WINSACADEMY

Nuclear Security Management Certification Programme

COURSE STRUCTURE

Revision 2.1 – September 2016

"Security threats are becoming more complex, security is becoming more expensive to implement, and the industry is facing growing economic pressures. Sharing security best practices to achieve operational excellence is a proven method to enhance competitiveness, just as sharing operational experience has improved safety and reactor performance. I believe, in line with many States, that introducing certified, professional training for personnel with accountabilities for nuclear security lies at the heart of achieving operational excellence for security."

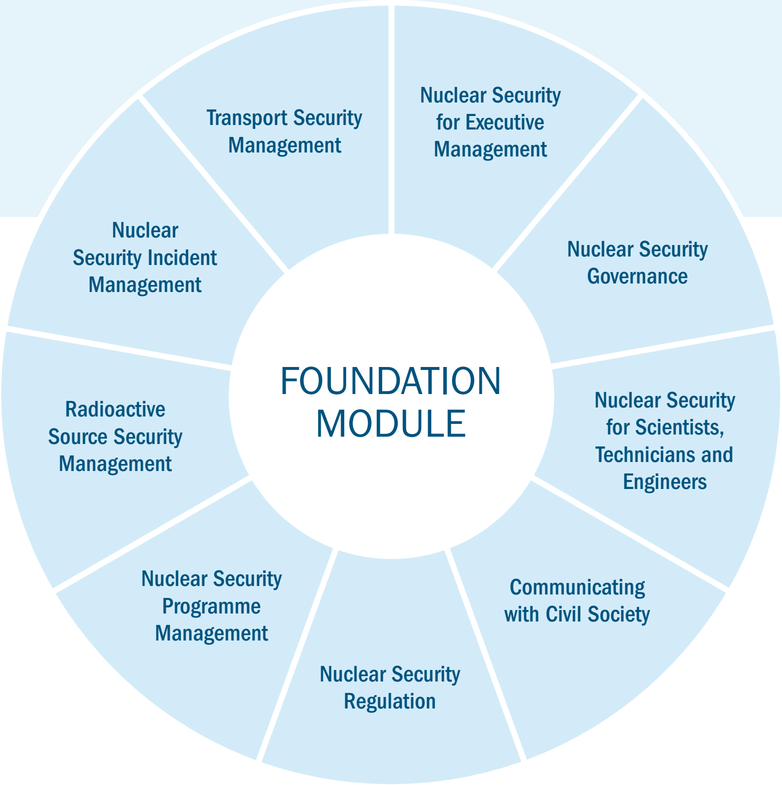
– Dr Roger Howsley, WINS Executive Director

WINS VISION

All nuclear and other radiological materials and facilities are effectively secured by demonstrably competent professionals applying best practice to achieve operational excellence.

WINS MISSION

To be the leader in professional development and certification for nuclear security management.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Nuclear Security Governance
Nuclear Security for Scientists, Technicians and Engineers
Communicating with Civil Society
Nuclear Security Regulation
Nuclear Security Programme Management
Radioactive Source Security Management
Nuclear Security Incident Management

Academy Certification Modules

Overview

BACKGROUND

Numerous professions, such as aviation and information technology, require their security managers to be professionally qualified and certified to do their jobs. The same cannot be said, however, for most professionals with managerial or regulatory responsibilities relating to nuclear security. This gap has been recognised internationally by governments and industry. At the March 2014 Nuclear Security Summit, 35 States signed an agreement on Strengthening Nuclear Security Implementation that contains a commitment to:

> Ensure that management and personnel with accountability for nuclear security are demonstrably competent.

At the 2014 Nuclear Industry Summit, leaders of the nuclear industry also committed to:

> Ensure that all personnel for security are demonstrably competent by establishing appropriate standards for the selection, training, and certification of staff.

To meet this demand, WINS has recently launched the WINS Academy, the world's first international certification programme for nuclear security management. Participation in the Academy has already grown to over 600 individuals from 70+ countries.

HOW IT WORKS

The certification programme is based on a series of Modules that use a problem-based approach to learning that is practitioner-focused, hands-on, cross-functional and immediately useful. Each module takes 40 hours of study to complete and all WINS Academy participants take the core Foundation Module and then choose an elective; the choice of the elective will depend on the participant's area of responsibility.

The certification programme can be completed entirely online, and participants also have opportunities to attend in-person training at partner institutes.

