



United States
General Accounting Office
Washington, D.C. 20548

Resources, Community, and
Economic Development Division

B-282669

May 19, 1999

The Honorable Richard (Doc) Hastings
House of Representatives

Subject: Department of Energy: Cost Estimates for the Hanford Tank Waste
Remediation Project

Dear Mr. Hastings:

This report responds to your February 1999 request that we explain the differences between our 1998 report on the Department of Energy's (DOE) Hanford Tank Waste Remediation project¹ and a 1998 report on the same project prepared by the Pacific Rim Enterprise Center (Pacific Rim), a nonprofit organization.² The two reports reached substantially different conclusions about the growth in costs for the tank waste project. We reported that the project's costs grew from about \$4.3 billion to \$8.9 billion, an increase of 110 percent. Pacific Rim reported that the project's costs grew from about \$6 billion to \$6.9 billion, an increase of only 15 percent.

In summary, the two estimates of cost growth differed primarily because the two studies had different objectives and thus measured different aspects of the project. Our objective was to document how the project as a whole had changed from its original plan. Pacific Rim's objective was to identify significant changes between the current contract DOE signed in August 1998 and earlier contracts DOE signed in 1996 with two contractor teams. Because of these different objectives, each study used a substantially different approach to evaluate the project's cost estimates and support costs.

¹ Nuclear Waste: Department of Energy's Hanford Tank Waste Project—Schedule, Cost, and Management Issues (GAO/RCED-99-13, Oct. 8, 1998).

² The 1998 U.S. DOE-BNFL Contract to Treat and Immobilize Hanford's Radioactive Tank Waste: A Critical Analysis, Pacific Rim Enterprise Center (Sept. 1998). Pacific Rim prepared its report at the request of the Washington State Department of Ecology, a regulator of cleanup activities at the Hanford Site.

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GAO/RCED-99-188R, Hanford Tank Waste Project Costs

Background

One of the most difficult challenges at the Hanford Site in Washington State involves the cleanup of 177 underground storage tanks holding highly radioactive liquid waste, sludge, and other materials. In 1996, DOE decided it would immobilize from 6 to 13 percent of the radioactive liquid waste stored in the underground tanks through competitively awarded, fixed-price contracts.³ DOE's initial contracting plan was to purchase services to treat waste from one or more contractors after the contractors had designed, financed, constructed, and begun operating the waste treatment facilities. Late in fiscal year 1996, DOE awarded contracts to two competing contractor teams to develop design proposals. In August 1998, after an initial design phase, DOE decided to continue with only one team and entered into a fixed-price contract with BNFL, Inc.⁴ The purpose of the contract was to finish designing and to build and operate permanent facilities to treat about 10 percent of Hanford's tank waste. DOE and BNFL agreed on a target price per unit for the contract and planned to negotiate a fixed price per unit for the contract in mid-2000.

Different Objectives Affected Reporting of Project's Costs

The two studies had different objectives, which led to significant differences in measuring the project's costs. Our objective was to document how the project as a whole had changed from the original plan. Pacific Rim's objective was to identify significant changes between the current contract DOE signed in August 1998 and earlier contracts DOE signed in 1996 with two contractor teams. As shown below, the different objectives resulted in two substantially different approaches to evaluate the project's initial cost estimates and support costs. (See table 1.)

Table 1: Cost Elements Evaluated Differently in the Two Reports

Cost element	GAO report	Pacific Rim report
Initial cost estimates	Used the official cost estimates DOE reported to the Congress between 1996 and 1998.	Calculated an estimate of the project's costs using the 1996 contracts with two contractors and all contract options.
Project's support costs	Included the support costs in both the initial and the revised cost estimates to show the project's total costs.	Did not include the support costs in either cost estimate.

In evaluating the initial cost estimate, we identified DOE's initial approach and related costs as reported to the Congress and compared them with the project's scope and costs as reflected in the contract signed with BNFL in August 1998. In contrast, Pacific Rim calculated its own initial estimate of the project's waste

³ DOE planned to convert the waste to a glasslike form through a process called vitrification.

⁴ DOE's reasons for changing its approach to the project are detailed in our 1998 report.

processing costs, assuming that two contractors would process the same volume of waste that BNFL has agreed to process, and compared this estimate with the costs as reflected in the August 1998 contract with BNFL. Pacific Rim's senior consultant considered this computation appropriate because it reflected the cost to process a volume of waste similar to the volume BNFL plans to process under the August 1998 contract. However, the initial cost estimate of \$6.02 billion developed by Pacific Rim was not an official DOE cost estimate. DOE's manager for the project told us that he does not agree with the \$6.02 billion cost estimate because it was based on assumptions DOE never made about the volume of waste that two competing contractors would actually process.

The project's support costs are those costs that DOE will need to pay in addition to the amounts it pays to BNFL for successfully processing the waste. These include the costs of infrastructure, such as roads, utilities, and site preparation work, and of other support activities, such as characterizing, retrieving, and staging the waste for delivery to BNFL. The cost estimates for these activities nearly doubled, from about \$1 billion to \$1.97 billion, between DOE's initial and revised cost estimates. We included the project's support costs in our report because doing so was consistent with our objective to document how the project as a whole had changed from its original plan. In contrast, Pacific Rim focused only on DOE's contract for waste processing services and excluded the project's support costs.

To ensure that our October 1998 report was factually accurate and to obtain DOE's comments, we provided a draft of the report to DOE. DOE generally agreed with the report's conclusions and recommendations, including our description of the project's cost growth. We included DOE's comments as an appendix to our report.

To determine why the two reports on the Hanford Tank Waste Remediation project had different cost growth estimates, we reviewed both reports and interviewed Pacific Rim's senior consultant and DOE's tank waste project manager. Our review was performed from April through May 1999 in accordance with generally accepted government auditing standards.

Please call me at (202) 512-8021 if you or your staff have any further questions.

Sincerely yours,


(Ms.) Gary L. Jones
Associate Director
Energy, Resources, and
Science Issues

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