
April 2001

ENVIRONMENTAL LIABILITIES

DOD Training Range Cleanup Cost Estimates Are Likely Understated



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Abbreviations

CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
DOD	Department of Defense
DOE	Department of Energy
DUSD(ES)	Deputy Under Secretary of Defense for Environmental Security
EPA	Environmental Protection Agency
SARA	Superfund Amendments and Reauthorization Act
SFFAS	Statement of Federal Financial Accounting Standards



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United States General Accounting Office
Washington, DC 20548

April 11, 2001

The Honorable Jim Nussle
Chairman
Committee on the Budget
House of Representatives

Dear Mr. Chairman:

The previous chairman of your Committee expressed concern about the long-term budgetary implications associated with the environmental cleanup of the Department of Defense's (DOD) training ranges. The chairman requested that we review (1) the potential magnitude of the cost to clean up these ranges in compliance with applicable laws and regulations, (2) the scope and reliability of DOD's training range inventory, and (3) the methodologies used to develop cost estimates. This report conveys the results of that review. He also requested a similar review of certain other DOD property that has associated environmental cleanup and disposal costs on which we will issue a separate report at a later date. This report focuses on DOD's efforts to collect, analyze, and report information on its training ranges and the potential cleanup costs¹ of

¹Federal accounting standards define environmental cleanup costs as the cost of removing, containing, and/or disposing of (1) hazardous waste from property or (2) material and/or property that consists of hazardous waste at permanent or temporary closure or shutdown of associated property, plant, and equipment. Hazardous waste is a solid, liquid, or gaseous waste, or combination of these wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed. Cleanup may include, but is not limited to, decontamination, decommissioning, site restoration, site monitoring, closure, and postclosure costs.

unexploded ordnance² or other constituent contamination³ on these training ranges.⁴

DOD has estimated that millions of acres of training ranges in the United States and its territories are contaminated with unexploded ordnance that could potentially harm the public and the environment if not properly managed or cleaned up. With the increase in DOD downsizing and resulting base closures in recent years, large numbers of military properties are being turned over to non-DOD ownership and control. Although DOD has procedures to mitigate the risk to human health and the environment, the transfer of ownership results in the public being put at greater risk of sickness, injury, or even death from unexploded ordnance or its constituent contamination. DOD is subject to various laws that govern remediation of contamination on military installations and standards establishing requirements for DOD to recognize and report the costs of managing and cleaning up these properties.

We conducted our work in accordance with generally accepted government auditing standards from May 2000 through March 2001. Further details on our scope and methodology are in appendix I.

Results in Brief

DOD does not have complete and accurate data needed to estimate training range cleanup costs. The two primary elements needed to develop these costs are (1) an accurate and complete training range inventory and (2) a consistent cost methodology. Because DOD does not have a complete inventory and has not used a consistent cost methodology, the amounts reported for training range cleanup cannot be relied upon and are

²Unexploded ordnance are munitions that have been primed, fused, armed, or otherwise prepared for action, and have been fired, dropped, launched, projected, or placed in such a manner as to constitute a hazard to operations, installation, personnel, or material and remain unexploded either by malfunction, design or any other cause.

³Military munitions may contain many constituents that can pollute the soil and water supplies. These constituents can be released by the detonation of ordnance or from damaged or deteriorated unexploded ordnance. Constituents that may be released include propellants, explosives, pyrotechnics, chemical agents, metal parts, and other inert components.

⁴The cleanup of unexploded ordnance and other constituent contamination on training ranges will be referred to in this report as training range cleanup. This does not include the cleanup of nontraining range sites containing unexploded ordnance or sites such as manufacturing facilities, munitions burial pits, or open burn and open detonation sites.

likely significantly understated. For example, in its fiscal year 2000 financial statements, DOD reported its liability for the cleanup of training ranges at approximately \$14 billion.⁵ However, other DOD estimates show that its liability for training range cleanup could exceed \$100 billion. Without complete and accurate data, it is impossible to determine whether these amounts represent a reasonable estimate of the long-term budget implications of cleaning up DOD's training ranges.

The military services have not performed complete inventories of their ranges, fully identifying the types and extent of the unexploded ordnance present and the associated contamination. Recently, DOD began the initial compilation of training range data in response to the Senate Report accompanying the National Defense Authorization Act for Fiscal Year 2000 (Report 106-50, May 17, 1999), which called for a complete estimate of the current and projected costs for unexploded ordnance remediation⁶ at active facilities, installations subject to base realignment and closure, and formerly used defense sites, including all training ranges. However, DOD's initial data collection efforts in response to the Senate Report were delayed in part because DOD did not issue formal guidance to the services for collecting the range information until October 2000—17 months after the date of the Senate Report, which directed DOD to prepare a report to the congressional defense committees by March 1, 2001. However, as of March 30, 2001, this report had not been issued. In addition to the delay, the guidance when issued was not comprehensive enough to develop a complete and accurate inventory. In an attempt to meet the March 1, 2001, deadline in the Senate Report, DOD officials limited the scope of the information gathered and analyzed. For example, DOD did not direct the services to collect information or report on the unexploded ordnance constituent contamination of soil, ground water, and surface water, or water ranges. As a result, the March 2001 report will not be complete or accurate.

Federal financial accounting standards have required that DOD report a liability for the estimated cost of cleaning up its training ranges in its annual financial statements since fiscal year 1997, although DOD did not begin to do so until fiscal year 1999. Since DOD had not completed an inventory of its ranges, the services have used varying methods to estimate

⁵*DOD Fiscal Year 2000 Agency-wide Financial Statements*, February 15, 2001.

⁶Unexploded ordnance remediation also includes the cleanup of other constituent contamination associated with unexploded ordnance.

the size and condition of the ranges necessary to estimate the cost of cleanup for financial statement reporting purposes. For example, in fiscal year 2000, the Navy estimated training range acreage based upon limited surveys completed in 1995 through 1997 and applied a cleanup cost factor of \$10,000 an acre to the total. The Army, lacking detailed knowledge of its ranges, estimated the number of closed ranges and applied historical costs from other cleanup efforts. These ad hoc measures do not substitute for the comprehensive inventory of training ranges needed to develop reasonable environmental liability estimates for the financial statements.

