



## ER Site No. 4: LWDS Surface Impoundments

ADS: 1307

Operable Unit: Liquid Waste Disposal System

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### Site History

The Liquid Waste Disposal System (LWDS) was designed to receive, monitor and discharge radioactive effluent from the Sandia Experimental Reactor Facility in Technical Area-V (TA-V). The system consists of three individual Environmental Restoration (ER) sites: [Site 52](#), LWDS Holding Tanks; [Site 5](#), LWDS Drainfield; and Site 4, LWDS Surface Impoundments (located outside of TA-V). Site 4 consists of two surface impoundments, both of which are unlined. Starting in 1963, radioactive discharges drained to the holding tanks where they were monitored and then pumped to the drainfield. When the drainfield collapsed in 1967, discharges were directed to the impoundments. Radioactive discharges continued until 1970, and in 1971, the Sandia Experimental Reactor was decommissioned. Non-radioactive discharges continued until 1992. From 1967 until 1970, the impoundments received approximately 12 million gallons of waste water containing approximately 14 curies of measured radioactivity. It is assumed that the majority of the radioactive discharges were deposited in [Impoundment 1](#) because Impoundment 2 was not installed until 1970, near the end of time in which radioactive discharges occurred.

### Constituents of Concern

Radionuclides from the discharge of reactor cooling water.

Organic Compounds/Heavy Metals from various industrial process in Technical Area V.

Polychlorinated Biphenyls (PCBs)

### Current Hazards

Elevated values of metals above background were found for barium, beryllium, cadmium, chromium-6, copper, lead, mercury, silver, and zinc from the ground surface to around five feet below the surface.

Low levels of cobalt-60, cesium-137, tritium, lead-210, radium-226, thorium-232 and uranium-

235, and were also detected in the same depth interval. The highest PCB concentration was 0.071 mg/kg.

## **Current Status of Work**

The investigation of the LWDS ER sites proceeded "at risk", before U.S Environmental Protection Agency (EPA) approval of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Workplan. The investigation, as originally scoped, was completed in March 1994. Contamination was detected at all three LWDS sites.

The EPA approved the RFI Workplan in June 1994. In addition to the original investigation, the EPA required a borehole in each of the LWDS Surface Impoundments. These boreholes were completed in calendar year 1994. No additional contamination was found.

Although trichloroethene has been detected in the LWDS Drainfield ground-water monitoring well (LWDS-MW1), it was not detected in any of the soil associated with LWDS ER sites. Investigation of the groundwater is on-going.

The LWDS RFI Report was completed and submitted to the EPA in September 1995. No Further Action is recommended for all three sites of the LWDS. A Request for Supplemental Information (RSI) was received from the New Mexico Environmental Department (NMED) in October 1997, and a response was submitted to NMED in January 1998.

## **Future Work Planned**

No further work is planned.

## **Waste Volume Estimated/Generated**

No waste has been generated at this site.

**Information for ER Site 4 was last updated Jan 27, 2003.**