



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

Audit Report

Management Controls over Changes to the Idaho Cleanup Project Contract Baseline

OAS-M-08-10

July 2008



Department of Energy
Washington, DC 20585

July 30, 2008

MEMORANDUM FOR THE MANAGER, IDAHO OPERATIONS OFFICE

FROM:

Rickey K. Hass
Assistant Inspector General
for Environment, Science, and Corporate Audits
Office of Inspector General

SUBJECT:

INFORMATION: Audit Report on "Management Controls over Changes to the Idaho Cleanup Project Contract Baseline"

BACKGROUND

In Fiscal Year 2005, the Department of Energy (Department) awarded a Cost-Plus-Incentive-Fee contract to CH2M ♦ WG Idaho, LLC (CWI) to lead environmental cleanup of its Idaho National Laboratory site. CWI's contract requires it to treat and dispose of radioactive waste at the site. The contract runs from May 1, 2005 through September 30, 2012, and has a target cost (cost baseline) of \$2.4 billion with a target fee of \$175 million. If work is completed over or under target cost, the Department will share the savings or cost with CWI on a 30/70 percent basis. For example, if CWI completes the work \$1 million under target, its fee will increase by \$300,000. If it exceeds the target cost by the same amount, its fee would be similarly reduced. This fee structure provides strong incentive for CWI to control costs in performing its cleanup work.

More than nine months elapsed between the time the final Departmental Request for Proposal (RFP) was issued and the time the CWI contract became effective. During that time, some of the work planned for the CWI contract was accomplished by the incumbent contractor. Also, additional work not originally contemplated was added to CWI's contract. The contract recognized the potential for such conditions and provided the contractor a one-time opportunity to identify discrepancies between the anticipated and actual status of completed work. The Department and CWI entered negotiations and adjusted the contract's Statement of Work through a contract modification issued on January 18, 2007. We initiated this audit to determine whether changes to the Idaho Cleanup Project contract cost baseline were appropriate.

RESULTS OF AUDIT

For a majority of baseline changes, the Department properly negotiated the Idaho Cleanup Project contract. Specifically, we concluded that most of the changes reflected fair and reasonable cost adjustments. However, for one significant activity, three changes were made that were not reasonable. Specifically,

- Two of these changes completely removed work for processing two waste streams from CWI's contract yet did not remove the \$6.2 million cost associated with those tasks; and,



- One of the changes reduced the amount of work associated with constructing a shielded containment building without a commensurate reduction of \$5.9 million.

After consultation with the management officials that negotiated the changes in scope and cost for the CWI contract, we concluded, and they acknowledged, that the costs were not appropriately reduced. In particular, we noted that the Department accepted the proposed cost reductions submitted by CWI without performing required cost/price or technical analyses. As a consequence, the CWI cost baseline may be overstated by as much as \$12.1 million. Additionally, the Department is at risk of paying unnecessary fees to CWI that could amount to as much as \$4.3 million.

To its credit, the Department has developed processes to increase the scrutiny and review of future changes to the Idaho Cleanup Project contract. However, we noted that these processes may not adequately address work scope reductions noted in this report. Accordingly, we have made several recommendations designed to strengthen internal controls over this area and help Idaho avoid similar problems during upcoming CWI contract modification negotiations.

MANAGEMENT REACTION

Management concurred with our recommendations and proposed corrective actions. While management did not agree that CWI may earn unnecessary fees and believed that the negotiation in its entirety was fair and reasonable to the government, it pledged to implement controls to prevent recurrence of the problems identified in this report. Management's comments can be viewed in their entirety in Appendix 3 of the report.