In addition, environmental liability costs reported in the financial statements for training range cleanup are not consistently calculated and reported across the services. To date, the services have not been provided adequate guidance to develop consistent cost estimates. As a result, the services have independently developed cost estimates and used different methodologies for estimating the cost of cleaning up training ranges for financial statement reporting. DOD officials told us that they planned to use a standard methodology for estimating the cleanup costs in the March 2001 report; however, this methodology was available but not used by the services for the fiscal year 2000 financial statements. Also, the assumptions and cost factors DOD planned to use in the model for estimating the training range cleanup costs for the March 2001 report have not been independently validated as required by DOD policy to ensure reliable estimates. DOD is planning to validate this cost estimating model later in 2001.

Service officials have told us they are unsure whether the standard methodology used to estimate training range cleanup costs for the March 2001 report will be used in the future for estimating the cleanup liability reported in the financial statements. However, without a consistent methodology, cleanup costs reported in the financial statements and other reports will not be comparable and have limited value to management when evaluating cleanup costs of each the services' training ranges and budgeting for the future.

The problems we have identified with DOD's accumulation of its inventory and cost data on training range cleanup demonstrate that DOD does not have the top management focus and leadership necessary to reliably report estimates of training range cleanup costs. The need for similar programmatic leadership has been previously recognized and

recommended by the Defense Science Board⁷ in 1998. The Defense Science Board found that DOD had no specific unexploded ordnance remediation policy, goals, or program. In addition, several members of Congress have recently written letters to the Secretary of Defense to express similar concerns about the need for high-level attention and resources to address training range cleanup issues.

We are making recommendations to address (1) the need for DOD leadership in managing the reporting of training range liabilities and (2) developing and implementing guidance to ensure that DOD has a complete inventory of all training ranges and that a consistent cost methodology is used in reporting training range cleanup liabilities.

In commenting on a draft of this report, DOD concurred with our recommendations. The additional information that DOD provided in response to one of our recommendations is discussed in the “Agency Comments and Our Evaluation” section.

Background

DOD is subject to various laws dating back to the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 that govern remediation (cleanup) of contamination on military installations. DOD must also follow federal accounting standards that establish requirements for DOD to recognize and report the estimated costs for the cleanup of training ranges in the United States and its territories. Increasing public concern about potential health threats has affected not only the present operations of these training ranges but also the management, cleanup, and control of this training range land that has been, or is in the process of being, transferred to other agencies and public hands.

Training Range Classification

DOD defines a range as any land mass or water body that is used or was used for conducting training, research, development, testing, or evaluation of military munitions or explosives. DOD classifies its ranges into the following five types.

⁷The Defense Science Board is a federal advisory committee established to provide independent advice to the Secretary of Defense.

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- **Active ranges** are currently in operation, construction, maintenance, renovation, or reconfiguration to meet current DOD component training requirements and are being regularly used for range activities. Examples of these ranges would include ranges used for bombing, missiles, mortars, hand grenades, and artillery testing and practice.
 - **Inactive ranges** are ranges that are not currently being used as active ranges. However, they are under DOD control and are considered by the military to be a potential active range area in the future, and have not been put to a new use incompatible with range activities.
 - **Closed ranges** have been taken out of service and are still under DOD control but DOD has decided that they will not be used for training range activities again.
 - **Transferred ranges** have been transferred to non-DOD entities such as other federal agencies, state and local governments, and private parties, and are those usually associated with the formerly used defense sites⁸ program.
 - **Transferring ranges** are in the process of being transferred or leased to other non-DOD entities and are usually associated with the base realignment and closure program.

Requirements to Address and Report Training Range Cleanup Liabilities

Congress addressed environmental contamination at federal facilities under SARA in 1986. This legislation established, among other provisions, the Defense Environmental Restoration Program and the Defense Environmental Restoration Account as DOD's funding source under the Act. The goals of the Defense Environmental Restoration Program include (1) identification, investigation, research and development, and cleanup of contamination from hazardous substances, pollutants, and contaminants and (2) correction of other environmental damage such as detection and disposal of unexploded ordnance which creates an imminent and substantial danger to the public health or welfare or to the environment. The Office of the Deputy Under Secretary of Defense for Environmental Security (DUSD(ES)) was created in 1993. That office has overall responsibility for environmental cleanup within DOD and includes the Office of Environmental Cleanup that manages the Defense Environmental Restoration Program.

⁸Formerly used defense sites are properties that were formerly owned, leased, possessed, or operated by DOD.

Carrying out any remediation or removal actions under applicable environmental laws, including SARA, would likely require the immediate or future expenditure of funds. Federal accounting standards determine how those expenditures are accounted for and reported. The Chief Financial Officers' Act of 1990, as expanded by the Government Management and Reform Act of 1994, requires that major federal agencies, including DOD, prepare and submit annual audited financial statements to account for its liabilities, among other things. Two federal accounting standards, Statement of Federal Financial Accounting Standards (SFFAS) Nos. 5 and 6, establish the criteria for recognizing and reporting liabilities in the annual financial statements, including environmental liabilities.

SFFAS No. 5, *Accounting for Liabilities of the Federal Government*, defines liability as a probable future outflow of resources due to a past government transaction or event. SFFAS No. 5 further states that recognition of a liability in the financial statements is required if it is both probable and measurable. Effective in 1997, SFFAS No. 5 defines probable as that which is more likely than not to occur (for example, greater than a 50 percent chance) based on current facts and circumstances. It also states that a future outflow is measurable if it can be reasonably estimated. The statement recognizes that this estimate may not be precise and, in such cases, it provides for recognizing the lowest estimate of a range of estimates if no amount within the range is better than any other amount. SFFAS No. 6, *Accounting for Property, Plant, and Equipment*, further defines cleanup costs as costs for removal and disposal of hazardous wastes or materials that because of quantity, concentration, or physical or chemical makeup may pose a serious present or potential hazard to human health or the environment.

The Office of the Under Secretary of Defense (Comptroller) issues the *DOD Financial Management Regulation* containing DOD's policies and procedures in the area of financial management, which require the reporting of environmental liabilities associated with the cleanup of closed, transferred, and transferring ranges in the financial statements.⁹ DOD has taken the position that the cleanup of these ranges is probable and measurable and as such should be reported as a liability in its financial statements. Under the presumption that active and inactive ranges will

⁹ *DOD Financial Management Regulation*, Volume 4, Chapter 13, Accrued Environmental and Nonenvironmental Disposal Cost Liabilities and Chapter 14, Accrued Environmental Restoration (Cleanup) Liabilities, October 1999; and Volume 6B, Chapter 10, Notes to the Financial Statements, December 2000.

operate or be available to operate indefinitely, the *DOD Financial Management Regulation* does not specify when or if liabilities should be recognized in the financial statements for these ranges.

