



U.S. Department of Energy  
Office of Inspector General  
Office of Audits and Inspections

# Audit Report

## The Management of the Plateau Remediation Contract



**Department of Energy**  
Washington, DC 20585

December 21, 2012

**MEMORANDUM FOR THE DEPUTY ASSISTANT SECRETARY FOR ACQUISITION AND  
PROJECT MANAGEMENT**

A handwritten signature in black ink that reads "George W. Collard".

**FROM:** George W. Collard  
Assistant Inspector General  
for Audits  
Office of Inspector General

**SUBJECT:** INFORMATION: Audit Report on "The Management of the Plateau  
Remediation Contract"

**BACKGROUND**

The Department of Energy's Richland Operations Office (Richland) awarded a contract, effective October 1, 2008, to CH2M HILL Plateau Remediation Company (CHPRC) to remediate select portions of the Hanford Site's Central Plateau. The contract, which could be extended for a maximum of 10 years, currently has a contract cost of \$5.6 billion for authorized work. The Plateau Remediation Contract work scope includes remediation of the Plutonium Finishing Plant and a number of other environmentally degraded areas related to nuclear weapons production.

The Department administers its procurements, in part, through a contract change proposal and approval process in accordance with the Federal Acquisition Regulation (FAR). As part of this process, the Department reviews, negotiates and approves changes in the work scope from contractor change proposals. The FAR requires that change proposals contain sufficient cost information to allow independent audits to determine if the change is ready for negotiation and incorporation into the contract. Within 180 days of the contractor starting work, the Department is to identify and resolve differences between the work scope specified in the original Request for Proposal and the work scope existing at the time the contract becomes effective. Successful completion of this process allows for the formal approval of the Performance Measurement Baseline (PMB), a project management tool that permits the Department to compare actual contractor cost and schedule performance against estimates to the complete contract work scope.

We received an allegation that CHPRC had not met a number of contract terms and conditions and that the Department had not corrected performance issues. The complainant noted that CHPRC had not provided change proposals and performance baselines that met contract and FAR requirements. As a result of the complaint and because of the significance of this contract, we initiated this audit to determine whether the Department had adequately managed changes to the Plateau Remediation Contract.

**CONCLUSIONS AND OBSERVATIONS**

Our review largely substantiated the allegations. We found that CHPRC had not always met contract and FAR requirements for submitting timely and/or well supported contract change

proposals. Additionally, the Department had not always formally notified the contractor of needed changes to the work scope in a timely manner, which contributed to delays in finalizing performance baselines. As such, the Department was not always able to effectively measure the contractor's cost performance because it did not have reliable estimates to measure against actual cost performance.

### Timely and Supportable Change Proposals

Within 180 days of the contractor starting work, which was October 1, 2008 through March 29, 2009, the Department was to resolve differences between the work scope in the Request for Proposal that formed the basis for the original contract cost and the work scope identified at the start of the contract. However, we identified instances where the contractor and the Department were not timely in addressing changes that totaled approximately \$1.1 billion. Specifically:

- In January 2009, the Department identified a significant change to the sludge treatment project and required the contractor to submit a change proposal to address the new work scope. CHPRC experienced significant difficulty in completing a properly supported, auditable proposal. In fact, the contractor completed and submitted multiple proposals before the Department formally reviewed a \$300 million change in September 2010;
- In October 2010, nearly 19 months after the Department's goal for resolving differences, CHPRC notified the Department that cost estimates that it had prepared for the unchanged work scope were materially incorrect. CHPRC indicated that because of estimating errors and maturities in information since its original proposal submission, the cost of the originally contracted, unchanged work scope for the Plateau Remediation Contract would increase by approximately \$575 million; and,
- Although it became aware of the need for a significant change to a "pump and treat" project even before the CHPRC contract became effective, the Department did not issue a formal request for the contractor to prepare a change order proposal until June 2010. Department officials told us that the delay in issuing the request for a change order proposal was because of confusion over what constituted a change for this particular portion of the work scope.

As previously noted, the Department was unable to approve substantial contract changes proposed by CHPRC because the contractor's change proposals did not contain appropriate documentation and support. The FAR requires that contractors submit detailed data supporting significant contract cost increases to allow independent auditors to determine whether the proposed cost increases are acceptable for negotiation, and ultimately for incorporation into the contract.

