

# Highlights

Highlights of [GAO-05-665](#), a report to congressional committees

## Why GAO Did This Study

Plutonium is very hazardous to human health and the environment and requires extensive security because of its potential use in a nuclear weapon. The Department of Energy (DOE) stores about 50 metric tons of plutonium that is no longer needed by the United States for nuclear weapons. Some of this plutonium is contaminated metal, oxides, solutions, and residues remaining from the nuclear weapons production process. To improve security and reduce plutonium storage costs, DOE plans to establish enough storage capacity at its Savannah River Site (SRS) in the event it decides to consolidate its plutonium at SRS until it can be permanently disposed of in a geologic repository at Yucca Mountain, Nevada. GAO was asked to examine (1) the extent to which DOE can consolidate this plutonium at SRS and (2) SRS's capacity to monitor plutonium storage containers.

## What GAO Recommends

GAO recommends that DOE (1) develop a comprehensive strategy to consolidate, store, and eventually dispose of its plutonium and (2) ensure that its facilities' cleanup plans are consistent with its plutonium consolidation plans. In commenting on the report, DOE generally agreed with our recommendations.

[www.gao.gov/cgi-bin/getrpt?GAO-05-665](http://www.gao.gov/cgi-bin/getrpt?GAO-05-665).

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

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# SECURING U.S. NUCLEAR MATERIALS

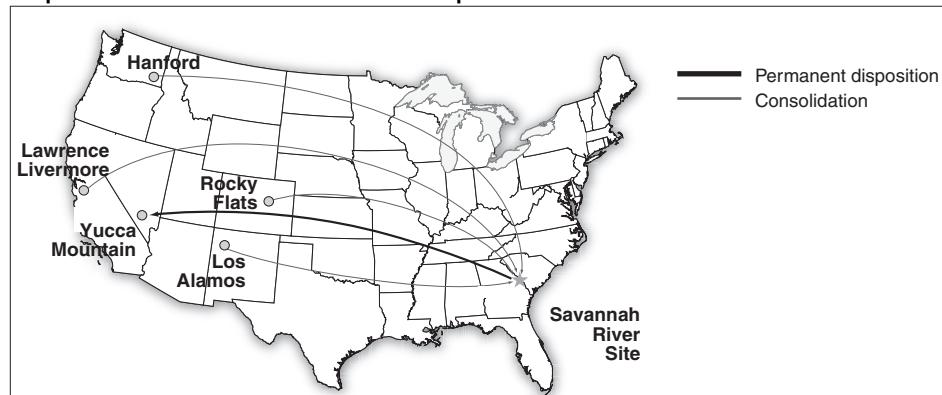
## DOE Needs to Take Action to Safely Consolidate Plutonium

### What GAO Found

DOE cannot yet consolidate its excess plutonium at SRS for several reasons. First, DOE has not completed a plan to process the plutonium into a form for permanent disposition, as required by the National Defense Authorization Act for Fiscal Year 2002. Without such a plan, DOE cannot ship additional plutonium to SRS. Second, SRS cannot receive all of the plutonium from DOE's Hanford Site because it is not in a form SRS planned to store. Specifically, about one-fifth of Hanford's plutonium is in the form of 12-foot-long nuclear fuel rods, which Hanford had planned to ship intact to SRS as part of its efforts to accelerate the cleanup and demolition of its closed nuclear facilities. However, SRS's storage plan called for storing DOE's standard storage containers and not intact fuel rods. Recent changes in DOE's security requirements have complicated SRS's storage plans by eliminating one facility that DOE planned to use to store plutonium. Until DOE develops a permanent disposition plan, additional plutonium cannot be shipped to SRS and DOE will not achieve the cost savings and security improvements that consolidation could offer. Continued storage at Hanford will cost an additional approximately \$85 million annually and will threaten that site's achievement of the milestones in its accelerated cleanup plan.

In addition, DOE lacks the capability to fully monitor the condition of the plutonium necessary to ensure continued safe storage. The facility at SRS that DOE plans to use to store plutonium lacks adequate safety systems to conduct monitoring of storage containers. Without a monitoring capability, DOE faces increased risks of an accidental plutonium release that could harm workers, the public, and/or the environment. DOE had planned to construct a monitoring capability in another building at SRS that already had the safety systems needed to work with plutonium. However, this building would not have had sufficient security to conduct all of the required monitoring activities. In addition, this building also has other serious safety problems. Faced with these challenges, DOE announced in April 2005 that it would have SRS's storage facility upgraded to conduct plutonium monitoring.

### Proposed Consolidation and Permanent Disposition of DOE's Unneeded Plutonium



Sources: GAO (data); MapArt (images).