Senate Reporting Directive

The Senate Report accompanying the National Defense Authorization Act for Fiscal Year 2000 directed DOD to provide a report to the congressional defense committees, no later than March 1, 2001, that gives a complete estimate of the current and projected costs for all unexploded ordnance remediation. As of March 30, 2001, DOD had not issued its report. For the purposes of the March 2001 report, DOD officials had stated that they would estimate cleanup costs for active and inactive training ranges just as they would for closed, transferred, and transferring ranges. Thus, the cleanup costs shown in this report would have been significantly higher than the training range liabilities reported in the financial statements, which only include estimates for closed, transferred, and transferring ranges. However, in commenting on a draft of our report, DOD officials informed us that they would not be reporting the cleanup costs of active and inactive training ranges in their March report.

Training Ranges Pose Significant Risk

As DOD downsizing and base closures have increased in recent years, large numbers of military properties have been, and are continuing to be, turned over to non-DOD ownership and control, resulting in the public being put at greater risk. DOD uses a risk-based approach when transferring ranges from its control to reduce threats to human health and the environment. DOD attempts to mitigate risk to human health on transferred and transferring ranges. In instances where DOD has not removed, contained, and/or disposed of unexploded ordnance and constituent contamination from training ranges prior to transfer, it implements institutional controls to restrict access to transferring ranges and to transferred ranges where risks are found. Institutional controls include implementing community education and awareness programs, erecting fences or barriers to control access, and posting signs warning of the dangers associated with the range. Figure 1 shows signs posted at Fort McClellan, Alabama, warning of unexploded ordnance. Fort McClellan has been designated for closure under the base realignment and closure program and, as such, is in the process of transferring base properties out of DOD control.

Figure 1: Signs Warning of the Dangers and Presence of Unexploded Ordnance at Fort McClellan



Source: General Accounting Office.

DOD officials have estimated that approximately 16 million acres of potentially contaminated training ranges have been transferred to the public or other agencies. The risk to the public was further discussed by an Environmental Protection Agency (EPA) official in a letter dated April 22, 1999, to DUSD(ES). The EPA official cautioned that many training ranges known or suspected to contain unexploded ordnance and other hazardous constituents have already been transferred from DOD control, and many more are in the process of being transferred, and the risks from many of these have not been adequately assessed. The letter went on to state that risks correspondingly increase as ranges that were once remote are encroached by development or as the public increases its use of these properties. An example of the development of sites adjacent to training ranges is the planned construction of two schools and a stadium by the Cherry Creek School District adjacent to the Lowry Bombing Range, a transferred range, near Denver. Construction is expected to begin in May 2001.

Most training range contamination is a result of weapons systems testing and troop training activities conducted by the military services. Unexploded ordnance consists of many types of munitions, including hand grenades, rockets, guided missiles, projectiles, mortars, rifle grenades, and

bombs. Figure 2 shows examples of some of the typical unexploded ordnance that has been removed from training ranges.

Figure 2: Examples of Unexploded Ordnance Found on Training Ranges



Source: U.S. Army Corps of Engineers.

Risks from this unexploded ordnance can encompass a wide range of possible outcomes or results, including bodily injury or death, health risks associated with exposure to chemical agents, and environmental degradation caused by the actual explosion and dispersal of chemicals or other hazardous materials to the air, soil, surface water, and groundwater. For example, according to an EPA report,¹⁰ EPA surveyed 61 current or former DOD facilities containing 203 inactive, closed, transferred, and transferring ranges and identified unexploded ordnance “incidents” at 24 facilities. These incidents included five accidental explosions, which resulted in two injuries and three fatalities. According to an EPA official, the three fatalities identified in their limited survey were two civilian DOD contractors and one military service member.

¹⁰ *Used or Fired Munitions and Unexploded Ordnance at Closed, Transferred, and Transferring Military Ranges* (September 2000, EPA 505-R-00-01).

DOD's Reported Cleanup Costs Are Likely Substantially Understated

Although DOD reported its unexploded ordnance cleanup liability on training ranges at about \$14 billion in its fiscal year 2000 agencywide financial statements, it is likely that the financial statements are substantially understated. Further, significant cleanup costs will not be included in the planned March 2001 report. DOD officials and Members of Congress have expressed concern over the potential liability the government may be faced with but are still uncertain how large the liability may be. Various estimates have shown that cleanup of closed, transferred, and transferring training ranges could exceed \$100 billion. For example:

- In preparation for DOD's planned issuance of the Range Rule,¹¹ DOD began an analysis of the potential costs that may be incurred if the Rule was implemented. The Rule was intended to provide guidance to perform inventories and provide cleanup procedures at closed, transferred, and transferring ranges. The Rule was withdrawn in November 2000 and the cost analysis was never formally completed. However, a senior DOD official said that initial estimates in the cost analysis that was developed in 2000 put the cleanup costs of training ranges at about \$40 billion to \$140 billion for closed, transferred, and transferring training ranges.
- DOD estimated that its potential liability for cleanup of unexploded ordnance might exceed \$100 billion as noted in a conference report to the National Defense Authorization Act for Fiscal Year 2001 (Report 106-945, October 6, 2000).

Significant Cleanup Costs Will Not Be Reported in the March 2001 Report

DOD will not respond fully to the Senate Report request for reporting the costs of cleaning up unexploded ordnance on its training ranges. DOD officials informed us that due to time constraints, the training range liability to be reported in the March 2001 report would not be complete or comprehensive because the required information could not be collected in time for analysis and reporting. A DUSD(ES) official said that the March 2001 report will include a discussion of the limitations and omissions. DOD officials stated that they have deferred the collection and analysis of

¹¹DOD's Range Rule was a proposed regulation that defined a process to identify closed, transferred, and transferring ranges and address risk to human health and the environment posed by unexploded ordnance on these ranges. The Office of Management and Budget, EPA, and federal land managers were extensively involved in the rulemaking process. On November 13, 2000, DOD withdrew the Range Rule from the rulemaking process because DOD, EPA, and federal land managers could not reach consensus on several key issues including how explosives safety would be handled under the Rule, concurrence on remedial actions, and who decides the remedy.

key data elements. Some of the items that were excluded are the costs to clean up the soil and groundwater resulting from unexploded ordnance and constituent contamination. These omitted costs could be significant.

