Testimony of Katherine N. Probst
before the
Senate Committee on Environment and Public Works,
Subcommittee on Superfund, Waste Management, and Regulatory Oversight

Hearing on Oversight of the U.S. Environmental Protection Agency's Superfund Program

August 1, 2017

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 recently released report *Superfund 2017: Cleanup Accomplishments and the Challenges Ahead*, an independent report commissioned by the American Council of Engineering Companies. I was also the lead author and project director of the 2001 Report to Congress *Superfund's Future: What Will It Cost?* which was published by Resources for the Future (RFF), a Washington, DC think tank where I was a Senior Fellow for many 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 have organized my testimony today around three themes:

1. What we know about the Superfund program's efforts to clean up NPL sites,
2. What we don't know about the program that might be helpful to the Subcommittee in conducting effective oversight of the Superfund program, and
3. Recommendations for improvements in how the Superfund program tracks program accomplishments and develops information to inform future funding needs and program implementation strategies.

In the final sections of my statement I offer a few comments on the EPA's recently issued Superfund Task Force report and present some preliminary results of analyses of Superfund data that I am conducting with colleagues at the Environmental Law Institute. This information is preliminary, and has not been reviewed by EPA. I include it as it provides an indication to the kind of useful information that can be gleaned by parsing data in the Superfund program database (SEMS).

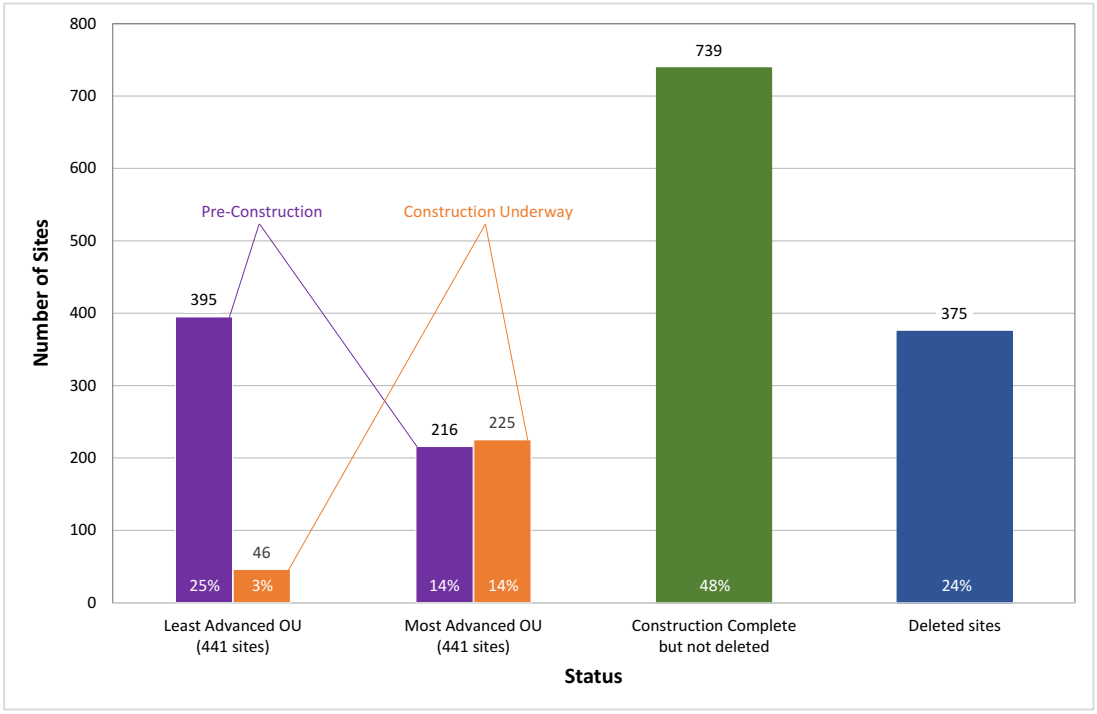
I would appreciate it if the full text of the report *Superfund 2017: Cleanup Accomplishments and the Challenges Ahead* were submitted to the record. The data and figures supporting may of the findings and conclusions herein can be found in that document.

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. Information on federal facilities, proposed (but not final) NPL sites, and Superfund Alternative sites is not included. Most of the data is drawn from my recent report (*Superfund 2017*) and is as of the end of FY 2016. The underlying data was provided to me by the Superfund program for the *Superfund 2017* report, unless otherwise noted.

What We Know

1. **Over two-thirds of the 1,555 non-federal sites on the NPL either have been deleted from the NPL (meaning that all response actions are complete and all cleanup goals have been achieved) or are construction complete (meaning all remedies have 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 have been constructed but all cleanup objectives have not been achieved. The remaining 28% (441) of sites are in some stage of the remedial pipeline and require additional EPA work or oversight. See Figure 1.

