Nuclear Security Governance

INTRODUCTION TO THE COURSE

This WINS Academy module focuses on the duties of a board of directors who are responsible for the governance of a nuclear organisation and on the responsibilities of the executive management team. By working together, these two important functions can create a high level of assurance that nuclear security is well-understood and well-managed within an organisation.

The International Atomic Energy Agency (IAEA) describes nuclear security [NSS 20] as:

The prevention of, detection of and response to criminal or intentional unauthorised acts involving or directed at nuclear or other radioactive material, associated facilities and associated activities.

The main objective of nuclear security is very similar to that of nuclear safety. The common aim of both is to protect people, property, society and the environment from either the harmful effects of a nuclear security incident (nuclear security) or the harmful effects of ionising radiation (nuclear safety).

In general, the main concern for nuclear or other radioactive material is the sabotage of a facility or material during transport or the unauthorised removal of material from a fixed site or during transport and its subsequent malicious use in an improvised nuclear device (IND), radiation exposure device (RED) or radiation dispersal device (RDD). Increasingly, organisations are also concerned with cyberattacks on their facilities and the theoretical possibility of a sophisticated blended attack involving both cyber and physical methods.

Although the State (and competent authorities within the State) is responsible for an effective national nuclear security regime, primary responsibility for implementation of nuclear security at a site or facility lies with the organisation that holds the licence authorising it to carry out activities in relation to nuclear or other radioactive material. Such licenses are generally granted by a State's independent regulator.

To better demonstrate the complex issues involved in carrying out such duties and responsibilities, we have structured the information in this module around the development of a single fictional scenario that weaves throughout the units and highlights key issues through dramatisation of the interactions among the members of the board and the executive management team as well as between these two groups.

The action takes place in the fictional country of Ruritania in the Sweetwater Nuclear Power Plant operated by Ruripower. A nuclear security incident at the facility forces Ruripower to reconsider all of its nuclear security arrangements, its relationship with external stakeholders, and the fundamental relationship between the board and its executive management team. In the process they confront a variety of issues and make several important decisions that are designed to improve the governance and management of nuclear security.

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By the end of this module, participants will understand:

- Threats to nuclear or other radioactive material and the importance of environmental scanning for new and emerging nuclear security threats.
- How organisations can effectively implement a risk management framework to manage and mitigate the risks associated with nuclear security threats.
- The role of nuclear security in supporting an organisation's operational strategy.
- The board's duties and the executive management team's responsibilities in relation to nuclear security.
- Potential consequences should an organisation fail to effectively manage the risks arising from nuclear security threats.
- How to develop a nuclear security policy and strategy.
- How to implement an effective nuclear security programme.
- Responsibilities involved in overseeing a nuclear security programme, including performance metrics and reporting.
- What security culture is, why it plays such an important role in mitigating the threat, and how to create and maintain it effectively throughout the organisation.
- Why stakeholder engagement is important for both internal and external stakeholders.
- What assurances are and why they are important to stakeholders.
- The importance of keeping all nuclear security arrangements under review and how to avoid complacency as the external threat environment evolves and new threats emerge.



OUTLINE

UNIT 1: NUCLEAR SECURITY RISK AND THREAT

- 1.1 Nuclear Security Threats
- 1.2 Effective Risk Management of Nuclear Security Threats
- 1.3 Nuclear Liability Arising from Nuclear Security Incidents
- 1.4 Director and Officer Duties

UNIT 2: ESTABLISHING THE NUCLEAR SECURITY POLICY AND STRATEGY

- 2.1 Clarifying Accountabilities
- 2.2 The Executive Committee for Nuclear Security
- 2.3 Attributes of a Successful Security Director

UNIT 3: IMPLEMENTING AN EFFECTIVE NUCLEAR SECURITY PROGRAMME

- 3.1 Nuclear Security Incident Management
- 3.2 Improving the Interface Between Safety and Security
- 3.3 Nuclear Security Culture
- 3.4 Sharing Concerns

UNIT 4: STAKEHOLDER ENGAGEMENT AND ASSURANCE

- 4.1 Stakeholder Engagement
- 4.2 Stakeholder Assurance