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HAZARDOUS WASTE CLEANUP

Observations on States' Role, Liabilities at DOD and Hardrock Mining Sites, and Litigation Issues

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Natural Resources and Environment

May 2013

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GAO Highlights

Highlights of GAO-13-633T, a testimony before the Subcommittee on Environment and the Economy, Committee on Energy and Commerce, House of Representatives

Why GAO Did This Study

According to EPA, the agency that manages the nation's principal hazardous waste cleanup program, one in four Americans lives within 3 miles of a hazardous waste site. Many such sites pose health and other risks, and their cleanup can be lengthy and expensive. EPA's Superfund program, established under CERCLA, provides a process to address contaminated sites. Under CERCLA, parties that contributed to the contamination of a site are generally liable for cleanup and related costs. These parties may include federal agencies, such as DOD, and companies. Based on the risk a site poses, EPA may place the site on the NPL, a list that includes some of the nation's most seriously contaminated sites. As of April 2013, the NPL included about 1,300 sites, and states and federal agencies may address additional contaminated sites outside of EPA's Superfund program. GAO's prior work has identified challenges cleaning up DOD's NPL sites and abandoned mining sites and has assessed litigation related to the Superfund program.

In this testimony, GAO summarizes its work from March 2008 to April 2013 on (1) the role of states in cleaning up hazardous waste sites, (2) DOD's management of its sites on the NPL, (3) federal liabilities from contaminated hardrock mining sites, and (4) litigation under CERCLA and other statutes.

GAO is not making new recommendations but has made numerous recommendations to DOD, EPA, and Interior to better address hazardous waste sites. As described in this statement, the responses to these recommendations have varied.

View GAO-13-633T. For more information, contact David Trimble at (202) 512-3841or trimbled@gao.gov.

What GAO Found

States, in consultation with the Environmental Protection Agency (EPA), participate in the cleanup of hazardous waste sites in several ways. Under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, sites that meet certain risk thresholds are eligible for placement on the National Priorities List (NPL)—a list that includes some of the nation's most contaminated sites. In this context, states may notify EPA of potential hazardous waste sites, evaluate the health and environmental risks at sites being considered for the NPL, or oversee cleanups of NPL sites. In some cases, EPA may elect to defer sites that are eligible for the NPL to other federal or state cleanup programs. As GAO reported in April 2013, EPA had deferred to states the oversight of the cleanup of 47 percent of sites eligible for the NPL. GAO recommended that EPA provide guidance on the most common type of deferral to states, and EPA agreed with GAO's recommendation. In addition, 47 states have their own versions of the Superfund program.

As of April 2013, the Department of Defense (DOD) is responsible for cleanup at 129 NPL sites (over 80 percent of federal facilities on the NPL). In addition to its NPL sites, GAO reported in 2010 that DOD had over 50,000 areas that required cleanup and that the agency had spent almost $30 billion on cleanup from 1986 to 2008. In July 2010, GAO found that CERCLA requires federal agencies to enter into an interagency agreement with EPA to guide cleanup within a certain period but, as of February 2009, 11 DOD installations had not signed such agreements after 10 or more years on the NPL. DOD has made progress on this issue by decreasing the number of such installations from 11 to 2, but both sites still pose significant risks. GAO recommended that EPA pursue changes to a key executive order that would increase its authority to hasten cleanup at these sites. EPA agreed but has not taken action to have the executive order amended.

GAO's work has identified challenges and liabilities for the federal government stemming from hardrock mining operations, primarily at abandoned mines on federal land. In many cases, mine operators abandoned mines and did not have adequate financial assurance to pay for cleanup. As a result, the government may have to cover these costs. In 2011, GAO found that 57 hardrock mines on federal land managed by the Bureau of Land Management (BLM) had inadequate financial assurance to cover estimated reclamation costs and recommended that BLM improve its ability to evaluate the adequacy of financial assurances. In 2012, BLM reported implementing GAO's recommendation.

CERCLA and other major environmental statutes involve litigation among numerous parties. In addition to cases brought by EPA to enforce laws, litigation includes citizen suits to compel EPA to take action when it does not meet deadlines, and to question regulations and permitting decisions. In addition, potentially responsible parties at hazardous waste sites often file lawsuits against each other or EPA. In 2011, GAO found that about 5 percent of lawsuits against EPA for fiscal years 1995 to 2010 involved CERCLA and that, across 10 environmental statutes, trade associations and private companies comprised 48 percent of the litigants, followed by environmental groups (30 percent), nonfederal governments (12 percent), and other parties (10 percent).

Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee:

Thank you for inviting me to discuss our work on the federal government's liability for environmental cleanup. The Environmental Protection Agency (EPA) manages the Superfund program—the federal government's principal program to clean up hazardous waste sites—and estimates that one in four Americans lives within 3 miles of a hazardous waste site. Many hazardous waste sites pose serious risks to human health and the environment, and their cleanup can require substantial time and expense. EPA's budget for the Superfund program is approximately $1.2 billion in fiscal year 2013, about 13 percent of the agency's overall budget. Under the Superfund program, EPA can place sites with contamination that is sufficiently severe on the National Priorities List (NPL), which includes sites among the nation's most seriously contaminated.[1] As of April 2013, the NPL included 1,311 sites. Where EPA decides not to address sites eligible for the NPL under the Superfund program, EPA may defer their oversight to other federal and state cleanup programs. Outside of EPA's Superfund program, tens of thousands of contaminated sites are addressed by other federal agencies and states.