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



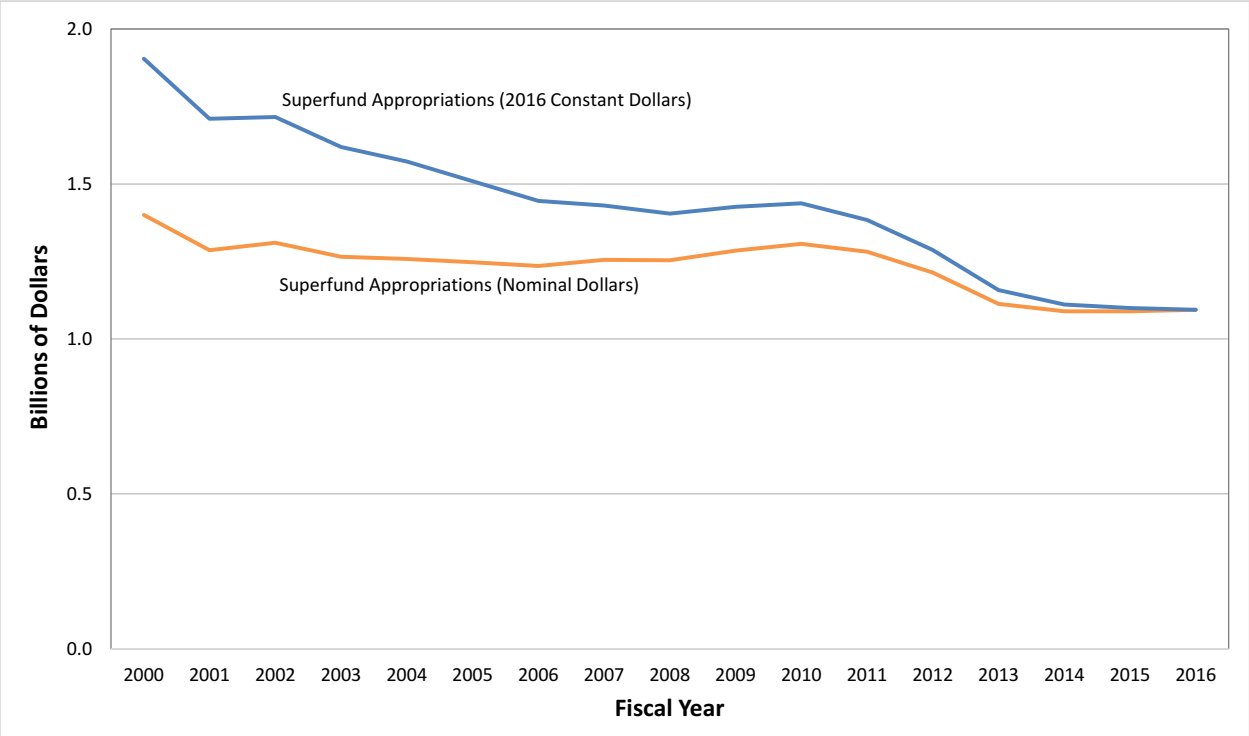
Source: US EPA

2. **There are over 100 non-federal NPL sites where human exposure is not under control, and over 150 sites where there is insufficient information to determine if human exposure is under control (or not).** Seven percent of non-federal NPL sites were

categorized by EPA as "human exposure not under control" at the end of FY 2016. At another 10% of these 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

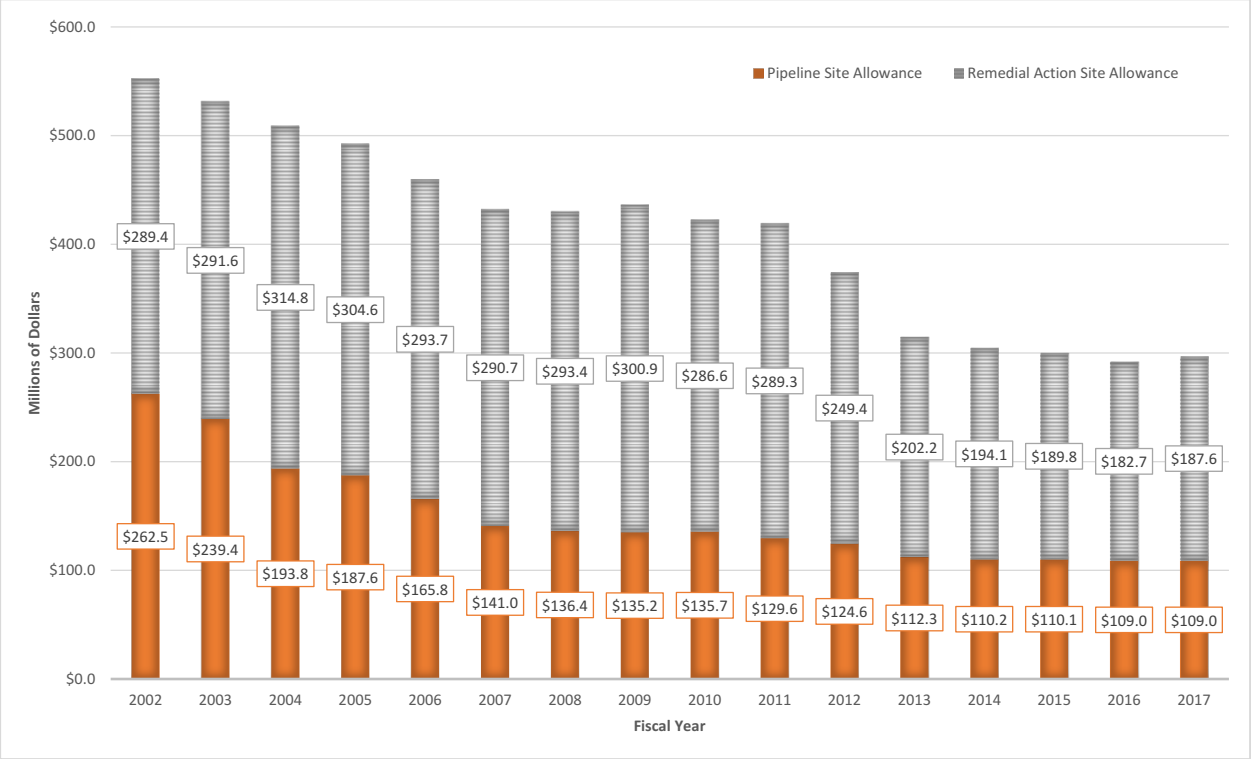
Note: Funds from the American Recovery and Reinvestment Act (ARRA) of 2009 that were allocated to the Superfund program in FY 2009 are not included in this figure.

