



## Counter Terrorism Operations Support (CTOS) Overview

### Mission:

The Nevada National Security Site (NNSS) CTOS program mission is to develop and deliver the most realistic and highest quality training in support of homeland security using extensive radiological expertise with the unique assets of the NNSS.

### Background:

The U.S. Department of Energy, National Nuclear Security Administration (NNSA) NNSS is a member of the National Domestic Preparedness Consortium. CTOS develops and conducts training courses for U.S. Department of Homeland Security (DHS) Federal Emergency Management Agency/National Preparedness Directorate National Training and Education Division and the Domestic Nuclear Detection Office. CTOS continues to provide expertise and training to the state and local emergency response community. This partnership of nationally recognized public universities, DHS, and NNSA have created a well-coordinated and fully integrated training program of the highest caliber. The CTOS program trains over 10,000 emergency responders per year.

### Courses:

The NNSS CTOS program develops and delivers training for emergency responders to take immediate, decisive action to prevent or mitigate terrorist use of radiological or nuclear weapons of mass destruction (WMDs), such as Radiological Dispersal Devices (RDDs) and Improvised Nuclear Devices (INDs). Training and course materials are provided at no cost to eligible participants. Courses are conducted at the NNSS, municipality-hosted locations, and online. Upon successful course completion, participants are eligible for continuing education units sponsored by the University of Nevada, Las Vegas.

- ◇ AWR-140/AWR-140-W – WMD Radiological/Nuclear Awareness
- ◇ AWR-140-1 – WMD Radiological/Nuclear Awareness Train-the-Trainer
- ◇ PER-240 – WMD Radiological/Nuclear Responder Operations
- ◇ PER-241 – WMD Radiological/Nuclear Course for Hazardous Material Technicians
- ◇ PER-243 – Personal Radiation Detector (PRD)
- ◇ PER-243-1 – Personal Radiation Detector (PRD) Train-the-Trainer
- ◇ PER-245 – Secondary Screener Radiation Isotope Identifier Device (SS/RIID)
- ◇ PER-246 – Primary Screener Backpack Basic (PSBB)
- ◇ Additional courses under development

### Nevada National Security Site:

The NNSS is a massive outdoor laboratory, national experimental center, and training facility located 65 miles northwest of Las Vegas, Nevada. Originally established for testing nuclear weapons, from 1951 to 1992, the NNSS was the location of 1,021 nuclear detonations and numerous radiological dispersal tests. Since the 1950s, the NNSS has been conducting training and exercises using radioactive materials and contaminated environments. Today, the 1,360 square miles of secluded and secure land at the NNSS provide a safe environment for training in realistic WMD scenarios.

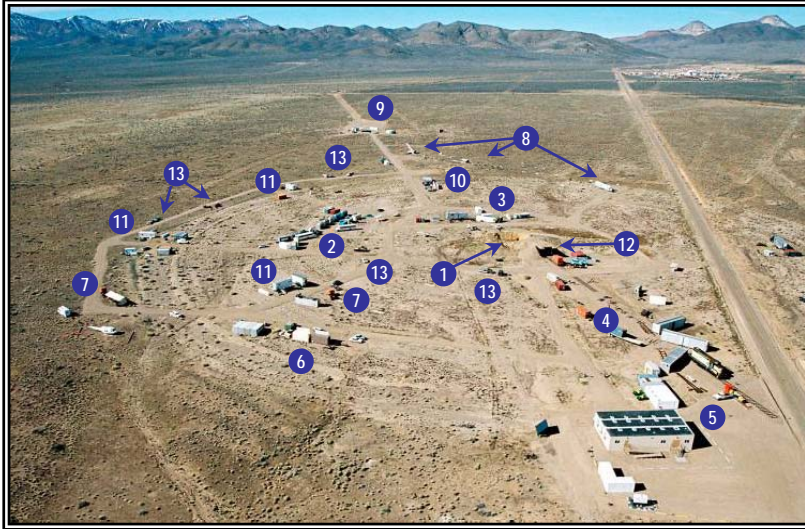


*Responders measure real radiation and contamination levels at the scene of a simulated terrorist attack*

### Actual Radioactive Material:

The CTOS courses, except for the awareness-level and online courses, are performance-based using multiple types of radioactive material, most using special nuclear materials such as uranium and plutonium. Courses are designed so participants receive only minor radiation doses (lower than a chest X-ray or a typical round-trip airline flight across the United States). The radiation levels are sufficient to learn techniques required in an actual event involving much higher radiation levels. Each participant operates and employs radiation detection and measurement instruments throughout the course. Participants train with radioactive material in classroom practice, scenario-based drills, and performance evaluations.

### Radiological/Nuclear WMD Incident Exercise Site (T-1 Site):



1. Ground Zero of Actual Nuclear Detonations
2. RDD in Downtown with Busses and Cars
3. RDD at Airport with Planes and Trucks
4. RDD at Rail Station with Locomotive
5. Rail Station/Classroom
6. Industrial Site/Clandestine Laboratory
7. Attacks on Tractor Trailer Transport Vehicles
8. Airliner Debris Field
9. Participant Staging Area
10. Contaminated Restaurant and Strip Mall
11. Residences/Safe-houses
12. Railroad Tunnel
13. Crashed/Damaged Vehicles

*Layout of the Radiological/Nuclear WMD Incident Exercise Site (T-1 Site)  
For more photographs of this site, see the CTOS web site: [www.ctosnnsa.org](http://www.ctosnnsa.org)*

The Radiological/Nuclear WMD Incident Exercise Site (T-1 Site) at the NNSS is like no other training ground in the United States. Four nuclear devices were detonated at this location between 1952 and 1957. The small amount of nuclear fallout remaining from these detonations is now below the surface of the soil, providing a realistic and safe training area today. The soil at the T-1 Site emits low levels of radiation, simulating widespread radiological contamination from an RDD or IND, yet pose minimal risk to participants. Adding to the realism, radioactive debris created during the nuclear detonations, such as twisted steel fragments and sand melted into radioactive glass (trinitite), is still scattered throughout the T-1 Site. Industrial, sealed radioactive sources are also placed in exercise areas to create higher levels of radiation as needed for training objectives. The T-1 Site covers more than 10 acres of training venues, providing a realistic and vast exercise area with elevated radiation levels.

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