

It's a Bird; It's a Plane, NO! It's Super K!

by Nick Duhe and Dona Stevens

Clean up of the Super Kukla facility is underway at the Nevada Test Site, leaving behind the legacy it played during the Cold War.

The Super Kukla facility was constructed in 1964 with a mission to determine how an enemy countermeasure would affect the performance of a nuclear warhead during an exchange of weaponry. The key component to the Super Kukla facility was the reactor which provided the environment to bombard materials (placed inside) with radiation in the form of intense bursts of neutrons and gamma waves.

Following the closure of the facility in the late 1970's, the reactor core was disassembled and decontamination and decommissioning activities were conducted on three of the four structures – the Reactor Building, Reactor High-Bay, and Mechanical Building. The entire two-acre facility was then fenced to protect workers and the environment until a more comprehensive cleanup could be accomplished.

Twenty-five years later, Environmental Management contractors representing the [Stoller-Navarro Joint Venture](#) with [National Security Technologies](#) support began conducting extensive site research and characterization activities which led to the development of a plan to close the site. The primary objective of the Super Kukla closure plan is to eliminate or reduce risks to human health and the environment. In order to achieve this objective in the safest manner possible, the Stoller-Navarro Joint Venture will be accomplishing cleanup in the following six phases:

- Phase One: Preparing the site by installing temporary power, an office trailer, lighting, and ventilation.
- Phase Two: Collecting samples (such as concrete and paint chips) and conducting radiological surveys, health and safety swipes, and air monitoring. In addition, the material and debris in each building will be inventoried.
- Phase Three: Establishing data quality objectives and developing a plan to close the facility in place.

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Who regulates Industrial Sites?

Super Kukla, an Industrial Sites clean up project, is regulated by the Federal Facility Agreement and Consent Order.

Documents proposing the cleanup strategy for each Industrial Site are prepared by the Nevada Site Office and submitted to the NDEP for approval. When the documents are scheduled for submittal to the NDEP, a public notice is posted to the Nevada Site Office Internet website at <http://www.nv.doe.gov/emprograms/environment/restoration/ffaco.htm>. Additional information on the Federal Facility Agreement and Consent Order can be obtained by visiting the NDEP Internet website at <http://ndep.nv.gov/BOFF/ffco.htm>.

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- Phase Four: The removal of polychlorinated biphenyls (PCB) and non-PCB oils, lead and mercury components, asbestos and any other hazardous materials as necessary. In this phase, debris from the Mechanical Building and the Wooden Shed will be placed into the Reactor Building for entombment in a later phase.
- Phase Five: The Mechanical Building and the Reactor High Bay will be demolished down to the slab and the Wooden Shed will be completely removed since there is no concrete slab. After the three buildings are demolished and disposed, samples will be taken and surveys performed on the remaining slabs.
- Phase Six: The Reactor Building will be entombed with grout. Super Kukla will be the first Decontamination and Decommissioning site to be entombed in place with use restrictions. All sumps, the Basement Reactor Room and the Access Tunnel will be included in this process. In addition, the surrounding vicinity will be graded to ensure that any possible surface water will flow away from the area. The final part of this phase is to apply appropriate use restrictions to the area.

Field work at Super Kukla is scheduled to be completed in March 2007 with the final closure report due to the State of Nevada in September 2007.



Aerial view of Super Kukla showing the Reactor High Bay, Mechanical Building, Access Tunnel Entrance and Wooden Shed.



Super Kukla reactor being prepared for a test.