For sites on the NPL, EPA oversees the cleanup, which may be performed by potentially responsible parties (PRP) or by EPA itself. These parties generally include current or former owners and operators of a site or the generators or transporters of the hazardous substances. PRPs may include federal agencies, such as the Department of Defense (DOD), which have responsibility and authority for some or all cleanups at their facilities. In fact, as of April 2013, 156 sites on the NPL were federal facilities. While this amounts to about 12 percent of sites on the NPL, some of these sites can be costly to clean up. Federal liabilities for environmental cleanup extend beyond federal sites listed on the NPL. For example, tens of thousands of contaminated hardrock mining sites, only a small number of which are listed on the NPL, can present major environmental cleanup challenges and expenses for the federal government. These challenges include abandoned mines on public land that may require federally funded cleanup and cases where mining operations abandoned a site and did not have sufficient financial assurance to clean up the site. In addition, EPA faces the prospect of litigation over its

[1]There is no legal requirement that EPA clean up a site on the NPL or that it do so under a particular time frame. As we reported in May 2010, EPA's future costs to conduct remedial construction at nonfederal NPL sites will likely exceed recent funding levels. The limited funding, coupled with increasing costs of cleanup, has forced EPA to choose between cleaning up a greater number of sites in less time and a cost-efficient manner or cleaning up fewer sites more efficiently. See GAO, *Superfund: EPA's Estimated Costs to Remediate Existing Sites Exceed Current Funding Levels, and More Sites Are Expected to Be Added to the National Priorities List*, GAO-10-380 (Washington, D.C.: May 6, 2010).

regulations and other actions, including lawsuits EPA initiates to enforce provisions of the law which, among other things, governs the Superfund program—the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980.[2]

My testimony today is based on reports we issued from March 2008 to April 2013 and addresses (1) the role of states in the cleanup of hazardous waste sites eligible for the NPL; (2) DOD's management of its sites on the NPL; (3) the financial liabilities to the federal government related to environmental cleanup presented by hardrock mining; and (4) the amount, type, and trends of litigation related to CERCLA and other environmental statutes. This statement includes citations for our relevant reports. We conducted this work in accordance with generally accepted government auditing standards. Our issued reports have detailed information about our scope and methodology.

Background

CERCLA gives EPA the authority to respond to actual and threatened releases of hazardous substances to the environment, and of pollutants and contaminants that may pose an imminent and substantial danger to public health or the environment. CERCLA authorizes EPA to compel PRPs to clean up the sites; allows EPA to pay for cleanups and seek reimbursement from PRPs; and establishes a Hazardous Substance Superfund (trust fund) to help EPA pay for cleanups and related program activities. EPA's 10 regional offices implement Superfund within several states and, in some cases, territories. In addition, the law establishes a process for federal agencies to identify their sites with hazardous releases and for the sites to be cleaned up with funding from federal agency appropriations. When EPA decides not to list a site on the NPL or otherwise retain oversight, it may defer oversight of the site's cleanup to other federal and state cleanup programs.

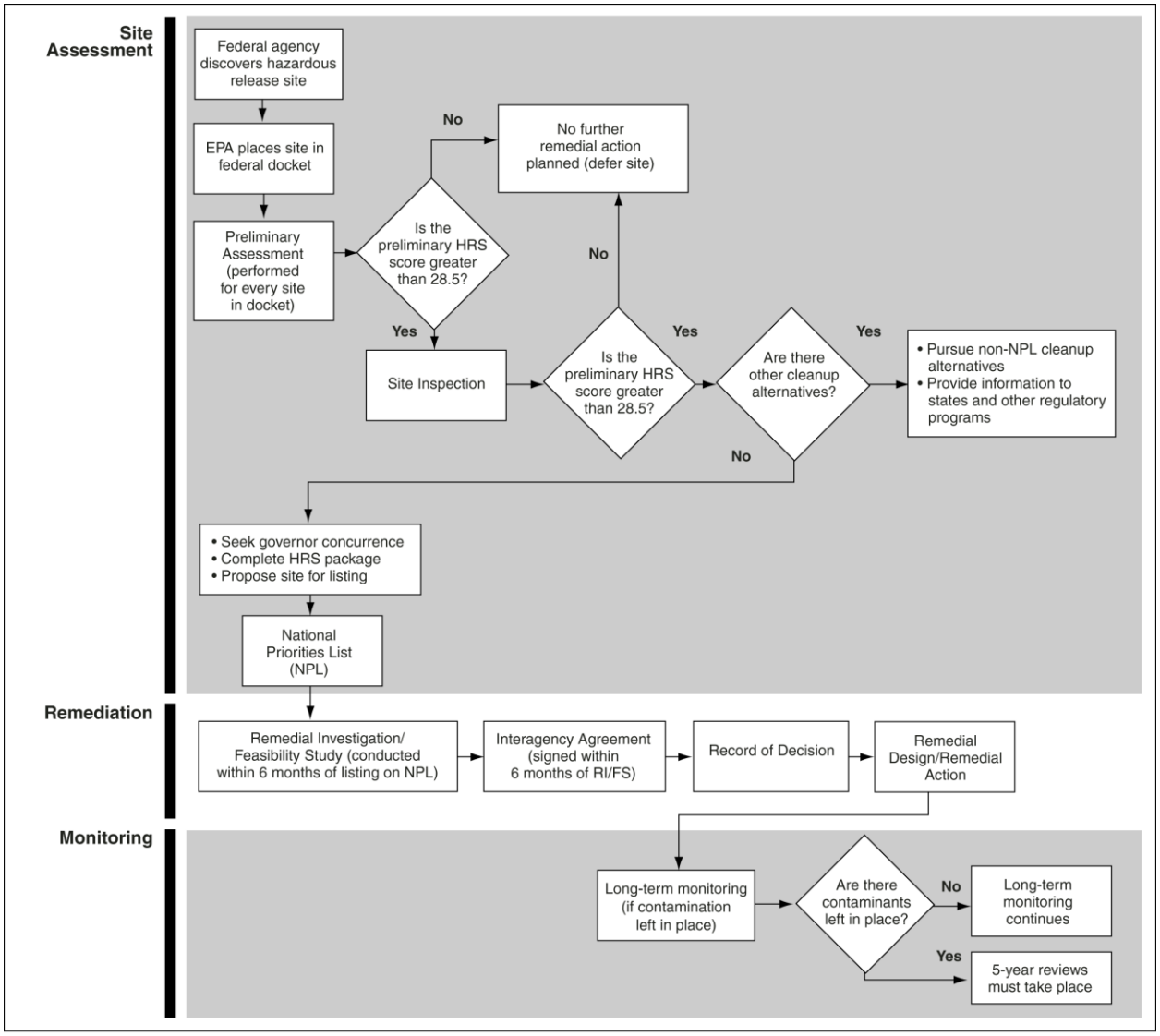
Under CERCLA, PRPs must conduct or pay for the cleanup of hazardous substances. In some cases, however, EPA cannot identify the PRPs, or these parties may be unwilling or financially unable to perform the cleanup. CERCLA authorizes EPA to pay for remedial cleanups at sites on the NPL and seek reimbursement from the PRPs. Historically, the trust fund was financed primarily by taxes on crude oil and certain chemicals, as well as by an environmental tax on

