NEVADA NATIONAL NNSS SECURITY SITES

Global Security

Defense Nuclear Nonproliferation

Who We Are

The National Nuclear Security Administration's Office of Defense Nuclear Nonproliferation (DNN) works globally to prevent state and non-state actors from developing nuclear weapons or acquiring weapons-usable nuclear or radiological materials, equipment, technology, and expertise.

The Nevada National Security Site is a major partner in DNN Research & Development (R&D). Our team of scientists, engineers, technicians, modelers, data scientists, and field deployment specialist perform research, development, testing, and evaluation. We do this with expertise in seismic, acoustic, infrasound, electromagnetic, and geophysics that provide valuable real-world data and capabilities to test systems and techniques.

Custom Design Testbeds

NNSS can measure, operate, and analyze in deployments at specialized testbeds in the following ways.

- Utilize chemical explosions to generate data necessary to provide comparison between naturally occurring seismic activity and below surface detonations.
- Advance capability to detect, locate, and characterize machining and manufacturing activities of nonproliferation and national security interest.
- Provide sensors and gather data collections from underground vessel experiments to provide empirical data to propagation modeling efforts.
- Enable detection of weapons activity from manufacturing through testing of devices.
- Collect effluents and signals propagated above ground to enable detection of underground testing.
- Provide baseline of normal Pattern-of-Life activities that are used to develop Life Models.

Counterproliferation

NNSS enables technologies for autonomous systems and sensing including:

- Miniaturization; size, weight, and power; electronics/firmware; high-density energy source
- Advanced chemical and radiation detection and imaging for UAS and air- and space-borne payloads and concealed placement

- Sensor fusion analysis – Artificial Intelligence/Machine Learning for edge computing, event identification, and sense-making
- Integration of quantum sensing technologies into autonomous system

High Hazard Experimentation

Sitewide facilities, testbeds, and ranges offer the ability to develop and conduct high-explosives and unique experiments to study and investigate impacted materials.

NNSS is permitted for high-hazard testbeds.

- Weapons of Mass Destruction (WMD) Incident Response
- UAS threat testing
- Power grid and cyber threat testing
- National Render Safe test bed (evaluate, disable, and disposition terrorist WMD)
- Increased pace of nuclear debris collection and on-site forensics

Tunnel Complex

The tunnel complex operates as national testbeds involving the U.S. Department of Energy, U.S. Department of Defense, and Other Government Agencies participation. Tunnels are configurable for underground explosion detection, hard and deeply buried target monitoring and destruction, geologic characterization and modeling, and warhead and material detection studies.

National Nuclear Security Administration

For more information, visit:

www.nnss.gov

NNSS-DNN-U-0054-Rev01
October 2023