Between June and December 2010, CHPRC submitted cost proposals that, upon examination, were found to be unsupported. Specifically, independent auditors (Defense Contract Audit Agency and KPMG, LLP) found significant deficiencies during reviews of CHPRC's contract change proposals. Problems with the proposals contributed to extensive delays in completing required audits, with some audits lasting more than 6 months. For example:

- In June 2010, CHPRC submitted a proposal to resolve a \$176 million, material difference relating to work scope changes. The independent auditors informed the Department that the proposal was inadequate for audit due to significant estimation deficiencies; and,
- In September 2010, CHPRC submitted two proposals to resolve \$500 million in other material differences involving previously described scope changes (sludge treatment and pump and treat projects). In April 2011, the independent auditors reported a number of significant deficiencies with the proposals, including:
  - A sizable portion of proposed costs were deemed unsupported due to CHPRC's failure to furnish auditable and verifiable data for material and subcontract cost estimates;
  - The estimated costs of work to be deleted from the contract were unsupported because the change proposal did not contain updated labor hours, material quantities, unit costs and other costs; and,
  - The actual costs incurred that were attributable to specific proposed contract changes were not properly segregated.

After repeatedly reviewing updated proposals submitted by CHPRC, the independent auditors issued revised audit reports for August and September 2011, which disclosed some of the same problems noted during audits of the prior change proposal submissions. However, according to a Department official, many of the deficiencies identified in the revised reports were not as significant as those identified in prior submissions. Ultimately, the Department negotiated changes to the contract in March 2012.

#### FAR Pricing Requirements

According to CHPRC officials, the company was not able to provide adequate supporting documentation to support cost estimates because of uncertainty about documentation requirements and the cost of work in out-years of the contract. For example, CHPRC cost estimators told us that they did not know the extent of documentation required to be submitted with proposals to be fully compliant with FAR requirements. In addition, CHPRC indicated that it was difficult to support some estimates because the scope of work to be performed was years away from starting and potential subcontractors were reluctant to provide quotations.

Despite CHPRC's assertion, we noted that there is a well established process for meeting FAR proposal requirements. Information on proposal content was readily available from FAR Part 15.4, *Contract Pricing*. While we recognize the inherent difficulties associated with estimating out-year costs, contractors must have or obtain financial systems capable of meeting specific requirements of the FAR to receive a Government contract. The FAR requires contractors to provide detailed information such as vendor quotes, detailed bids, price analyses, or invoice prices to support those estimates in proposal submissions of substantial value. The FAR also requires contractors to provide the most current, accurate and complete information supporting

all estimates in proposal submissions, not just the original estimates used for contract award, and requires that the contractor maintain separate accounts of all incurred costs for work allocable to the change to properly adjust the contract costs.

### Measuring Contractor Cost Performance

CHPRC's inability to provide timely and supported contract change proposals made it difficult for the Department to measure cost performance. The Department requires that contracts align with cost, scope and schedule performance estimates contained in the PMB. The PMB estimates, in turn, are used in the contractor's Earned Value Management System (EVMS) to measure actual work scope progress and cost against PMB estimates. The Department reviewed and approved the contractor's EVMS in September 2009. The Department uses EVMS data to measure, among other things, the contractor's cost performance – a comparison of the estimated cost to the actual cost. Although CHPRC could not provide support for \$1.1 billion in contract change proposals, the Department provisionally approved incorporating the change proposal estimates in the PMB in order to continue remediation work under the contract. Because the contract and PMB were not in alignment and all change proposals were not verified through audit, management could not be assured that the EVMS was producing valid data for assessing contractor cost performance.

We recognize that it may be impractical to simply stop projects to align the contract and baseline; however, differences between contract costs and proposed changes to the contract should be resolved shortly after contract commencement, according to senior Department procurement officials. This enables the Department to effectively measure contractor project cost management.

### Risk Mitigation

Department officials informed us that they employed various strategies to mitigate adverse impacts of unsupported cost estimates to the Government. In particular, the Department stated that it limited approval of the work scope in the contractor's proposed \$1.1 billion PMB change to the execution year, did not pay a fee on the work scope that had not been agreed upon, and negotiated a relatively lower percentage fee for the changed work scope that had already been completed. Additionally, management stated that the contract's work authorization process gives the Department sufficient latitude to properly manage the contract, including contract changes and fees.