Further, the March 2001 report will not include information on water ranges. DOD's 1996 Regulatory Impact Analysis¹² reported that DOD had approximately 161 million acres of water training ranges, almost 10 times the size of the estimated closed, transferred, and transferring land ranges. In commenting on a draft of this report, DOD stated that the 161 million acres of water ranges are active training ranges, the majority of which are open-ocean, deep water, restricted access areas and most are outside the territorial waters of the United States. DOD also stated that the majority of water ranges are not likely to cause an imminent and substantial danger to public health and safety or the environment. However, until a complete and accurate inventory is performed, DOD will be unable to determine whether some water ranges meet the reporting requirement of SFFAS No. 5 and, thus, must be reported in the financial statements.

Financial Statement Liability Also Understated

The DOD Comptroller has revised the *DOD Financial Management Regulation* to clarify DOD's fiscal year 2000 financial statement reporting requirements for training range cleanup costs. The revision includes guidance that requires the reporting of the cleanup costs of closed, transferred, and transferring ranges as liabilities in the financial statements. DOD has indicated that the costs to clean up these training ranges is probable and measurable and as such should be reported as a liability in the financial statements. We concur with DOD that these costs should be reported in the financial statements as liabilities because they are probable and measurable.

Specifically, they are probable because DOD is legally responsible for cleaning up closed, transferred, and transferring ranges which were contaminated as a result of past DOD action. For example, under SARA, DOD is responsible for the cleanup of sites that create an imminent and substantial danger to public health and safety or the environment. In addition, these training range cleanup efforts are measurable. DOD has prior experience in training range cleanup under the formerly used

¹²DOD's 1996 Regulatory Impact Analysis was an analysis of the estimated costs to implement the Range Rule when it was first proposed in 1997. As stated earlier, a recent analysis was never formally completed due to DOD's withdrawal of the Range Rule.

defense sites program and has used this experience to develop a methodology to estimate future cleanup costs. However, as explained later in this report, DOD has not based its reported financial statement liability for cleanup of these ranges on a complete inventory or consistent cost methodology, resulting in estimates that range from \$14 billion to over \$100 billion.

In addition, we believe that certain active and inactive sites may have contamination that should also be recorded as a liability in the financial statements because these sites meet criteria in federal accounting standards for recording a liability. The *DOD Financial Management Regulation* does not include instructions for recognizing a liability for training range cleanup costs on active and inactive ranges in the financial statements. Although cleanup of active and inactive ranges would not generally be recognized as a liability in the financial statements, there are circumstances when an environmental liability should be recognized and reported for these ranges. A liability should be recognized on active and inactive ranges if the contamination is government related, the government is legally liable, and the cost associated with the cleanup efforts is measurable. For example, contaminants from an active training range at the Massachusetts Military Reservation threaten the aquifer that produces drinking water for nearby communities. The problem was so severe that in January 2000, EPA issued an administrative order under the Safe Drinking Water Act requiring DOD to cleanup several areas of the training range. According to a DOD official, the cleanup effort could cost almost \$300 million. As a result, the cleanup of this contamination is probable (since it is legally required) and measurable. Thus, this liability should be recognized in the financial statements under SFFAS No. 5.

Training Range Inventories Are Not Complete

Although DOD and the services have collected information on other environmental contamination under the Defense Environmental Restoration Program for years, they have not performed complete inventories of training ranges to identify the types and extent of contamination present. To accurately compute the training range liabilities, the military services must first perform in-depth inventories of all of their training ranges. Past data collection efforts were delayed because the services were waiting for the promulgation of the Range Rule which has been withdrawn. DOD recently began collecting training range data to meet the reporting requirements for the Senate Report. However, as stated previously, DOD has limited its data collection efforts and will not be reporting on the cleanup of water ranges or the unexploded ordnance constituent contamination of the soil and water.

Previous Inventory Initiatives

The Army, under direction from DUSD(ES), proposed guidance for the identification of closed, transferred, and transferring ranges with the preparation and attempted promulgation of the Range Rule. In anticipation of the Range Rule, DOD prepared a Regulatory Impact Analysis report in 1996, recognizing that the cleanup of its closed, transferred and transferring training ranges was needed and that the cleanup costs could run into the tens of billions of dollars.

To address inventories of its active and inactive ranges, DOD issued Directive 4715.11 for ranges within the United States and Directive 4715.12 for ranges outside the United States in August 1999. These directives required that the services establish and maintain inventories of their ranges and establish and implement procedures to assess the environmental impact of munitions use on DOD ranges. However, the directives did not establish the guidance necessary to inventory the ranges nor establish any completion dates. Although the directives assigned responsibility for developing guidance to perform the inventories, DOD has not developed the necessary guidance specifying how to gather the inventory information or how to maintain inventories of the active and inactive training ranges.

Since fiscal year 1997, federal accounting standards have required the recognition and reporting of cleanup costs, as mentioned earlier. However, DOD did not report costs for cleaning up closed, transferred, and transferring training ranges until the services estimated and reported the training range cleanup costs in DOD's agencywide financial statements for fiscal year 1999. Agencywide financial statements are prepared in accordance with the *DOD Financial Management Regulation*, which is issued by the DOD Comptroller and incorporates Office of Management and Budget guidance on form and content of financial statements.

Senate Report Expedited DOD Inventory Data Collection

In an attempt to comply with the mandates in the Senate Report, DOD embarked on a special effort to collect training range data necessary to estimate potential cleanup costs. The Senate Report directed DOD to report all known projected unexploded ordnance remediation costs, including training ranges, by March 1, 2001, and to report subsequent updates in the Defense Environmental Restoration Program annual report to Congress. While the Senate Report did not expressly direct DOD to identify an inventory of training ranges at active facilities, installations subject to base realignment and closure, and formerly used defense sites, the data necessary to fully estimate costs of unexploded ordnance—normally located on training ranges—could only be attained in

conjunction with the performance of a complete and accurate inventory that includes training ranges.

