Nuclear Board Warns of Hanford Tank Explosion Risk

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YAKIMA, Wash. (AP) — Underground tanks that hold a stew of toxic, radioactive waste at the nation's most contaminated nuclear site pose a possible risk of explosion, a nuclear safety board said in advance of confirmation hearings for the next leader of the Energy Department.

State and federal officials have long known that hydrogen gas could build up inside the tanks at the Hanford Nuclear Reservation, leading to an explosion that would release radioactive material. The Defense Nuclear Facilities Safety Board recommended additional monitoring and ventilation of the tanks last fall, and federal officials were working to develop a plan to implement the recommendation.

The board expressed those concerns again Monday to U.S. Sen. Ron Wyden, D-Ore., who is chairman of the Senate Energy and Natural Resources Committee and had sought the board's perspective about cleanup at Hanford.

The federal government created Hanford in the 1940s as part of the secret Manhattan Project to build the atomic bomb. It spends billions of dollars to clean up the 586-square-mile site neighboring the Columbia River, the southern border between Washington and Oregon and the Pacific Northwest's largest waterway.

Federal officials have said six underground tanks at the site are leaking into the soil, threatening the groundwater, and technical problems have delayed construction of a plant to treat the waste for long-term safe disposal.

Those issues are likely to come up during confirmation hearings next week for Energy Secretary-nominee Ernest J. Moniz. The fears of explosion and contamination could give Washington and Oregon officials more clout as they push for cleanup of the World War II-era site.

Central to the cleanup is the removal of 56 million gallons of highly radioactive, toxic waste left from plutonium production from underground tanks. Many of the site's single-shell tanks, which have just one wall, have leaked in the past, and state and federal officials announced in February that six such tanks are leaking anew.

"The next Secretary of Energy - Dr. Moniz - needs to understand that a major part of his job is going to be to get the Hanford cleanup back on track, and I plan to stress that at his confirmation hearing next week," Wyden said in a statement Tuesday.

The nuclear safety board warned about the risk of explosion to Wyden, who wanted comment on the safety and operation of Hanford's tanks, technical issues that have been raised about the design of a plant to treat the waste in those tanks, and

Hanford's overall safety culture.

In addition to the leaks, the board noted concerns about the potential for hydrogen gas buildup within a tank, in particular those with a double wall, which contain deadly waste that was previously pumped out of the leaking single-shell tanks.

"All the double-shell tanks contain waste that continuously generates some flammable gas," the board said. "This gas will eventually reach flammable conditions if adequate ventilation is not provided."

All of the tanks are actively ventilated, which means they have blowers and fans to prevent a buildup of hydrogen gas, and those systems are monitored to ensure they are operating as intended, Energy Department spokeswoman Carrie Meyer said.

For even greater safety, she said, the agency implemented an improved monitoring system in February.

"DOE is absolutely committed to ensuring the safety of Hanford's underground tanks," Meyer said.

The board also noted technical challenges with the waste treatment plant, which is being built to encase the waste in glasslike logs for long-term disposal. Those challenges must be resolved before parts of the plant can be completed, the board said.

The federal government spends about $2 billion annually on Hanford cleanup — roughly one-third of its entire budget for nuclear cleanup nationally. About $690 million of that goes toward design and construction of the plant. Design of the plant, last estimated at more than $12.3 billion, is 85 percent complete, while construction is more than 50 percent complete.

The problems identified by the board show that the plant schedule will be delayed further and the cost will keep rising, Wyden said, adding: "There is a real question as to whether the plant, as currently designed, will work at all."

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