Due to lack of funding, EPA has had to delay the start of some cleanups for 14 out of the past 17 years. Figure 3, below, shows the overall decline in remedial site allowances over time in constant 2016 dollars. 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.

4. **Cleanup progress has slowed in recent years.** Since the beginning of FY 2000, 462 non-federal NPL sites have achieved construction complete status, an average of 27 a year. The average dropped to 12 sites a year for the five years from FY 2012 through FY 2016, when only 60 sites were designated construction complete. Since the beginning of FY 2000, a total of 186 non-federal sites were deleted from the NPL, an average of just under 11 sites a year; since FY 2012, that average has decreased to eight deletions a year.

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.

5. **Sites Needing Federal Attention Continue to be Identified and Added to the NPL.** Since FY 2000, a total of 310 non-federal sites were added to the NPL, an average of 18 per year. Over the past 17 years the number of non-federal sites added to the NPL has

ranged from a low of eight in FY 2013 and FY 2015 to a high of 36 in FY 2000. The type of sites being placed on the NPL has changed over time. In the early years of the program, waste management facilities comprised the largest category of sites, but after FY 1990, manufacturing sites were the largest single category. And, of the 52 mining sites on the NPL at the end of FY 2016, over half were added during the ten years from FY 2000 through FY 2009.

To understand why sites continue to need federal attention, better information is needed to understand the factors that lead to NPL listing. According to EPA staff, sites added to the NPL typically fall into one or more of the following categories:

- The site is complicated from a technical standpoint,
- Cleanup is expected to be expensive,
- There are no financially viable or cooperating PRPs,
- The state does not have adequate funds to address the site,
- The site has recalcitrant PRPs and the state lacks the necessary resources and legal authority needed and seeks federal enforcement, or,
- The site is high-profile and has hit the front page of the national newspapers.

If, for example, there are an increasing number of truly orphan sites being added to the NPL, this has implications for annual funding needs, and, if, more sites have recalcitrant PRPs, this has implications for the workload of the enforcement program.

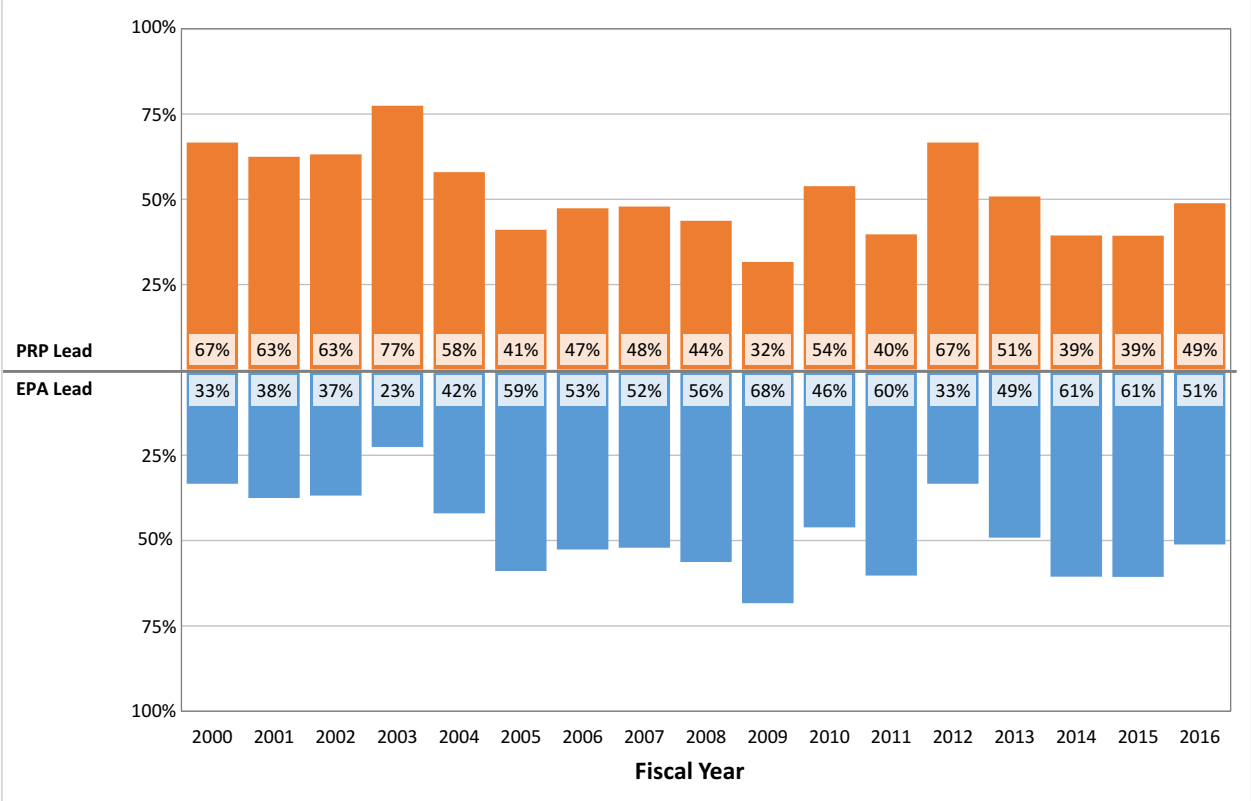
1. **Responsible parties play a critical role paying for and implementing actions at non-federal NPL sites.** As envisioned in CERCLA, responsible parties take the lead – and pay for – many actions at non-federal NPL sites. Since FY 2000, potentially responsible parties (PRPs) have taken the lead for from 32% to 77% of the remedial action project starts each year. From FY 2000 through FY 2004, PRPs took the lead for more than 50 % of remedial action starts; since then, EPA-financed actions have been the majority for most, though not all, years. See Figure 4 below.

