

Global Security

Radiological/Nuclear Countermeasures Test and Evaluation Complex

Eliminating Threats

The Nevada National Security Site (NNSS) is the home of the Radiological/Nuclear Countermeasures Test and Evaluation Complex (RNCTEC), a multi-use test and evaluation platform that serves U.S. Homeland Security.


Its mission: To provide the nation with the necessary facilities and capabilities to validate the performance of systems that aid the U.S. in responding to terrorist radiological or nuclear threats, whether under development or already deployed.

The NNSS scientists who work at RNCTEC are the nation's go-to experts in detecting and locating dirty bombs, loose nukes and other radiological sources.

Prototyping for National Security

In recent years, RNCTEC has helped federal agencies develop and acquire nuclear detection systems for U.S. points of entry including border crossings, toll plazas and bridges. Specific nuclear sources include medical/industrial isotopes, naturally occurring radioactive material and special nuclear material. The goal of the program was to improve the country's ability to detect and intercept nuclear payloads intended for illicit use.

Today, RNCTEC has transformed into a training ground and prototyping facility for NNSS scientists and National Laboratory partners who work with nuclear materials in the highly secure Device Assembly Facility (DAF) at the Site.



A forklift is operated at the prototyping facility.



Advanced Spectroscopic Portals.



The complex tests and evaluates sensors that are deployed to U.S. border crossings, such as this one.

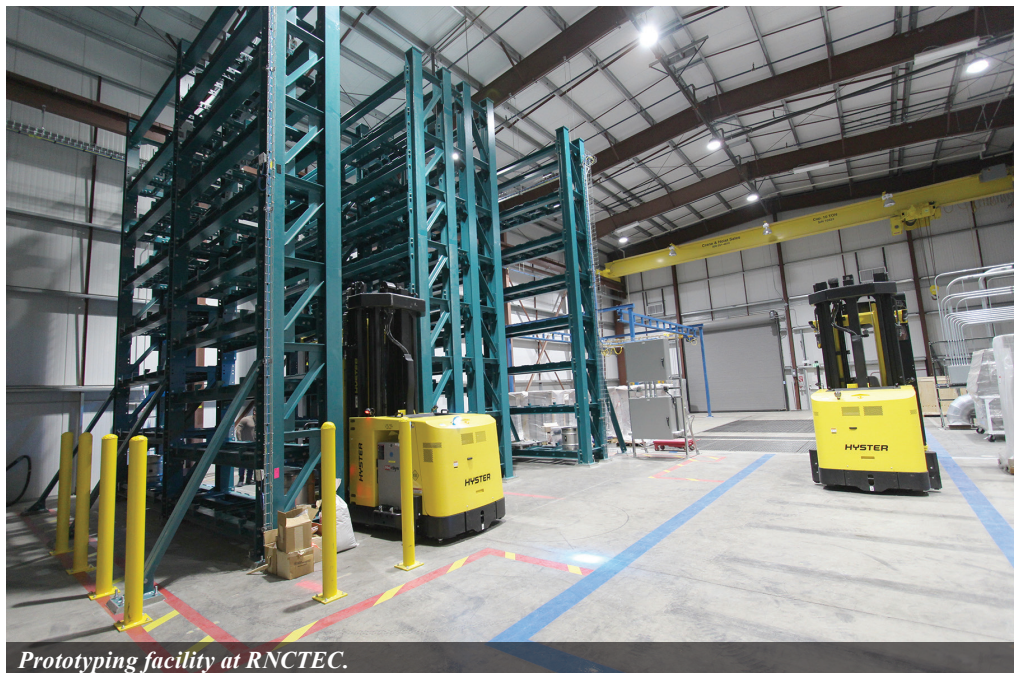
The Enhanced Staging Program (ESP) features a prototype rack area, a material handling area, and a forklift charging staging that will be used to develop, verify, validate and troubleshoot operational procedures, and to evaluate equipment and sensors for eventual use in the DAF. NNSS scientists and engineers will practice receiving, loading, and unloading drums that are either empty or contain materials like sand or ice. They'll also practice verifying material measurements and staging the materials on a complex rack system, similar to structures that will be used in the DAF.

As part of the ESP prototype, NNSS established the Remote Monitoring System (RMS) network as a testbed to allow scientists to access facility temperature data from any location where there is access to the company network. The RMS network will allow personnel to view temperature graphs, generate queries, answer alerts, and perform other related functions. The new system empowers personnel with the data to know whether it's safe to enter a room or building before they ever open the door.



NNSS scientists and engineers practice receiving, loading, and unloading drums at the prototyping facility.

The RMS network will also allow the evaluation of other sensors such as radio-frequency identification reader/tag combinations, tag location detectors, and radiation detectors, and other remote sensing equipment as programmatic needs dictate.



Prototyping facility at RNCTEC.



For more information, visit:

www.nnss.gov

NNSS-RNCT-U-0031-Rev02
January 2023