[2]CERCLA, Pub. L. No. 96-510, 94 Stat. 2767 (1980) (codified as amended at 42 U.S.C. §§ 9601-9675 (2013)). Hereinafter, references to CERCLA sections are as amended.

corporations based on their taxable income. However, the authority for these taxes expired in 1995 and, shortly thereafter, the balance in the trust fund started diminishing. By the start of fiscal year 2009, the balance of the trust fund had decreased in value from its peak of $5.0 billion in 1997 to $137 million. Since the taxes expired, congressional appropriations have been the largest source of funding for the trust fund. For context, appropriations have averaged about $1.2 billion annually since 1981. Other sources of revenue include interest on the balance of the trust fund, fines and penalties collected for violations of cleanup requirements, and recovery of cleanup costs from PRPs.

Under the Superfund program, EPA assesses hazardous release sites to determine if their contamination makes them eligible for the NPL. While over 40,000 potential hazardous release sites have been reported to the Superfund program over the past 30 years, EPA has only determined a few thousand of these sites pose a sufficient threat to human health and the environment to be eligible for the NPL. CERCLA and its implementing regulations establish a process of specific steps to evaluate and to clean up sites. The basic steps apply to both federal facilities and nonfederal sites. One difference is that CERCLA imposes additional requirements on federal agencies; for example, the law requires that, for federal facilities listed on the NPL, federal agencies must enter into an interagency agreement with EPA that includes schedules for completion of each remedy at the site. The key steps in this process for federal facilities are included in figure 1.

Figure 1: Key Stages of the CERCLA Process to Address and Clean Up Hazardous Waste at Federal Facilities



Source: EPA.

Note: "HRS" stands for Hazard Ranking System, a measure of a site's relative threat to human health and the environment. "RI/FS" stands for remedial investigation and feasibility study, a two-part study of the NPL site after it is listed designed to characterize site conditions and evaluate options to address identified problems, among other things.

During the initial phases of EPA's assessment of sites reported to its Superfund program—known as preliminary assessment and site inspection—EPA regional officials or their state and tribal counterparts evaluate the potential need for additional investigation or action. Specifically, the preliminary assessment phase involves an evaluation of readily available information about a site and its surrounding area to determine if the release or potential release of hazardous

substances poses a sufficient threat to human health and the environment to merit further investigation. If further investigation is needed, a site inspection follows the preliminary assessment. During this phase, investigators typically collect samples to identify the hazardous substances. Information from the preliminary assessment and site inspection is used to calculate and document a site's preliminary Hazard Ranking System (HRS) score, which indicates a site's relative threat to human health and the environment based on potential pathways of contamination. Sites with a HRS score of 28.50 or greater become eligible for listing on the NPL. The HRS calculation is not, however, intended to determine the extent of contamination or the appropriate cleanup approach. This occurs later when EPA, based on available information, selects an appropriate cleanup approach for those sites it decides to add to the NPL. In some cases, EPA may conduct a short-term cleanup known as a removal action or otherwise delay selection of a long-term cleanup approach.

As we reported in April 2013, as of December 2012, EPA had identified over 3,400 sites—both federal facilities and nonfederal sites—that were reported to the Superfund program and have contamination that makes them eligible for listing on the NPL.[3] Of these, 1,311 sites were on the NPL as of April 2013. EPA deferred most of the rest to cleanup approaches outside the Superfund program.[4] As we reported in May 2010, according to EPA headquarters officials, the number of sites proposed for listing on the NPL had decreased over time as a result of the expanded use of other cleanup programs, including state programs.[5] However, we also reported at that time that EPA regional officials estimated that an average of 20 to 25 sites per year—higher than the average of 16 over the previous 5 years—would be added to the NPL over the following 5 years. Most of the regional officials noted that economic conditions—which can limit states' abilities to clean up sites under their own programs and PRPs' abilities to pay for cleanup—were a contributing factor to the expected increase in sites listed on the NPL. So far, these estimations have been borne out—according to EPA's website, the agency added an average of 23 sites each year to the NPL in fiscal years 2010 through 2012.

[3]GAO, *Superfund: EPA Should Take Steps to Improve Its Management of Alternatives to Placing Sites on the National Priorities List*, GAO-13-252 (Washington, D.C.: Apr. 9, 2013).

