

# Radiological terrorist threats

The use of a radiological dispersal device (RDD), especially in the form of a dirty bomb, poses a real threat to any nation's security, says **J L Smither**



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**INTELLIGENCE SOURCES BELIEVE THAT** building an RDD is within the ability of many terrorist organisations, and they could contaminate people, water, and/or food supplies. Mostly, an RDD detonation would cause widespread panic and fear, not large-scale casualties, leading many to consider RDDs as weapons of mass disruption.

Lessons Learned Information Sharing has produced an exclusive Best Practice series on *Radiological Dispersal Device Incident Response Planning*. This series of documents, informed by a working group of subject-matter experts and relevant documents, provides extensive information on: Decontamination; incident identification; incident site management (including medical requirements); long-term and psychological management; public information; expected roles of emergency responders; and preparation through training and exercises.

A dirty bomb is a specific type of RDD that combines a conventional explosive, such as dynamite, with radioactive material. Unfortunately, the radiological materials required to build such a device are not very difficult for most terrorist organisations to procure.

Many believe that most terrorists would prefer to employ more traditional methods. Even so, jurisdictions must be prepared to detect and respond appropriately to a potential RDD attack.

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**■ The most important aspect in responding to a dirty bomb event is realising that one has occurred.**

After an explosion of unknown origin, responders may assume that the primary danger has passed and proceed into the blast zone without proper personal protective equipment. However, because the blast may have dispersed radiation that is not detectable with human senses, responders should be trained to check radiation levels before rushing to help (responders should also be aware of secondary explosions and other hazards involved in proceeding into a blast zone without fully considering the situation).

Emergency managers might find it helpful to provide first response vehicles with radiation detection equipment as a passive and automatic check to ensure responders are

aware of this specific hazard. Jurisdictions may also place similar devices at strategic, static points throughout the area, such as hospitals, stadiums, or government buildings, especially during high-profile public events.

Ideally, or in areas with heightened threats, responders should receive high-quality personal radiation detection equipment and should be trained to use it. As a minimum, responders should be trained to recognise the symptoms of exposure to high radiation levels.

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**■ Responders require specialised training to ensure an appropriate response.**

They need to be able not only to identify that an RDD event has taken place, but also to understand how that fact affects their usual response procedures. They will need to know how to protect themselves from radiation exposure and how to triage and treat other people who have been exposed and/or contaminated, including setting up a decontamination tent. They will also need to be able to secure the incident site, restricting access to and exit from the contaminated area to limit the spread of radiation. Responders also must understand the need for additional support and how to notify the proper authorities.

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**■ Because a dirty bomb is likely to cause more damage from the explosion than the radiation, first receivers must also be trained on understanding their threat level.**

First receivers include nurses and other healthcare workers, who may risk some level of radiation contamination when injured patients are transferred to emergency rooms. Like first responders in the field, receivers also need to be aware of the radiation threat, take proper precautions to protect themselves, and understand how radiation exposure and/or contamination might affect the symptoms and treatment of the patient.

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**■ Jurisdictions should record their procedures for responding to an RDD incident in their standard procedures.**

To ensure responders and receivers are familiar with the procedures and their responsibilities

during an RDD response, jurisdictions should also conduct exercises to test RDD readiness levels. Exercises should include steps to address the psychological and sociological components of response, given that an event is likely to cause mass panic and fear.

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**■ Emergency management should be prepared to deliver calm, timely, and accurate messages to the public after an RDD incident.**

An RDD is likely to cause concern, fear and even panic even if it is not detonated. Many people unfamiliar with radiological threats may confuse the potential consequences of an RDD incident with catastrophic events such as the Chernobyl accident. Facing conflicting reports, people are likely to believe the worst rather than trust public officials.

To mitigate this response, jurisdictions should employ RDD annexes to their public communication plans that will help deliver consistent and accurate messages. The annex could include pre-written messages that will be relevant after an event, such as the difference between an RDD and a nuclear device, or warnings about staying away from the incident site. Citizens will also need to know who to contact if they fear they have been exposed, as hospitals will easily become overwhelmed if uninjured, non-exposed people self-refer out of fear. Finally, messages should state who to contact with information about the people responsible for the attack. **CRJ**

**Author**

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