

# Tri-City Herald

## Hanford investigation says toxic waste vapors didn't sicken workers. Some question that

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The Hanford employer of workers who spent a night in the hospital in June says the odor they reported was most likely from a wheelbarrow powered with a gasoline engine.

Contractor Washington River Protection Solutions said its investigation had ruled out other sources of the smell, including hazardous chemical waste.

But [Hanford Challenge](#), a Seattle-based Hanford worker advocacy group, remains concerned.

On June 18 [nine workers in the TX Tank Farm in the center of the nuclear reservation](#) were evaluated at the on-site occupational medical provider after smelling an odor that some described as copper-like, burnt or sour.

Three with symptoms were referred from the on-site clinic to Kadlec Regional Medical Center in Richland, where they were held for 24 hours for observation. Symptoms included headaches, nausea and rapid heart rates.

Washington River Protection Solutions said in a message to employees that the workers had repeated blood draws to check for exposure to chemicals known to be in the tanks, with no exposure noted.

The symptoms reported were consistent with those linked to inhalation of [vapors from the toxic waste held in underground tanks](#).

Some Hanford tank farm workers have reported serious respiratory and neurological illnesses they suspect are linked to exposure to chemical vapors.

The vapors are mostly reported when [waste is disturbed in single-shell tanks](#), which are vented directly into the atmosphere.

The waste is left from the past production of plutonium at the [Eastern Washington Hanford nuclear reservation](#) for the nation's nuclear weapons program.

In the June 18 incident workers were digging by hand about a foot of soil in an area where tank waste had previously leaked or spilled, rather than doing work directly involving the waste storage tanks.

They were preparing the ground to install a high-density asphalt [barrier over the surface at Hanford's largest single-shell tank farm](#). The TX-Tank Farm has 12 single-shell waste tanks.

Since the underground tanks were put into service to hold radioactive and hazardous chemical waste in the late 1940s, waste has spilled and leaked into the ground there.

The asphalt cover is planned to prevent rain and snow melt from pushing contamination deeper into the soil.

Hanford contractor investigation

The investigation into the June 18 incident concluded that a “Georgia buggy,” a small, powered wheelbarrow used in the excavation project, was the likely cause of the odor, rather than vapors from tank waste.

Powered wheelbarrows were being used when the odors were reported and the investigation found that several of the wheelbarrows were difficult to start.

On startup, some smoked and emitted high levels of volatile organic compounds and exhaust, according to Washington River Protection Solutions.

During the investigation the Hanford contractor analyzed 65 soil samples for multiple chemicals with no findings above background concentrations that would indicate the soil being excavated was contaminated with tank waste.

Workers wear personal monitors that detect ammonia, a common chemical in tank waste that the contractor uses as an indicator of tank vapors.

None of the personal monitors used at the project since work began in January, including those worn June 18, showed ammonia detected at six parts per million or more, a level indicating possible tank vapors, according to the contractor.

Air samples collected during the project also have not shown chemicals present above normal background concentrations, the contractor said.

As soil excavation continued during the investigation of the source of the June 18 odors, workers wore supplied air respirators.

With soil excavation now completed and Washington River Protection Solutions satisfied that vapors from odors were not the source of the odors, workers are wearing filtered air respirators to complete work on the ground barrier.

Increased monitoring is continuing.

Hanford Challenge concerned

But Hanford Challenge is questioning why the monitoring program would not have detected emissions from the motorized wheelbarrow if that were the cause of the odors and workers feeling sick.

It also is questioning whether the contractor has become too lax with the type of respirators workers are required to wear in the tank farms.

When odors were detected June 18, workers were wearing filtered air respirators rather than the more protective supplied air respirators that rely on oxygen from a tank, usually carried by a worker on their back.

“Whether these exposures came from the ground during soil removal, vapors vented from a tank, or something else, the fact remains that workers were not protected,” said Tom Carpenter, executive director of Hanford Challenge.

The only way to protect workers, unless tank waste vapors can be captured and treated, is to provide tank farm workers with supplied air respirators at all times, he said.

Carpenter also is concerned that the June 18 incident was not reported as a toxic chemical vapor exposure event. Such events are required to be reported on its website, according to Hanford Challenge.

Workers were told in a late 2020 memo that a team of workers, including union representatives, industrial hygiene officials and managers, had agreed that incidents would be considered reportable chemical vapor events only if ammonia was detected at a level of possible concern.

Concerns about the danger of breathing chemical vapors from tank waste have been raised for decades at Hanford, with supplied air respirators required for [all workers inside Hanford's tank farms in 2016](#).

However, following an analysis by a contractor picked by the Hanford Atomic Metal Trades Council and discussions with union officials, more work has gradually been allowed to be done with filtered air respirators. In addition, more controls have been put in place to keep chemical vapors out of the air breathed by workers.

Workers have the option of upgrading to supplied air respirators, even if they are not required.