[4]The number of NPL sites does not include sites proposed to or deleted from the NPL. Sites that have been proposed for listing on the NPL, are currently on the NPL, have been deleted from the NPL, or have been removed from proposal can always be identified as such in the Superfund program's database.

[5]GAO-10-380.

States Play a Critical Role in Characterizing and Cleaning Up Contaminated Sites

As we reported in April 2013, states, in consultation with EPA, participate in the identification and cleanup of hazardous waste sites eligible for the NPL in many ways.[6] Examples of this participation include the following:

- States may notify EPA of potential hazardous waste sites for listing in the Superfund program database;
- States may act under cooperative agreements with EPA to evaluate the relative potential for sites being considered for the NPL to pose a threat to human health and the environment;
- As a matter of policy, EPA seeks concurrence from state governors or environmental agency heads before proposing a site for listing on the NPL;
- States may assume the lead oversight role at NPL sites under cooperative agreements with EPA; and
- EPA may only pay for a remedial action at a site if the relevant state agrees, among other things, to pay a portion of the cleanup expenses, as well as all operations and maintenance costs after construction of the cleanup remedy is completed.

In addition to overseeing cleanup at some sites on the NPL, states may oversee cleanup at sites that are eligible for listing on the NPL but that were not reported to EPA for listing in the Superfund program database. States do not have an obligation to report all potentially eligible sites to the federal Superfund program, and several of the environmental officials from 13 states we contacted in conducting the work for our April 2013 report confirmed that they have conducted or overseen cleanups at sites not listed in the Superfund program database that may have been eligible for the NPL.

Alternatively, EPA may choose not to list sites that have been reported and that are eligible for listing on the NPL and instead defer oversight of these sites to programs outside of the Superfund program—typically to states. In fact, as we reported in April 2013, this approach is the most common for cleanup of sites that are eligible for listing on the NPL. As of December 2012, of the 3,402 sites EPA identified as eligible for the NPL, EPA regions had deferred

[6]GAO-13-252.

oversight of 1,984 sites to cleanup approaches outside the Superfund program, including 1,606 deferrals to states (47 percent of all eligible sites). EPA officials in all 10 regions indicated that states' preferences influence EPA's selection of the cleanup program at sites eligible for the NPL.

Most of these deferrals to states were made as Other Cleanup Activity (OCA) deferrals. OCA deferral to a state places a site under that particular state's environmental regulations, rather than CERCLA authorities. As we reported in April 2013, EPA has not issued guidance for these deferrals as it has for other cleanup approaches. Moreover, EPA's program guidance does not clearly define types of OCA deferrals or specify in detail the documentation EPA regions should have to support their decisions on OCA deferrals. OCA deferral to a state involves no formal EPA oversight other than periodic discussions between EPA regional officials and state officials. For OCA deferrals to states, EPA regions' tracking activities range from checking state websites to meeting with states to receive status updates every 3 months, according to regional officials.

In addition, according to EPA regional officials, the amount and type of documentation regions collect to support OCA deferrals covers a broad range, including no written documentation, an e-mail from a state official, letters from state officials attesting to the cleanup, or a copy of the legal order or agreement between the state and PRP. Without clearer guidance on OCA deferrals, EPA does not have reasonable assurance that its regions consistently track these sites or that their documentation will be appropriate or sufficient to verify that these sites have been deferred or have completed cleanup. In April of this year, we recommended that EPA provide guidance to its regions that defines each type of OCA deferral and what constitutes adequate documentation for OCA deferral and completion of cleanup. The agency agreed with this recommendation, acknowledging the need for more guidance.

State cleanup programs vary in their capacity and resources to manage the cleanup of hazardous waste sites, according to EPA and state officials. According to officials in the EPA region with the most OCA deferrals to states, states in the region have mature environmental programs willing and capable of overseeing many sites, which makes the OCA deferral to states well-suited to that region. In contrast, officials we spoke with in some regions noted that they needed to consider states' capacity to oversee a site before using the OCA deferral to states. Nine states have no OCA deferrals, and other states oversee hundreds of these sites, with the most in Massachusetts (247 sites), New Jersey (221), and California (180). Several of the

environmental officials from 13 states we contacted confirmed that states' use of and experience with OCA deferrals can differ substantially. One state official noted that these differences are likely related to how industrialized a state may be and the extent of cleanup programs in a given state. According to officials in one region, EPA has access to more resources than states and typically addresses sites that require greater or more specialized resources through the NPL approach. For example, regional officials noted, states face different limitations that can prevent them from pursuing cleanup under their programs, including: technical capacity, legal resources, and financial resources. In addition, EPA officials in four regions noted examples where a state environmental program requested that the Superfund program pursue NPL listing because the state was having trouble getting a PRP to cooperate or the PRP went bankrupt.

Finally, states have oversight of many sites that do not pose sufficient health or environmental risks to be eligible for listing on the NPL. Forty-seven states address such sites under their own versions of the Superfund program.

DOD Is Responsible for Many Contaminated Sites, Including Over 80 Percent of Federal Facilities on the NPL

DOD is responsible for the majority of federal facilities on the NPL. Specifically, federal facilities comprise 156 (12 percent) of the 1,311 sites listed on the NPL, with DOD responsible for 129 of these sites (83 percent of federal facilities on the NPL).[7] Legal responsibility for cleanup of federal facilities stems from a variety of sources, including Section 120 of CERCLA and a key executive order.[8] Among other things, section 120 stipulates that each federal agency shall be subject to and must comply with the act as would a private party, including with regard to liability. Section 120 also establishes key responsibilities of federal agencies for their sites, such as notification of discovered contamination to a central docket and a requirement to enter into interagency agreements with EPA to govern the cleanup for NPL-listed sites. Importantly, under the executive order, DOD and the Department of Energy have authority to clean up all of their

[7]Data on the number of NPL sites were current as of April 2013 and exclude sites proposed to or deleted from the NPL.