   While it is somewhat useful to look at the *number* of actions that are PRP and EPA lead, the reality is that this tells us nothing about the relative costs paid by EPA as compared to the costs borne by potentially responsible parties. In fact, we know very little about how much money is being spent at NPL sites by potentially responsible parties, nor about how many non-federal NPL sites are primarily PRP-lead. Better information on the role of potentially responsible parties in NPL cleanups is a critical input to identifying ways to accelerate cleanup and to estimating the future funding needs for the program. A more nuanced understanding of how many actions are PRP-lead, and the associated cost (in general, a remedial action at a contaminated sediment or mining site will be more expensive than at a dry cleaning or wood preserving site) would be extremely

valuable in helping the Agency to estimate the future cost of cleanup that will be paid by EPA.

2. **States are key partners in NPL cleanups, and, by statute, bear some of the costs for remedial actions and operations and maintenance.** Under Section 104 of CERCLA, states must contribute to the cost of cleanup at non-federal NPL sites when the remedial action is paid for by EPA. At these sites, the law requires states to pay for 10% of the cost of the remedial action and 100% of all operation and maintenance costs. As more sites enter the operation and maintenance phase, the financial burden on states has increased.

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.

3. **Better information on the basic building blocks of the Superfund remedial program is needed.** There is a lack of publicly available information on the cost of cleanup for non-federal NPL sites, the cost and duration of each major phase of the remedial pipeline, the types of sites being added to the NPL, and many of the critical "building blocks" that

would be needed to estimate EPA's future funding and staffing needs. In some cases, it appears EPA has not analyzed its own data to develop these estimates, and in other cases, EPA has not collected the kind of consistent and reliable information that is needed.

There is still a need for the federal Superfund program. **Not only is there more work to be done to complete cleanup at current non-federal NPL sites, but new sites continue to be added to the NPL each year. Adequate funding for EPA-financed cleanups, oversight of responsible party actions, and EPA enforcement activities to maximize PRP-financing of future actions are critical to program success.**

What We Don't (and Should) Know about NPL Cleanups

While the summary data above provide a snapshot of the status of non-federal NPL sites, effective oversight – and estimating the necessary resources to get the job done -- requires more specific information about the remaining work to be done at non-federal NPL sites, the cost of cleanup, who – potentially responsible parties or EPA – is likely to bear these costs, and the likely timeframe for completing work at these sites. The recommendations from *Superfund 2017*, which are included in my testimony below, address these issues at an organizational level. Below are some specific questions that, if answered, would be helpful to inform future Subcommittee Oversight activities. Wherever possible, EPA should provide actual expenditure data for all questions about the cost of cleanup.

Note: The list of questions below appears long and resource intensive to answer. This does not have to be the case. Much of the information needed to answer these questions is in the EPA program management database, and that data, along with input from senior regional officials (the Superfund Division Directors and enforcement officials) would enable the program to develop *initial* responses to these types of questions. As the program uses more of the information in its program management system, that will provide the incentive for the information to be updated and improved. The goal is to begin the process of asking more question to develop effective program reforms, not to get answers that are 100% correct.

Questions for Sites that are Not Yet Construction Complete (441 sites)

- How much more work is needed (e.g. number of site studies, remedial designs and remedial actions) for these 441 sites to reach construction complete?
- How many of the actions that are underway and expected in the future are likely to be paid for by PRPs and how many by EPA?
- What are the likely future costs to PRPs and EPA to complete cleanup at these 441 sites?
- Assuming average durations for the current and remaining steps in the remedial pipeline for each of these steps, when is it likely that each of these sites will be deemed construction complete?

- What are the key factors contributing to long cleanup times? Technical issues, funding issues, recalcitrant parties, other factors?
- At which (and how many) sites are funding constraints (whether for EPA or potentially responsible parties) increasing the amount of time it is expected to take for a site to achieve construction complete status?
- Does working with communities, local governments and outside parties to develop reuse plans contribute to delays implementing cleanup remedies?

Interesting Note: Some of the sites that are not yet construction complete have been on the NPL for many years. Preliminary analysis of EPA data, shown in Figure 5 below, suggests that 42% (189 of the 448)[1] of the non-federal NPL sites that were not construction complete at the end of May 2017 were added to the NPL before FY 2000 – over 15 years ago.[2] Even more astonishing is the fact that 57 of the 403 sites listed in FY 1983 are still not construction complete. This information should *not* be used to criticize the program – there are likely good reasons why these 57 sites are not construction complete – but to ask why they are not, and what, if anything, can be done to address the cause(s) of delay. Any criticism should be delayed until the reasons for delay are known.

