Radioactive Source Security Management

CONTENTS

The WINS Academy Elective on Radioactive Source Security Management has been designed for professionals with accountability for the security of radioactive sources used at medical, industrial and research facilities. In particular, it targets senior and line managers who are responsible for the use of radioactive sources, including Radiation Safety Officers (RSOs), who are also known as Radiation Protection Officers, and machine operators. (RSOs have historically inherited the responsibility of overseeing the implementation of security policies and procedures because some basic measures, such as material accounting and control of access to radioactive materials, were already part of their safety responsibilities.) This module also supports the professional development of regulatory oversight personnel, particularly inspectors and license reviewers. Such individuals often have substantial knowledge of radiation protection and safety practices but may lack formal security education and training.

Radioactive sources are used routinely by hospitals, research facilities and industry for such purposes as diagnosing and treating illnesses, sterilising equipment and inspecting welds. In countries with mature regulatory structures, the use of radioactive sources is highly regulated from a safety perspective. Licensees (authorised users) readily accept such regulations because they are well aware of the potential consequences should a safety incident compromise the health, safety and environment of their employees and surrounding communities. In contrast, a comparable security culture has been much slower to evolve, largely because many States, regulatory authorities and licensees have been slow to appreciate how radioactive sources could be used by people with malevolent intentions.

Unfortunately, even when a Security Programme does exist for protecting radioactive sources from malicious intent, it can be poorly implemented. One reason for this may be a fundamental lack of awareness among leadership about the issues. Another reason may be a lack of knowledge about how to implement a Security Programme that does not impede business operations. A third may be lack of knowledge about how to provide effective security at a reasonable cost. Therefore, an overriding goal of the module is to help participants develop a fundamental understanding of security. This entails expanding their orientation from a focus on preventing an inadvertent safety incident to one that also includes people who carry out malicious acts intended to create harm.

By the end of the module, participants will understand:

- Some of the potential threats to radioactive sources and the potential consequences if a source is lost or stolen.
- The international efforts being taken to ensure source security.
- Some of the State and licensee responsibilities for ensuring source security.
- What defence in depth and a graded approach to security mean.
- What some of the common security systems are that apply to sources.
- Alternative technologies that mitigate the need for source security.
- How sources are categorised according to the risks they pose.
- How to draft a site Security Plan and implement a Security Programme.
- How to change organisational culture toward security.
- How to communicate with other stakeholders.
- How to prepare for an incident and manage the response.

OUTLINE

UNIT 1: THE CHALLENGE
- 1.1 A Brief History
- 1.2 Benefits and Risks
- 1.3 The Threat Landscape

UNIT 2: STAKEHOLDER RESPONSIBILITIES
- 2.1 Global Responsibilities
- 2.2 State Responsibilities
- 2.3 Licensee Responsibilities

UNIT 3: ESSENTIAL ELEMENTS OF SECURITY
- 3.1 Principles of Physical Security
- 3.2 Common Security Systems
- 3.3 Transport Security
- 3.4 Alternative Technologies

UNIT 4: THE RADIOACTIVE SOURCE SECURITY PROGRAMME
- 4.1 Drafting a Security Plan
- 4.2 Building Organisational Competence
- 4.3 Responding to Security Incidents
- 4.4 Sustaining the Security Programme

UNIT 5: PUTTING IT INTO PRACTICE