After completing the training, participants have the opportunity to take a proctored exam; if they pass, they are certified by WINS as a Certified Nuclear Security Professional and join the WINS Academy Alumni Network, so that they can benefit from continued professional development and help promote the benefits of certification.

Foundation Module

CONTENTS

The WINS Academy Foundation Module provides the operating context for personnel who do not have a strong nuclear industry background. It summarises the international efforts being made by governments, industry and the non-governmental community to enhance nuclear security and minimise the chance that a successful terrorist incident involving nuclear or other radioactive material will take place. Like other risks, security needs to be managed as a strategic, enterprise--wide activity that is owned by the board of directors and executive managers and cascaded throughout the organisation.

The diverse and expanding nature of the potential threats, which include insiders and cyberattacks, means that simply protecting the physical features of a facility is not enough. The security programme must extend beyond the facility boundary to include the supply chain and local communities, both of which can impact the security of a nuclear facility. Therefore, the security programme must also include:

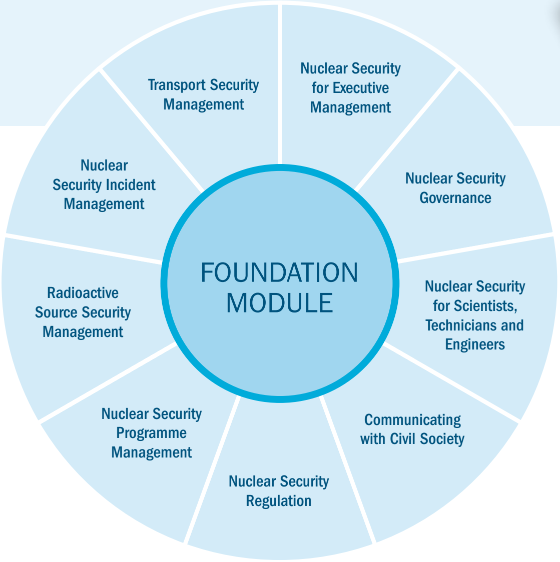
- Cybersecurity
- Personnel security and human reliability
- Materials accountancy and control measures
- Threats and risks that could impact on the achievement of an organisation’s strategic objectives
- Information security and other aspects of facility operations that contribute to the overall objective of producing a sufficiently secure environment

The Foundation Module sets out the current developments in international governance and assurance and explains how these concepts are relevant to nuclear security. It reviews the current state of reporting for nuclear safety management, benchmarks it against nuclear security reporting, and proposes model assurance statements for nuclear security. Encouragement to publish more information about nuclear security needs the support of regulators, who themselves need to focus their regimes on outcome-based performance approaches. Nuclear security information, which is a consideration for all stakeholders, needs to be managed and communicated in a balanced way. The key question that needs to be addressed in this regard is:

“How might we challenge some of the issues associated with nuclear secrecy and why do these attitudes persist?”

Above all, the Foundation Module helps participants think about security management from different perspectives, encourages them to question their organisation’s current arrangements, and helps them identify and implement improvements that increase the effectiveness and efficiency of their security programme. This module enables participants to understand:

- Their own attitudes about nuclear security and identify strengths and weaknesses.
- The key nuclear security stakeholders and the importance of collaboration.
- The context of the nuclear industry and technology.
- The evolving terrorist threats and their relevance to nuclear security.
- The work being done by governments, international organisations, non-governmental organisations, civil society and industry to enhance nuclear security.
- How those with accountability for nuclear security can improve stakeholder confidence in the security programme through better governance and assurance arrangements.
- How to achieve a more enlightened, more effective approach toward nuclear security.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Foundation Module

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OUTLINE

UNIT 1: STAKEHOLDERS IN THE NUCLEAR SECURITY PROGRAMME

1.1 The Stakeholders
1.2 Stakeholder Scenario

UNIT 2: THE NUCLEAR INDUSTRY IN CONTEXT

2.1 The Nuclear Industry: Origins and Future
2.2 The Nuclear Fuel Cycle and Nuclear Technology
2.3 Attractiveness, Categorisation and the Graded Approach to Security
2.4 The Evolving Threat Environment

UNIT 3: INTERNATIONAL STAKEHOLDERS

3.1 The IAEA and the Global Nuclear Security Architecture
3.2 The Nuclear Security Summits
3.3 International Associations and Non-Governmental Organisations
3.4 Civil Society and Non-Governmental Stakeholders