Investigating *why* these sites are still not construction complete is critical to understanding the cause of delay. Is the obstacle to implementing all remedies at the site lack of EPA funding, lack of PRP funding, PRP inaction, technical challenges, or something else? Examining the 189 sites listed on the NPL before FY 2000 that are not construction complete, and determining what kind of action – if any – could accelerate cleanup would be an efficient way to identify the factors delaying cleanup and develop a path forward.

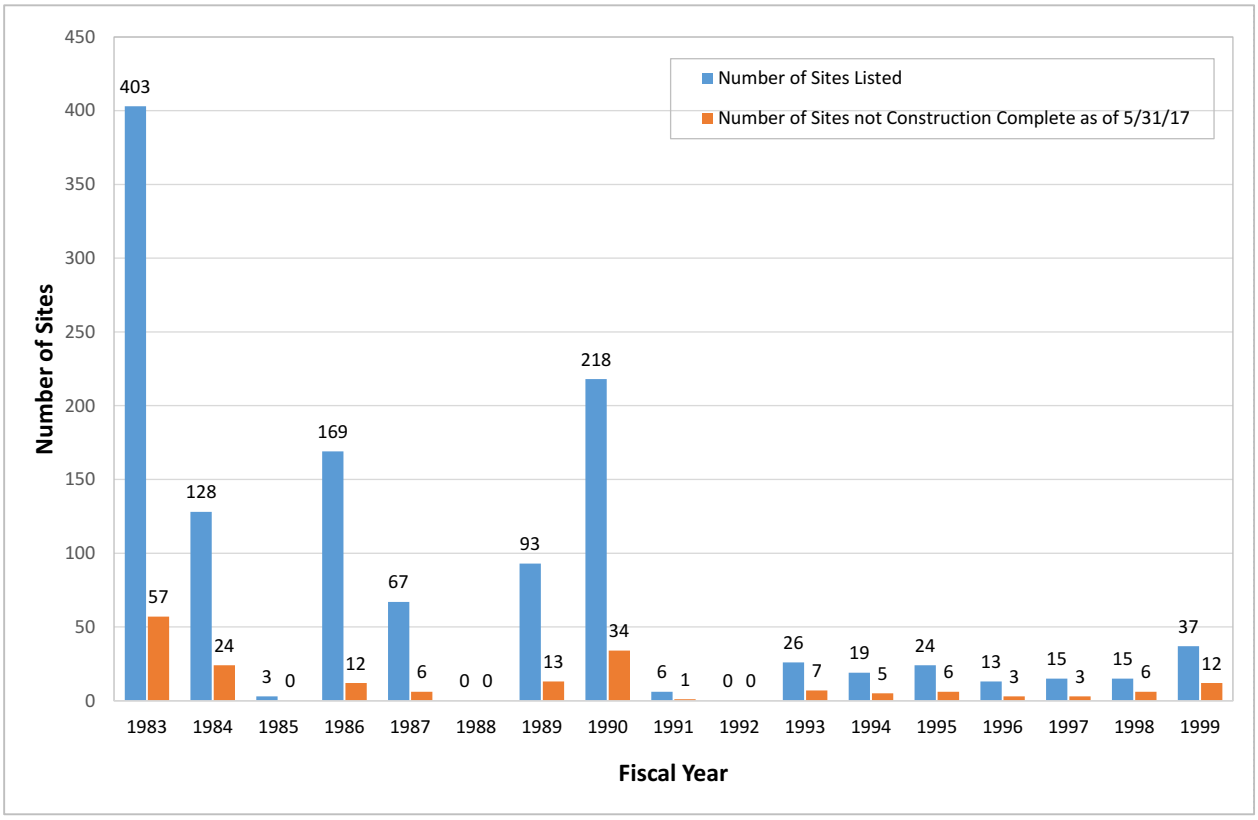
Questions for Sites that are Construction Complete but Not Deleted (739 sites)

- How many of these sites are likely to take more than five years, or, more than 10 years to, be eligible for deletion from the NPL for predominantly technical reasons? In other words, if there were absolutely no funding constraints – from either EPA or PRPs – how many sites are there where due to the nature of the contamination or the nature of the available remediation technology EPA estimates that it will take five or 10 years before for the all cleanup goals set forth for these sites can be achieved?
    - What are the types of sites that fall into this category, e.g. contaminated sediment, mining, etc. where this is the case?
    - How many of these sites are PRP vs EPA-financed?

[1] This is a different data set than that used for *Superfund 2017*, and the total number of non-federal NPL sites, as well as the subset that are not construction complete, is slightly different.

[2] This figure is based on data provided to the author by the EPA, but has not been reviewed by the program.

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



Source: U.S. EPA

- At which (and how many) sites are funding constraints – whether for EPA or potentially responsible party actions – contributing to increasing the amount of time it is expected to take for a site to be deleted?

Questions Regarding the Role of Potentially Responsible Parties P(RPs) at Non-Federal NPL Sites

- How many of the 441 active non-federal NPL sites primarily PRP-lead?
- How does the length of each of the key phases of the remedial pipeline compare for RP versus EPA implemented actions?
- Are responsible parties contributing to delays in site remedies being completed, that is, to sites reaching construction complete? How?
- Are potentially responsible parties contributing to delays in sites achieving their cleanup goals, that is, to being eligible for deletion from the NPL?
- How much money have potentially responsible parties spent for remedial pipeline

actions at non-federal NPL sites? (Note: this question is asking about actual PRP expenditures, not the value of settlement agreements.)

- How much money is it likely PRP's will spend in the next five or ten years to complete pipeline actions at non-federal NPL sites? (Note: this question is asking about estimates of actual PRP expenditures, not the value of settlement agreements.)

