



U.S. Department of Energy
Office of Inspector General
Office of Audit Services

Audit Report

Management Controls over Assessing Natural Resource Damage at Rocky Flats



Department of Energy

Washington, DC 20585

November 25, 2005

MEMORANDUM FOR THE MANAGER, ROCKY FLATS PROJECT OFFICE

FROM:

George W. Collard
George W. Collard

Assistant Inspector General for Performance Audits
Office of Inspector General

SUBJECT:

INFORMATION: Audit Report on "Management Controls
over Assessing Natural Resource Damage at Rocky Flats"

BACKGROUND

The Department of Energy (Department) is in the process of completing the environmental cleanup activities at the Rocky Flats Environmental Technology Site (Rocky Flats). Over the past 5 years, Kaiser-Hill Company, LLC (Kaiser-Hill), the closure contractor, has taken action to remediate contaminated areas known as operable units. Each operable unit's level of contamination was evaluated and remedial actions were taken to reduce the contamination to levels acceptable to the State of Colorado under the Rocky Flats Cleanup Agreement (Agreement). At the completion of the remediation efforts, the Department will transfer portions of the site to the Department of Interior for a wildlife refuge after site closure. Although the entire site will be cleaned to the same standard, the Department will retain responsibility for managing the portions of Rocky Flats that require ongoing action such as groundwater treatment or require monitoring for an indefinite time period due to residual contamination.

In addition to its remediation responsibilities, the Department must ensure that potential residual injuries to natural resources are identified and addressed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This process is referred to as a Natural Resource Damage Assessment (NRDA). In conjunction with the damage assessment, the CERCLA process mandates that the State of Colorado and the Department assume certain roles as natural resource trustees for the Rocky Flats site. The Department is responsible for performing a NRDA, and the State of Colorado is given the authority to assess monetary damages for residual injuries to natural resources resulting from the release of hazardous substances. As part of our ongoing examination of the site closure activities, we conducted an audit to determine whether the Department has initiated the NRDA process for Rocky Flats.

RESULTS OF AUDIT

The Rocky Flats Project Office (Project Office) had not started the NRDA process, at the time of our review. However, as stated in the Departmental guidance, we found that it would be beneficial to integrate the Remedial Investigation/Feasibility Study (RI/FS) and



NRDA processes. Specifically, integration of these processes would result in certain cost efficiencies; and it would permit the Department to use the expertise of key personnel, with extensive knowledge of Rocky Flats and its natural resources contamination, before they leave the site as part of site closure.

The project office indicated that it did not initiate the NRDA process earlier because it considered the damage assessment to be a lower priority than achieving timely site closure. However, the office acknowledged that the NRDA process must still be addressed. We made a formal recommendation that the Project Office initiate and integrate the NRDA process with its ongoing RI/FS activities at Rocky Flats.

MANAGEMENT REACTION

The Rocky Flats Project Office concurred with the recommendation and agreed to initiate the NRDA process at Rocky Flats. The project office stated that subsequent to the Office of Inspector General audit it engaged a consultant to provide an initial evaluation of potential impacts to the natural resources not specifically addressed in its ongoing Comprehensive Risk Assessment, being performed as a part of the RI/FS for Rocky Flats. Comments by management and our responses are summarized starting on page 2 of the report. Management's verbatim comments are included as Appendix 3.

Attachment

cc: Chief of Staff
Assistant Secretary for Environmental Management
Audit Liaison, CF-1.2

REPORT ON MANAGEMENT CONTROLS OVER ASSESSING NATURAL RESUORCE DAMAGE AT ROCKY FLATS

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NATURAL RESOURCE DAMAGE ASSESSMENT AT ROCKY FLATS

Natural Resource Damage Assessment

The Rocky Flats Project Office (Project Office) had not initiated, and had no plans, at the time of our review, for conducting a Natural Resource Damage Assessment (NRDA) at the Rocky Flats Environmental Technology Site (Rocky Flats). It is Departmental policy to conduct such an assessment to identify residual injuries and the costs of any additional remedial actions. Furthermore, Departmental guidance recognizes that the early initiation of an NRDA can provide savings and efficiencies in performing the assessment.

