



Salt Lake City, Utah, Disposal Site

Long-Term Surveillance and Maintenance Program



U.S. Department of Energy
Grand Junction Office

FACT SHEET

The Grand Junction Office has provided cost-effective and efficient stewardship for more than 13 years

Overview

Uranium and vanadium ores were processed in Salt Lake City, Utah, between 1951 and 1968. The milling operations created process-related wastes and tailings, a sandlike material containing radioactive materials and other contaminants. Cleanup of the millsite was conducted by the State of Utah under the direction of the U.S. Department of Energy (DOE). Remedial action was completed in 1988. Tailings and radioactively contaminated soils and debris from the millsite were moved to an engineered disposal cell at South Clive in the western part of the State.

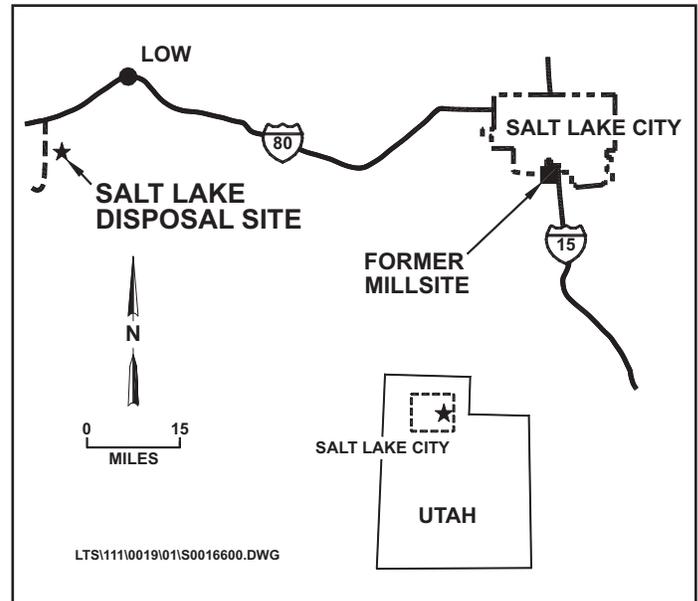
The U.S. Nuclear Regulatory Commission included the Salt Lake Disposal Cell under general license in 1997. DOE is responsible, under the general license, for the long-term custody, monitoring, and maintenance of the site. The DOE Long-Term Surveillance and Maintenance (LTSM) Program at the DOE Grand Junction (Colorado) Office is responsible for the longterm safety and integrity of the disposal site.

In 1988, DOE established the LTSM Program to provide stewardship of disposal cells that contain low-level radioactive material after completion of environmental restoration activities. The mission of the LTSM Program is to ensure that the disposal cell systems continue to prevent the release of contaminated materials to the environment. These materials will remain potentially hazardous for thousands of years. As long as the disposal cells function as designed, risks to human health and the environment are negligible.

The LTSM Program maintains the safety and integrity of the disposal cell through periodic monitoring, inspections, and maintenance; serves as a point of contact for stakeholders; and maintains an information repository at the DOE Grand Junction Office for sites in the LTSM Program.

Regulatory Setting

Congress passed the Uranium Mill Tailings Radiation Control Act in 1978 (Public Law 95-604) that specified remedial action for 24 inactive millsites where uranium was produced for the Federal Government. DOE remediated these sites under the Uranium Mill Tailings Remedial Action Project and encapsulated the