UNIT 4: INDUSTRY STAKEHOLDERS

4.1 Industry Organisations
4.2 The World Institute for Nuclear Security
4.3 The Nuclear Industry Summits

UNIT 5: BETTER GOVERNANCE AND ASSURANCE MECHANISMS

5.1 International Trends in Governance and Assurance
5.2 Reporting Safety and Security in the Nuclear Sector
5.3 Creating Meaningful Assurance Statements
5.4 Effective Nuclear Security Regulation
5.5 Communicating Nuclear Security Information

UNIT 6: COMMON PROBLEMS AND SUGGESTED SOLUTIONS

6.1 Legislation and Regulation
6.2 Governance and Accountability
6.3 The Nuclear Context and Threat Assessment
6.4 Communications and External Reporting

Nuclear Security for Executive Management

CONTENTS

The WINS Academy Elective on Nuclear Security for Executive Management gives personnel with positions of executive authority—but who are not fulltime security professionals—insight into their responsibilities for nuclear security. Executive managers with responsibilities for nuclear security can be found in such departments as:

Legal and Regulatory Affairs	Engineering and Design	Information Technology
Finance and Insurance	Operations and Maintenance	Sales and Marketing
Procurement/Supply Chain	Safety and Environment	Corporate Communications
Risk Management	Human Resources	Administration

Building on the Foundation Module, this module emphasises that security, like safety, affects all parts of an organisation and is a fundamental aspect of risk management and corporate reputation. Consequently, it should be treated as a strategic operational activity that is implemented across the entire organisation.

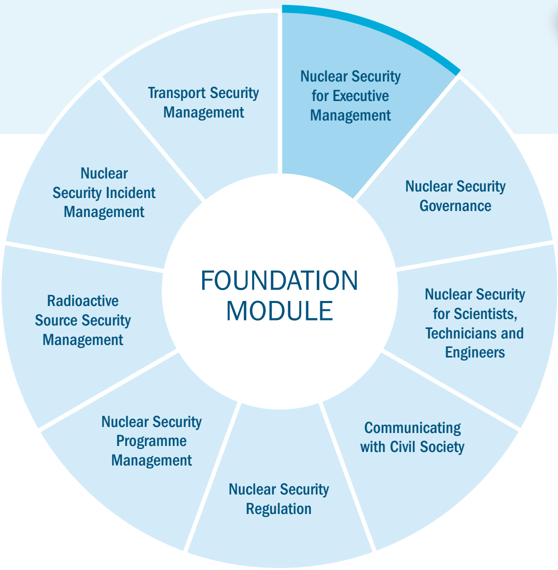
In most cases nuclear security is a fundamental aspect of a nuclear organisation's licence to operate and subject to regulatory oversight. When it comes to addressing regulatory requirements, organisations have two approaches from which to choose:

- **The Minimalist Approach:** The organisation complies with the security regulations (it has no choice), but its policy is to do the minimum necessary at minimum cost.
- **The Proactive Approach:** The organisation believes that security, safety and environmental protection underpin effective business performance and support its strategic objectives; therefore, it manages all of these functions as effectively and efficiently as possible.

A proactive approach means that senior management view the cost of both safety and security as an investment rather than as an unavoidable regulatory overhead. Evidence suggests the most commercially successful nuclear organisations are those whose leadership commit to excellence and high safety, security and performance standards.

This module enables participants to understand:

- Some of the characteristics of excellent business, including key success factors for achieving strategic objectives and implementing new strategies.
- How to use balanced scorecards and leading and lagging indicators to measure security performance and provide assurance to the board of directors and regulator.
- How an Executive Committee for Security can contribute to the effective performance of a security programme.
- How to manage security information as part of a broader risk management process and how to build a financial model for security expenditure.
- The importance of engaging with staff and contractors so they become part of the security solution, not part of the problem.
- Some challenges that may prevent security from being managed effectively and how to resolve them.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UNIT 1: SUCCESSFUL STRATEGY IMPLEMENTATION

1.1 Characteristics of Excellent Businesses
1.2 Implementing a Successful Nuclear Security Strategy: Assessment Tools

UNIT 2: INTERNAL MANAGEMENT PROCESSES AND METRICS

2.1 Assessing the Risks: Taking a Broader Approach to Security Risk Management
2.2 Board versus Executive Management Responsibilities
2.3 Executive Roles and Mapping Accountabilities
2.5 The Executive Committee for Security
2.6 Attributes of a Successful Security Director

UNIT 3: KEY OPERATIONAL ISSUES AND BEST PRACTICES

3.1 Improving the Interface between Safety, Security and Emergency Planning
3.2 Financial Aspects of the Security Programme
3.3 Managing Low Probability, High Consequence Events