The Project Office is currently performing a Comprehensive Risk Assessment (Assessment) as part of the required Remedial Investigation/Feasibility Study (RI/FS) for Rocky Flats. While the Assessment is necessary to quantify health risks to humans and the surrounding environment at Rocky Flats after site closure, it does not satisfy NRDA requirements. Specifically, the Assessment does not identify residual injuries and the potential costs for cleaning up or replacing the natural resources. For example, the Assessment would not identify whether an injured wetland at Rocky Flats could be remediated. The NRDA, however, could identify this condition and provide an estimate of the costs to provide a replacement wetland onsite.

Savings and Efficiencies

The Department of Energy (Department's) NRDA guidance recognizes that it is much more economical and efficient to conduct an NRDA in conjunction with a RI/FS. In October 1993, the Department issued NRDA guidance entitled *Integrating Natural Resource Damage Assessment and Environmental Restoration Activities at DOE Facilities*. According to this guidance:

"Conducting a RI/FS is a costly exercise involving the expenditure of millions of dollars for the collection of data that are similar to the data needs of NRDA. By slightly expanding the RI/FS data collection, the information needed for the early phases of an NRDA could be acquired at modest additional cost. This would be much more efficient than spending millions of dollars collecting data for an RI/FS and then spending millions more later if it becomes necessary to perform an NRDA and an independent data collection effort is required."

Further, the closure of Rocky Flats is causing both the Project Office and site contractor Kaiser-Hill Company, LLC (Kaiser-Hill) to lose key personnel with extensive knowledge of Rocky Flats and its natural resources contamination. Since the beginning of the audit, both the Project Office and Kaiser-Hill have experienced the loss of key personnel. For example, the Project Office's Director of Project Management, who was very knowledgeable in the area of the Assessment and RI/FS that Kaiser-Hill is currently performing, departed the organization in the summer of 2005. Likewise, the Kaiser-Hill Project Manager for the Assessment, who had detailed knowledge of the Assessment's methodology, is no longer at Rocky Flats as of March 2005. Both the Project Office and Kaiser-Hill face further personnel losses as Rocky Flats nears closure.

Focus on Closure

According to Project Office managers, the NRDA process was not initiated because they were focused on ensuring that Kaiser-Hill closed Rocky Flats as soon as possible. Specifically, according to Project Office managers, the NRDA was given a lower priority than site closure, and while the Project Office recognized the requirement to perform an NRDA, there was no plan to start the NRDA at any specific point in time. The Project Office has acknowledged that the Assessment was not designed to substitute for an NRDA, and that the NRDA process must still be addressed. Also, during the course of the audit, the Manager of the Project Office indicated in discussions with us that he is receptive to addressing NRDA concerns during the RI/FS process.

Unnecessary Costs

Ultimately, if the Department does not initiate the NRDA process as soon as possible, it could face increased costs. Specifically, as stated in the Department's guidance, not integrating the RI/FS data collection effort with the early phases of an NRDA could cost the Department millions of dollars. As previously stated, the timely initiation and completion of the NRDA would provide savings and efficiencies to the Department in the conduct of the NRDA and would provide protection against potential claims for damage.

Furthermore, if the Department does not perform an NRDA, it may lose an opportunity to avoid unnecessary damage claims. Specifically, the Department's NRDA guidance recognizes that unnecessary damage claims may be avoided by taking early action to identify, assess, and protect against reductions in the quantity or quality of natural resource services for the site. Further, the Comprehensive Environmental Response, Compensation, and Liability Act, Section 107, excludes liability for damages that were a result of a discharge or release when the damages "were

specifically identified as an irreversible and irretrievable commitment of a natural resource in an environmental impact statement or other comparable environmental analysis." As previously mentioned, the NRDA can be coordinated with ongoing environmental assessments such as the RI/FS currently being conducted by Rocky Flats.

