


GAO
 Accountability Integrity Reliability
Highlights

Highlights of [GAO-03-930T](#), a testimony before the Subcommittee on Oversight and Investigations, Committee on Energy and Commerce, House of Representatives

Why GAO Did This Study

The Department of Energy (DOE) oversees the treatment and disposal of 94 million gallons of highly radioactive nuclear waste from the nation's nuclear weapons program, currently at DOE sites in Washington, Idaho, and South Carolina. In 2002, DOE began an initiative to reduce the estimated \$105-billion cost and 70-year time frame of this cleanup. GAO was asked to testify on the status of this initiative, the legal and technical challenges DOE faces in implementation, and any further opportunities to reduce costs or improve program management. GAO's testimony is based on a report (GAO-03-593) released at the hearing.

What GAO Recommends

GAO made recommendations in the report on which this testimony is based. In commenting on the report, DOE agreed to consider seeking clarification from the Congress about its authority to decide that waste with low concentrations of radioactivity could be treated and disposed of on-site. DOE disagreed with the need to conduct integrated testing of the Hanford waste separation technology and argued that its existing actions are sufficient to support decision making with rigorous analysis, test new technology before incorporating it into projects, and pursue concurrent design/construction of complex facilities. GAO disagrees and continues to believe that its recommendations are warranted.

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NUCLEAR WASTE

Challenges and Savings Opportunities in DOE's High-Level Waste Cleanup Program

What GAO Found

DOE's initiative for reducing the costs and time required for cleanup of high-level wastes is still evolving. DOE's main strategy for treating high-level waste continues to include separating and concentrating much of the radioactivity into a smaller volume for disposal in a geologic repository. Under the initiative, DOE sites are evaluating other approaches, such as disposing of more waste on site. DOE's current savings estimate for these approaches is \$29 billion, but the estimate may not be reliable or complete. For example, the savings estimate does not adequately reflect uncertainties or take into account the timing of when savings will be realized.

DOE faces significant legal and technical challenges to realize these savings. A key legal challenge involves DOE's process for deciding that some waste with relatively low concentrations of radioactivity can be treated and disposed of on-site. A recent court ruling invalidated this process, putting the accelerated schedule and potential savings in jeopardy. A key technical challenge is that DOE's approach relies on laboratory testing to confirm separation of the waste into high-level and low-activity portions. At the Hanford Site in Washington State, DOE plans to build a facility before conducting integrated testing of the waste separation technology—an approach that failed on a prior major project.

DOE is exploring proposals, such as increasing the amount of high-level waste in each disposal canister, that if successful could save billions of dollars more than the current \$29 billion estimate. However, considerable evaluation remains to be done. DOE also has opportunities to improve program management by fully addressing recurring weaknesses GAO has identified in DOE's management of cleanup projects, including the practice of incorporating technology into projects before it is sufficiently tested.

Waste Storage Tanks under Construction at DOE's Hanford Site, September 1947



Source: DOE.

Many of the waste storage tanks, such as those above, were built in the 1940s to 1960s. These tanks, now underground, are used to store high-level waste and have exceeded their design life of 10-40 years. Some have leaked waste into the soil.