

Radioactive Waste Management

safety ❖ performance ❖ cleanup ❖ closure



Nevada National Security Site (NNSS) radioactive waste disposal facilities are essential to the cleanup of U.S. Department of Energy and U.S. Department of Defense sites across the United States that were involved in the research, testing, and production of nuclear weapons. In order to clean these sites, some of the low-level and mixed low-level waste generated is safely and permanently disposed at the NNSS Area 5 Radioactive Waste Management Site. This is an ideal location for waste disposal due to its arid environment, very deep groundwater, and remoteness.

All radioactive waste managed at the NNSS is conducted in accordance with applicable federal, state, and local regulations.

Low-Level and Mixed Low-Level Waste

Much of the low-level and mixed low-level waste disposed at the NNSS consists of debris, trash, soil, equipment, tools, and discarded personal protective clothing. Generally, workers may handle this waste, which is containerized, without any special equipment or clothing because the level of radioactivity is relatively low and the packaging provides the necessary shielding. To ensure the safety of workers, the public, and the environment, the waste must be approved for disposal prior to shipment. In order to obtain this approval, waste generators must undergo a rigorous certification and approval process to demonstrate compliance with the NNSS Waste Acceptance Criteria.

Workers conduct a radiological survey of a waste package prior to disposal in an excavated disposal cell at the NNSS Area 5 Radioactive Waste Management Site.

Included in the NNSS Waste Acceptance Criteria are separate and specific requirements for mixed low-level waste acceptance. These requirements are based upon the Resource Conservation and Recovery Act (RCRA) federal law which governs the management of the hazardous waste. RCRA requires that the Nevada Site Office obtain permits from the U.S. Environmental Protection Agency which delegated its authority to the State of Nevada. In addition to the current RCRA mixed low-level waste disposal permit, the State of Nevada Division of Environmental Protection has issued several other RCRA permits for activities involving hazardous materials at the NNSS.



Definitions

Low-Level Waste: Radioactive waste that cannot be characterized as high-level, transuranic, spent nuclear fuel, or by-product materials, such as uranium mill tailings.

Mixed Low-Level Waste: Waste that contains both hazardous and radioactive constituents. Hazardous constituents are toxic, corrosive, reactive, ignitable, or specifically identified by the U.S. Environmental Protection Agency as "hazardous."

Radioactive Waste: Materials with no future use that have been contaminated by a nuclear process, thereby containing unstable elements (such as hydrogen, plutonium, or uranium) which emit radiation.

Waste Generator: U.S. Department of Defense and U.S. Department of Energy Environmental Management sites that generate low-level and mixed low-level radioactive waste through cleanup activities.

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Transportation

Transportation of all waste to and from the NNSS must be conducted in accordance with U.S. Department of Transportation requirements to include routing and placarding. In addition, the Nevada Site Office requires drivers to complete routing reports for each radioactive waste shipment that arrives at the NNSS. Information from these reports, such as the number of shipments and routes taken, is summarized quarterly and is available at www.nv.energy.gov/RadWasteTrans.

Information on the U.S. Department of Energy's transportation mission can be found at www.em.doe.gov/Pages/Transportation.aspx.

To learn more about the integral role Waste Management plays in the overall Environmental Management mission and for additional information, including fact sheets, on the activities listed here, visit: www.nv.energy.gov/wastemangement.



Waste packages are positioned for disposal in a disposal cell at the NNSS Area 5 Radioactive Waste Management Site

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For information on all Nevada Site Office Environmental Management activities visit:
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