

# Radiological Dispersal Device (RDD) Immediate Response Guidance (2<sup>nd</sup> Edition)



Science and Technology

## UPDATED EMERGENCY RESPONSE GUIDANCE FOR FIRST RESPONDERS

Scientific research conducted by the Department of Energy's (DOE) Brookhaven National Laboratory (BNL) and Sandia National Laboratories (SNL) can confidently estimate the realistic consequences of an outdoor explosive RDD. However, first responders need this technical information translated into actionable emergency response guidance.

The [RDD Immediate Response Guidance](#), first developed in 2017 and updated in 2025, utilizes scientific research to delineate Missions and Tactics that should be executed by first responders and local response agencies in the first minutes and hours of a response to an RDD detonation.

The [National Urban Security Technology Laboratory](#), organized under the U.S. Department of Homeland Security (DHS) Science and Technology Directorate, manages the [Radiological/Nuclear Response and Recovery Research & Development \(R&D\)](#) program that updated the guidance in partnership with DOE's BNL and DHS Federal Emergency Management Agency. This 2<sup>nd</sup> edition maintains the same core missions, tactics, and emergency response strategies as the 2017 version.

## OPERATIONAL RESPONSE PLANNING

The immediate response to an RDD detonation is a critical period that sets the stage for how the overall response will be executed. First responders will be tasked with multiple activities, such as confirming a radiological release, conducting lifesaving rescue operations, issuing protective actions, and characterizing the initial scene for public health decision making. These activities must take place within the first few minutes of responders arriving on scene and the effectiveness and coordination of these early actions will define how well the response will go in the emergency phase and beyond.

The *RDD Immediate Response Guidance* provides actionable guidance, sample text for an RDD response protocol, and annexed tools that can be used for local planning of an effective response to an RDD, to protect first responders and the general public, establish interagency coordination, and integrate state and federal assets.

## THE GUIDANCE INCLUDES A NOTIONAL 100 MINUTE TIMELINE – WHY?

The *RDD Immediate Response Guidance* uses a notional 100 minute timeframe to highlight dependencies and timing of overlapping field tactical operations, public messaging, and decision making. Local agencies should use the 100 minute timeframe presented as a starting point, and adjust the timeframe as needed during their planning discussions and to match their jurisdiction's requirements. Two critical assumptions are made by placing the guidance on a timeline:

- In the first minutes and hours of an RDD response, it is unlikely that federal and state support will be on scene. This means that local agencies must rely on their own plans, tactical assets, technical equipment, and training.
- Many of the public safety recommendations presented in the guidance are time sensitive. It is important for local agencies to plan for both how the operation is achieved and when it must be completed to have the desired impact. A complete local RDD response protocol will include an achievable timeline of how tactics and decisions are both executed and coordinated.

If a tactic or technical objective described in the *RDD Immediate Response Guidance* is not achievable by a local agency, then it can be identified as an operational gap and discussed with state and federal partners to document immediate requirements for support during a radiological response and to plan for necessary assistance requests.

