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DOE

NEW DATA CONFIRMS DOE REPORT ON CESIUM IN HANFORD SOILS

The U.S. Department of Energy, Richland Operations Office, announced today new data which confirms that radioactive cesium 137 is present beneath the SX tank farm, the location of 15 of the 149 single-shell tanks at the Hanford Site. The radioactive material was present in a new borehole drilled adjacent to tank SX-109 on Friday, December 13, in response to recommendations by an independent panel of experts convened at DOE's request. Tank SX-109 was declared a leaking tank in 1965. The estimated leak volume from SX-109 is 10,000 gallons. In addition, pumpable liquids were reduced to less than 25,000 gallons (interim stabilized) in 1981. Based on data released by DOE in 1995 from previously drilled boreholes, cesium was detected at the 125 foot depth. The new borehole was drilled to provide additional information on how the cesium got there. Some scientists believed the cesium found at 125 feet was carried down along old boreholes, others believed the cesium migrated through the natural geology of the site, while still others believed a combination of factors contributed to the movement of cesium in soils beneath the tank farms.

Cesium was detected in the new borehole at the 130 foot level, 50 feet deeper than expected based on computer models used to predict contaminant movement through the vadose zone. The vadose zone is a strata of relatively dry soil between the surface and the ground water table, which is 210 feet beneath the surface of SX tank farm. The bottom of the tanks are about 55 feet below the surface. Hanford officials stressed there is no new risk to workers, the public, or on the environment based on this new data.

"Within our continuing program to characterize the vadose zone, this new data, along with other research on how tank farm waste impacts the environment, was developed to test assumptions used in vadose zone modelling. We continue to challenge our assumptions and collect new data to increase the precision of our understanding to the environmental impacts of past tank waste leaks. This new data helps improve our understanding of contaminant mobility in the environment," said Jackson Kinzer, Assistant Manager for the Tank Waste Remediation System.

Based on the review of this new data, the expert panel has confirmed that contaminants such as cesium have migrated in the vadose zone through both natural and man-made pathways. In drilling the new borehole, techniques were used to minimize the borehole as a pathway for the contaminates. The expert panel agrees with DOE that additional vadose zone characterization (studies) should continue in order to improve the reliability and to acquire data to improve the precision of the computer models of contaminate movement through the vadose zone. This information will continue to be used to enhance understanding of the risk and impacts of contaminants that have leaked from the tanks.

"These results are products of our initiative to study the vadose zone and improve our understanding of the Hanford environment. This work demonstrates the value of applying good scientific technology and practices to complex problems such as our tank wastes," said John Wagoner, Hanford Site Manager.

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