[8]CERCLA § 120 is codified at 42 U.S.C. § 9620 (2013). Executive Order 12580, Superfund Implementation, 52 Fed. Reg. 2923 (Jan. 23, 1987).

NPL and other contaminated sites, while EPA has authority for managing cleanup of other agencies' NPL sites.[9]

When federal agencies clean up an NPL site under the Superfund process, they must meet the same standards as any other responsible party. Thus, EPA establishes or approves standards for remedial actions on a site-specific basis by identifying "applicable or relevant and appropriate requirements" (ARAR). These requirements include standards under any federal law and standards under certain state laws or regulations that are more stringent than corresponding federal law and are communicated in a timely manner to the entity leading a cleanup. For example, some states where all groundwater is protected as a potential source of drinking water may have drinking water standards that are more stringent than federal ones, or they may address contaminants that are not federally regulated. If contamination at a federal facility in such a state threatens groundwater, the state standard may be identified as an ARAR. Selection of ARARs is site-specific based on the circumstances of the site.

Past DOD activities and industrial facilities contaminated millions of acres of soil and water on and near DOD sites in the United States and its territories. Environmental contaminants found at military installations include solvents and corrosives; fuel; paint strippers and thinners; metals, such as lead, cadmium, and chromium; nerve agents; and unexploded ordnance. The law requires DOD to conduct environmental restoration activities at areas located on former and active defense properties that were contaminated while under its jurisdiction. We reported in March 2010 that DOD has identified over 31,600 areas that are eligible for cleanup, including about 4,700 areas on formerly used defense sites that were closed before October 2006; 21,500 areas on active installations; and 5,400 areas identified by several Base Realignment and Closure commissions.[10] As we noted in July 2010, across all environmental cleanup and restoration activities at its installations, including NPL and non-NPL sites, DOD spent almost $30 billion from 1986 to 2008.[11]

[9]These other agencies retain financial responsibility for cleanup.

[10]GAO, *Environmental Contamination: Information on the Funding and Cleanup Status of Defense Sites*, GAO-10-547T (Washington, D.C.: Mar. 17, 2010). For purposes of listing on the NPL, an entire installation typically counts as a single site even in cases where that installation may have multiple sources of contamination. Conversely, DOD considers an area of contamination to be a "site" such that a single installation may have dozens of sites. For purposes of this report, we use the term "area" to refer to a DOD site, e.g., an area of contamination.

[11]GAO, *Superfund: Interagency Agreements and Improved Project Management Needed to Achieve Cleanup Progress at Key Defense Installations*, GAO-10-348 (Washington, D.C.: July 15, 2010).

Our prior work has identified challenges stemming from the fact that DOD has not always adhered to the CERCLA requirement to enter into interagency agreements with EPA at NPL sites. Specifically, in July 2010,[12] we reported that although CERCLA requires federal agencies to enter into an interagency agreement with EPA to guide cleanup within a certain period,[13] as of February 2009, 11 DOD installations had not signed such agreements after 10 or more years on the NPL. DOD has made progress on this issue by decreasing the number of such installations from 11 to 2, but both sites still pose significant risks. For example, Tyndall Air Force Base in Panama City, Florida, one of two DOD installations that have yet to sign interagency agreements with EPA, has been in noncompliance with CERCLA for more than a decade. EPA added the 29,000-acre site to the NPL in 1997 due to extensive contamination and high concentrations of probable human carcinogens and other contaminants, including DDT, which is present at concentrations some 200 times greater than EPA's risk-based standards for people and the environment. According to EPA, the Air Force has taken the position that it can unilaterally decide if and when to investigate, characterize, and clean up contamination and what work is appropriate and protective. As EPA stated in a January 2013 letter to the Air Force and DOD, the Air Force is neglecting EPA's experience in hazardous waste cleanups, and it is failing to meet its legal obligations under CERCLA.

At installations that have interagency agreements, site management plans include detailed schedules and become part of the interagency agreement, establishing a legal basis for timely completion of the work. DOD also faces consequences and penalties if it does not adhere to the agreement. At installations without interagency agreements, however, EPA has limited ability to compel an agency to comply with CERCLA.[14] Not having interagency agreements has contributed to a variety of obstacles and delayed cleanup progress at DOD installations. For example, in the absence of interagency agreements, DOD may fund work at other sites ahead of NPL sites. In July 2010, we recommended that EPA take steps to modify the long-standing Superfund executive order to gain the authority to issue certain unilateral administrative orders to executive agencies, among other things. EPA agreed with the recommendation but has not

[12]GAO-10-348.

[13]EPA and the federal agency must enter into the interagency agreement within 6 months of the conclusion of the remedial investigation and feasibility study, according to CERCLA.

[14]The lack of an interagency agreement can also limit the ability of citizens and other parties to compel action.

yet take action to modify the executive order; further, until the administration amends the executive order, EPA's authority remains limited. We also suggested that Congress should consider amending CERCLA to authorize EPA—after an appropriate notification period—to impose penalties to enforce cleanup requirements at federal facilities. At this time, Congress has not taken action on this suggestion.