While some of these questions could be answered by regional EPA staff or with data that the program currently has, there is little or no information on actual RP expenditures. The Agency should explore mechanisms to collect information on actual PRP expenditures in the future.

Recommendations

Sound decisions about the future direction and funding of the Superfund remedial program require better information and data and a commitment to analyzing that data and making it public. It will be very difficult to identify effective reforms to speed cleanup and to develop better metrics of program accomplishments for the Superfund program without analyzing data EPA already has and filling in critical data gaps. Below are recommendations for specific studies and actions EPA should implement and should make public. It should be noted that, although the program may face staff and funding constraints, none of the recommendations below would require a large amount of time or money to implement.

1. **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. 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. 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.

2. **EPA should develop credible and robust data about the critical building blocks of the Superfund remedial program**. As noted repeatedly, there is a lack of robust data and information about the building blocks of the Superfund remedial program. EPA should analyze its own data and develop and make public information regarding: the range and

average cost of cleanup at different types of sites, the range and average duration of the major steps in the remedial process for different types of sites, and the relative financial contribution of PRPs and EPA to cleanup costs. Without robust information on these critical building blocks of the program, it is difficult to assess whether current funding is adequate and how much future funding is needed, much less to hold EPA accountable for any lack of progress. Looking at the patterns among sites and examining trends and averages in site costs and cleanup duration could help senior management pinpoint anomalies, develop better metrics, evaluate progress, hold regions and PRPs accountable, and lead to a much more informed public debate about how to improve the Superfund program. This information should be updated at least every five years, if not annually.

3. **EPA should develop better information on the types of sites listed on the NPL**. Any effort to estimate future remedial program staff and funding needs requires a deeper understanding of the kind of sites that have been added to the NPL in recent years, what factors have led to the need for NPL listing, and what kinds of sites are likely to be added in the future. To fill this data gap, EPA should conduct or commission two studies, described below.

    - Analysis of NPL site types: EPA should analyze the types of sites that have been added to the NPL over the past five years. This analysis should include information on the industrial operations at the site (if appropriate), the media contaminated, the extent or volume of contamination, the key factors that led to its listing on the NPL (such as bankrupt PRPs, or lack of state funding or legal authority), whether each site is likely to cost $50 million or more to remediate (qualifying as a mega site), and whether the remedial actions are likely to be paid for by EPA or PRPs, among other attributes. This analysis should be based on current information about the sites, not information collected at the time of listing.

    - Estimate of sites to be added to the NPL: EPA should issue a report estimating the number and types of non-federal sites likely to be added to the NPL in the future. This report should be based on interviews with EPA's 10 regional offices and with state agency officials to find out what kinds of sites they think are likely to be added to the NPL over the next five years, and why. This analysis should focus on identifying emerging types of sites, contaminants, and situations that are likely to warrant federal enforcement, federal funding, or both.

      Both studies should be updated at least every five years.

4. **In addition to reporting program accomplishments for all NPL sites as a group, EPA should report progress for specific subsets or categories of sites and actions.** Providing information only for all sites on the NPL as a group, as EPA now does, obscures the very real challenges presented by complex sites. EPA should amend the coding in its central data

management system to enable it to easily cull different subsets of sites, such as mega sites, contaminated waterways, properties ripe for redevelopment, and sites where it is known that it will be 10 years or more before cleanup objectives are likely to be achieved. These categories of sites each present different challenges and opportunities, making it helpful to be able to examine cost and progress at each of these different types of sites as a group. For example, it is likely that it is difficult, if not impossible, to bring human exposure under control at a contaminated waterway such as the Hudson River or New Bedford sites. If the EPA data management system coded all contaminated waterways, then it would be easy to determine how many of the sites where human exposure is not under control are contaminated waterways, where this goal may not be achievable for many years. Similarly, some look to Superfund as an engine for redevelopment. Identifying that subset of NPL sites where the property is valuable and ripe for redevelopment, such as the Industri-Plex site in Woburn, Massachusetts, would provide a better gauge of the program's success in this area than tracking redevelopment at all NPL sites. These are just a few examples of ways in which the data management system could be improved to provide more nuanced information about the remedial program, its challenges, and successes.

- In addition, EPA should present all program metrics and accomplishments separately for EPA- and PRP-lead actions and for non-federal and federal facility NPL sites.

5. **Better Superfund metrics are needed**. The fact that so few non-federal NPL sites are being deleted and reaching construction complete each year suggests that the current array of metrics is no longer providing much useful information. As the Superfund program again faces external pressure to speed cleanup and show progress, it is likely EPA will seek to develop new metrics for documenting achievements. The incentive is to adopt measures that show larger numbers of program accomplishments. As an example, the original cleanup accomplishment measure for the program was the number of sites deleted from the NPL, but when it became clear this was taking a long time, the program came up with the construction completion measure, then partial deletions, and more recently remedial action project starts and completions. Without a context—such as the number of total remedial actions that will be undertaken at all sites—the number of remedial actions started or completed is meaningless. Simply dividing site activities into smaller and smaller units does not show progress. Moreover, these kinds of measures may not even provide useful information about the real accomplishments at the site in terms of protecting public health and the environment.

   - The measures that are intended to document risks at the site—those indicating whether human exposure and groundwater contamination are under control—need improvement. These measures provide no indication of the severity of the risk, the likelihood of human exposure, or how long contamination has been uncontrolled. EPA should report each quarter the number of non-federal NPL sites that (1) were categorized as not under control in the previous quarter but are now under control, and

(2) were categorized as under control in the previous quarter but are now not under control. While some of this information is available on a site-by-site basis, the rationale for program metrics is to provide comparable information across all sites.