Although the Senate Report's directives were dated May 1999, DOD did not provide formal guidance to the services for collecting training range data until October 2000—17 months later. As a first step in February 2000, the Under Secretary of Defense for Acquisition, Technology, and Logistics assigned the responsibility to the Office of the Director of Defense Research and Engineering, in coordination with DUSD(ES), for obtaining the range data and preparing the report. On October 23, 2000, DUSD(ES) issued specific guidance to the military services instructing them to gather range information and detailing some of the specific information needed. Although DOD instituted an Unexploded Ordnance Inventory Working Group in March 2000 to work with the services to develop specific guidance, service officials told us that DOD had not clearly told them what was required or when it was required until shortly before the official tasking was issued on October 23, 2000. Once officially tasked to gather range information, the services were given until January 5, 2001, to gather and provide it to DOD for analysis by a DOD contractor.

Lacking specific guidance from DOD to inventory their ranges, but recognizing that they would eventually be tasked to gather range information in anticipation of the Range Rule or for the Senate Report, each of the services developed its own survey questionnaires to begin gathering range information before the formal guidance was issued. The Navy took a proactive approach and began developing a questionnaire in late 1999. The questionnaire was issued to the Navy commands in December 1999. The Army and the Air Force also developed their own questionnaires and issued them in September 2000. Because the formal guidance was issued after the services had begun their initial data collection, the services had to collect additional data from their respective units or other sources. According to DOD officials, the training range inventory information gathered from these questionnaires for the March 2001 report will also be used in the future as a basis for financial statement reporting.

Range Identification Is Difficult and Costly

Although the scope of ranges in the United States and its territories is not fully known—because DOD does not have a complete inventory of training ranges—DOD estimates that over 16 million acres of land on closed, transferred, and transferring ranges are potentially contaminated with unexploded ordnance. DOD also estimates that it has about 1,500 contaminated sites. Many former military range sites were transferred to

other federal agencies and private parties. Training ranges must be identified and investigated to determine type and extent of contamination present, risk assessments performed, cleanup plans developed, and permits obtained before the actual cleanup is begun. These precleanup costs can be very expensive. For example, the Navy estimates that these investigative costs alone are as much as \$3.96 million per site.

Identifying the complete universe of current and former training ranges is a difficult task. Ranges on existing military bases are more easily identifiable and accessible. More problematic, however, are those ranges that were in existence decades ago, that have been transferred to other agencies or the public, and records of the ranges' existence or the ordnance used cannot always be found. Special investigative efforts may be necessary to identify those locations and ordnance used. In preparing for World War I and World War II, many areas of the country were used as training ranges. In some instances, documentation on the location of and/or the types of ordnance used on these ranges is incomplete or cannot be found. For example, unexploded ordnance was unexpectedly found by a hiker in 1999 at Camp Hale in Colorado, a site used for mountain training during World War II and since transferred to the U.S. Forest Service. Because additional live rifle grenades were found in 2000, the Forest Service has closed thousands of acres of this forest to public use pending further action. This site also serves as an example of the difficulty in identifying and cleaning up unexploded ordnance in rough mountain terrain and dense ground cover.

Cost Methodologies Are Inconsistent

In addition to not having an accurate and complete inventory of its training ranges, DOD has just recently focused on development of a consistent methodology for estimating its training range cleanup cost estimates. However, DOD is using different methodologies for estimating cleanup costs for the annual financial statements and the March 2001 report. While DOD is using a standard methodology for estimating and reporting its cleanup costs for the March 2001 report, that methodology was not used to estimate the training range cleanup costs for the fiscal year 2000 financial statements. In addition, each of the services is using different methodologies for calculating cleanup cost estimates for reporting its liabilities in the financial statements. Without a consistent methodology, cleanup costs reported in the financial statements and other reports will not be comparable and have limited value to management when evaluating cleanup costs of each the services' training ranges and budgeting for the future.

Fiscal Year 2000 Financial Statement Liabilities

Because the military services do not apply a consistent cost methodology to compute the liabilities for their financial statements, any comparison among the training range liabilities across the services will not be meaningful. DOD is reporting a liability of about \$14 billion for fiscal year 2000 for cleaning up closed, transferred, and transferring training ranges. Of the \$14 billion, the Navy is reporting a liability of \$53.6 million. The Navy, based on limited surveys completed in 1995 through 1997, estimated the number and size of its training ranges and applied a \$10,000 an acre cleanup cost factor to compute its liability. The Navy based its estimates on the assumption of cleaning up its closed, transferred, and transferring ranges to a “low” cleanup/remediation level. The low cleanup/remediation level means that the training ranges would be classified as “limited public access” and be used for things such as livestock grazing or wildlife preservation, but not for human habitation.

The Army recognized the largest training range cleanup liability for fiscal year 2000. It reported a \$13.1 billion liability for cleaning up closed, transferred, and transferring ranges. The \$13.1 billion was comprised of \$8 billion to clean up transferred ranges, \$4.9 billion for the cleanup of closed ranges, and \$231 million for the cleanup of transferring ranges.¹³ The Army used an unvalidated cost model to compute the \$8 billion costs of cleaning up transferred ranges and used a different cost methodology for estimating the \$4.9 billion for closed ranges. The Air Force reported a liability of \$829 million for both fiscal years 1999 and 2000 based on a 1997 estimate of 42 closed ranges, using a historical cost basis for estimating its liability.

DOD Used a Standard Cost Methodology for March 2001 Report

According to DOD officials, DOD has standardized its methodology for estimating and reporting the unexploded ordnance cleanup costs that will be reported in the March 2001 report. DOD’s cost model used to compute the unexploded ordnance cleanup costs from its training ranges has not been validated. The original cost model was initially developed by the Air Force in 1991 and has been used by government agencies and the private sector to estimate other environmental cleanup costs not associated with training range cleanup. A new module was recently added to the cost model to estimate costs for removing unexploded ordnance and its

¹³The amount reported for transferred and transferring ranges included the cleanup of nontraining range sites containing unexploded ordnance, such as ordnance disposal sites and ordnance manufacturing facilities.

constituents from former training ranges. The new module uses cost data developed by the U.S. Army Corps of Engineers from past experiences in cleaning up training ranges on formerly used defense sites.

DOD officials told us that they believe that this model is the best one available to compute the cleanup costs. However, the assumptions and cost factors used in the model were not independently validated to ensure accurate and reliable estimates. DOD Instruction 5000.61 requires that cost models such as this must be validated to ensure that the results produced can be relied upon. We did not evaluate this model, but we were informed that DOD is in the process of developing and issuing a contract to have this model validated. A DOD official also informed us that DOD is currently considering requiring that the cost model be used as a standard for the military services' valuation of their cleanup cost estimates used to report liabilities in the financial statements.

