

Hanford Engineers Hit Midway Point in Double-Shell Tank Camera Schedule

RICHLAND, Wash., March 9, 1995 -- Progress is underway -- the fourth in a series of eight standardized camera systems is ready for permanent installation into Hanford's double-shell tanks.

The camera will be installed into Tank AN-107 this spring prior to installation of a mixer pump that will be put in later this year. The camera will tell engineers how well the 75-horsepower mixer pump is performing and whether it is putting undue stress on some of the permanent fixtures in the tanks, including weld joints.

The mixer pump is to be installed in the tank to reduce a corrosion problem. It will be used to mix a caustic compound (sodium hydroxide) with the tank's acidic contents, effectively neutralizing the acid. Views from this video camera system will help engineers observe what happens once the mixing begins. Tank AN-107 is the only nonflammable double-shell tank into which these new camera systems are currently scheduled to be installed.

The camera system was assembled at the 306E fabrication facility by Westinghouse engineers incorporating state-of-the-art commercial equipment. The \$120,000 video camera system includes such standard features as prisms to shield its delicate electronics from high radiation within the tank. It also has some different features because Tank AN-107 is a nonflammable tank. Flammable tanks require inherently safe lighting systems to eliminate any chance of a spark inside the tank's vapor space.

"This is a permanent nonflammable gas video system -- it will provide the best imaging inside of a tank so far," said Tom Pedersen of Westinghouse's Tank Waste Remediation System (TWRS) Surveillance Systems Engineering. "In the tanks with flammable gas concerns, we are unable to use the kind of lights we would like because of explosion-proof requirements, but in nonflammable tanks, we can throw a lot more light on the subject, resulting in better quality video."

"The complete system weighs about 800 pounds so we had to build gearing strong enough to lift that weight; the camera and light system alone weighs approximately 80 pounds. The whole assembly will be bolted to the riser and left in the tank during the mixing and caustic addition operations."

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