- New metrics should be judged by whether they provide useful information that increases understanding of site progress and the obstacles to progress, not by whether they will result in a larger number of the items being counted ("more beans"). EPA should seek to develop metrics that convey information about real program accomplishments, not simply steps in the remedial pipeline. The metrics should provide EPA senior management, Congress, and the public a more robust understanding of both the program's accomplishments and the challenges that lie ahead.

6. **EPA should issue a report detailing what actions are needed to reduce possible human exposure to contamination at non-federal NPL sites where a site is characterized as having human exposure or groundwater migration that is "not under control."** EPA should review all non-federal NPL sites where human exposure and groundwater migration (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 resolve these issues. This assessment should identify the specific steps that are needed to bring human exposure and groundwater migration under control, as well as whether these actions would be paid for by PRPs or EPA and, if EPA, 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 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 the measure under control in the next decade, and why. Based on this analysis, EPA should revise the current performance measures to make them more meaningful and create a new code for both metrics that indicates those sites where it is not technically feasible to bring (1) human exposure, or (2) groundwater migration under control in the next 10 years (or some specified time-period to be decided by EPA.)

7. **EPA should commission an independent analysis of the financial capacity 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 or the National Governors Association. Some have suggested there is little or no need for a federal cleanup program and that the program should be delegated to the states. Yet few (if any) states have the financial resources to pay for the cleanup of an NPL-caliber site, much less a mega site. The report on state capacity should include information for all 50 states on the number of non-federal NPL sites where the state is currently responsible for 10% of government-performed remedial actions and the associated cost burden, 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 clean up 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 cleanups implemented over the past 10 years, and whether state Superfund laws have the same liability provisions as CERCLA. This kind of information was previously available for a few years when 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.

Comments on the EPA Superfund 30-Day Task Force Report

I am pleased to see that the EPA Administrator considers accelerating the cleanup of NPL sites a top priority and worthy of his personal attention. The Task Force report and action memo from Administrator Pruitt include some constructive recommendations regarding taking action at NPL sites where human exposure is not fully controlled, identifying complex sites for increased attention, and accelerating action at sites where cleanups are lagging. That said, there are a number of areas of concern that I want to briefly touch on below.

Resource Implications

The report does not detail the resource implications, both staff and dollars, of the various actions and recommendations therein, nor where these resources will come from. Thus, it is not possible to assess how the implementation of the recommendations will affect ongoing actions, programs, and priorities. A crucial next step by the Administration is a considered review of the 42 recommendations, a streamlining of the recommendations as there are too many to implement in a workable fashion, and a budget and resource plan for implementation. In addition, detailing the sequence of actions to ensure that the necessary base of information is developed for each of the goals (an example is provided for reuse, below) would likely result in a much more efficient and effective implementation plan.

Focus on Reuse and Redevelopment

Much of The Task Force report focuses on encouraging increased reuse and redevelopment of NPL sites. While likely few are "opposed" to appropriate redevelopment of NPL sites, the goal of CERCLA is to cleanup sites and reduce risk and contamination, not to redevelop sites and increase property values and local tax revenues. The fact that over one-third of the 42 recommendations are focused on reuse and redevelopment suggests that a good amount of agency resources will be devoted to this goal. The priority should be on budgeting and funding reforms that accelerate cleanup, and only when the necessary resources are assigned to that goal should any additional resources be assigned to encouraging reuse and redevelopment.

In addition, before initiating myriad outreach, training and other reuse programs it is important to get at least a ballpark estimate of the number of NPL sites that are, in fact, good candidates for redevelopment. While some NPL sites may well be ripe for redevelopment, many – I would suspect most – are not. From talking to various experts in the field, my guess is at most 10-20% of NPL sites would fall into this category. The investment of scarce EPA resources to this goal should be commensurate with number of sites which have reuse and redevelopment potential. Many of the recommendations in the Task Force report put the cart before the horse.

Identifying those sites that are "ripe for redevelopment" is not an area of EPA expertise. I would recommend the Agency bring in organizations, such as the Greenfield Environmental Trust Group, the Racer Trust and others that have experience developing contaminated properties, and contract with them to conduct an initial assessment of site reuse potential of NPL sites and develop an initial inventory of sites where the property is inherently valuable and attractive for development. Only once this inventory is developed does it make sense to consider implementation of the many recommendations in the Task Force report. As a side note, many NPL sites do, in fact, have ongoing operations on site. It is a misnomer (and not in the statute) to say that NPL sites are abandoned hazardous waste sites; they are not necessarily abandoned (though some may be), and they are not necessarily hazardous waste sites (though some may be).

Focus on Real Results

Every new Administration wants, understandably, to speed cleanup and show progress by deleting more sites from the NPL. However, as detailed in my recent report *Superfund 2017: Cleanup Accomplishments and the Challenges Ahead*, the only way to accelerate cleanup and increase deletions without jeopardizing the central purpose and fundamental goal of the Superfund program is to identify the reasons why cleanups are taking so long. I was disappointed that the Task Force did not include any recommendations to investigate the factors that are leading to lengthy cleanups, which is the first step to then addressing them. In addition, there are several actions and recommendations in the Task Force that raise concerns, as it is unclear if the end result will be watered-down cleanup goals; It is important that objectives of speeding cleanup and "maximizing deletions" do not become excuses to cut corners in addressing risks and contamination at sites. A key issue to watch is the FY 2018 appropriations and budget for the Superfund program, especially funding for remedial pipeline activities.

