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### **HANFORD'S PLUTONIUM FINISHING PLANT FIRST TO MEET NEW DEPARTMENT OF ENERGY PLUTONIUM PACKAGING STANDARD**

Workers at Hanford's Plutonium Finishing Plant (PFP) Tuesday began welding on a new package for long-term plutonium storage. Hanford is the first site in the U.S. Department of Energy (DOE) complex to be ready to comply with a stringent new DOE packaging standard for plutonium.

"It is truly an achievement to be the first site in the DOE complex to complete, test and use a production system that is essentially our industry standard," said Pete Knollmeyer, DOE Assistant Manager for Nuclear Materials and Facility Stabilization. "I congratulate the PFP staff and DOE project staff and commend them for their persistence and dedication in meeting this important objective."

The volume and variety of plutonium forms makes PFP one of Hanford's more technically challenging projects. To prepare for plant deactivation, nearly 18 metric tons of plutonium bearing metals, oxides, solutions, residues and "polycubes" will be prepared for safe storage and offsite disposition over the next three years.

The new packaging standard requires the use of three stainless steel containers. First, stabilized material is packed into a stainless steel container with a screw top lid. That container is put into an inner storage container, filled with helium (an inert gas that limits corrosion) and welded shut. The final step is to place the welded inner container into the slightly larger outer container that is also welded shut. This creates the final package for safe, long-term storage for up to 50 years.

"Having the capability to complete safe, long-term storage of our plutonium is significant in terms of reducing risk to our workers and the public," said George Jackson, Fluor Hanford, Inc. vice president for the Nuclear Material Stabilization Project at PFP. "It also moves us ahead in our mission to complete the stabilization and packaging of all of PFP's plutonium forms by

May 2004."

Startup of an automated welding and packaging system, known as the "Bagless Transfer System," in September 2000 provided PFP the capability to package material and weld the inner storage container. The first material to be packaged was plutonium metal items, commonly referred to as buttons. Startup of the new outer can welder today will allow PFP workers to complete the storage packages.

The Nuclear Material Stabilization Project expects to complete installation of additional equipment to increase throughput for stabilization and packaging by September. This system will include a glovebox lined with four new thermal stabilization furnaces and the second Bagless Transfer Packaging System. When this area begins operation, the Nuclear Material Stabilization Project will have all of the pieces in place to complete its stabilization mission by May 2004.

DOE's Richland Operations Office and PFP project management have collaborated with DOE and contractor staff at DOE's Savannah River Site and Rocky Flats Site to share lessons learned and technology development.

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**Historical Note:** The U.S. Department of Energy's Richland Operations Office manages the Hanford Site in southeastern Washington State. Hanford was established during World War II as part of the top secret Manhattan Project to produce plutonium for nuclear weapons. Weapons material production was halted in the late 1980s. The Hanford Site is now engaged in the world's largest cleanup effort to deal with the legacy of radioactive and hazardous wastes that resulted from the plutonium production era. The U.S. Environmental Protection Agency and the Washington State Department of Ecology regulate Hanford's cleanup program under a long-term compliance contract called the Tri-Party Agreement. This agreement sets the framework and timelines on the cleanup work so that Hanford meets environmental standards. Hanford cleanup is focused on three outcomes: restoring the Columbia River Corridor for other uses, transitioning the Central Plateau to long term waste treatment and storage, and preparing for the future.

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