Another critical issue at contaminated DOD sites relates to the department's response to recommendations made by the Agency for Toxic Substances and Disease Registry (ATSDR) within the Department of Health and Human Services.[15] Specifically, ATSDR conducts a health assessment of each site proposed for the NPL that may result in recommendations to the responsible agency and include actions for reducing the public health risk, among other things. A health assessment involves examining the relationship between actual exposures to contaminants and subsequent signs of disease and illness. In May 2012, we reported on the database used to track ATSDR public health assessment recommendations and DOD's implementation of those recommendations.[16] Such recommendations might include eliminating or reducing harmful exposures, or obtaining critical missing data to assist the health assessment. We found that DOD officials responsible for overseeing implementation of these recommendations did not know what actions, if any, installations had taken on about 80 percent of the approximately 1,200 recommendations ATSDR had made since 1986. In addition, we found that guidance for the Defense Environmental Restoration Program—under which DOD conducts cleanup activities at its installations—was silent regarding actions DOD should take in response to these recommendations.

Furthermore, we reported that the guidance did not address if, or when, DOD should voluntarily seek a public health assessment at NPL sites beyond the initial assessment completed by ATSDR. This is important because additional contaminants or sources of potential harm to human health may be found after the initial ATSDR health assessment that could render the

[15]CERCLA authorized the establishment of ATSDR to assess the presence and nature of health hazards to communities affected by Superfund sites, to identify actions to prevent or reduce harmful exposures, and to expand the knowledge base about the health effects that result from exposure to hazardous substances.

[16]GAO, *Defense Infrastructure: DOD Can Improve Its Response to Environmental Exposures on Military Installations*, GAO-12-412 (Washington, D.C.: May 1, 2012).

original ATSDR health assessment obsolete. According to federal internal control standards,[17] management should assess the risks faced from external (and internal) sources and decide what actions to take to mitigate them. While DOD officials said that DOD relies on the judgment of environmental professionals at installations, without a standard set of guidelines on when to request a public health assessment other than an initial assessment for a site on the NPL, DOD does not have assurance that it is consistently identifying and addressing possible health risks from exposures at some NPL sites and non-NPL sites. We therefore recommended that DOD establish procedures to comprehensively track and document the status and nature of DOD responses to ATSDR recommendations and findings of significant risk to ensure that DOD and its components monitor these recommendations and findings of significant risk and take timely response actions. We also recommended that DOD establish a policy that identifies when installations should consider requesting public health assessments in addition to the initial assessments at NPL sites. DOD partially concurred with the first recommendation and said that it would review its procedures for tracking ATSDR recommendations and make the appropriate changes if necessary. We continue to believe that DOD should improve its procedures to adequately address vital public health issues. DOD did not concur with the second recommendation, and said that the appropriate policies were already in place. Our findings demonstrated that this was not the case, and we continue to believe that DOD should implement the recommendation. DOD has not implemented either recommendation.

The Federal Government Faces Liabilities from Abandoned Hardrock Mine Sites and Ensuring Adequate Financial Assurance for Liabilities from Current Mining Operations

Our previous work has found that hardrock mine sites present liabilities to the federal government when they are abandoned or have inadequate financial assurance.[18] As we reported in July 2011, the General Mining Act of 1872 encouraged the development of the West by allowing individuals to stake claims and obtain exclusive rights to the gold, silver, copper, and other valuable hardrock mineral deposits on land belonging to the United States.[19] Since then,

[17]GAO, *Standards for Internal Control in the Federal Government*, GAO/AIMD-00-21.3.1 (Washington, D.C.: November 1999).

[18]See, for example, GAO, *Abandoned Mines: Information on the Number of Hardrock Mines, Cost of Cleanup, and Value of Financial Assurances*, GAO-11-834T (Washington, D.C.: July 14, 2011); and GAO, *Hardrock Mining: BLM Needs to Revise Its Systems for Assessing the Adequacy of Financial Assurances*, GAO-12-189R (Washington, D.C.: Dec. 12, 2011).

[19]GAO-11-834T.

thousands of operators have extracted billions of dollars worth of hardrock minerals from federal land managed by the Department of the Interior's Bureau of Land Management (BLM) and the Department of Agriculture's Forest Service—the two principal agencies responsible for federal lands open for hardrock mining. BLM issued regulations in 1981 requiring all operators of these mines to reclaim the land when their operations cease, but some did not and abandoned these mines. As a result, thousands of acres of federal land previously used for mining and related operations now pose serious environmental and physical safety hazards. These hazards include toxic or acidic water that contaminates soil and groundwater and physical safety hazards such as concealed shafts, unstable mine structures, or explosives. Our previous work had shown that there were no definitive estimates of the number of abandoned hardrock mines on federal and other lands. Thus, in 2008, we developed a standard definition for abandoned hardrock mining sites and used this definition to identify at least 161,000 abandoned hardrock mine sites in the 12 western states and Alaska, where most hardrock mining occurs. At least 33,000 of these sites had environmental degradation such as contaminated water and arsenic-contaminated tailings piles.

Cleanup costs for these abandoned mines vary by type and size of the operation. For example, the cost of plugging holes is usually small, but reclamation costs for large mining operations can reach tens of millions of dollars. As we reported in March 2008, from 1997 to 2008, four federal agencies—BLM, the Forest Service, EPA, and the Department of the Interior's Office of Surface Mining Reclamation and Enforcement—funded the cleanup and reclamation of some of these abandoned hardrock mine sites, spending at least $2.6 billion to reclaim abandoned hardrock mines on federal, state, private, and American Indian lands.[20] Of this amount, EPA spent $2.2 billion. EPA's funding under the Superfund program, among other things, focuses on the cleanup and long-term health effects of air, ground, or water pollution caused by abandoned hardrock mine sites—primarily those on nonfederal land. As we reported in July 2009, from fiscal years 1983 through 2007, EPA added 33 nonfederal mining sites to the NPL.[21] One-third of these sites, the highest proportion of any other nonfederal site type, were megasites where actual or expected cleanup costs were expected to reach $50 million or more.

