CTOS
Center for Radiological/Nuclear Training
ctosnnsa.org
Refresher Courses:

These refresher courses train Emergency personnel who have previously completed the associated Instructor-led courses.

**Primary Screener/Personal Radiation Detector Refresher Course (PER-300)**

PER-300 provides refresher training to Primary Screeners who have successfully completed the Instructor-led PER-243 Primary Screener/Personal Radiation Detector Course. This course emphasizes crucial training points from PER-243, while reviewing the knowledge and skills required in the operation and employment of a PRD during the initial detection of radioactive materials in varying scenarios.

**PRND Backpack Refresher (PER-349)**

PER-349 provides refresher training on the basic operation and employment of the Backpack Radiation Detection system to detect, locate, measure, and assess the radiation level of unknown radiological materials on/in people, packages, vehicles, and facilities.

**Preventive Radiological/Nuclear Detection Team Operations Course (PER-318)**

PER-318 provides both Primary and Secondary Screeners with the skills to maximize PRND equipment capabilities while efficiently and effectively executing essential tasks to protect and secure critical infrastructure, large venues, and special events using National Incident Management System (NIMS) typed teams. Drills are based on specific competencies, behaviors, and tasks leveraging typed personnel, equipment, and teams.

**Preventive Radiological/Nuclear Detection Maritime Operations Course (PER-350)**

PER-350 establishes a standardized operational understanding of small vessel maritime PRND operations, and provides the skills necessary to execute missions safely and effectively. Participants, working as a crew team, will demonstrate proficiency in primary and secondary screening, safety and tactical positioning, chokepoint setup and operation, and area sweeps in the maritime environment. Drills are based on specific competencies, behaviors, and tasks leveraging NIMS typed personnel, equipment, and teams.

**NOTE:** While CTOS provides instruments for training purposes, Participants are encouraged to bring their department's instruments.

**Team Leader (PER-351)**

PER-351 utilizes real world scenarios, the Participants will plan Preventive Radiological/Nuclear Detection (PRND) operations using the Incident Command System (ICS) and National Incident Management System (NIMS) typed resources. The Incident Action Plan (IAP) format - with applicable ICS forms - will be utilized. Missions will include chokepoints, checkpoints, area, and facility sweeps. The scenarios will range in size from single resource assignments through a Special Event Assessment Rating (SEAR) one (1) or two (2) event with nationally deployed assets. The Participant will be able to demonstrate the supervisory skills required for the Team Leader position, and proficiency in the performance of the duties associated with the position, as outlined in the NIMS typing documents.

**Radiation Instruments Employment (PER-355)**

PER-355 applies to both the prevent and response mission areas. This class uses a series of drills to reinforce the skills of Emergency Responders previously trained to use radiation detection instruments.

**NOTE:** While CTOS provides instruments for training purposes, Participants are encouraged to bring their department’s instruments.
Response Mission Courses:

These courses train Emergency personnel to respond to radiological/nuclear WMD incidents. Both mobile and resident courses are performance-based, with sealed radioactive sources used to create realistic drills and practical exercises.

