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DOE

## **HANFORD ANNOUNCES MAJOR PROGRESS WITH TANK SAFETY ISSUES**

The U.S. Department of Energy has closed out the Ferrocyanide Waste Tank Watch List, resolving one of Hanford's most serious tank waste safety issues.

The ferrocyanide watch list is one of four tank safety watch lists established in 1991. The lists were in response to federal legislation requiring precautionary measures to be taken in and around tanks that had the potential to expel waste due to fire or explosion. Other watch lists cover issues of flammable gas, organic chemicals and high heat.

"This is a major step forward in resolving one of our most serious safety issues and represents a victory for our waste sampling and analysis organization. Without this organization's ingenuity in designing equipment and techniques to prevent high temperatures while taking samples, we would not have the analytical data needed to show that ferrocyanide is no longer a safety concern," said Jackson Kinzer, Assistant Manager for Tank Waste Remediation System (TWRS) for DOE's Richland Operations Office.

Ferrocyanide has the potential to ignite or explode when heated above 450 degrees fahrenheit. Tank characterization and analyses of waste samples taken from the tanks show that the ferrocyanide has decomposed and is no longer a threat. Closing the ferrocyanide watch list by removing the 18 ferrocyanide tanks from the list, a 30% reduction (54 to 38), has resolved this safety issue and concluded years of sampling, testing, and scientific study.

Ferrocyanide is a chemical that was added to some single-shell tanks between 1954 and 1957 to remove cesium from the liquid wastes. Concern over ferrocyanide surfaced in the 1980s as the old single-shell tanks began to leak and liquid was pumped from them, leaving a thick sludge. Scientists were concerned that temperatures might increase and heat the sludge waste high enough for it to burn or explode. Thermocouples in the tanks indicated that the temperatures were low, but precautions were needed to ensure that work in the tanks would not significantly increase the temperature. Rigid safety controls were established on work inside as well as outside the tank farms.

With the latest action closing the ferrocyanide watch list, 38 of Hanford's 177 storage tanks remain on watchlists. Several tanks are on more than one list.

"TWRS has made record-breaking progress over the past year in resolving many of its safety issues," said Kinzer. Other accomplishments that improve tank safety include:

- On June 21, 1996, the Flammable Gas Unreviewed Safety Question (USQ) for Tank SY-101 was closed, meaning all safety issues with the tank are now understood. The large mixer pump installed in this tank in July 1993 to mitigate gas build-up continues to perform flawlessly.
- Three tank farms (36 of the 149 single-shell tanks) have been placed in an interim stabilized mode, meaning all liquids have been removed from the tanks, the tanks are remotely monitored by

computers and surface areas in the farms are cleaned up.

- The construction project to install a waste sluicing system to remove the high-heat waste from single-shell tank 106-C and transfer it to a double-shell tank is nearing completion. When this high-heat waste is finally removed from this tank, it will close out another watch list, the high-heat tank watch list.
- Tank farm hazards and potential safety concerns have been more thoroughly identified and analyzed, and a new Basis for Interim Operations prepared. This greatly improved safety authorization basis will be implemented this fiscal year.
- The down posting or redesignation of the SY-Tank Farm from a "contamination area" to a "radiological buffer area" means a safer and cleaner work environment for employees and anti-contamination clothing is no longer required.

"While we are celebrating significant progress in resolving safety issues within the TWRS Program, we can't lose sight of the many challenges that remain. Continued hard work, diligence and adequate funding are necessary to continue our tank cleanup effort," said Richland Operations Office Manager John Wagoner.

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