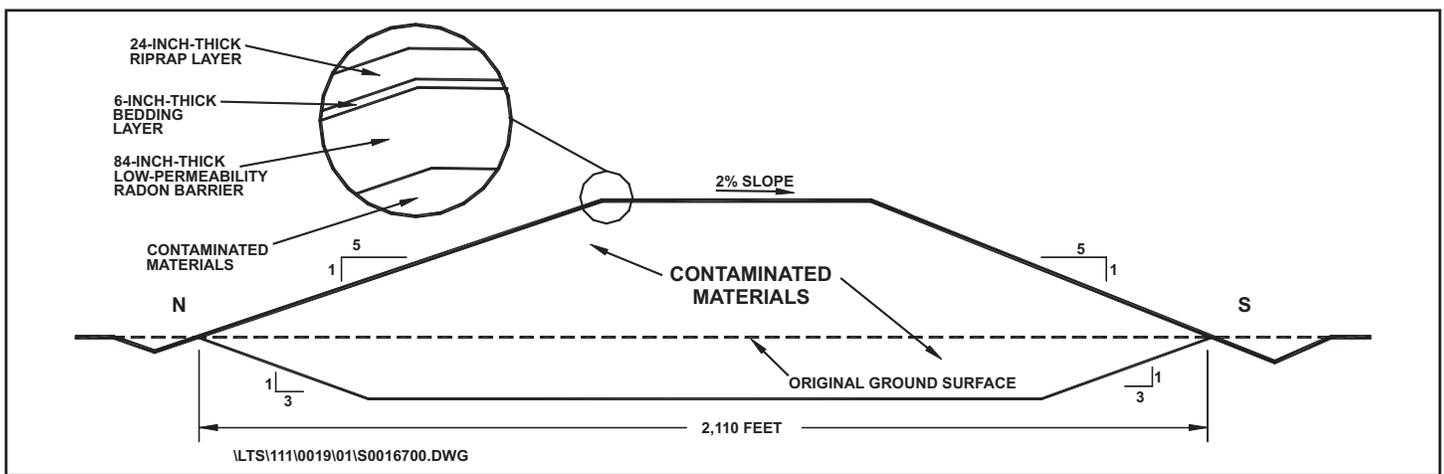


radioactive material in U.S. Nuclear Regulatory Commission-approved disposal cells. Cleanup standards were promulgated by the U.S. Environmental Protection Agency (EPA) in Title 40 (CFR) Part 192. The U.S. Nuclear Regulatory Commission license was issued in accordance with 10 CFR 40.

Salt Lake Disposal Site

The Salt Lake Disposal Site is located approximately 85 miles west of Salt Lake City and 2.5 miles south of U.S. Interstate 80 on the eastern edge of the Great Salt Lake Desert. The disposal site is adjacent to a commercial low-level radioactive materials disposal site in a topographically flat area approximately 3 miles west of the Cedar Mountains. The surrounding area is very sparsely populated, and the nearest residences are at least 15 miles from the site. Roads in the area are used for recreation and for access to military firing ranges south of the site. Vegetation in the area is very sparse and typical of semiarid low shrubland.

Groundwater is at depths of 25 to 35 feet beneath the site. However, the groundwater is of limited use because total dissolved solids exceed 10,000 milligrams per liter. Because the groundwater is neither a current or potential source for drinking water or agricultural use, ground-water monitoring at this site is not required.



North-South Cross Section of Salt Lake Disposal Cell

Between 1951 and 1968, the Vitro Chemical Company processed uranium and vanadium ore at a plant in southwest Salt Lake City. The plant was dismantled in 1970. In 1984, the U.S. Nuclear Regulatory Commission and the State of Utah concurred with the DOE decision to relocate the contaminated materials to the South Clive site for permanent disposal.

Remedial action of the Vitro Chemical site and vicinity properties in south Salt Lake City began in 1984 and was completed in 1988. Radioactive tailings and contaminated soil and other materials were moved to the disposal cell at South Clive. The cell was closed in 1988. The disposal cell contains 2,798,000 tons of contaminated materials with a total activity of 1,550 curies of radium-226.

Cell Design

The Salt Lake Disposal Cell measures approximately 1,115 feet by 2,110 feet and occupies 54 acres of the nearly 100-acre site. The unlined cell extends approximately 9 feet below grade and rises 35 feet above the surrounding terrain. A security fence with a locked gate encloses the site, and the perimeter is marked with warning signs.

The cover of the Salt Lake Disposal Cell consists of three layers. The low-permeability radon barrier is a densely compacted, silty clay layer designed to prevent release of radon and infiltration of precipitation. The radon barrier is protected by a sand filter (bedding) layer, over which a rock (riprap) layer was placed to protect against wind and water erosion, plant root intrusion, and burrowing animals. The disposal cell cover promotes rapid runoff of precipitation to minimize leachate.

Riprap-armored drainage ditches around the base of the disposal cell intercept runoff and direct the flow into the natural drainages west of the site. The ditches have gentle slopes and the capacity to carry the runoff from a 100-year, 1-hour storm event. A maintenance road and a perimeter diversion channel surround the cell.

LTSM Program Activities

The LTSM Program manages the site according to a long-term surveillance plan (LTSP) prepared specifically for the Salt Lake site. Under provisions of the LTSP, the LTSM Program conducts annual inspections of this site to evaluate the condition of surface features and performs site maintenance as necessary.

The disposal cell at Salt Lake is designed and constructed to last for 200 to 1,000 years. However, the general license has no expiration date, and DOE understands that its responsibility for the safety and integrity of the Salt Lake site will last indefinitely.

Contacts

For more information about the LTSM Program or the Salt Lake Disposal Site, contact

U.S. Department of Energy Grand Junction Office
2597 B³/₄ Road, Grand Junction, CO 81503
Russel Edge, LTSM Program Manager (970) 248-6037
Audrey Berry, Public Affairs (970) 248-7727

or visit the Internet site at
<http://www.gjo.doe.gov/programs/ltsm>