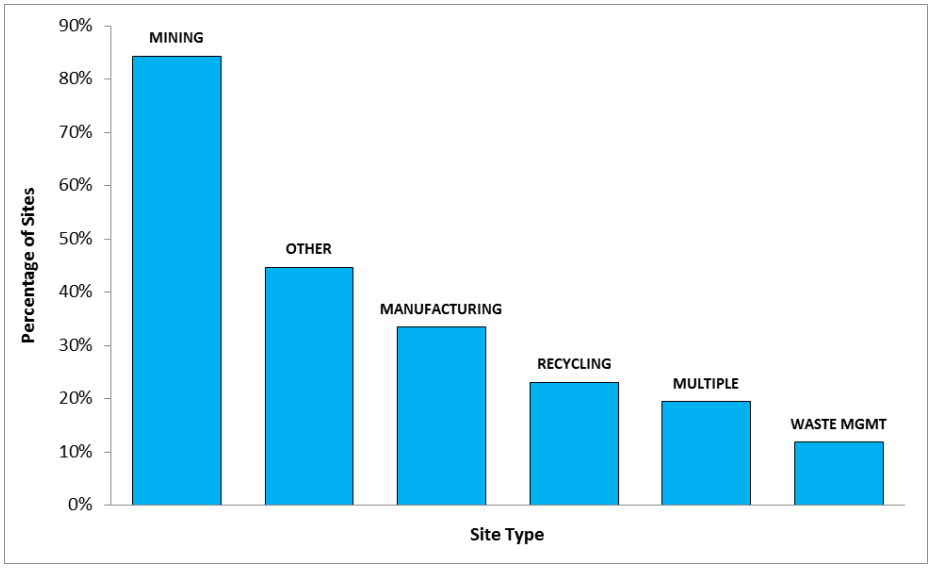
Preliminary Analysis: Food for Thought

As noted earlier, with colleagues at the Environmental Law Institute I am analyzing EPA data about the time it has taken for non-federal NPL sites to reach construction complete status and to be deleted from the NPL. This work, I would note, is being done without any outside

funding. We are in the early stages of analyzing the data, and our preliminary analyses have not been reviewed by the Superfund program. The reason I am including some of the preliminary results is to provide an example of the kind of information that can be gleaned from this type of analysis of Superfund data. I would note that these results do not provide answers, but they allow one to focus one's questions, and look for patterns and anomalies.

Figure 6, below, provides information on the percentage of sites that are *not* construction complete by the major site type categories in EPA's database. Over 80% of mining sites are not construction complete, while only about 10% of waste management sites have not achieved this milestone. This figure is purely illustrative – as there is more going on here that must be explored, as we know many of the waste management sites were listed in the early years of the program, and the mining sites were not added to the NPL until later. Still, the large variation in the percentage of sites, by site type, that are not construction complete suggests some new ways of looking at this issue. And, percentages are always to be taken with a grain of salt, as in this case. There are only 51 mining sites in this dataset, while there are 523 waste management sites.

Figure 6. Percentage of Non-Federal NPL Sites *Not* Construction Complete by Major Site Type Categories as of May 31, 2017

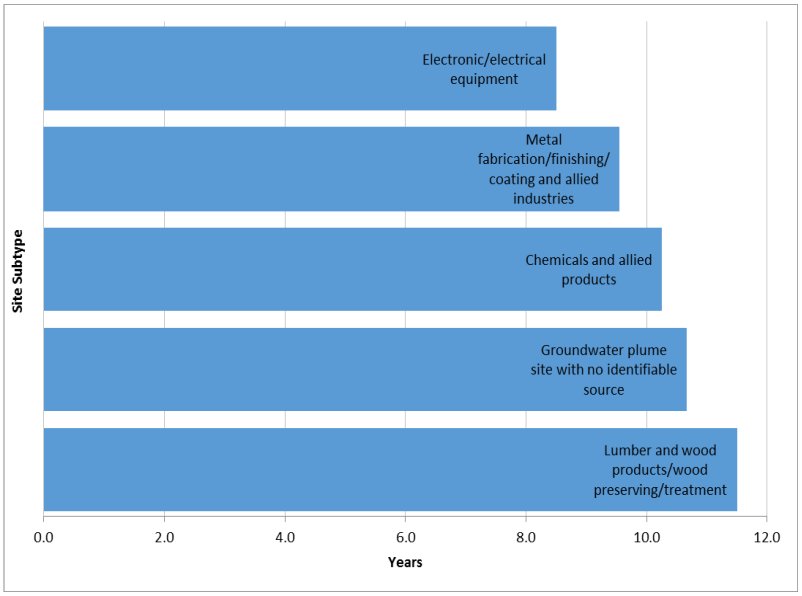


Source: U.S. EPA
Note: Preliminary data, not reviewed by EPA.

Figure 7, below, shows the median number of years that it took for sites in five different "sub-categories" of sites to reach construction complete. Again, this information is presented purely for illustrative purposes. It shows that the median number of years for sites with electronic/electrical operations to reach construction compete is two years less than for sites

that are (or were) lumber and wood products sites. Why is this the case? More or fewer orphan sites? Better remedial technologies available?

Figure 7. Median Years to Construction Completion for Five Site Type Sub-Categories, as of May 31, 2017



Source: U.S. EPA
Note: Preliminary data not reviewed by EPA.

* * * * *

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