

# Radioactive Waste Acceptance Program

safety ❖ performance ❖ cleanup ❖ closure



## Overview

The Nevada Test Site (NTS) is one of the U.S. Department of Energy (DOE) sites designated for the disposal of low-level and mixed low-level waste generated by the cleanup of the nationwide nuclear weapons complex. The DOE National Nuclear Security Administration Nevada Site Office Radioactive Waste Acceptance Program (RWAP) ensures that the low-level and mixed low-level waste disposed at the NTS meets or exceeds the stringent NTS Waste Acceptance Criteria which includes requirements set forth by the U.S. Department of Transportation, the Resource Conservation and Recovery Act (RCRA), and other federal, state and local laws and regulations.



## Waste Generator Evaluation

The road to waste disposal at the NTS begins when a DOE or U.S. Department of Defense site engaged in cleanup activities proposes a specific waste stream for disposal at the NTS. If initial discussions with the Nevada Site Office indicate that the proposed waste stream may meet NTS Waste Acceptance Criteria, then the waste generator undergoes a rigorous evaluation conducted by RWAP staff to ensure that an NTS-compliant Quality Assurance Program is in place at the waste generator's site. During this evaluation, RWAP auditors complete a thorough on-site examination of a waste generator's facility and procedures through all stages of waste management, including generation, characterization, packaging, and shipment. If issues are identified during the audit, corrections must be made prior to NTS approval for waste shipment and disposal.

Potential waste generators must also provide detailed documentation demonstrating the implementation of the NTS Waste Acceptance Criteria into their program (referred to as the Crosswalk). Once a waste generator successfully passes this evaluation, including the review of the NTS Waste Acceptance Criteria Crosswalk (updated annually), an approval of the waste generator's program is granted. However, this alone does not allow the waste generator to begin shipping to the NTS.

## Waste Acceptance Process

The next step in the waste acceptance process is for approved waste generators to submit detailed documentation to validate that each proposed waste stream is in compliance with NTS Waste Acceptance Criteria and acceptable for disposal at the NTS. These waste profiles must be in the format prescribed by the Nevada Site Office and include specific information on the waste origin, quantity, composition, packaging, and



*RWAP staff conduct an impromptu surveillance of an approved generator's waste packaging and closure process.*

## 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 Characterization:** The process of identifying the components of hazardous or radioactive waste.

**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.

**Waste Stream:** A waste or group of wastes from a process or a facility with similar physical, chemical, and radiological properties.

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the analytical and preparatory methods used to characterize the waste. RWAP personnel review these profiles to ensure that established waste form criteria are met. Copies of the waste profiles are also routed to the State of Nevada Division of Environmental Protection for review (as part of the Joint Oversight Agreement), comment, and concurrence of approval.

In addition to the waste profile, the generator must also submit a written list which identifies key personnel who certify that the waste meets the NTS Waste Acceptance Criteria and is safely packaged, marked, and labeled in accordance with U.S. Department of Transportation regulations. RWAP staff verifies the qualifications of these key personnel through the review of training records during audits and impromptu surveillances of a waste generator's program.

## Waste Acceptance at the NTS

Upon arrival at the NTS Radioactive Waste Management Site, the paperwork for all low-level and mixed low-level radioactive waste shipments is reviewed to ensure consistency with the pre-approved waste stream documentation. While this document verification is conducted, the trucks and trailers which carry the waste are monitored to ensure external radiation levels are below required limits. After a trailer is inspected to ensure that security seals are intact, the trailer is opened and monitored for radioactivity on the inside. As a trailer is unloaded, inspectors verify the physical integrity of the waste packages and check to make sure that container labels meet requirements. In addition to the monitoring, an on-site x-ray technology may be used to visually verify waste package contents. This technology combined with waste verification activities at the generator site and the NTS ensures that the waste form listed on the documentation is consistent with the waste form received for disposal. However, in the unlikely event that any waste shipment is deemed not compliant with NTS waste acceptance criteria, it will be rejected and returned to the waste generator.



*Waste packages are transported to the NTS on a variety of tractor trailers. The load securement devices which stabilize waste packages during shipment are removed and any curtains of enclosed trailers pulled back in preparation of a radiological survey and off-loading by NTS Disposal Operations personnel.*

### For more information, please contact:

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## What this Means for the Complex...

The Nevada Site Office, with the support of DOE Headquarters, is committed to safe disposal operations at the NTS. Numerous regulations and procedures have been implemented to ensure that waste generator sites across the DOE Complex ship low-level and mixed low-level radioactive waste in accordance with stringent waste management guidelines. RWAP provides the necessary framework for safe, successful waste shipments and disposal activities necessary to realize cleanup goals.

For information on all Nevada Site Office Environmental Management activities visit:  
[www.nv.doe.gov/envmgt](http://www.nv.doe.gov/envmgt)