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[20]GAO, *Hardrock Mining: Information on Abandoned Mines and Value and Coverage of Financial Assurances on BLM Land*, GAO-08-574T (Washington, D.C.: Mar. 12, 2008).

[21]GAO, *Superfund: Litigation Has Decreased and EPA Needs Better Information on Site Cleanup and Cost Issues to Estimate Future Program Funding Requirements*, GAO-09-656 (Washington, D.C.: July 15, 2009).

In December 2011 we identified inadequacies with financial assurance mechanisms, such as bonds intended to ensure that mine operators have the ability to pay for any cleanup stemming from their operations.[22] Such financial assurances are a critical tool in shifting potential cleanup liabilities from the government to those responsible for any contamination. Beginning in 2001, BLM required all mining operators to provide bonds or other financial assurances before beginning exploration or mining operations on BLM land. These financial assurances must cover, among other things, the reclamation costs for BLM land disturbed by hardrock operations.

In addition, we have repeatedly reported that operators of hardrock mines on BLM lands have not provided financial assurances sufficient to cover estimated reclamation costs. In December 2011, for example, we found that BLM's financial assurances for some hardrock operations continued to be inadequate.[23] At that time, we found that mine operators had provided financial assurances valued at approximately $1.5 billion to guarantee reclamation costs for 1,365 hardrock operations on federal land managed by BLM. Of these, we found that 57 hardrock operations had inadequate financial assurances—about $24 million less than needed to cover estimated reclamation costs. We therefore recommended that BLM revise its financial assurance data and reporting systems to calculate and report the value of inadequate hardrock financial assurances for each mining operation to more accurately represent the adequacy of its financial assurances. The Department of the Interior concurred with our recommendation and, in 2012, BLM reported to us that it had implemented our recommendation.

CERCLA and Other Environmental Statutes Involve Litigation among Numerous Parties

As the primary federal agency charged with implementing many of the nation's environmental laws, EPA often faces the prospect of litigation over its regulations and other actions. Generally, the federal government has immunity from lawsuits, but federal laws authorize three types of suits related to EPA's implementation of many major environmental laws, including CERCLA,

[22]GAO-12-189R. For additional GAO reports related to the adequacy of financial assurances, see GAO, *Environmental Liabilities: Hardrock Mining Cleanup Obligations*, GAO-06-884T (Washington, D.C.: June 14, 2006), GAO, *Phosphate Mining: Oversight Has Strengthened, but Financial Assurances and Coordination Still Need Improvement*, GAO-12-505 (Washington, D.C.: May 4, 2012), and GAO, *Uranium Mining: Opportunities Exist to Improve Oversight of Financial Assurances*, GAO-12-544 (Washington, D.C.: May 17, 2012).

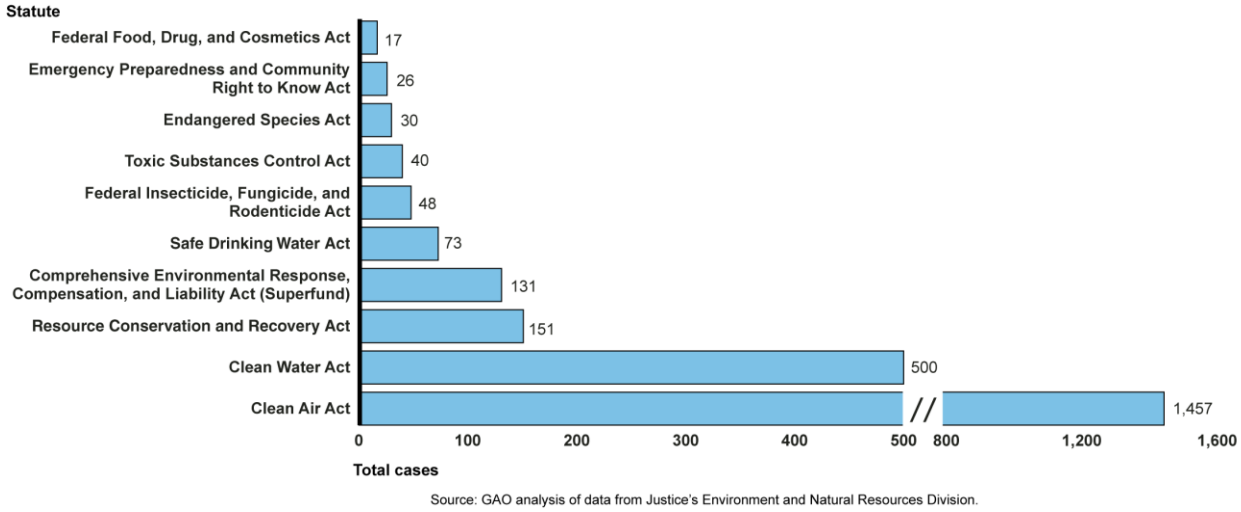
[23]GAO-12-189R.

the Clean Air Act, and the Clean Water Act, among others. First, most of the major environmental statutes include "citizen suit" provisions authorizing citizens—including individuals, associations, businesses, and state and local governments—to sue EPA when the agency fails to perform an action mandated by law. These suits are often referred to as "agency-forcing" or "deadline" suits. Second, the major environmental statutes typically include judicial review provisions authorizing citizens to challenge certain EPA actions, such as promulgating regulations or issuing permits. Third, the Administrative Procedure Act authorizes challenges to certain "final" actions, such as rulemakings and decisions on permit applications. As a result, even if a particular environmental statute does not authorize a challenge against EPA for a final decision or regulation, the Administrative Procedure Act may do so. EPA's CERCLA actions such as cleanup remedies (after they are implemented) and promulgation of regulations may be subject to challenge in court.