RECOMMENDATION

We recommend that the Manager, Rocky Flats Project Office, in coordination with the State of Colorado, immediately initiate the Natural Resource Damage Assessment in conjunction with the Comprehensive Risk Assessment and the Remedial Investigation/Feasibility Study.

MANAGEMENT REACTION

Project Office management concurred with the recommendation and agreed to initiate the NRDA process at Rocky Flats. Management stated that it had worked closely for many years with the State of Colorado, other Federal agencies, and stakeholders to address site cleanup levels and conduct effective remediation actions. However, management acknowledged it had not formally initiated an NRDA and that doing so is a necessary next step. Management stated that subsequent to the Office of Inspector General audit, it had begun this process by engaging an NRDA consultant to provide an initial evaluation of potential impacts to natural resource services not specifically addressed by the Assessment. Further, management has had preliminary discussions with the State of Colorado and the Department of Interior regarding methods for evaluating potential resource damages. According to a Project Office official, the results of the NRDA consultant's work will be shared with the State of Colorado and the Department of Interior, in order for each party to have input in addressing any potential injuries to natural resources at Rocky Flats.

Management also made a comment which appeared to contradict information presented in the report. Specifically, management noted that the Department's 1993 NRDA guidance stated that, "To most accurately estimate natural resources damages an NRDA should really be conducted after completion of remedial action, because it is only at this point that residual injuries, i.e., those not addressed by the remedial action, can be accurately measured." Management then stated that remedial work will be completed during the first quarter of Fiscal Year 2006.

Management pointed out that its cleanup approach and ongoing consideration of potential natural resource injuries have been comprehensive, thus reducing the likelihood that additional scope or costs would be incurred to address natural resource damage issues.

**AUDITOR
COMMENTS**

The Project Office's comments are responsive to our recommendation and its actions, when fully implemented, should provide the Department with assurance that potential injuries to natural resources at Rocky Flats have been satisfactorily addressed.

However, some clarification is necessary to address the discrepancy between the NRDA information presented in the report and management's comment. It should be noted that subsequent to the quote presented by management above, the NRDA guidance goes on to state: "It would, however, be unwise for RI/FS project managers to ignore NRDA concerns until then [completion of remedial action]. Natural resource damage considerations really should play a role in the selection of remedial actions in the RI/FS process for maximum public benefit because some remedial action alternatives are likely to result in lower natural resource damages than others." Ultimately, the guidance concludes: "Overall, however, the potential advantages of integrating the RI/FS and NRDA processes substantially outweigh the potential disadvantages." Thus, in our opinion, it is the Department's intent that the NRDA be integrated with the RI/FS early in the cleanup process.

Finally, we note that despite the comprehensiveness of management's cleanup approach to date, only the completion of the NRDA process will determine whether additional costs will be ultimately incurred.

Appendix 1

OBJECTIVE The objective of this audit was to determine whether the Department has initiated a Natural Resource Damage Assessment (NRDA) process for Rocky Flats.

SCOPE The audit was performed from March through August 2005 at the Rocky Flats Project Office. The audit covered the current NRDA requirements for Rocky Flats.

METHODOLOGY To accomplish the audit objective, we:

- Reviewed Federal laws and regulations, Executive Order 12580 *Superfund Implementation*, the Rocky Flats Cleanup Agreement, and Department and Project Office guidance as they governed the NRDA process;
- Interviewed Office of the Assistant Secretary for Environment, Safety and Health; Project Office; Kaiser-Hill Company, LLC; and State of Colorado managers; and,
- Reviewed and evaluated documents related to the NRDA at Rocky Flats.

The audit was performed in accordance with generally accepted Government auditing standards for performance audits and included tests of internal controls and compliance with laws and regulations to the extent necessary to satisfy the audit objective. We assessed the Department's compliance with the *Government Performance and Results Act 1993*. The Department did not establish specific performance measures related to NRDA. Because our review was limited, it would not necessarily have disclosed all internal control deficiencies that may have existed at the time of our audit. We did not rely on computer-processed data to accomplish our audit objective. Therefore, it was not necessary to assess its reliability.