UNIT 4: EMPLOYEE ENGAGEMENT AND COMMUNICATIONS

4.1 Preparing for a Revised Security Strategy
4.2 Employee Inclusion
4.3 Employee Induction Training and On-going Communications
4.4 Employee Clarification
4.5 Whistleblowing: Establishing Systems and Investigative Reports

UNIT 5: COMMON PROBLEMS AND SUGGESTED SOLUTIONS

5.1 Cognitive Blockages
5.2 Resource Blockages
5.3 Motivational Blockages
5.4 Political Blockages

Nuclear Security Governance

CONTENTS

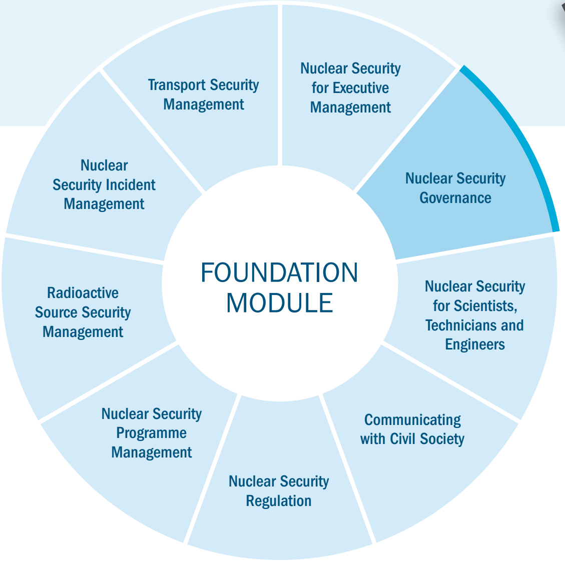
The WINS Academy Elective on Nuclear Security Governance provides insight into best practices for nuclear security oversight. In most countries, the State is responsible for putting an effective nuclear security regime in place, and the licensee is responsible for putting a security programme in place that protects its employees, facilities and materials. It is the responsibility of the board or senior government administrators to put an effective team in place to manage this responsibility. The selection criteria for government- run bodies may differ from those more commonly used for the boards of commercial entities, but their function is likely to be the same: overseeing management performance without becoming involved in the running of operations.

A key dynamic impacts the responsibility that board directors and senior government administrators have for nuclear security: the demands and expectations of the public, government, institutions and other key stakeholders. Especially in recent years, numerous public sector scandals and private sector failures have led to continuous questioning about the effectiveness and accountability of boards and the management teams they oversee. Key stakeholders and the public now demand that board directors and senior government administrators be competent to hold office and that they be held accountable for organisational performance and effective leadership.

Through their considered governance, oversight and leadership responsibilities, boards have a critical role to play in ensuring that nuclear security risks are understood and effectively mitigated by management. They also have the responsibility to ensure that strong oversight is integrated into a programme that builds resilient security, an effective operational environment, and a strong organisational culture.

By the end of this module, participants will understand:

- The security threats that could potentially impact their organisation and the risks they pose.
- How to manage risk effectively through the security programme.
- How nuclear security supports their organisation's operational strategy and the ways in which it is pivotal to long-term objectives and success.
- The responsibility board members have for nuclear security and know how to contribute effectively to the security programme.
- How their knowledge, skills and expertise can help to establish a vibrant, effective security culture.
- The key factors that lead to success in the governance of a security programme and oversight of security performance management.
- How they can improve board oversight and governance of the security programme and its performance.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UNIT 1: EXCELLENCE IN CORPORATE GOVERNANCE

1.1 Ensuring Effective Corporate Governance
1.2 Understanding Board Accountability
1.3 Setting Policy, Objectives and Performance Expectations

