All Hanford Double-Shell-Tank Farms Now Equipped With Upgraded Ventilation Systems

March 8, 2022

EM's Office of River Protection and tank operations contractor Washington River Protection Solutions continue to enhance safety in the Hanford Site's Tank Farms with the completion of a new exhauster ventilation system in the SY Tank Farm.

RICHLAND, Wash. — The **EM** Office of River Protection (**ORP**) and tank operations contractor Washington River Protection Solutions (WRPS) recently began operating a new exhauster ventilation system installed in the SY Tank Farm at the **Hanford Site**.

The new system replaces the old exhauster ventilation system that had reached the end of its design life.

With the completion of the installation of the new system at the SY Tank Farm, all six of Hanford's double-shell-tank farms, consisting of 28 tanks, now have upgraded exhauster ventilation systems.

The systems work by continuously drawing air from a waste tank, separating moisture and radioactive particles, then sending filtered air through exhaust stacks into the atmosphere. The systems protect workers by dispersing high-efficiency particulate air (HEPA) above the breathing space of workers. They also prevent the buildup of flammable gases in the tanks.

“DOE and the contractor share a steadfast commitment to safety as we reduce risk to the environment posed by 56 million gallons of waste stored in our large underground tanks,” said Delmar Noyes, EM assistant manager for **Tank Farms**. “The new SY Tank Farm system is much more reliable and effective than the previous system, which will help ensure continued safe operations in the farm for decades.”

SY Tank Farm is made up of three double-shell tanks built between 1974 and 1976, and the 1-million-gallon-capacity tanks began receiving waste in 1977. The tank farm is still in service and will support future retrievals and waste transfers from single-shell tanks in the western portion of a 10-square-mile industrial area known as the Central Plateau.

The SY Tank Farm project involved installing two new ventilation fans and a pair of 40-footstacks. Workers then tied into the existing ventilation ductwork.

Tim Moberg, the project’s lead engineer for WRPS, said the project team used lessons learned from the installation of previous ventilation systems in Hanford’s double-shell-tank farms in the new system’s design.

“The SY ventilation system has state-of-the-art components and a remotely operated control system that allows operators to check the status of all equipment in real time,” Moberg said. “Another major benefit is the new system will require fewer entries into the tank farm for both operations and maintenance personnel.”

Moberg, who was part of the project team for the installation and upgrades at each of Hanford’s other double-shell-tank farms, said the team faced several challenges that were addressed through collaboration.

“We had to design around a lot of underground interferences and tie into old electrical systems and existing ventilation lines,” he said. “Teamwork was key to the project’s success. We had excellent communication and collaboration between DOE and our construction, maintenance, engineering, radiological controls, industrial hygiene and safety teams.”