

# WMD Radiological/Nuclear Responder Operations Course

**Min/Max Enrollment:** 25–50

**Hours:** 24 hours (3 days)

**CEUs:** 2.4

**Format:** Mobile

**DHS Course #:** PER-240

**Prerequisites:** N/A

**Recommended Prerequisites:**  
AWR-140 or AWR-140-W

## Course Description

This Operations-level course instructs first responders to mitigate radiological risks to themselves and the public while performing agency-specific missions in response to a radiological or nuclear weapon of mass destruction (WMD) incident such as an improvised nuclear device (IND), radiological dispersal device (RDD or “Dirty Bomb”), or radiation exposure device (RED). This course is delivered throughout the nation to jurisdictions approved by U.S. Department of Homeland Security/Domestic Nuclear Detection Office (DHS/DNDO) and Federal Emergency Management Agency/National Preparedness Directorate (FEMA/NPD).

The Course Director conducts a site survey in advance of training to coordinate with the local sponsor to identify and schedule classroom and exercise training facilities for the practical hands-on training. The course begins by giving the participant a conscious awareness of the fundamentals of radiation, health effects, recognition, and terrorist use of radiation and radiological material. Participants are given hands-on experience with radiation fields while learning the basic operation of radiation detectors and dosimeters. Participants are taught to conduct radiological surveys of personnel, vehicles, facilities, and outdoor areas. Hands-on activities blend cognitive knowledge of radiation and instruments with survey techniques used in detecting the presence of radiation, locating radioactive material, and measuring levels of radiation and radiological contamination. Once individual and small team skills are mastered, participants are taught operational considerations when responding to a radiological WMD incident. Participants form operational teams that deal with cadre evaluated realistic drills involving likely terrorist use of radiological material. The course culminates with an evaluation exercise requiring participant teams, under a unified command, to respond to a scenario in which terrorists attack a facility or public transportation system, dispersing radiological material.

## Course Objectives

Upon completing this course, participants will be able to:

- DESCRIBE the terminology and units used for radiation measurement and distinguish between low and hazardous levels of radiation.
- OPERATE both analog (Ludlum Geiger-Mueller Meter) and digital (Thermo Electron FH 40) radiological instruments and various probes to determine the presence and quantity of radiation.
- DETERMINE the dose rate and EXPLAIN why it is necessary to get a dose rate reading.
- DEMONSTRATE the proper use of dosimeters
- CONDUCT radiological surveys (personnel, facility, and area) using techniques to determine radiological hazards and make tactical decisions; document levels and locations of contamination
- RECOGNIZE possible radiological/nuclear threats that could occur within the U.S., and the impact and consequences of such an action
- RECOGNIZE and IDENTIFY the biological effects of exposure to ionizing radiation accompanying radiological/nuclear incidents and how to properly identify, triage, treat, and psychologically support contaminated patients
- CONDUCT radiological decontamination for responders and the public
- DEMONSTRATE the selection process for donning and doffing of personal protective equipment (PPE) for a radiological/nuclear environment
- IDENTIFY radiological threats and tactical considerations required to OPERATE safely and effectively at a radiological incident, including self protection measures and public protective actions

### Target Audience/Discipline

Emergency Management, Emergency Medical Services, Fire Service, Hazardous Material (HazMat), Health Care, Law Enforcement, Public Health, Public Safety Communications, and Public Works



*A responder checks for safe radiation levels on a subway car after a simulated RDD attack.*

## Eligibility

It is the responsibility of the jurisdiction to select course participants.

## Location

Participant site

## Certificate

A certificate will be issued upon successful completion of the course, granting 2.4 continuing education units (CEUs) through the University of Nevada, Las Vegas (UNLV). A letter verifying CEUs can be provided upon request by contacting CTOS at [ctosnnsa@nv.doe.gov](mailto:ctosnnsa@nv.doe.gov).

## Cost

All training and course materials are provided at

no cost to eligible participants. Funding provided by the Federal Emergency Management Agency/ National Preparedness Directorate U.S. Department of Homeland Security.

## Radioactive Sources

This is live agent using real radioactive sources. It is designed and monitored so participants receive only minor radiation doses (lower than a chest X-ray or typical round-trip airline flight across the U.S.)