UNIT 2: BOARD DUTIES AND LIABILITIES

2.1 Understanding Board Duties and Liabilities
2.2 Understanding Corporate Responsibilities, Liabilities and Insurance

UNIT 3: STAKEHOLDER ENGAGEMENT

3.1 Understanding Stakeholder Engagement
3.2 Assuring Stakeholders

UNIT 4: SECURITY CULTURE

4.1 Leading on Security Culture
4.2 Encouraging Whistleblowing

UNIT 5: OVERSEEING RISK

5.1 Understanding the Board’s Role in Risk Oversight
5.2 Undertaking Risk Assessment
5.3 Managing Crises

UNIT 6: BLOCKS AND SOLUTIONS

Nuclear Security for Scientists, Technicians and Engineers

CONTENTS

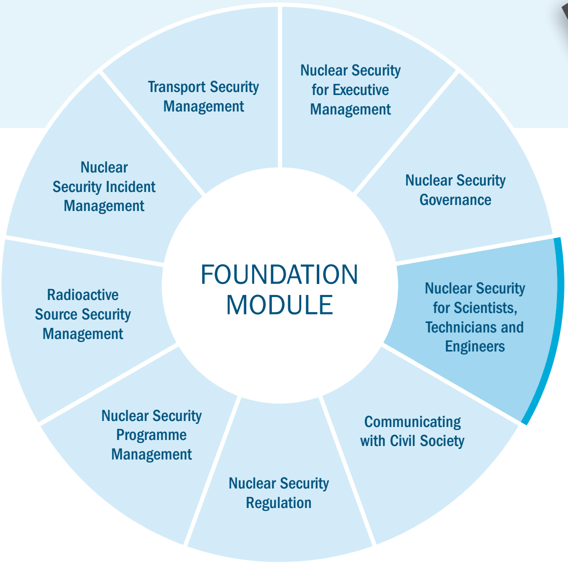
The WINS Academy Elective on Nuclear Security for Scientists, Technicians and Engineers addresses the role of scientists and engineers in the nuclear security programme, WINS refers to the full range of scientific and engineering disciplines involved in nuclear materials management. A small sample of common disciplines includes:

- Civil Engineer
- Operations Personnel
- Mechanical Engineer
- Design Engineer
- Process Engineer
- Electrical Engineer
- Safety Case Engineer
- Controls and Instrumentation Engineer/Technician
- Research and Development Engineer/Scientist
- Operations Researcher
- Laboratory Technician
- Information Technology Specialist

The goal of the module is to help participants understand the fundamental issues associated with nuclear security in their organisation. The module discusses the potential security threats their organisation faces, the major stakeholders with responsibilities for nuclear security, how the human element and security culture affect security, and the numerous ways in which their jobs and responsibilities intersect with and contribute to security. The module also discusses how to work and communicate with their fellow professionals in the Security Department to achieve mutual goals.

By the end of the module, participants will understand:

- The threats their organisation faces, including those from insiders, and what they can do to help mitigate them.
- Who the major security stakeholders are and what they are responsible for.
- Their personal accountabilities and responsibilities for security.
- The importance of the human element—including security culture and human reliability—in maintaining security.
- The importance of integrating security culture with safety culture.
- The numerous ways in which their work intersects with security and specific steps they can take to increase security where they work.
- The roles and responsibilities of their organisation's security professionals—including the knowledge, skills and training they typically receive.
- How to work and communicate with security professionals to achieve mutual goals.



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UNIT 1: UNDERSTANDING THE THREAT

1.1 Threats to Nuclear and Other Radioactive Materials
1.2 Threats from Unwitting Actors and Criminals
1.3 Threats from Non-State Actors
1.4 Cybersecurity

UNIT 2: UNDERSTANDING STAKEHOLDER RESPONSIBILITIES

2.1 The IAEA
2.2 The State and the National Security Regime
2.3 The Regulator and the Design Basis Threat
2.4 The Licensee and the Security Programme

UNIT 3: UNDERSTANDING THE HUMAN FACTOR

3.1 Insider Threat
3.2 Security Culture
3.3 Human Reliability
3.4 Whistleblowing

UNIT 4: UNDERSTANDING THE INTERSECTIONS

4.1 Security by Design
4.2 Material Control and Materials Accountancy
4.3 IT and IC Systems
4.4 Modelling & Simulation
4.5 Security Equipment Maintenance

UNIT 5: BRIDGING THE GAP

5.1 The Changing Role of the Security Professional
5.2 Why and How to Integrate
5.3 Security Competence
5.4 Cross-Functional Communication
5.5 Protecting Sensitive Information
5.6 Security Liaison Programme

Communicating with Civil Society

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The WINS Academy Elective on Communicating with Civil Society focuses on one of the most overlooked stakeholders in nuclear security: civil society. For the purposes of this module, civil society includes individuals, civil society organisations (CSOs), non-governmental organisations (NGOs) and the media. At the broadest level, it simply means the public.