In August 2011, we reported on environmental litigation and cases against EPA across 10 environmental statutes filed for fiscal years 1995 to 2010.[24] Of the approximately 2,500 cases we reviewed, about 5 percent of cases against EPA involved CERCLA. As shown in figure 2, the majority of the cases were brought under the Clean Air Act (59 percent of cases) and the Clean Water Act (20 percent of cases).

[24]GAO, *Environmental Litigation: Cases against EPA and Associated Costs over Time*, GAO-11-650 (Washington, D.C.: Aug. 1, 2011).

Figure 2: Environmental Cases Filed against EPA by Statute, Fiscal Year 1995 through Fiscal Year 2010



Source: GAO analysis of data from Justice's Environment and Natural Resources Division.

Note: Nine cases did not have information on statute.

The lead plaintiffs filing cases against EPA across all of these statutes during the 16-year period fit into several categories. The largest category comprised trade associations (25 percent), followed by private companies (23 percent), local environmental groups and citizens' groups (16 percent), and national environmental groups (14 percent). Individuals, states and territories, municipal and regional government entities, unions and workers' groups, tribes, universities, and a small number of others we could not identify made up the remaining plaintiffs (see table 1).

Table 1: Share of Cases by Lead Plaintiff Type: Fiscal Year 1995 through Fiscal Year 2010

Type of group[a]	Number of cases	Percentage
Trade associations	622	25
Private companies	566	23
Local environmental and citizens' groups	388	16
National environmental groups	338	14
States, territories, municipalities, and regional government entities	297	12
Individuals	185	7
Unions, workers' groups, universities, and tribes	46	2
Other	33	1
Unknown	7	1[b]
Total	**2,482**	**100**

Source: GAO.
[a]For more information on each of these groups, see appendix I of GAO-11-650.
[b]Less than 1 percent.

According to the stakeholders we interviewed for our August 2011 report,[25] a number of factors—including EPA's failure to meet statutory deadlines—affect plaintiffs' decisions to bring litigation against EPA.[26] For example, if EPA does not meet its statutory deadlines, organizations or individuals might sue to enforce the deadline. In such suits, interested parties seek a court order or a settlement requiring EPA to implement its statutory responsibilities.

EPA may also initiate litigation against PRPs under CERCLA seeking to compel these parties to clean up contaminated sites or to seek reimbursement for cleanup EPA has conducted. In July 2009, we reported that EPA's approach for enforcing CERCLA was criticized in the past as leading to lengthy negotiations and protracted litigation, resulting in high costs for the government, as well as the PRPs.[27] While the federal government files many CERCLA cases, states, private parties, and others may also initiate litigation under the act for a variety of reasons, including compelling others to contribute toward site cleanup costs. We also found that Superfund litigation—measured by the number, duration, and complexity of cases—decreased

[25]To get stakeholders' views on any environmental litigation trends and the factors that underlie them, we interviewed officials from EPA and the Department of Justice; representatives of six environmental groups, six industry associations, and the National Association of Attorneys General; representatives of six state attorneys general or state environmental offices; and a university law professor who is expert in data on citizen suits. The findings from our interviews with stakeholders cannot be generalized to those with whom we did not speak.

[26]GAO-11-650.

[27]GAO-09-656.

from fiscal years 1994 through 2007, the most recent available data at the time. According to our analysis, the number of CERCLA cases filed decreased by 48 percent, from 214 cases filed in fiscal year 1994 to 111 cases filed in fiscal year 2007. We reported that, while the number of cases filed by the federal and state governments remained relatively constant, the drop-off stemmed primarily from a decrease in litigation filed by other types of plaintiffs, such as businesses or private individuals. According to agency officials and attorneys we interviewed, CERCLA-related litigation has also decreased because (1) the number of new sites added to the NPL declined; (2) fewer sites required cleanup, and parties had less reason to go to court as cleanups progressed; (3) EPA promoted settlements, rather than court cases, with PRPs; and (4) the courts clarified several legal uncertainties.

In July 2009, we found that, while CERCLA litigation could impose substantial costs for the government and PRPs, several important trends were likely decreasing the overall amount of litigation and associated costs.[28] Attorneys with two firms noted that, because PRPs were increasingly likely to settle out of court, a decline in the number of cases filed by these parties had contributed to the decrease in the number of new CERCLA cases and potentially to lower overall CERCLA litigation costs. Further, the decreasing duration of cases as a result of previously negotiated settlements had probably contributed to a decrease in costs. The time spent in out-of-court negotiations, either among PRPs or with EPA, typically costs less than the time spent in court, according to attorneys with whom we spoke. For example, EPA and Department of Justice officials and private attorneys said that the costs of the discovery phase of litigation—when parties to a lawsuit may request and obtain information from each other, such as evidence that supports their claims or defenses—were particularly high. Finally, the decreasing complexity of CERCLA cases—in particular, the decreasing number of parties involved—has likely contributed to a decrease in total litigation costs. EPA's expenditures for litigation, which decreased by half, from more than $50 million in fiscal year 1999 to $25 million in fiscal year 2007, provide further evidence of this trend.

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Chairman Shimkus, Ranking Member Tonko, and Members of the Subcommittee, this concludes my prepared statement. I would be pleased to answer any questions you have at this time.

[28]GAO-09-656.

GAO Contact and Staff Acknowledgments

If you or your staff members have any questions about this testimony, please contact me at (202) 512-3841 or trimbled@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this statement. Michael Hix, Susan Iott, and Diane Raynes, Assistant Directors; and Liz Beardsley; Anne Hobson; Rich Johnson; Nico Sloss; and Emily Suarez-Harris made key contributions to this testimony.

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