Until DOD standardizes and validates its costing methodology used for estimating and reporting all cleanup cost estimates for training range cleanup and requires its use DOD-wide, it has no assurance that the military services will compute their cleanup costs using the same methodology. As a result, the services will in all probability continue to produce unreliable and differing estimates for their various reporting requirements.

Lack of Leadership and Focus Hinders DOD Progress in Reporting Training Range Cleanup Costs

DOD lacks leadership in reporting on the cleanup costs of training ranges. DUSD(ES) was created in 1993 as the office responsible for environmental cleanup within DOD. However, this office has focused its principal efforts on the cleanup of other types of environmental contamination, not unexploded ordnance. Although requirements for reporting a training range environmental liability have existed for years, DOD has not established adequate or consistent policies to reliably develop the cost of the cleanup of training ranges and to oversee these costing efforts.

Defense Science Board Findings and Recommendations

Similar to the problems noted previously in this report concerning the inventory delays and lack of guidance, the Defense Science Board, in 1998, reported that DOD had not met its management responsibility for unexploded ordnance cleanup. It reported that there were no specific DOD-wide unexploded ordnance cleanup goals, objectives, or management plans. The report went on to say that unexploded ordnance cleanup decisions are made within the individual services, where remediation requirements are forced to compete against traditional

warfighting and toxic waste cleanup requirements. This competition has resulted in unexploded ordnance cleanup efforts being relegated to “house-keeping duties” at the activity or installation level, according to the Board’s report.

To address DOD’s unmet management responsibilities for unexploded ordnance cleanup, the Defense Science Board recommended the establishment of an Office of Secretary of Defense focal point for oversight of unexploded ordnance cleanup activities within DOD. This recommendation was made even though DUSD(ES) had overall responsibility for environmental cleanup under the Defense Environmental Restoration Program. According to the Director of DOD’s Environmental Cleanup Program, a single focal point for managing the cleanup of unexploded ordnance has still not been formally designated. A focal point with the appropriate authority could be a single point of contact who could manage and oversee the development of a complete and accurate training range inventory, the development of a consistent cost methodology across all services, and the reporting of the training range liability for the financial statements and other required reports.

Department of Energy Process to Identify and Estimate the Cost to Clean Up Hazardous Waste Sites Provides a Useful Example

The Department of Energy (DOE) has been successful in its identification and reporting of thousands of environmentally contaminated sites, with cleanup liabilities reported at \$234 billion in fiscal year 2000. Initially, in the early 1990s, DOE was unable to report the estimated cleanup costs. However, through substantial effort and support of DOE leadership, DOE was able to receive a clean, or unqualified, audit opinion,¹⁴ for its fiscal year 1999 and 2000 financial statements. DOE’s efforts provide a useful example to DOD in its efforts to identify and report cost estimates on its contaminated sites.

After 50 years of U.S. production of nuclear weapons, DOE was tasked with managing the largest environmental cleanup program in the world. DOE has identified approximately 10,500 release sites from which contaminants could migrate into the environment. DOE has made substantial progress in defining the technical scope, schedules, and costs of meeting this challenge, and in creating a plan to undertake it. DOE

¹⁴An unqualified, or clean, audit opinion means that the auditor believes that information presented in the financial statements as a whole is presented fairly, in all material respects, in accordance with generally accepted accounting principles.

officials told us that in order to build a reliable database and management program for contaminated sites, the process requires a significant investment in time and manpower.

DOE officials stated that they began their data collection and management program process in the early 1990s and are continuing to build and update their database. However, they emphasized that their efforts, similar to DOD's current efforts, started with an initial data call to collect preliminary information to identify the sites. They said the next step involved sending teams to each of the sites to actually visit and observe the site, sometimes taking initial samples, to further identify and confirm the contaminants, and to help assess the risk associated with the site contamination. The information gathered was entered into a central database in 1997 to be used for management and reporting purposes. In 1999, DOE completed entering baseline data for all known cleanup sites.

In addition to the above steps, once a site was selected for cleanup, a much more involved process was done to further test for and remove the contaminants. However, until a site is fully cleaned up, each site is reviewed and cost estimates are reviewed annually and any changes in conditions are recorded in the central database.

DOE officials told us that in addition to providing the necessary leadership and guidance to inventory and manage their sites, another key to this success was establishing a very close working relationship between the program office and the financial reporting office to ensure consistent and accurate reporting of their cleanup liabilities.

Conclusions

As military land, including training ranges, is transferred to the public domain, the public must have confidence that DOD has the necessary leadership and information to address human health and environmental risks associated with training range cleanup. Also, the Congress needs related cost information to make decisions on funding needed. DOD's recent efforts to develop the information needed to report training range cleanup costs for the required March 2001 report represent an important first step in gathering the needed data. However, accurate and complete reporting can only be achieved if DOD compiles detailed inventory information on all of its training ranges and uses a consistent and valid cost methodology. Because of the complexity of the data gathering process and the many issues involved in the cleanup of training ranges, top management leadership and focus is essential. A senior-level official with appropriate management authority and resources is key to effectively

leading these efforts to produce meaningful and accurate reports on training range cleanup costs.

Recommendations

We recommend that the Secretary of Defense designate a focal point with the appropriate authority to oversee and manage the reporting of training range liabilities.

We also recommend that the Secretary of Defense require the designated focal point to work with the appropriate DOD organizations to develop and implement guidance for inventorying all types of training ranges, including active, inactive, closed, transferred, and transferring training ranges. We recommend that this guidance, at a minimum, include the following requirements:

- key site characterization information for training ranges be collected for unexploded ordnance removal;
- identification of other constituent contamination in the soil and/or water;
- performance time frames, including the requirements to perform the necessary site visits to confirm the type and extent of contamination; and
- the necessary policies and procedures for the management and maintenance of the inventory information.

We further recommend that the Secretary of Defense require the designated focal point to work with the appropriate DOD organizations to develop and implement a consistent and standardized methodology for estimating training range cleanup costs to be used in reporting its training range cleanup liabilities in DOD's agency-wide annual financial statements and other reports as required. In addition, we recommend that the Secretary of Defense require that the designated focal point validate the cost model in accordance with DOD Instruction 5000.61.