We commend the Department's efforts to mitigate risk by taking prudent steps to manage this complex contract through a difficult and tumultuous period. However, according to senior procurement officials, the Department lacked the contractual rigor of CHPRC's cost-plus-award-fee contract structure because of significant discrepancies between the original contract cost and subsequent changes in estimated costs over an extended period of time. Essentially, the actual costs of work performed became the revised estimates that cost performance was measured against. In fact, officials acknowledged that the contractor's actual costs were a significant amount of the proposed change in the PMB. Reliable and timely cost estimates are

necessary for the Department to effectively manage its portfolio of contractor-led projects. In the absence of timely and reliable cost information, management lacks the information necessary for making decisions regarding tradeoffs in funding among numerous projects.

### Department Actions & Path Forward

Department management recognized the need to improve contract change administration and issued multiple policy guidance revisions in 2007, 2008 and 2011, which were aimed to achieve a disciplined, timely and integrated change control process. These policy revisions reinforced the need for contract and project changes to be negotiated in a timely manner in order for projects and contracts to remain aligned. The policy stressed that contractors were to submit high-quality change order proposals in a timely manner. Additionally, the Department proactively provided contract change training to its employees across the Environmental Management complex with the purpose of reducing or eliminating future issues. When fully implemented, these changes should help address the problems identified in this report.

In May 2012, the Department notified us that it had modified the contract and approved CHPRC's PMB in a manner that aligns the contract and the PMB with each other. While this is an important achievement, we note that this occurred over 3 years after the start of the contract. As previously noted, the Department was unable to adequately consider cost performance in managing the contract during the 3-year period. Accordingly, we have made several suggestions.

### SUGGESTED ACTIONS

The intent of this report is to assist management with its continuing efforts to enhance contract administration by improving the cost performance evaluation of the contractor. We noted that the issues described in this report are not unique to the Plateau Remediation Contract. Other Office of Inspector General audits of Environmental Management projects have identified similar issues with the timely processing of contract changes and the management of performance baselines (see Attachment 2). As a result, we suggest that the Deputy Assistant Secretary for Acquisition & Project Management, Office of Environmental Management work with environmental cleanup site offices to ensure that:

1. Contractors fully support cost change proposals in accordance with the FAR, to include detailed cost elements that can be audited;
2. PMBs are properly established and formally approved in a timely manner and reflect material difference changes to the contract that occur between the date of the request for proposal and the contract start date; and,
3. Federal contract management officials promptly and formally notify contractors of required scope changes to facilitate the timely preparation of contract change proposals.

## MANAGEMENT REACTION AND AUDITOR RESPONSE

In response to a draft version of this report, the Office of Environmental Management disagreed with several of the conclusions and observations contained in the body of the draft report; however, management concurred with the recommendations. Management stated that the audit report accurately recognized the difficulty that the Department and CHPRC experienced in submitting cost estimates for contract modifications in a timely manner that met FAR requirements. Management's key comments and our responses are summarized in the following paragraphs.

Management disagreed with the suggestion that the Department may have improperly rewarded CHPRC for poor performance and stated the Department had not overpaid fees to CHPRC or paid fees on cost overruns. Management pointed out that it had implemented a number of mitigation measures to address the fee risk. We modified the language in the report, as discussed below, to recognize management's mitigation measures and to make it absolutely clear that we did not specifically identify any improper award of fees.

Management stated that most of the audit's recommendations have already been implemented through prior corrective actions and that the report no longer reflects the current state of contract administration, which now has a more disciplined change management process. We modified the report to acknowledge certain corrective actions taken by management. Nonetheless, we believe additional actions are both necessary and prudent. Our suggestions are not only intended to assist the Department with its management of the CHPRC contract, but also with its portfolio of contracts. Specifically, our suggestions are intended to encourage efforts to ensure that changes to the work scope are sufficiently detailed by the contractor to allow the Department to manage the contract in a manner that it can accurately track progress, work outcomes as well as cost performance.

Management disagreed with the report's assertion that the Department could not accurately assess contractor performance. Management also asserted that the draft report inaccurately stated that the contractor EVMS data is used by management to measure contractor performance in determining fee awards, which are based on objective completion of specific activities defined in the contract, such as demolition of a building or excavation of a waste site. Also, under fee penalty clauses in the contract, poor cost performance, as indicated by EVMS, can result in reductions of earned fees. We modified the report to reflect management's comments on the EVMS. We also agree that fee payments are not made based on EVMS, and that poor cost performance, as indicated by EVMS, can result in reductions of earned fees. However, we noted that if the contractor performs substantial work scope that has yet to be negotiated into the contract, as was the case under the CHPRC contract, the Department is then unable to fully employ the EVMS cost performance metric. As a result, poor cost performance will not be disclosed for work that could be used by the Department in deciding to exercise the fee penalty clauses in the contract.

