Nuclear Material Stabilization

Expectation:

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

Status:

- **Fluor Hanford contracted with Westinghouse Safety Management Solutions (WSMS) to bring in a core leadership team with significant relevant plutonium operations experience. A 30-day transition between B&W Hanford and WSMS was completed February 1.**
- **Thermal stabilization of plutonium-bearing materials is progressing at a rate double last year's, with more than 200 items stabilized this fiscal year. More than 8 percent of the inventory has been stabilized to date. Three new furnaces recently brought on line should double the throughput rate again.**

Inside gloveboxes at the Plutonium Finishing Plant, workers place plutonium-bearing materials in containers called boats. This boat, on a conveyor, is approaching a small oven, called a muffle furnace, where high temperatures will dry the moist, chemically reactive materials in the boat to a stable powder.

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What's Next:

- The added muffle furnaces, plus restart of cementation of plutonium residues and the start of magnesium hydroxide precipitation processing of plutonium solutions this summer, will quadruple the overall rate of stabilization at the Plutonium Finishing Plant this year.

- Studies have confirmed that the use of muffle furnaces will be an efficient, cost-effective and safe method for stabilizing plutonium polycubes. That effort will be initiated in the first quarter of fiscal 2001.

This filtrate glovebox is being installed for a magnesium hydroxide process technology that will start stabilizing plutonium liquids this summer. Two more gloveboxes are in fabrication at Idaho Falls.

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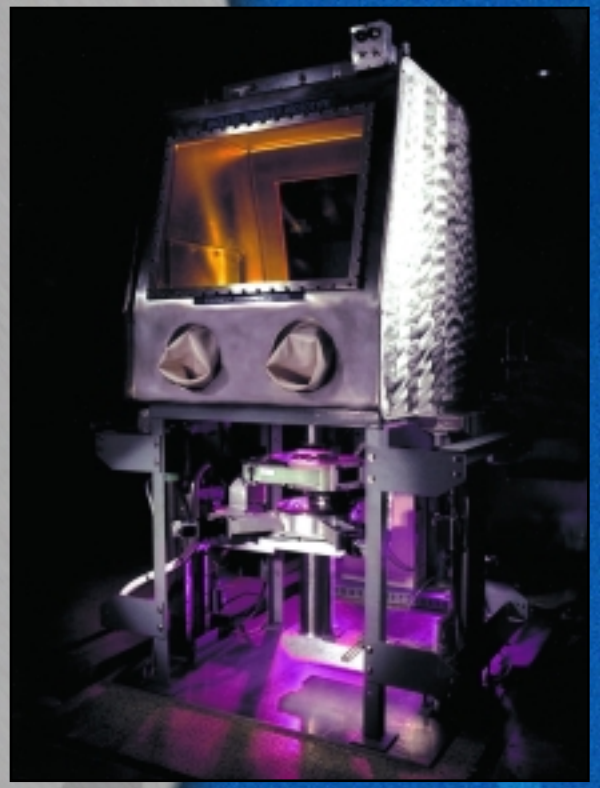
What's Next: (continued)

- Two final packaging units, referred to as bagless transfer systems, will be installed at the Plutonium Finishing Plant to package the inventory of stabilized materials. Startup of the first system, now being installed, is scheduled for the fourth quarter of fiscal 2000. Having two systems will increase operating efficiency and help accelerate the Project's completion.



An efficient method for final packaging of stabilized materials in canisters, or "bagless" transfer, is being imported to Hanford from DOE's Savannah River Site. This is the first of two bagless transfer system gloveboxes to be installed.