Further, we recommend that the Secretary of Defense require the DOD Comptroller to revise the *DOD Financial Management Regulation* to include guidance for recognizing and reporting a liability in the financial statements for the cleanup costs on active and inactive ranges when such costs meet the criteria for a liability found in the federal accounting standards.

Agency Comments and Our Evaluation

In commenting on a draft of this report, DOD stated that it has made significant progress in estimating and reporting environmental liabilities on its financial statements; however, much work remains to be done. DOD's response also indicated that as the department increases its knowledge related to this area, the appropriate financial and functional policies will be updated to incorporate more specific guidance for recognizing and reporting environmental liabilities.

DOD concurred with our recommendations, but provided several comments in response to our recommendation that the Secretary of Defense require the DOD Comptroller to revise the *DOD Financial Management Regulation* to include guidance for recognizing and reporting a liability in the financial statements for the cleanup costs on active and inactive ranges when such costs meet the criteria for a liability.

DOD stated that it revised Volume 6B, Chapter 10, of the *DOD Financial Management Regulation* to clarify instances when a liability should be recognized for an active or inactive range on an active installation. However, this revision of the *DOD Financial Management Regulation* does not address the recognition of an environmental liability at active and inactive ranges in accordance with the criteria of SFFAS No. 5. For example, as stated in our report, the total \$300 million cleanup cost estimate on the active range at the Massachusetts Military Reservation should be recognized as a liability in accordance with the criteria in SFFAS No. 5.

DOD further stated that since it intends to continue to use its active and inactive ranges in the foreseeable future, the removal of ordnance to maintain safety and usability is considered an ongoing maintenance expense. DOD stated that this expense is not accrued as a liability except in those few specific instances in which an environmental response action—beyond what is necessary to keep the range in operation—is probable and the costs of such a response is measurable. Although this position is consistent with SFFAS No. 5, it is not specifically indicated in the *DOD Financial Management Regulation*.

Finally, DOD stated that as the Department gains additional experience in this area, it will review appropriate chapters in the *DOD Financial Management Regulation* to determine what, if any, additional specific guidance may need to be included regarding recognizing and reporting liabilities. While we agree that such a review is appropriate, we continue to recommend that the *DOD Financial Management Regulation* be revised

to include guidance in those instances when active and inactive ranges meet the criteria in SFFAS No. 5.

DOD also provided several technical comments, which we have incorporated in the report as appropriate.

We are sending copies of this report to the Honorable John Spratt, Ranking Minority Member, House Committee on the Budget, and to other interested congressional committees. We are also sending copies to the Honorable Donald H. Rumsfeld, Secretary of Defense; the Honorable David R. Oliver, Acting Under Secretary of Defense for Acquisition, Technology, and Logistics; and the Honorable Mitchell E. Daniels, Jr., Director of the Office of Management and Budget. Copies will be made available to others upon request.

Please contact me at (202) 512-9095 if you or your staff have any questions about this report. Other GAO contacts and key contributors to this report are listed in appendix III.

Sincerely yours,

A handwritten signature in black ink that reads "Gregory D. Kutz". The signature is written in a cursive style with a large, stylized initial "G".

Gregory D. Kutz
Director
Financial Management and Assurance

Appendix I: Objectives, Scope, and Methodology

Our objectives were to review DOD's ongoing efforts to (1) gather and collect information on its training ranges and issues affecting the successful completion of the inventory and (2) recognize environmental liabilities associated with the cleanup of unexploded ordnance from its training ranges, including DOD's efforts to develop and implement a methodology to develop cost estimates. The focus of our review was on DOD efforts to gather and collect information on its training ranges and the environmental costs associated with the cleanup of the training ranges. As a result, other sites containing unexploded ordnance were not included in the scope of our review. These sites include munitions manufacturing facilities, munitions burial pits, and open burn and open detonation sites used to destroy excess, obsolete, or unserviceable munitions. To accomplish these objectives, we:

- reviewed relevant standards and guidance applicable to environmental liabilities including Statement of Federal Financial Accounting Standards (SFFAS) No. 5, *Accounting for Liabilities of the Federal Government*; SFFAS No. 6, *Accounting for Property, Plant, and Equipment*; and *DOD Financial Management Regulation*, Volume 6B, Chapter 10, and Volume 4, Chapters 13 and 14;
- reviewed DOD guidance to the military services for performing the training range inventory survey;
- reviewed the military services' survey documents used to collect information on training ranges;
- interviewed officials from the Deputy Under Secretary of Defense for Environmental Security (DUSD(ES)); Director Defense Research and Engineering; U.S. Army Corps of Engineers; and the Army, Navy, and Air Force involved in planning and conducting the data collection efforts and analyzing the data;
- interviewed an official from the Office of the Under Secretary of Defense (Comptroller);
- interviewed officials from the U.S. Environmental Protection Agency;
- interviewed environmental officials from the states of Colorado and Alabama;
- interviewed officials from the Department of Energy;
- interviewed the contractor selected by DOD, which assisted in planning and analyzing the data and preparing the cost analysis for the March 2001 report; and
- visited two locations—Lowry Bombing Range, Denver, and Ft. McClellan, Anniston, Alabama—to gain insight into the complexities involved in estimating liabilities for training range cleanup.

We did not audit DOD's financial statements and therefore we do not express an opinion on any of DOD's environmental liability estimates for fiscal year 1999 or 2000. We conducted our work in accordance with generally accepted government auditing standards from May 2000 through March 2001. On March 29, 2001, DOD provided us with written comments on our recommendations, which are discussed in the "Agency Comments and Our Evaluation" section and are reprinted in appendix II. DOD also provided comments on several other matters, which we have incorporated in the report as appropriate but have not reprinted.

Appendix II: Comments From the Department of Defense



ACQUISITION AND
TECHNOLOGY

PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE
3015 DEFENSE PENTAGON
WASHINGTON, DC 20301-3015

MAR 29 2001



Mr. Gregory D. Kutz
Director, Financial Management and Assurance
U.S. General Accounting Office
Washington, DC 20548

Dear Mr. Kutz:

This is the Department of Defense (DoD) response to the General Accounting Office (GAO) draft report, "Environmental Liabilities: DoD Training Range Cleanup Cost Estimates Are Likely Understated", dated March 9, 2001 (GAO Codes GAO-010479/OSD Case 3052). DoD concurs with the GAO's recommendations in the Report and with the draft report recommendations. Additional clarification of the Department's position is contained in the Department's responses and the enclosed summary of suggested clarifications.

