



Radiation preparedness and emergency response playbook for law enforcement

Empowering first responders and law enforcement with dependable, field-ready detection technologies to address radiological and nuclear incidents

Recognize the importance of preparation

Unsecured radioactive sources can lead to catastrophic scenarios for law enforcement and emergency response teams, and can have devastating, long-term implications for a community, city or entire region. As a decision-maker in your agency, how do you begin to formulate a plan for radiation preparedness? How do you determine which instrumentation you will need? Who in your department requires training?

Radiological disasters may be infrequent, but they can and do happen. The widespread use of radiological materials in various nuclear, healthcare, security and industrial markets increases the potential for both accidental and deliberate nuclear proliferation through dual-use civilian nuclear programs, weak safeguards and monitoring, and improper handling and theft of radiological sources.

The latest technological advances in radiation monitoring now provide law enforcement with the ability to monitor large areas for radiological and nuclear threats in real time by virtually eliminating nuisance alarms triggered by natural radiation background.

Thermo Fisher Scientific radiation devices for your radiation safety programs

Any radiation monitoring or protection program first requires an assessment of scope. To determine the type of instrumentation required and who will be operating the instruments, law enforcement agencies need to account for such factors as size of jurisdiction, population density, and proximity to critical infrastructure like ports, borders or power plants.

A coordinated effort to thwart radiological dispersal devices (RDDs) usually requires a combination of the following radiological instrumentation for real-time personal dose monitoring:

1. Handheld personal radiation detectors (PRDs)
2. Spectroscopic PRDs (SPRDs)
3. Radiation isotope identifier detectors (RIIDs)
4. Electronic personal dosimeters (EPDs)

Area monitoring can be achieved with more sensitive mobile and fixed detector systems that are strategically located to ensure coverage of a city of any size. An economical and comprehensive radiation monitoring plan will allow you to purchase instrumentation from a single vendor that offers a complete product portfolio. The portfolio of radiation monitoring products offered by Thermo Fisher Scientific provides complete solutions for a comprehensive radiological preparedness program. These devices share common user interfaces and terminologies, simplifying training programs and service support.

Thermo Fisher Scientific provides full radiological preparedness options

Below is the operationally relevant workflow and table highlighting radiation detection products offered by Thermo Fisher Scientific that are commonly used for emergency response.

Detect, Locate & Protect

Thermo Fisher Scientific radiological solutions are designed for use by non-experts with simple onboard workflows. The palm-sized Thermo Scientific RadEye family of instruments requires minimal training and setup ensuring that field deployed officers can collect dose data with ease. The TruDose electronic personal dosimeter (EPD) actively tracks individual doses for frontline workers and exposure control.

Identify and search

Spectroscopy and radioisotope identification are easily achievable by using Thermo Scientific™ RadEye™ SPRDs or rugged Thermo Scientific™ RIIDEye™ instruments for detection and identification of special nuclear material (SNM). Mobile searches of large areas such as special events or urban sweeps is the job for the PackEye XS Radiation Detection Backpack.



The RadBridge™ mobile app enables real-time data management, reachback, and response coordination between PRD, SPRD, and Backpack systems on iOS and Android devices. Users can view and analyze data, visualize location information, seamlessly initiate source identification, and transmit mission-critical information directly to command centers to inform response levels.

Thermo Fisher Scientific experts can help guide you through the selection process and support your lifesaving operations contributing to national security.

Instrument	Category	Radiation type	Key function in emergency response
RadEye PRD4	Personal radiation detector (PRD)	Gamma + neutron indication	Source search, interdiction, responder safety, high-dose response
RadEye G Series	Personal dose rate meter	Gamma	Real-time dose rate monitoring, contamination survey
FH 40G family	High-range survey meter	Gamma	Real-time dose rate monitoring, survey, modular probe measurement
RadEye X Series + probes	Multipurpose survey meter	$\alpha / \beta / \gamma / n$ (probe-dependent)	Contamination surveys, hot zone mapping
EPD TruDose BG, NG	Electronic personal dosimeter (EPD)	Gamma (Hp(10)), neutron	Individual dose tracking & exposure control
RadEye SPRD, SPRD-GN	Spectroscopic PRD (SPRD)	Gamma + neutron	Alarm + radioisotope identification in the field, neutron detection
RIIDEye X	Handheld RIID	Gamma + neutron	Confirmatory radionuclide identification
PackEye XS Radiation Detection Backpack	Mobile search	Gamma + neutron	Wide-area search, urban sweeps, special events



Response teams should align their field operations with [OSHA's radiation emergency preparedness framework](#)—covering ALARA-driven exposure management with dose monitoring, appropriate PPE selection, and contamination-control practices to protect personnel and maintain scene control.

Learn more at thermofisher.com/radiationsecurity

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