

# CH2M HILL Hanford Group keeps the tank farms dry

Geoff Tyree, CHG

CH2M HILL Hanford Group has begun a project to keep water out of single-shell tank farms where past tank leaks have contaminated the soil. Over the decades, wastewater from past operations, runoff from rain or snow and leaks from water pipes have transported the contamination deeper toward the groundwater.

Sixty-seven of Hanford's older single-shell tanks have leaked or are assumed to have leaked an estimated 1 million gallons of radioactive waste into the ground in the past. There is evidence that some of the contamination has impacted the groundwater.

Working for the Department of Energy Office of River Protection, CHG is taking steps to prevent water from runoff or leaky pipes from moving existing radioactive and hazardous contamination further into the ground.

Historically, wastewater sent to cribs, retention ditches and drain fields was the major contributor of liquid to the ground in the vicinity of the tank farms.

Now, leaks from aging pressurized water lines are a concern. Several old water pipes run through and near the single-shell tank farms. Many of the pipes were installed in the 1950s — some as late as the 1970s, but none in more recent years.

Occasionally, water wells up on the surface above a water-line leak, sometimes causing a minor flood. Smaller leaks can occur with no visible signs on the surface, but these leaks can contribute a significant amount of water to the soil over time.

"We're eliminating all unnecessary water lines in or near the single-shell tank farms," said Frank Anderson, CHG Interim Measures manager. "We have a comprehensive program to take the old pipes out of service by physically capping them off, along with a testing program to ensure the remaining active lines aren't leaking."

DynCorp Tri-Cities Services is excavating the soil around the water lines and cutting and capping the lines or installing testing equipment. The work is being done outside the tank farms to reduce the risk to workers and to reduce project costs



Hanford crews are cutting and capping inactive water lines near single-shell tank farms and testing the remaining active lines to make sure they don't leak. The activities are part of a DOE Office of River Protection and CH2M HILL Hanford Group project. The goal of the project is to prevent runoff water or pipe leaks from moving existing radioactive and hazardous contamination that was caused by past tank leaks further into the ground. Several old water pipes run through and near the single-shell tank farms, and some were installed as long ago as the 1950



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A worker with the River Protection Project begins cutting a water pipe. Eliminating all unnecessary water lines in and near the single-shell tank farms will prevent water from possible leaks from driving existing contamination deeper.

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Runoff is also a concern. A quick snowmelt in February 1979 inundated more than one tank farm. Pictures of the event show Hanford workers standing in water up to their ankles. A water-main break in 1996 released more than 570,000 gallons of water and flooded an area near the S and SY Tank Farms.

To prevent water from entering the tank storage areas in the future, plans call for a combination of repaved roads, gutters and earthen berms to be built in the next two years. The project includes repaving a road with curbs next to the U Tank Farm and installing berms around the S, SX, T, TX and TY Tank Farms.

“These measures have the potential to significantly reduce the movement of existing radioactive and hazardous contaminants toward the groundwater,” said Rick Raymond, manager of the CHG Single-Shell Tanks Project. “Along with moving liquid waste out of the older tanks into double-shell tanks, this work is important to protecting the groundwater and the Columbia River.” ♦