The Department has made significant progress in estimating and reporting environmental liabilities on its financial statements; however, much work remains to be done. As the Department increases its knowledge related to this area, the appropriate financial and functional policies will be updated to incorporate more specific guidance for recognizing and reporting Environmental liabilities.

Sincerely,

A handwritten signature in black ink, appearing to read "Dave Oliver".

Dave Oliver

Enclosures:
As stated



**GAO DRAFT REPORT-DATED MARCH 9, 2001
(GAO CODE-01-479) OSD CASE 3052**

**“ENVIRONMENTAL LIABILITIES: DOD TRAINING RANGE
CLEANUP ESTIMATES ARE LIKELY UNDERSTATED”**

RECOMMENDATION

RECOMMENDATION #1: The GAO recommended that the Secretary of Defense designate a focal point with the appropriate authority to oversee and manage the report of training range liabilities (p. #30 Draft Report).

DoD Response: Concur. Until the Secretary of Defense has his permanent team in place, and they have an opportunity to review the issue and to consider the various options, the Acting Assistant Deputy Under Secretary of Defense for Cleanup, in the office of the Deputy Under Secretary Defense (Environmental Security) will serve as the focal point for overseeing and managing the reporting of training range liabilities.

Enclosure (1)

GAO DRAFT REPORT-DATED MARCH 9, 2001
(GAO CODE-01-479) OSD CASE 3052

“ENVIRONMENTAL LIABILITIES: DOD TRAINING RANGE
CLEANUP ESTIMATES ARE LIKELY UNDERSTATED”

RECOMMENDATION

RECOMMENDATION #2:

The GAO recommended that the Secretary of Defense require the designated focal point to work with the appropriate DoD organizations to develop and implement guidance for inventorying all types of training ranges, including active, inactive, closed, and transferred ranges. At a minimum, the guidance should include the following requirements:

- key site characterization information for training range be collected for unexploded ordnance removal;
- identification of other constituents contamination in the soil and/or water;
- performance timeframe including the requirement to perform the necessary site visits to confirm the type and extent of contamination; and
- the necessary policies and procedures for the management and maintenance of the inventory information (p. 30 Draft Report)

DoD's Response: Concur. The designated focal point will act under defined responsibilities and with clear lines of communication with appropriate Departmental organizations to implement these findings. This focal point will develop appropriate guidance to ensure that a comprehensive inventory of all DoD training ranges is established and accurately managed.

Enclosure (1)

**GAO DRAFT REPORT-DATED MARCH 9, 2001
(GAO CODE-01-479) OSD CASE 3052**

**“ENVIRONMENTAL LIABILITIES: DOD TRAINING RANGE
CLEANUP ESTIMATES ARE LIKELY UNDERSTATED”**

RECOMMENDATION

RECOMMENDATION #3:

GAO recommended that the Secretary of Defense require the designated focal point to work with the appropriate DoD organizations to develop and implement a consistent and standardized methodology for estimating training range cleanup costs to be used in reporting its training range liabilities in DoD's Agency-wide Annual Financial Statements and other reports as required.

DoD's Response: Concur. The Department agrees that a consistent, standardized, and defensible cost estimation methodology is an essential element in calculating out training range liability. Currently, the Department is engaged in efforts to verify and refine the cost estimating software, i.e., the Remedial Action Cost Engineering and Requirements (RACER), used in the first UXO Report to Congress (SR 106-50), and to update the DoD guidance by June 30, 2001.

Enclosure (1)

**GAO DRAFT REPORT-DATED MARCH 9, 2001
(GAO CODE-01-479) OSD CASE 3052**

**“ENVIRONMENTAL LIABILITIES: DOD TRAINING RANGE
CLEANUP ESTIMATES ARE LIKELY UNDERSTATED”**

RECOMMENDATION

RECOMMENDATION #4:

GAO recommended that the Secretary of Defense require the designated focal point validate the cost model in accordance with DoD Instruction 5000.61

DOD's Response: Concur. The Department has funded the validation consistent with DODI 5000.61 of all of the current modules within the Remedial Action Cost Engineering and Requirements (RACER) model. This action to validate and accredit the RACER model will be accomplished in FY 01.

Enclosure (1)

GAO DRAFT REPORT--DATED MARCH 9, 2001
(GAO CODE-010479) OSD CASE 3052

“ENVIRONMENTAL LIABILITIES: DOD TRAINING RANGE
CLEANUP ESTIMATES ARE LIKELY UNDERSTATED”

RECOMMENDATION

Recommendation #5:

GAO recommended that the Secretary of Defense require the DoD Comptroller to revise the Financial Management Regulation to include guidance for recognizing and reporting a liability in the financial statements for the cleanup costs on active and inactive ranges when such costs meet the criteria for a liability found in the federal accounting standards.

DoD Response: It is the Department’s policy to recognize a liability associated with the cleanup of environmental liabilities. Additionally, the Department has made significant progress in estimating and reporting environmental liabilities on its financial statements.

As stated in the GAO draft report (page 10), the “Department of Defense Financial Management Regulation” (“DoDFMR”) provides policies and procedures on the reporting, in the financial statements, of environmental liabilities associated with the cleanup of closed, transferred, and transferring ranges. In December, 2000, the Department revised Volume 6B, Chapter 10 of the “DoDFMR” to clarify instances when a liability should be recognized for an active or inactive range on an active installation.

Since the Department intends to continue to use its ranges in the foreseeable future, the removal of ordnance to maintain range safety and usability is considered an on-going maintenance expense. This expense is not accrued as a liability except in those few specific instances where environmental response actions--beyond what is necessary to keep the range in operation--is probable and the costs of such a response is measurable.

As the Department gains additional experience in this area, it also will review appropriate chapters in both Volume 4 and Volume 6B of the “DoDFMR” to determine what, if any, additional specific guidance may need to be included regarding recognizing and reporting liabilities when projected costs meet the criteria for a liability found in applicable federal accounting standards.

Enclosure (1)

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Dianne Guensberg, (202) 512-5285

Acknowledgments

Staff making key contributions to this report were Paul Begnaud, Roger Corrado, Francine DelVecchio, and Stephen Donahue.

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