Management stated the report did not recognize the most significant risk mitigation tool inherent within the CHPRC contract structure, the work scope authorization clause, which provided the framework for the alignment of the contract and the baseline that occurred in March 2012. This clause allows the Department to adjust contractor authorized work scope to

fit the available budget. We accepted management's point and expanded the report to acknowledge this risk mitigation tool. We agree that management can limit total funds expended by the contractor using the work scope authorization clause, but noted that this is a reactive rather than proactive measure. It was clear to us, especially in a contract of this size and scope, that the preferable contract management strategy is to start with valid cost estimates for agreed-upon work and measure against that continuously over the life of the contract. Management finally aligned the contract and baseline in March 2012, and we have so acknowledged in the report. However, it is telling to note that this was 3 years past the 180 day guideline. While management used the work scope authorization clause to achieve this milestone, we believe the extensive length of time it took is indicative of a troubling weakness in the contract administration process.

Attachment

cc: Deputy Secretary  
Associate Deputy Secretary  
Administrator, National Nuclear Security Administration  
Chief of Staff  
Senior Advisor for Environmental Management  
Manager, Richland Operations Office



## **OBJECTIVE, SCOPE AND METHODOLOGY**

### **OBJECTIVE**

The audit objective was to determine whether the Department of Energy (Department) had adequately managed changes to the CH2M HILL Plateau Remediation (CHPRC) contract.

### **SCOPE**

We performed the audit between January 2011 and May 2012, at the Richland Operations Office (Richland) in Richland, Washington. The audit scope was limited to a review of Plateau Remediation Contract activities.

### **METHODOLOGY**

To accomplish the audit objective, we:

- Researched and reviewed Federal regulations and Department policies and procedures;
- Reviewed CHPRC contract requirements;
- Obtained and reviewed audits of CHPRC proposals performed by the Defense Contract Audit Agency and KPMG, LLP;
- Obtained and reviewed Department memorandums and guidance on contract change order administration;
- Reviewed CHPRC's performance measurement baselines; and,
- Interviewed Department officials from Richland, Office of Environmental Management, and the Office of Procurement and Assistance Management regarding problems with administering the CHPRC.

We conducted this performance audit in accordance with generally accepted Government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective. Accordingly, we assessed significant internal controls and compliance with laws and regulations necessary to satisfy the audit objective. We also assessed the Department's implementation of the *Government Modernization Act of 2010* and determined that it had established performance measures related to the audit objective. 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 upon computer-processed data to accomplish our audit objective.

An exit conference was held with Department officials on December 5, 2012.

## **PRIOR REPORTS**

- Report on [\*The Department of Energy's K-25 Building Decontamination and Decommissioning Project\*](#), (IG-0854, July 2011). Cost and schedule estimates used to measure performance in the contractor's Earned Value Management System (EVMS) were not based on an independent Government estimate and had not been developed from the "bottom-up" as required. In addition, the Department of Energy (Department) did not perform timely analyses to evaluate outstanding issues described in Request for Equitable Adjustments submitted by contractor nor fully update its baseline for completing the K-25 project. The report made specific recommendations to improve timely baseline management and other issues.
- Report on [\*Audit of Moab Mill Tailings Cleanup Project\*](#), (OAS-RA-L-10-03, April, 2010). The audit disclosed that contract baseline estimates were not completely revised to reflect reduced or redesigned work scope on the project. The problems were attributed to inadequate tracking and documentation of original work scope and the changes that occurred over time. The report recommended that project management revise the project baseline to correct the problems identified in the report, and ensure that baseline changes are not made retroactively based on actual costs.
- Report on [\*The Disposition of Uranium-233 at Oak Ridge National Laboratory\*](#), (IG-0834, February 2010). The audit found that the cost baseline that was approved by the Department relied on inaccurate assumptions and was likely to be unreliable. The Department's Office of Environmental Management had not ensured that the contract was consistent with the new work scope. Delays in completing the design and uncertainty about the eventual cost of the project were caused, in part, by inconsistent Federal leadership resulting in inadequate contractor oversight. The report made recommendations to improve project leadership and baseline management.

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