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# Security Measures to Address Emerging Nuclear/Radiological Threats at Major Public Events

S. BUNTMAN
U.S. Department of Energy, National Nuclear Security Administration, Office of Nuclear Incident Policy and Cooperation, 1000 Independence Avenue, Washington, D.C. 20585
Email: steven.buntman@nnsa.doe.gov

R. MAURER
National Security Technologies, Remote Sensing Laboratory, 1783 Arnold Avenue, Andrews AFB, Maryland 20762
Email: maurerrj@nv.doe.gov

**Abstract:** The Office Nuclear Incident Policy and Cooperation at the U.S. Department of Energy, National Nuclear Security Administration (DOE/NNSA) and the IAEA, Office of Nuclear Security have supported Host Countries in implementing Nuclear Security Measures for Major Public Events (MPE) since 2006. MPE's consist of activities that have a political or symbolic importance that may make them a target for attack by various terrorist organizations. Based on these emerging threats, the DOE and IAEA have been providing MPE Host Countries with specialized training, detection technologies, technical and advisory support, and assistance with procedures to support their national infrastructures to detect, interdict, and respond to criminal and unauthorized activities involving nuclear and other radioactive materials out of regulatory control.

## 1. Introduction

Major Public Events draw great public interest and receive intense media attention which makes them attractive venues for demonstrations, protests, violence, or any other action to bring awareness to a cause. One particular area of concern is terrorist organizations which might use these events as stages to conduct criminal acts involving nuclear material and other radioactive material out of regulatory control. These include but are not limited to, major sporting events (Olympics, World Cup, Super Bowl), gatherings of political leaders (G-8 Summit, Nuclear Security Summit, United Nations Conference), and economic or scientific meetings or ceremonies (World Trade Organization, Treaty Signings, Dedications).

Levels of security and surveillance at these events have steadily increased in recent years. The intent of these actions is not only to protect the public from an attack but also to deter terrorists from attempting to act by overtly displaying a show of force (i.e., increased presence of visible security and law enforcement), and implementing a strong monitoring presence (i.e., metal detectors, x-ray scanners, explosives detectors, as well as a monitoring and response structure for chemical, biological, and nuclear/radiological incidents).

Acquiring and using a radiological dispersal device (RDD or dirty bomb), radiation exposure device (RED), or improvised nuclear device (IND) is considered the most significant and symbolic form of terrorism. Nuclear or radiological terrorism could include the dispersal of radioactive material in public locations, the abandonment of dangerous radioactive sources without adequate shielding in public locations, or the production of nuclear yield.

## 2. Nuclear Security Planning and Preparedness

The planning and preparedness for a MPE typically will be initiated 18 to 24 months before the event. National authorities should consider the requirements and resources, and the coordination within their national structure.

Radiological incident prevention should have a high priority in the overall security assessment. This allows the radiation assets to be integrated into the overall security plan in the best and most efficient manner. If the security plan was developed prior to identifying the need to incorporate radiation detection assets, it will be necessary to determine how to best integrate the radiation detection assets into an existing plan. In some instances, the security plan may be flexible enough to allow small adjustments to the positioning of equipment and personnel which will create more effective arrangements for the radiation monitoring. Regardless of the ability to make changes to the security plan, common understanding of the radiation security plan will provide for valuable information on the level of security intended for the event and help determine how many people and how much equipment should be planned for the event.

## 3. Developing and Enhancing Nuclear Security Measures

Over the past several years, there has been an increased interest worldwide in developing national capabilities for the planning, detection, alarm adjudication, and rapid respond to nuclear/radiological potential threats associated with MPE's. This growing need has resulted in a series of courses provided by the DOE/NNSA, IAEA and other countries designed to enhance national emergency response capabilities. These courses provide Host Countries with specialized training to conduct pre-event radiation baseline surveys, event pedestrian and vehicle portal monitoring, and practical experience to response to and adjudicate an alarm or incident.

**Figure 1. Specialized training courses for strengthening Nuclear Security Measures.**

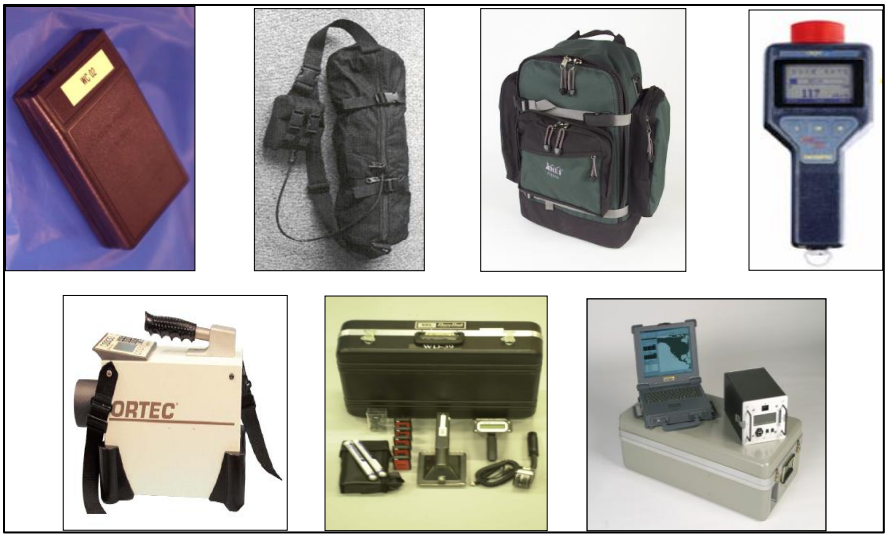


**Figure 2. Specialized detection technologies for enhancing Nuclear Security Measures.**

## 4. Conclusion

Nuclear Security Measures for Major Public Events have increased significantly since 2006. Specialized training and equipment are available to assist Host Countries in preparing and enhancing their security posture. Emerging threats including nuclear/radiological are of great concern by Host Countries hosting MPE's. Planning and preparedness have become a vital part of the overall security plan to detect, interdict, and respond to criminal and unauthorized activities involving nuclear and other radioactive materials out of regulatory control.

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