

DOE NEWS

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DOE COMPLETES ACCIDENT INVESTIGATION INTO SPILL OF TANK WASTE AT HANFORD

A U.S. Department of Energy (DOE) Accident Investigation Board today released its report on the cause and effects of a July spill of radioactive and chemical waste at a Hanford tank farm. The Board identified areas for improvement and recommended submittal of a corrective action plan to the DOE Office of Environmental Management within 60 days. The “Type A” accident investigation, the highest-level safety inquiry available, was initiated on August 13, following a spill of approximately 85 gallons of waste from a storage tank. Workers were attempting to unclog a transfer pump in tank S-102 when the spill occurred at Hanford on July 27.

The accident investigation, coordinated by DOE’s Office of Health, Safety and Security, evaluated potential health effects to workers in the vicinity of the spill, emergency management plans and response to the spill event, engineering design, modifications, approval of the current S-102 pumping equipment, and work control processes associated with S-102 tank retrieval pumping during the spill event. The report released today did not determine individual fault but suggests corrective actions concerning work controls, industrial hygiene, radiological protection, medical response and emergency management to avoid similar occurrences in the future. The Board further concluded that corrective actions should be completed and validated prior to restart of tank S-102 waste retrieval operations.

The cause of the accident was the over-pressurization of a hose in a dilution line on the transfer pump. Although required, the pump system did not have mechanism to prevent backflow and the subsequent over pressurization of the hose. Radiation exposures were monitored and were well below any regulatory or corporate administrative control limits, and radiological surveys confirmed no spread of contamination outside the tank farm boundary.

The accident investigation determined that the accident at S-102 was avoidable and did not determine individual fault or propose punitive measures. The Board identified corrective actions, or “judgments of need,” to prevent recurrence of events like the waste spill at S-102. The scope of the judgments of need include: improving engineering, design and testing of waste retrieval equipment, and revision of procedures and processes for review of engineering designs; an engineering analysis of whether the retrieval pump can continue to be safely operated in tank S-102; better analysis of high-probability/low-consequence accident scenarios in the tank farms, improving procedures for responding to abnormal events in the tank farms, and correcting

inconsistencies in the implementation of take cover protective actions; establishing and implementing better protocols for industrial hygiene monitoring, strengthening communications between emergency responders and the on-site medical provider, and improving medical monitoring for individuals with health symptoms and/or complaints following an accident; better defining and implementing a process for identifying potential leaks or spills and strengthening radiological conduct of operations in the tank farms; and improving oversight of waste retrieval activities to ensure stringent nuclear safety and other requirements are met.

According to the report, CH2M HILL, the contractor running the Hanford tank farm, needs to analyze the operability of the pump, perform extent of condition reviews, and improve several aspects of safety programs in order to ensure safe operations and prevent similar events in the future.

The full accident investigation report is available on the internet, at <http://hss.energy.gov>.

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