Attachment

cc: Acting Deputy Secretary
Under Secretary of Energy
Chief of Staff
Assistant Secretary for Environmental Management

REPORT ON MANAGEMENT CONTROLS OVER CHANGES TO THE IDAHO CLEANUP PROJECT CONTRACT BASELINE

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MATERIAL DIFFERENCES NEGOTIATIONS

Baseline Cost Negotiations

In most instances, the Department of Energy (Department) appropriately negotiated the changes that occurred to the CH2M ♦ WG Idaho, LLC (CWI) contract. The cost adjustments for work scope increases to the Idaho Cleanup Project contract appeared to be fair and reasonable. Additionally, removal of work scope for 24 of the 25 cost reductions appeared to be appropriate. However, the remaining reduction, which accounted for 13 percent of the total agreed upon cost adjustment, was not reasonable in our judgment. Specifically, the Department did not reduce baseline operational costs for two waste streams that were completely removed from CWI's contract. In addition, cost reductions for capital expenditures associated with constructing a shielded containment building were not commensurate with the reduced work scope.

Operational Costs

The Department did not reduce baseline operational costs for two of the three waste streams that were removed from CWI's contract. When the final Request for Proposal (RFP) was released, "rejected waste" was a key part of the Waste Management and Disposal work at the Radioactive Waste Management Complex. The "rejected waste" was primarily comprised of Remote Handled – Transuranic¹ waste (RH-TRU) and other waste streams that did not meet the acceptance criteria specified in the Advanced Mixed Waste Treatment Project (AMWTP) contract, to include:

	<u>Waste Stream</u>	<u>Quantity (drums)</u>
1	Low-Activity RH-TRU Waste	200
2	May or May Not be Categorized as RH	1,400
3	RH Managed as RH-TRU	450
4	Other Waste Not Meeting AMWTP Acceptance Criteria	100
	Total	<u>2,150</u>

In responding to the RFP, CWI provided a baseline estimate to receive, safely store, and dispose of these four "rejected waste" streams. However, when its contract became effective, responsibility for waste streams two, three, and four was

¹ Remote Handled – Transuranic waste is defined as waste containing a nuclide with an atomic number greater than that of uranium (92) and which has a measured radiation dose rate at the container surface of between 200 mrems per hour and 1,000 rems per hour and, therefore, must be shielded for safe handling.

transferred to a different contractor. Even though a significant portion of the waste streams were removed from CWI's contract, the Department did not remove the \$6.2 million of associated operating costs from its baseline. Costs that should have been removed from the baseline but were not, included:

- \$4.2 million for the retrieval, characterization, treatment, certification, packaging, and disposition of waste that may or may not be categorized as RH waste (waste stream 2); and,
- \$2 million for the retrieval, characterization, treatment, certification, packaging, and disposition of RH waste managed as RH-TRU waste (waste stream 3).

It should be noted that costs were correctly removed from the baseline for operational costs associated with other waste not meeting the AMWTP acceptance criteria (waste stream 4). Management officials acknowledged that the costs we identified should have been removed but were unable to provide documentation or analysis to explain why some operational costs were removed while others were not.

Capital Costs

Reductions for capital costs were not commensurate with the corresponding reductions in work scope. As part of CWI's proposal, it planned to spend approximately \$9.1 million to construct a multi-purpose shielded containment building by modifying an existing facility (WMF 628) to process the four "rejected waste" streams. Additionally, the CWI proposal assumed a fifth class of waste - Alpha Low-Level Mixed Waste (Alpha LLMW)² – would be processed in the modified facility but outside the shielded containment cell. When three of the waste streams were removed from CWI's contract, only two waste streams remained dependent on this "to-be-constructed" facility: 200 drums of low activity RH-TRU waste, which required shielded containment and 1,890 drums of contact-handled Alpha LLMW. However, the Department provided WMF 628 to another contractor; therefore, the facility was no longer available to handle these two remaining waste streams. Accordingly, CWI decided to handle the 200 drums of low-activity RH-TRU waste in a facility that was already funded through other work scope in the contract

² Alpha low-level mixed waste is defined as waste containing radionuclides with half-lives greater than 20 years and with alpha particle activity of between 10 and 100 nanocuries per gram mixed with hazardous constituents.

and which was designated to have a shielded containment capability. Therefore, the only remaining need for capital costs was to construct or modify a facility to process the Alpha LLMW.