An exit conference was waived by the Rocky Flats Project Office on November 10, 2005.

PRIOR AUDIT REPORTS

Government Accountability Office

- *NUCLEAR CLEANUP, Progress Made at Rocky Flats, but Closure by 2006 Is Unlikely, and Costs May Increase* (GAO-01-284, February 2001). The Government Accountability Office (GAO) reported that the total cost at the Rocky Flats Environmental Technology Site (Rocky Flats) will rise if any claims for monetary damages are brought against the Department of Energy (Department) to compensate for injuries to natural resources, such as wildlife, fish, and lakes, on or near Rocky Flats.
- *DEPARTMENT OF ENERGY: Accelerated Closure of Rocky Flats: Status and Obstacles* (GAO/RCED-99-100, April 1999). The report stated that the Department could be exposed to litigation seeking compensation for damages resulting from the effect of the site's activities on natural resources. Department officials indicated that the potential liabilities could not be estimated, but that they could be substantial. These officials also said that over the next 2 years, they hoped to work with the site's regulators and stakeholders to define the extent of the Department's liability in the event of unanticipated future problems.
- *Natural Resource Restoration Issues at DOE* (GAO/RCED-97-28R, December 1996). GAO reported that Department officials at Rocky Flats stated that the site had undertaken several initiatives to reduce or avoid the potential adverse impacts of cleanup activities on natural resources. The actions included such things as avoiding an impact by not taking a certain action; minimizing an impact by limiting the magnitude of an action; rectifying an impact by repairing, rehabilitating, or restoring the affected resource; and compensating for the impact by replacing or providing substitute resources. These activities at Rocky Flats were focused on the buffer zone, which contained some rare and sensitive natural resources.

United States Government

Department of Energy
Rocky Flats Project Office

memorandum

DATE: OCT 04 2005
REPLY TO:
ATTN OF: RFCPM:JAL:05-00589
SUBJECT: Rocky Flats Project Office Comments on the Office of Inspector General's Draft Audit Report "Management Controls Over Assessing Natural Resource Damage at Rocky Flats"
TO: George W. Collard, Assistant Inspector General for Performance Audits, Office of Inspector General

Thank you for the opportunity to comment on the draft "Report on Management Controls Over Assessing Natural Resource Damage at Rocky Flats." Comments on specific aspects of the transmittal memorandum and the report are below, with your statements in italics, followed by the Rocky Flats Project Office (RFPO) responses. As a general comment, RFPO agrees with the Office of Inspector General (OIG) that a formal Natural Resource Damage Assessment (NRDA) process has not been initiated. However, RFPO also believes that many elements of the 1993 Department of Energy (DOE) policy have been incorporated into the cleanup through extensive involvement of the trustees in the decision-making process.

Very early in the cleanup process, the RFPO established a Memorandum of Understanding (1993) with its trustees and met periodically in "Trustee Meetings" to discuss upcoming cleanup activities. Subsequently, the discussions shifted to the Rocky Flats Cleanup Agreement (RFCA) project coordinators working meetings, which were held routinely, and attended by representatives of the U.S. Department of Interior (DOI), the Colorado Department of Public Health and Environment (CDPHE) and the U.S. Environmental Protection Agency (USEPA). The RFPO plans for studies, investigations and actions were provided early in the process and trustee input was incorporated into RFPO cleanup plans. An ongoing dialogue with the trustees has been maintained through the RFCA meetings and through stakeholder meetings that DOE, DOI, CDPHE and USEPA routinely attend. From 1993 through the present, issues such as groundwater remediation, Site revegetation, soil cleanup levels and individual accelerated actions have all been discussed extensively with the trustees, and their comments incorporated into cleanup plans, thus reducing the likelihood that additional scope or cost would be incurred to address Natural Resource Damage (NRD) issues, upon development of the final Proposed Plan and Record of Decision.

Again, the RFPO acknowledges that the formal aspects of an NRDA have not been initiated and agrees that this is a necessary next step. Subsequent to the OIG field investigation, RFPO engaged an NRDA consultant to provide an initial evaluation of the natural resource services that are not specifically addressed by the Rocky Flats Comprehensive Risk Assessment.

