

A Premier High-Tech National Security Asset in Southern Nevada



Cygnus at the NNSS

Introduction

The National Nuclear Security Administration's (NNSA) Nevada National Security Site (NNSS) is a multi-mission, high-hazard experimentation user site delivering technical and service solutions in partnership with the National Laboratories and in support of governmental national security missions.



Nuclear Emergency Response Team sent to assist Fukushima nuclear power plant.



INTERPOL trainees receive a briefing.



Groundwater testing

What We Do

The NNSS is an enterprise of special-purpose government facilities providing testing and diagnostic services, applied science, and development engineering for the U.S. national security community. Unique among Department of Energy (DOE) and National Nuclear Security Administration (NNSA) assets, NNSS offers year-round nuclear and radiological experiments and operations in secure ground, air, and underground configurations.

While this differentiated operating envelope attracts users from the foundational community of nuclear weapons scientists and engineers, the

capabilities are also suited to support non-proliferation, counter-terrorism, intelligence, and emergency response missions. The enterprise provides users with services such as the configuration and operation of large-scale test beds, training for and conduct of emergency response, and applied research, development, and fabrication of advanced measurement and monitoring tools. An expansive desert operations range, the former Nevada Test Site also enables nationally recognized capabilities for render-safe, explosive, chemical, biological-simulant, and low-level waste management operations.

Missions Overview

Stockpile Stewardship

NNSS designs and deploys sensing and diagnostic technologies for weapon physics and weapon material property experiments led by the National Laboratories.

Defense Nuclear Nonproliferation

NNSS conducts studies and experiments and provides other technical and analytical services aimed at improving arms control and nonproliferation treaty verification.

Nuclear Incident Response

NNSS deploys world-leading equipment, technologies, and capabilities used in detecting and locating nuclear and radiological materials and sources through our Remote Sensing Laboratories.

National Security Partnerships

NNSS national assets are used for other national security customers. Examples:

- NNSS prepares first responders through training for nuclear/radiological emergencies.
- NNSS performs exercises in simulated geographic and climate situations of national and global interest.
- NNSS engineers and scientists develop elegant applied technology solutions for the global theater.

Environmental Management

NNSS performs ecological and environmental monitoring and restoration services and performs low-level waste management activities in support of the DOE's Environmental Management Program.

NNSS National Security Impacts

As a result of ongoing NNSS operations:

- The U.S. nuclear weapons stockpile remains safe, secure, and reliable without underground testing
- Large events of national interest are monitored for nuclear and radiological threats
- 220,000 first responders from throughout the country have been trained in the hazard of radiological materials
- The global threat of terrorist use of radiological isotopes has been reduced
- Radiological sources lost during U.S. natural disasters are recovered
- Seismic signatures of global underground explosions are better characterized
- The U.S. has an international system ready for emergency communications



Device Assembly Facility



High-explosive test at BEEF



Chemical disaster training at NPTEC.



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National Security Assets

U1a Complex: An underground laboratory used for subcritical and physics experiments to obtain technical information about the safety and reliability of the U.S. nuclear weapons stockpile.

Joint Actinide Shock Physics Experimental Research Facility (JASPER): A shock-physics gas gun designed to collect a subset of the data necessary to certify the safety and efficacy of the U.S. nuclear weapons stockpile.

Big Explosives Experimental Facility (BEEF): A high-explosives test range able to detonate explosives up to 70,000 pounds of TNT equivalent and used to conduct fragmentation and material property experiments in support of the U.S. nuclear weapons stockpile.

Remote Sensing Laboratories (RSL): A center of excellence for nuclear incident response, RSL performs research, technology development, depot maintenance, and deployment services for nuclear/radiological response operations in support of counter-terrorism and nonproliferation missions.

Radioactive Waste Management Complex (RWMC): A Resource Conservation and Recovery Act (RCRA)-permitted site purposed for the disposal of low-level waste and mixed low-level waste originating at NNSS and other approved DOE and DoD sites.

Device Assembly Facility (DAF): A highly secure facility designed and built to provide safe structures for high-explosive and nuclear-explosive assembly operations. DAF now supports scientific experimentation, nuclear criticality safety training, and the temporary staging of mission-critical nuclear materials in support of the U.S. nuclear weapons stockpile.

Evaluation and Training Assets: A suite of sites and facilities that enable nuclear and radiological research, evaluation, and training, including Radiological/Nuclear Countermeasures Test and Evaluation Center (RNCTEC), Nonproliferation Test and Evaluation Complex (NPTEC), Port Gaston, and the T-1 Training Center.

Special Technologies Laboratory (STL): A center of excellence for the design, development, and fielding of special-purpose devices, measurement instruments, and analysis methods in support of U.S. national security.



Readying the JASPER Gas Gun