Given these circumstances, the cost reduction made to the baseline was not commensurate with the work reduction. In submitting its baseline changes to the Department, CWI reduced the estimated capital cost for treating "rejected waste" from \$9.1 million to \$5.9 million. However, considering the type of waste that remained to be treated and the existing facilities available at Idaho to treat such waste, we believe that the revised estimate was not reasonable. Specifically, in developing the new estimate, no consideration was given to the type or complexity of waste requiring treatment. In expressing this concern to CWI management, they stated that they do not yet have a cost estimate for the facility required to handle contact-handled Alpha LLMW.

Analyses of Contractor Proposal

The Department did not perform cost/price analyses for the CWI baseline changes to ensure that all contract changes were appropriate. According to the Department's Acquisition Guide, either a cost or price analysis must be performed for contract modifications. However, when negotiating the cost reductions for modifications in the contract, the Department did not perform either of these analyses. Had the Department conducted cost/price analyses by comparing the proposed operational costs for the original waste streams against the CWI proposal, it may have noted that CWI had not adequately removed costs for those waste streams that had been eliminated. Also, had cost/price analyses along with a technical review been performed, the Department would likely have identified discrepancies in the manner CWI adjusted capital costs. Among other things, it may have noted that:

- CWI rounded up waste percentages resulting in an increase in cost of \$610,000, with no tangible or apparent benefit to the Government;
- Capital costs for the shielded containment building to process the 200 drums of RH-TRU that remained in their contract were not needed because existing capabilities were available; and,
- Unlike RH waste, which requires shielded containment capabilities, Alpha LLMW is contact-handled and does not require such containment and as noted earlier, can be treated in a similar and less expensive facility. However, Alpha LLMW accounted for approximately 90 percent of

the waste quantity used to justify the capital costs retained for construction of a shielded containment building.

In discussing these concerns with Department officials, they agreed that in hindsight, it is now apparent that the costs CWI estimated will not be as high as negotiated for the work scope changes discussed in this report.

The Department has developed a formal, documented process for addressing work increases and managing baseline changes to the Idaho Cleanup Project contract. However, it has not developed a process specific to work scope reductions, the focus of weaknesses identified in this report. The addition of a graded review process to the newly developed procedures could help the Department identify problems similar to those encountered with the CWI baseline change. Additional cost/price analyses and technical reviews, based on materiality and risk, could be added to specifically consider the types of issues discussed in this report.

Cost of Scope of Work Reductions

Problems with the Department's analyses and negotiations process resulted in overstatement of the CWI baseline by as much as \$12.1 million. Because this baseline is a critical part of determining the appropriate level of contractor fee, by not adjusting the baseline to reflect accurate estimates of work to be performed, the Department could potentially pay \$4.3 million more in fee than necessary. Addressing these issues is critical and should help the Department avoid future recurrences during upcoming contract negotiations.

RECOMMENDATIONS

To address the issues discussed in this report and help prevent recurrences of similar problems during contract negotiations, we recommend that the Manager, Idaho Operations Office:

1. Address cost baseline changes relating to the issues identified in this report at the next available negotiation opportunity; and,
2. Develop and formalize processes to address scope of work reductions related to the CWI contractual baseline.

MANAGEMENT REACTION

Management concurred with both recommendations. In response to the first recommendation, management stated that the government has a positive obligation to achieve fair and reasonable settlements in negotiations, taking all factors into consideration.

Management committed to improving its negotiation documentation to assure that all relevant factors are addressed in a manner that captures the contribution of issues having a bearing on the final settlement. In response to the second recommendation, management agreed with the recommendation to formalize its process to address work reductions to the baseline. Management identified specific steps it would take to improve and formalize its processes for managing changes to the contract work scope, and management has established a specific timeframe for making these changes.