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Specific comments are as follows:

TRANSMITTAL MEMORANDUM

Background - The Department will retain responsibility for managing the portions of Rocky Flats that cannot be reused and require monitoring for an indefinite time period due to residual contamination.

It should be clarified that the entire Rocky Flats Environmental Technology Site (Site) is being cleaned up to the same standard, and will be safe and suitable for reuse as a wildlife refuge. The purpose of the DOE-retained area, as identified in the Rocky Flats National Wildlife Refuge Act (RFNWRA) RFNWRA 3175(d) is for the DOE to retain jurisdiction over ongoing response actions such as groundwater treatment, landfill covers and monitoring stations. Per section 3176 (d)(2) of the RFNWRA, nothing shall reduce the level of cleanup required by RFCA.

Results of Audit - Although Departmental guidance for implementing the Comprehensive Environmental Response, Compensation, and Liability Act sets a policy for conducting the NRDA process at Department sites, the Rocky Flats Project Office (Project Office) had not, at the time of our review, initiated plans for conducting an NRDA at Rocky Flats.

The RFPO agrees that a formal NRDA process has not been initiated.

DRAFT REPORT

Natural Resource Damage Assessment

The Project Office is currently performing a Comprehensive Risk Assessment (Assessment) as part of the required Remedial Investigation/Feasibility Study (RI/FS) for Rocky Flats. While the Assessment is necessary to quantify health risks to humans and the surrounding environment at Rocky Flats after Site closure, it does not satisfy NRDA requirements. Specifically, the Assessment does not identify residual injuries and the potential costs for cleaning up or replacing the natural resources.

The RFPO agrees that the scope of the Comprehensive Risk Assessment does not satisfy all NRDA requirements. However, the 1993 DOE policy report states that "To most accurately estimate natural resource damages, an NRDA should really be conducted after completion of remedial action, because it is only at this point that residual injuries, i.e., those not addressed by the remedial action, can be accurately measured." It is anticipated that the remedial work will be completed during the first quarter of fiscal year 2006. The OIG comment is valid and timely.

Unnecessary Costs

Ultimately, if the Department does not initiate the NRDA process as soon as possible, it could face increased costs.

The RFPO believes that the cleanup approach and its ongoing consideration of potential natural resource injuries has been comprehensive. Although the RFPO has not initiated a formal NRDA pre-assessment screen or Type B assessment, almost all of the relevant data have been developed,

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shared with the trustees, and factored into cleanup decision making. Releases to the environment, and subsequent response actions, have been documented and updated through the Historic Release Report initiated in 1991 and updated at least annually through 2005. Ecological conditions have been extensively documented through an ecological risk assessment conducted collaboratively with CDPHE, USEPA and the U.S. Fish and Wildlife Services (USFWS). Wetland impacts have been evaluated, discussed and addressed through a Wetlands Banking Agreement with the USEPA. Sensitive habitat areas have been evaluated and closely monitored by the USFWS. The trustees have provided close oversight of water, groundwater and soil characterization data, identification of contaminants of concern, and development of the future Site use conceptual model.

Recommendation

We recommend that the Manager, Rocky Flats Project Office, in coordination with the State of Colorado, immediately initiate the Natural Resource Damage Assessment in conjunction with the Comprehensive Risk Assessment and the Remedial Investigation/Feasibility Study.

The RFPO agrees. Subsequent to the OIG field investigation, RFPO engaged an NRDA consultant to provide an initial evaluation of potential impacts to natural resource services that are not specifically addressed by the Rocky Flats Comprehensive Risk Assessment. Also, RFPO has had preliminary discussions with DOI and CDPHE trustees regarding methods for evaluating potential resource damages.

Thank you for the opportunity to comment on the draft report. If you have any additional questions please contact me at (303) 966-2025, or Joe Legare, of my staff, at (303) 966-2282.


Frazer R. Lockhart
Manager

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