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EM NEWS FLASH

NSO Explores Closure Options for Historic Nuclear Testing Locations

Recent environmental restoration work at the Nevada National Security Site (NNSS) focuses on a number of locations that played a part in nuclear weapons testing programs of the 1950s and 60s. Cleanup experts are challenged with studying the nature and extent of the contamination in these areas and implementing the most suitable closure strategies.

The NNSS and surrounding government land represent one of the largest publicly restricted areas in the United States. For more than 20 years, countless environmental restoration projects have been underway to address potential contaminant movement in groundwater and explore cleanup solutions for sites and facilities associated with historic nuclear testing.

In the past two years, the [U.S. Department of Energy, National Nuclear Security Administration Nevada Site Office](#) (NSO) has been able to formally close nine former nuclear testing locations—each one containing some form of radiological contamination. In some instances, cleanup crews are able to remove contaminated soil and/or debris and achieve *clean closure*

status, which essentially returns the land to its pre-testing state. At other sites where surface contamination is too extensive, full-scale cleanup is not considered a viable option, and crews must work toward *closure in place*—a process of instituting administrative controls (e.g. fencing, postings, etc.) and restricting future use and access. The NSO is presently working at six other sites.

According to Federal Project Director Robert Boehlecke, decisions relating to closure are thoughtful and meticulous. “Our job is to learn as much as we can about the contaminants at these sites and then explore all cleanup options given the constraints of technology, time, and funding. We strive for cleanup,” he explained, “but in some cases, it is simply not feasible, especially when considering the potential risk to cleanup crews.” Boehlecke added that any and all closure decisions must be approved by the [State of Nevada Division of Environmental Protection](#) (NDEP) in accordance with the [Federal Facility Agreement and Consent Order](#) between NDEP and the NSO.

Closure in place has recently been implemented at a number of well-known historic nuclear testing locations at the NNSS, including Sedan, Danny Boy, Buggy, and Schooner. The *closure in place* scenario will also likely apply to the Smoky site, which is currently in its pre-characterization stage. Workers at Smoky are combing a two-square-mile area to investigate soil, drums, containers, and various materials (e.g., lead-acid batteries and lead bricks) that were contaminated during weapons effects testing in the late 1950s.



NSO technicians perform radiation surveys over the north end of the Smoky site in September 2011

On November 29, 2011, workers removed the contents (mostly protective clothing) of a drum situated on the historic testing location known as Plutonium Valley. Several sites in Plutonium Valley are currently slated for closure.



Plutonium Valley was named for the series of plutonium dispersal experiments that were conducted there in 1955 and 1956. Scientists were testing the safety of a new design of nuclear weapon to determine whether a weapon or a warhead damaged in an accident would detonate with a nuclear yield.

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