However, management did not concur with the monetary finding that the Department may pay \$4.3 million more in fee than necessary. Management believed that the material differences negotiation in its entirety was fair and reasonable to the government. Management stated that contract provided a one-time opportunity for the contractor to identify any material differences in the actual status of completed work compared to the work that was anticipated in the contract Request for Proposal. This resulted in the settlement of the material differences as a bilateral modification to the contract. The contractor signed a release for this settlement at the conclusion of negotiations.

**AUDITOR
COMMENTS**

Actions taken or planned by management are responsive to our recommendations. However, as for the disagreement about the \$4.3 million of potentially excessive fees, this figure represents both the portion of current target fee that is associated with the identified \$12.1 million plus the 30 percent additional fee that can be earned for having costs that are \$12.1 million less than target cost. Our calculation was based on contractually established provisions. Although we agree that the material differences negotiations were generally fair and reasonable, the issues identified in this report were the notable exception. The estimated monetary impact was designed to provide management with the magnitude or impact associated with these exceptions.

Appendix 1

OBJECTIVE The objective of this audit was to determine whether changes to the Idaho Cleanup Project contract cost baseline were appropriate.

SCOPE The audit was performed from September 2007 to April 2008 at the Idaho Operations Office (Operations Office) and the offices of CH2M ♦ WG Idaho, LLC (CWI) in Idaho Falls, Idaho. The scope of the audit was limited to changes to the Idaho Cleanup Project contract before September 25, 2007.

METHODOLOGY To accomplish the audit objective, we:

- Obtained and reviewed Department of Energy (Department) guidance and requirements, including work instructions and the CWI contract;
- Researched Federal and Departmental regulations;
- Interviewed key personnel at the Operations Office and CWI;
- Reviewed CWI's cost and technical proposals;
- Reviewed the contract files for modifications made to the Idaho Cleanup Project contract; and,
- Analyzed the methodology and documentation for the changes made for material differences.

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 objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Specifically, we tested controls with respect to the Department's management of changes to the Idaho Cleanup Project contract's baseline. 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. Also, we considered the establishment of performance measures in accordance with the Government Performance and Results Act of 1993 and concluded that specific performance measures concerning the management of changes to the Idaho Cleanup Project did not exist. Finally, we did not rely on computer processed data to accomplish our audit objective.

Appendix 1 (continued)

An exit conference was held with the Idaho Operations Office's Chief Financial Officer on July 24, 2008.

RELATED AUDIT REPORT

- *The Advanced Mixed Waste Treatment Facility Contract at the Idaho National Engineering and Environmental Laboratory.* (DOE/IG-0622, September 2003). The Department of Energy (Department) had not sought to modify the contract price downward to account for the reduced scope when the originally planned technologies were replaced with a process that was technologically simpler and significantly less costly. Specifically, British Nuclear Fuels Limited (BNFL) removed all of the originally proposed treatment technologies and relied on a different technology, super-compaction, as the primary treatment system. Despite the modifications that represent a major reduction in the scope of work to be performed, the Department did not make downward price adjustments commensurate with the scope of work eliminations. Idaho officials were principally concerned with achieving the intended end product at the agreed-to total price, not that BNFL's original treatment technologies were replaced with a simpler, less expensive treatment process. As a result, the Department could have paid at least \$90 million more than necessary under the Advanced Mixed Waste Treatment Facility contract.

United States Government

Department of Energy

memorandum

Idaho Operations Office

Date: July 11, 2008

Subject: Management Response to the OIG Draft Report on "Management Controls over Changes to the Idaho Cleanup Project Contract Baseline," (A07ID015) – (AS-BMD-FS-08-032)


To: Rickey R. Hass, Assistant Inspector General for Environment, Science, and Corporate Audits
Office of Inspector General
DOE-HQ, IG-34/GTN

We have reviewed the subject draft report attached to IG-34 memorandum of June 11, 2008. Attached is the management response from the Idaho Operations Office for the subject OIG Draft Audit. We concur with Recommendation 1 "That the Manager, Idaho Operations Office address cost baseline changes relating to the issues identified in this report at the next available negotiation opportunity." In each negotiation, whether initiated by the government or the contractor, we will weigh all relevant factors to arrive at a fair and reasonable settlement, and fully document that determination process.

