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Highlights

Highlights of [GAO-08-793](#), a report to the Subcommittee on Energy and Water Development, Committee on Appropriations, House of Representatives

Why GAO Did This Study

The Department of Energy (DOE) manages more than 56 million gallons of radioactive and hazardous waste stored in 149 single-shell and 28 double-shell underground tanks at its Hanford Site in Washington State. Many of these aging tanks have already leaked waste into the soil. Meanwhile, DOE's planned process for emptying the tanks and treating the waste—mixing it with molten glass and solidifying it in canisters for storage—has experienced delays, lengthening the time the tanks will store waste and intensifying concerns about the tanks' viability during a long cleanup process.

This report addresses (1) the condition, contents, and long-term viability of Hanford's underground tanks; (2) DOE's strategy for managing the tanks; and (3) the extent to which DOE has weighed the risks and benefits of its tank management strategy against the growing costs of that strategy. GAO analyzed numerous studies and reports on the tanks and interviewed DOE officials and other experts on relevant issues.

What GAO Recommends

GAO recommends that DOE (1) give priority to assessing single-shell tank integrity, (2) quantify specific risks in light of continued tank use, and (3) work with state and federal agencies on realistic cleanup milestones. DOE disagreed with GAO's conclusions and viewed the recommendations as consistent with its present and planned activities.

To view the full product, including the scope and methodology, click on [GAO-08-793](#). For more information, contact Gene Aloise at (202) 512-3841 or aloise@gao.gov.

NUCLEAR WASTE

DOE Lacks Critical Information Needed to Assess Its Tank Management Strategy at Hanford

What GAO Found

DOE lacks comprehensive information about the condition, contents, and long-term viability of Hanford's waste tanks. Although recent work indicates that the newer, double-shell tanks are generally sound structurally, the condition of the older, single-shell tanks is less certain. All the tanks contain a complex mix of radioactive elements and chemicals, making the proportions of constituents in any tank uncertain and emptying the tanks technically challenging. DOE officials acknowledged the lack of information about the condition of the single-shell tanks and are in early stages of a study to assess these tanks' structural integrity. The uncertainties over tank condition, especially as the time frames for emptying tanks are extended and the tanks age, raise serious questions about the tanks' long-term viability.

DOE's tank management strategy involves continuing to use Hanford's aging tanks to store waste until they can be emptied, the waste treated, and the tanks closed. As work proceeds, however, DOE's time frames for completion are lengthening by decades, and the agency appears to be operating under more than one schedule. For example, DOE's internal milestone for emptying single-shell tanks is 19 years later than the date agreed to with its regulators. Although DOE and its regulators have been discussing new tank waste management milestones, as of June 2008, no decisions had been reached. Moreover, DOE's tank management strategy relies on assumptions that may be overly optimistic, such as assuming that emptying single-shell tanks will proceed significantly faster than it has to date.

DOE lacks comprehensive risk information needed to weigh the benefits of pursuing its tank waste removal and closure strategy against growing costs. In particular, DOE has not assessed the risks posed by continuing to store waste in the aging tanks until the waste is removed and cannot demonstrate that benefits are commensurate with the costs of its tank management strategy. DOE is nevertheless moving forward with negotiating new tank waste milestones with its regulators.

Double-Shell Tank Farm under Construction at Hanford



Source: DOE.