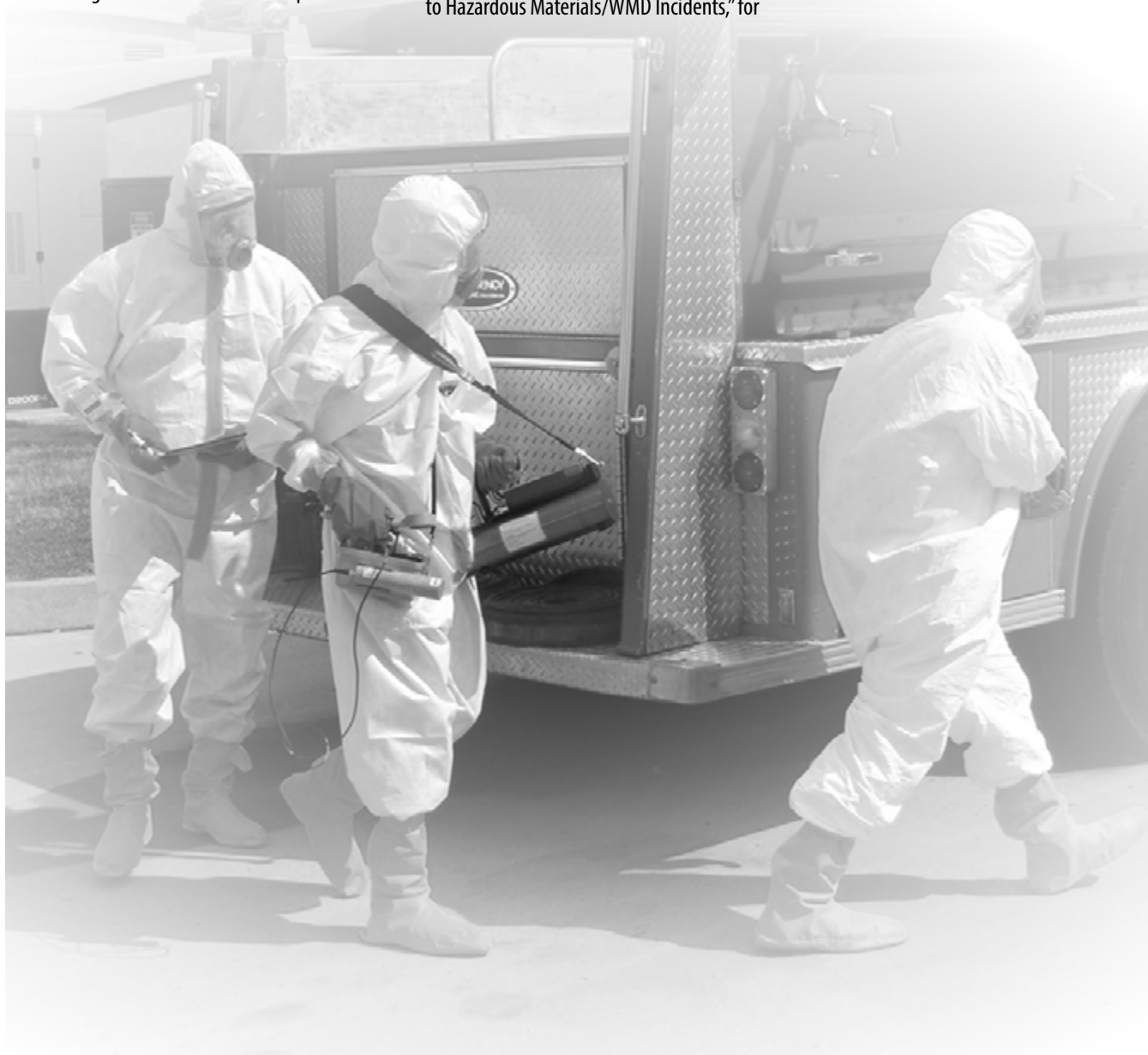
## Compliance

This course enhances the competencies defined in National Fire Prevention Association NFPA 472, "Standard for Competence of Responders to Hazardous Materials/WMD Incidents," for

responding to specific radiological/nuclear WMD incidents, and augments the responder's knowledge and skills to perform those duties and functions.

## Enrollment Information

In order to attend a training class delivered by one of the FEMA/NPD training partners, a request must be submitted to the designated U.S. Department of Homeland Security training point of contact. For a Training Coordinator in your area, please call 877.963.2867 or email [ctosmttreg@nv.doe.gov](mailto:ctosmttreg@nv.doe.gov).



*Responder team prepares to assess the scene after a simulated terrorist attack involving radioactive medical devices in a hospital.*