

FROM PREVENTION TO EMERGENCY RESPONSE

The majority of radiation detection instruments are purchased for interdiction and prevention missions, so emergency responders may not realize that some of them can also be used for response and recovery missions. For radiological and nuclear incident preparedness, it is essential for first responders to know which of their instruments are suitable for use in response and recovery operations, how to use them safely and appropriately, and how the data they collect may inform critical health and safety decisions.

The preventative radiological/nuclear detection (PRND) mission is to detect and interdict radiological/nuclear materials outside of regulatory control before they can be misused. In the aftermath of 9/11, many U.S. cities and emergency response organizations acquired radiation detectors for the purpose of interdicting radiological or nuclear weapons to avert a potential attack. This equipment, generally referred to as “PRND equipment,” is widely used by first response agencies across the country.

In the event of a major radiological emergency, responders who have this equipment would need to know:

- Will my equipment tell me what the radiation levels are?
- What missions should it NOT be used for and what response & recovery missions can the equipment support?
- How can I effectively use this equipment for response and recovery tactics?

The U.S. Department of Homeland Security (DHS) Science and Technology Directorate’s (S&T) National Urban Security Technology Laboratory (NUSTL) is working with the Federal Emergency Management Agency’s (FEMA) National Training and Education Division (NTED) and its training partner, the Counter Terrorism Operations Support Center for Radiological and Nuclear Training, to develop a web-based training course that addresses these key questions for responders.

DHS S&T has previously funded research, testing and evaluation, and the development of tools focused on the applicability of PRND equipment to certain response missions, such as the development of an operational job aid called [“Using PRND Equipment for Consequence Management Missions.”](#)

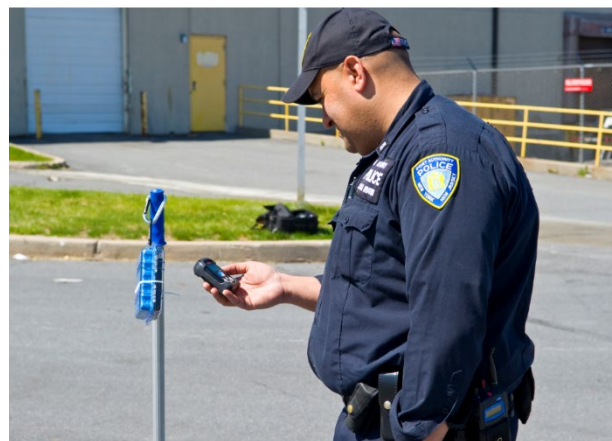


Figure 1. A first responder uses a personal radiation detection device during training.

WEB-BASED TRAINING COURSE

The web-based training being developed will help put the results of S&T-funded efforts on the usability of PRND equipment for response into the hands of first responders. The course will provide instructional training materials to help emergency responders and other public safety officials understand the different types of PRND equipment and how PRND equipment may be used in response and recovery operations for tasks such as:

- Managing radiation exposure
- Performing radiation surveys
- Monitoring radiation dose for personnel in the “Hot Zone,” the “Dangerous Radiation Zone,” and outside of radiologically controlled areas

NUSTL expects the course to be completed in 2024. The course will be offered as a self-paced web-based training in the FEMA NTED training catalog, which means it will be offered at no cost to federal, state, local, tribal, and territorial responders. The training will include downloadable resources to help integrate the material into local plans and concept of operations documents.

This advanced training will provide first responders with the knowledge required to leverage their existing, already deployed inventory of PRND equipment to conduct response and recovery missions, including lifesaving activities after a radiation emergency.