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<thead>
<tr>
<th><strong>Introduction to Nuclear Device Effects and Response Strategies (PER-307)</strong></th>
<th><strong>Personal Protective Equipment—Mission Specific Competencies (PER-347)</strong></th>
<th><strong>Nuclear Detonation Response Operations (PER-377)</strong></th>
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<tbody>
<tr>
<td>WBT</td>
<td>3 hr WBT (4 contact hrs) Mobile</td>
<td>1-day (8 hrs/7 contact hrs) Mobile</td>
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<td>PER-307 provides overviews of the expected Improvised Nuclear Device (IND) detonation effects in a major U.S. city with current preplanning guidance and response strategy recommendations to maximize the preservation of life. The course provides First Responders, Key Leaders, Emergency Planners, and support personnel with IND-specific response guidance including recognition, immediate actions, response planning, damage zones, fallout/radiation hazards, and shelter and evacuation strategies.</td>
<td>PER-347 aligns with NFPA® 472, Chapter 6.2 and demonstrates the use of essential PPE for response mission operations involving Hazardous Materials (Hazmat). This course provides an in-depth inspection of available PPE including determining uses and proper hazard based PPE selection. These competencies have been identified for the Operations Level Responder assigned to use PPE at a Hazmat WMD incident.</td>
<td>PER-377 provides the Participants with advanced knowledge, and methodologies needed for response to an incident involving a nuclear weapon or nuclear device. It provides the foundational knowledge on radiological/nuclear concepts, potential radiological/nuclear Weapon of Mass Destruction (WMD) threats, their effects, and response strategies.</td>
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<tr>
<td>1-day (8 hrs/7 contact hrs) Mobile</td>
<td>1-day (8 hrs/7 contact hrs) Mobile</td>
<td>4-day (32 hrs/28 contact hrs) Mobile</td>
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<td>PER-332 provides fundamental knowledge and situational awareness to safely and effectively perform or assist population-monitoring duties at Community Reception Centers (CRCs) or similar facilities after a radiological/nuclear incident has occurred.</td>
<td>PER-348 is designed for response mission operations and personnel who have little or no training in radiological/nuclear emergency WMD response. This course provides First Responders with fundamental knowledge regarding mission spaces related to radiological/nuclear threats. The response mission area includes an overview of radiological instruments and protective measures, such as Personal Protective Equipment (PPE) and decontamination (i.e., Emergency, Gross, Mass, and Technical).</td>
<td>PER-378 trains radiological specialists to become candidates for the position of Radiological Operations Support Specialist (ROSS). A ROSS is a State and local Subject Matter Expert tasked with identifying and providing critical information pertaining to radiological or nuclear incidents to responders, Key Leaders, and decision makers in an Incident Command System environment. The ROSS will assist the Incident Commander and Key Leaders by making the technical aspects of a coordinated response clear and understandable to all State and local stakeholders.</td>
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<th><strong>Radiation Instruments Operations (PER-345)</strong></th>
<th><strong>Response to Radiological/Nuclear WMD Incidents (PER-354)</strong></th>
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<tbody>
<tr>
<td>1/2 day (4 hrs) Mobile/Resident</td>
<td>3-day (30 hrs/24 contact hrs) Mobile/Resident</td>
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<td>PER-345 provides instrument operation skills needed by First Responders when responding to a radiological or nuclear incident as well as a general overview of detection equipment, including selection and general operation. Training encompasses the basic operations of dosimeters, PRDs, Human-Portable Radiation Detectors (Backpacks), survey meters, portal monitors, and RIIDs. This course also enables First Responders to select the appropriate instrument operation in the performance of that mission.</td>
<td>PER-354 aligns with NFPA 472*, Annex D, Competencies for Operations Level Responders Assigned Radiological Agent-Specific Tasks and provides the baseline response capability to safely respond to incidents involving a Radiological Exposure Device (RED), a Radiological Dispersal Device (RDD), or an IND.</td>
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*NFPA 472 is an American National Standard that provides the baseline response capability for those working with radiological agents in radiological incidents. The standard encompasses the basic operations of dosimeters, PRDs, Human-Portable Radiation Detectors (Backpacks), survey meters, portal monitors, and RIIDs. This course also enables First Responders to select the appropriate instrument operation in the performance of that mission.**
Resident Training Courses
Resident courses conducted at the Nevada National Security Site offer a unique training venue, shaped by numerous nuclear detonations and radiological dispersal tests.

No Cost
Training is fully funded for qualified individuals from state, local, territorial, and tribal agencies.

Travel & Lodging
CTOS pays travel and per diem expenses for attendees, but cannot provide funds for attendees’ overtime and backfill. Federal employees may attend a resident course based on availability, but must provide their own travel and per diem expenses.

Mobile Training
Training can be delivered to your agency to support its organizational needs.

Indirect Training
CTOS authorizes training personnel to conduct specific CTOS courses of instruction in their home state or jurisdiction. These courses are certified by the U.S. Department of Homeland Security/Federal Emergency Management Agency/National Training and Education Division. This program is available to local agency personnel that have successfully completed a CTOS Train-the-Trainer Course of Instruction.

Enrollment Information
In order to attend a course delivered by one of the Federal Emergency Management Agency/National Preparedness Directorate training partners, a request must be submitted to the designated U.S. Department of Homeland Security training point of contact. To locate a training coordinator in your area, call 877.963.2867 or send an email to ctosreg@nv.doe.gov.

CTOS
Center for Radiological/Nuclear Training
ctosnnsa.org | ctosreg@nv.doe.gov | wbt: nts-ctos.com
1.877.WMD.CTOS | 1.877.963.2867

Introductory Courses:

**Introduction to Radiological/Nuclear WMD Operations (AWR-140)**

- **1/2-day (4 hrs) Mobile**
- AWR-140 provides First Responders and others in response or support mission roles with an introduction to radiological/nuclear Weapon of Mass Destruction (WMD) operations. This course—which aligns with the Awareness level and Operations level competencies of National Fire Protection Association (NFPA®) 472, Standard for Professional Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents—also provides fundamental knowledge in threat or incident recognition, protective measures, notifications, and incident area management.

**Introduction to Radiological/Nuclear WMD Operations for Law Enforcement (AWR-346)**

- **1/2-day (4 hrs) Mobile**
- AWR-346 provides Law Enforcement with fundamental knowledge in two distinct mission spaces related to radiological/nuclear threats: the Preventive Radiological/Nuclear Detection (PRND) mission and the response mission. PRND mission training covers program structure, operational modes, and federal assets. Response mission training provides an overview of threat or incident recognition, protective measures, notifications, and scene site management during a radiological/nuclear WMD incident as they relate to Law Enforcement operations.

**Introduction to Radiological/Nuclear WMD Operations for Emergency Medical Services/Healthcare (AWR-350)**

- **1/2-day (4 hrs) Mobile**
- AWR-350 provides Emergency Medical Services (EMS) and Medical Healthcare personnel with the situational awareness of response operations that will be encountered during a radiological or nuclear incident. This course also 1) provides an introduction to radiation and to radiological/nuclear WMDs and 2) develops fundamental knowledge related to radiological/nuclear threats, which includes an overview of threat recognition and protective measures.