Environmental Management Nevada Program

safety ❖ performance ❖ cleanup ❖ closure

Cold War Legacy

In 1950, President Truman established what is now known as the Nevada National Security Site (NNSS) to perform nuclear weapons testing activities. In support of national defense initiatives, a total of 928 atmospheric and underground nuclear weapons tests were conducted at the NNSS between 1951 and 1992. As a result, some groundwater, surface soils, and facilities were contaminated on the NNSS and the surrounding Nevada Test and Training Range (NTTR), which is controlled by the U.S. Air Force. These sites are located within secured federal areas, are not accessible by the public, and the land will be managed by the Government in perpetuity.

Debris removal and waste packaging activities at a contaminated site on the NNSS

Environmental Management

To address this contamination, the U.S. Department of Energy (DOE) Environmental Management (EM) Nevada Program was established in 1989. The EM Nevada Program is responsible for completing environmental corrective actions and, as appropriate, performing long-term monitoring of historically contaminated sites in accordance with the *Federal Facility Agreement and Consent Order (FFACO)*, a legally-binding agreement with the State of Nevada. In addition, the EM Nevada Program oversees the safe and compliant disposal of waste at NNSS radioactive waste disposal facilities. Independent monitoring and oversight of disposal activities are conducted by State of Nevada regulators.

Groundwater sampling at a NNSS well

Protecting People and the Environment

EM Nevada Program activities and current NNSS missions must adhere to numerous state and federal environmental protection standards/regulations that safeguard the public and environment from existing or potential contamination. Environmental planning, compliance, and monitoring activities are published annually in the *NNSS Environmental Report*.

EM Nevada Program Activities

- **Groundwater Characterization**

  Current scientific data shows there is no risk to the public from groundwater contaminated by historical underground nuclear testing. For this reason, and since there is no proven, cost-effective technology to safely remove or stabilize the radiological contaminants, a monitoring strategy was selected as the corrective action and approved in accordance with the *FFACO*. This strategy involves identifying contaminant boundaries, restricting access to contaminated groundwater, and implementing a long-term monitoring program. It is important to note that this strategy is protective of public health due to slow groundwater movement, the immobility of some contaminants in groundwater, radioactive decay of contaminants, and the long distances to publicly-accessible groundwater supplies.

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- **Infrastructure and Soil Corrective Actions**

  Hazardous and radioactive contamination found in historic NNSS facilities and supporting infrastructure, and in surface/near surface soils, are characterized and environmental corrective actions performed in accordance with the *FFACO*. The EM Nevada Program has successfully completed *FFACO*-approved closure at 99% of the more than 2,000 contaminated facilities and soils sites.

- **Long-term Monitoring**

  At some sites closed under the *FFACO*, post-closure monitoring and/or use restrictions are necessary to ensure the long-term protection of human health, safety, and the environment. Post-closure requirements include a variety of inspection, monitoring, maintenance, and reporting commitments. Requirements and site controls vary depending on site location, accessibility, land use scenario, and the nature of contaminants.

- **Radioactive Waste Disposal**

  For decades, the NNSS has provided vital waste disposal capabilities for DOE's nationwide cleanup of former nuclear research and testing facilities, as well as national security, and science missions. A combination of favorable conditions (such as an arid environment, deep groundwater, and site remoteness) contribute to the technical suitability of the NNSS to provide a safe, permanent disposal option for DOE/Department of Defense facilities generating cleanup-related classified and radioactive waste.

Stakeholder Involvement

The EM Nevada Program is committed to transparent and timely communications with the public and intergovernmental groups. In addition to the availability of informational products on the Internet (such as videos and fact sheets), regular outreach events are scheduled to provide stakeholders the opportunity to discuss EM Nevada Program activities in person. The public can also provide comments at Nevada Site Specific Advisory Board (NSSAB) meetings. The NSSAB is comprised of volunteers from communities near the NNSS who review EM Nevada Program activities and provide stakeholder feedback and recommendations.

Stakeholders are briefed on radiological surveys during a tour of the NNSS Area 5 Radioactive Waste Management Complex

Definitions

Environmental Corrective Actions - Cleaning up, removing and/or isolating contaminants that may present a risk to human health and/or the environment

Federal Facility Agreement and Consent Order (FFACO) - A legally-binding agreement that regulates the process for identifying, prioritizing, investigating, completing environmental corrective actions at, and monitoring contaminated sites

NNSS Radioactive Waste Disposal Facilities - NNSS facilities where (since 1961) low-level radioactive waste, mixed low-level radioactive waste, classified non-radioactive waste, and classified non-radioactive hazardous waste has been and continues to be safely and permanently disposed