We non-concur with the monetary finding "The audit found that because the baseline was not adjusted to reflect accurate estimates of work to be performed, the Department could potentially pay \$4.3 million more in fee than necessary." Management believes the material differences negotiation in its entirety was fair and reasonable to the government.

We concur with Recommendation 2 "That the Manager, Idaho Operations Office develop and formalize processes to address scope of work reductions related to the CWI contractual baseline." We have developed and formalized processes. These work instructions will be clarified to discuss both increases and decreases in contract work scope by August 30, 2008.

If you have any questions or would like additional information, please contact Grace Ruiz, Audit Liaison, at (208) 526-0166.



M. Christine Ott, Deputy Manager
CFO/COO

Attachments

cc w/att: Marvis A. Aleem, DOE-HQ/NE-42
Joni E. Boone, DOE-HQ/EM-43
Shirley Campbell, DOE-HQ/MA-1.1
Patrick N. Holman, DOE-HQ/NE-42

Merley L. Lewis, DOE-HQ/CF-1.2
Jonathan A. Black, OIG
Mike Freeman, OIG

**DOE Idaho Operations Office's Comments to
Draft Office of Inspector General (OIG) Audit Report A07ID015
"Management Controls over Changes to the Idaho Cleanup Project Contract Baseline"**

Recommendation 1: That the Manager, Idaho Operations Office address cost baseline changes relating to the issues identified in this report at the next available negotiation opportunity.

Management Comments:

Concur.

We concur that the Government has a positive obligation to achieve fair and reasonable settlements in negotiations, taking all factors into consideration. We will improve our negotiation documentation to assure that all relevant factors are addressed in a manner that captures the contribution of issues having a bearing on the final settlement. In each negotiation, whether initiated by the government or the contractor, we will weigh all relevant factors to arrive at a fair and reasonable settlement, and fully document that determination process.

Recommendation 2: That the Manager, Idaho Operations Office develop and formalize processes to address scope of work reductions related to the CWI contractual baseline.

Management Comments:

Concur.

Management agrees with the recommendation to formalize its process to address work reductions to the baseline. We have prepared work instructions for the "Idaho Cleanup Project (ICP) Baseline Management" and "ICP Modification When Analysis is Required for Cost Reasonableness." These work instructions and processes are formalized and documented in the Idaho Management System (IDMS). The IDMS is an integrated management tool that serves as the central framework for the Idaho Operations Office work controls and processes. These work instructions and processes will be clarified to discuss both increases and decreases in contract work scope by August 30, 2008.

**Response to the OIG's Monetary Impact
For the Inspector General Report (Project AD07ID015)
"Management Controls over Changes to the Idaho Cleanup Project Contract Baseline"**

Finding


The audit found that because the baseline was not adjusted to reflect accurate estimates of work to be performed, the Department could potentially pay \$4.3 million more in fee than necessary.

ID concurrence _____

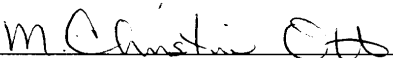
ID non-concurrence X

Justification

Contract clause B.10 provided a one-time opportunity for the contractor to identify any material differences in the actual status of completed work compared to the work that was anticipated in the contract Request for Proposal. This resulted in the settlement of the material differences as a bilateral modification to the contract. The contractor signed a release for this settlement at the conclusion of negotiations. Management believes the material differences negotiation in its entirety was fair and reasonable to the government.



Wendy L. Bauer, Contracting Officer
Idaho Operations Office, NE-ID



M. Christine Ott, Chief Financial Officer
Idaho Operations Office, NE-ID

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3. What format, stylistic, or organizational changes might have made this report's overall message more clear to the reader?
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