine whether less constrained annual funding for these sites would result in total cost-savings, and if so, how much. If the analysis showed substantial cost savings, coupled with the promise of faster cleanups, Congress could consider whether a few years of “surge” funding would be worthwhile as a mechanism to get some of the more costly sites completed faster, at less cost.
- d) **What kinds of sites are being added to the NPL, and why?** Any estimate of future cleanup needs requires some sense of what kinds of sites have been added to the NPL in recent years, and why, and what kinds of sites are likely to be added to the NPL in the future. EPA should examine the sites that have been added to the NPL over the past five years and issue a report detailing the types of site, why the site warranted EPA attention (orphan, enforcement difficulty, emerging contaminant, need for resident relocation, state referral/request, etc.) as well as a crude estimate of likely cleanup cost and complexity.

IV. Administrator Pruitt’s Superfund Task Force Recommendations Report (July 25, 2017) and List of 21 Contaminated Sites Targeted for “Immediate, intense action” (December 8, 2017).

As you know, on July 25, 2017 EPA issued a report that included 42 recommendations for improving the Superfund program which was accompanied by a memorandum from Administrator Pruitt identifying his top priorities for action. As of January 16th, there has been no public information on the implementation status of any of the recommendations, except for the recommendation calling for EPA to identify a “top 10” list of sites, which I will turn to in a moment. We in the public, and of course, more importantly, residents living near NPL sites, have no information on whether some or all of the recommendations have been implemented, nor of the disposition of the actions called for in the report. There has been no information on

the status of the recommended actions, on the progress implementing the actions, or perhaps on difficulties encountered, nor on how the 42 recommendations have affected or changed Superfund operations and priorities. Nor have there been any statements on when the public and affected residents can expect information on progress. In sum, information on the Superfund program has become more elusive than ever.

Some of the recommendations in the July 25th report and memo – such as the task noted earlier that calls for EPA to take action at NPL sites where human exposure is not under control – clearly require EPA to gather substantive information on a subset of sites, information the public has a right to know. One would assume this information is either in an excel spreadsheet or a WORD document somewhere. It is curious that no information on this, or other tasks called for in the memorandum, has been made public.

The list of 21 sites announced on Dec. 8 is equally troubling. It is unclear why or how these sites were chosen for “immediate and intense” action, and exactly what that means. We have been told it does not mean more EPA money, but other than that no information has been provided. One would have thought that having identified these sites as a top priority, that more information about these sites and the proposed actions by the Administrator would be forthcoming. My own analysis based on the individual site websites (the information on these websites can change any time, so the information below may be out of date) suggests that of these 21 sites:

- At 9 sites, human exposure is not under control;
- At 5 sites, there is insufficient data to determine if human exposure is under control;
- At 3 sites, information on this measure is not readily available on line; and
- At 4 sites, human exposure is under control.

Given the importance of this measure, one would think that this is one of the first issues the Administrator would examine once the information on subsequent actions at these sites has been provided.

What is needed are meaningful reforms for improving the Superfund program as a whole, not a list of 21 sites that receive the Administrator’s personal attention.

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Thank you for asking me to testify before you today. I would be happy to answer any questions.