

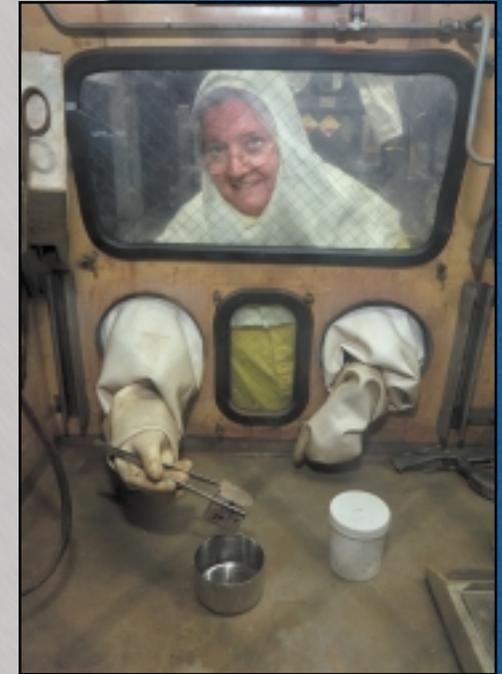
# NUCLEAR MATERIAL STABILIZATION

## Expectation:

Safely stabilize special nuclear materials at the Plutonium Finishing Plant (PFP) and then deactivate the facility to minimize risk to workers and the environment while decreasing cost to taxpayers.

## Status:

- Thermal stabilization of plutonium-bearing materials continues at an increasing pace. Started operating three additional furnaces two months ahead of schedule. Through June, more than 300 items have been stabilized with the five furnaces now operating.
- Stabilized, and repackaged where necessary, some high-risk plutonium metal items. Other high-risk stabilization activities are under way. A new packaging unit, called a bagless transfer system, will be operational later this year (see “What’s Next” on Page 6).



*A Fluor Hanford scientist examines one of 1,600 polycubes to be stabilized starting early next year. PFP and Pacific Northwest National Laboratory staff teamed up to test the polycubes. They confirmed the two-inch cubes can be safely stabilized in the same furnaces now used to stabilize other plutonium-bearing materials, saving the cost of installing special equipment.*

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## Status: (continued)

- Completed studies of the risks posed by plutonium-bearing sludge remaining in the bottom of Tank 361, a settling tank once used for PFP effluents, and recommended a non-time-critical removal of the sludge. As scheduled by the Tri-Party Agreement, DOE forwarded the data and recommendation to the U.S. Environmental Protection Agency, which will make the final decision on the regulatory path forward.
- A yearly assessment at the Plutonium Finishing Plant by the Facility Evaluation Board concluded that overall plant performance has steadily improved during the past three years. Areas making significant progress include radiation protection, Occupational Safety and Health Administration (OSHA) compliance, emergency management, and engineering.



*Studying the contents of Tank 361 over the past two years posed numerous challenges due to the unknowns associated with the settling tank, which was taken out of service in 1973. For example, to keep the weight directly over the tank under 2,000 pounds, a bridge was built to support the weight of the sampling truck.*

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## What's Next:

- Construction activities are nearly complete on the magnesium hydroxide precipitation gloveboxes and process equipment. Once installation is complete in July, the remaining activities will include operational testing, operator training and operational readiness reviews. Startup, to stabilize plutonium liquids, is set for early September.
- The Washington State Department of Health approved construction of the bagless transfer system. The first packaging system, fabricated at the DOE Savannah River Site and incorporating “lessons learned” for specific Hanford use, is onsite and being used for mockup training until installation begins. Startup is scheduled for later this summer. A second unit is being purchased, with startup expected early in 2001.



*A Fluor Hanford nuclear chemical operator and Fluor Federal Services construction coordinator verify installation of the magnesium hydroxide precipitation process glovebox against approved print drawings.*