The module is targeted at professionals in the nuclear sector whose responsibilities include communicating with civil society on nuclear security issues—either on a day-to-day basis or during a crisis. Such professionals may not be specialists in marketing or public relations, but they may need to increase their knowledge of, and skills in, the communication process in order to interact more effectively with civil society individuals, community members, organisations and the media. Examples of such professionals include:

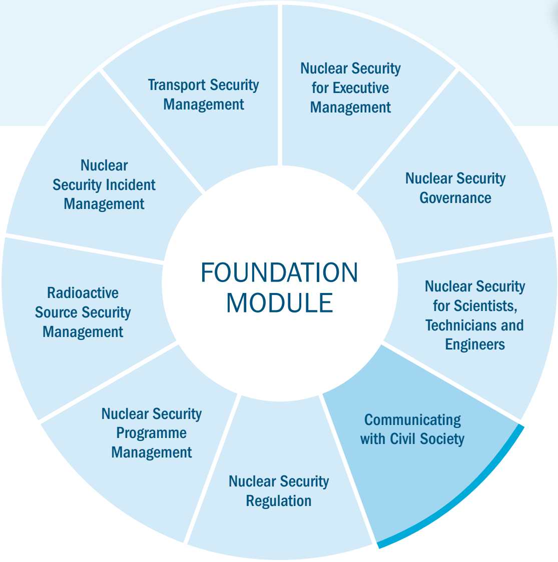
Board Members	Regulators
Executive Management	Offsite Response Forces
Security Directors	Scientists, Technicians and Engineers

The support of the public is necessary for the successful development and use of nuclear and radioactive materials—whether in industry, medicine or agriculture. When community members trust the organisation and its leaders, the support they provide can be invaluable. When distrust and conflict are the norm, protests, negative media coverage and lawsuits can harm an organisation's reputation, financial performance, and ability to conduct business. Therefore, one of the goals of the module is to constructively challenge the belief that all security-related information must be kept confidential. Another is to help participants understand how and why they should engage with the public, take actions that help to develop mutual trust, and communicate more effectively.

The module may also interest leaders in civil society and the media who seek to increase their understanding of nuclear security and the challenges that organisations face when communicating about nuclear security to civil society audiences.

By the end of this module, participants will understand:

- How and why the relationship between nuclear security and civil society has developed and changed over time and what this means today for those who are responsible for communicating about nuclear security issues.
- The current framework that guides how States report on their nuclear security arrangements and the progress they are making toward the effective implementation of such arrangements.
- The basic elements involved in the communication process, including the importance of body language, how communication noise affects communication, and why trust is so important in the relationship between nuclear organisations and civil society.
- The different ways in which organisations engage face to face with civil society stakeholders and why it is so important to do so effectively.
- Some of the forces affecting traditional media, how communications have changed in response to smartphones and social media, some of the benefits and risks in communicating with the media, and why it is so important to nurture long-term relationships.
- The basic structure of a nuclear communications emergency policy, the elements that need to be included in an emergency communications plan, and how to implement the plan in an emergency.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UNIT 1: CHANGING RELATIONSHIPS

1.1 A Brief Historical Overview
1.2 Civil Society and the Digital Revolution
1.3 Civil Society and Global Governance

UNIT 2: NUCLEAR SECURITY REPORTING

2.1 State-Level Reporting
2.2 IAEA Reporting
2.3 Civil Society Reporting
2.4 What More Can Be Done?

UNIT 3: PRINCIPLES OF COMMUNICATION

3.1 The Basic Elements of the Communication Process
3.2 Understanding Your Audience

UNIT 4: ENGAGING FACE TO FACE

4.1 Engaging with the Community
4.2 Engaging on Specific Issues
4.3 Approaches to Engagement
4.4 Good and Bad Examples of Engagement

UNIT 5: COMMUNICATING WITH THE MEDIA

5.1 Understanding Traditional Media
5.2 Understanding Social Media

UNIT 6: COMMUNICATING IN AN EMERGENCY

6.1 The Emergency Communications Policy
6.2 Pre-Emergency Planning
6.3 Creating What-If Scenarios
6.4 Factors That Influence Risk Perception
6.5 Implementing the Emergency Communications Plan
6.6 Acknowledge Uncertainty or Not?

Nuclear Security Regulation

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The WINS Academy Elective on Nuclear Security Regulation is designed for regulatory staff who have responsibilities related to the licensing, regulation and oversight of security for nuclear and radioactive materials. This involves regulating a broad range of facilities that might include nuclear power plants, research and test reactors, waste management areas, and fuel fabrication/processing facilities. It could also include hospitals, universities, irradiators and other facilities that use or process radioactive materials in medical, academic and industrial applications. Staff who regulate nuclear security work in such areas as:

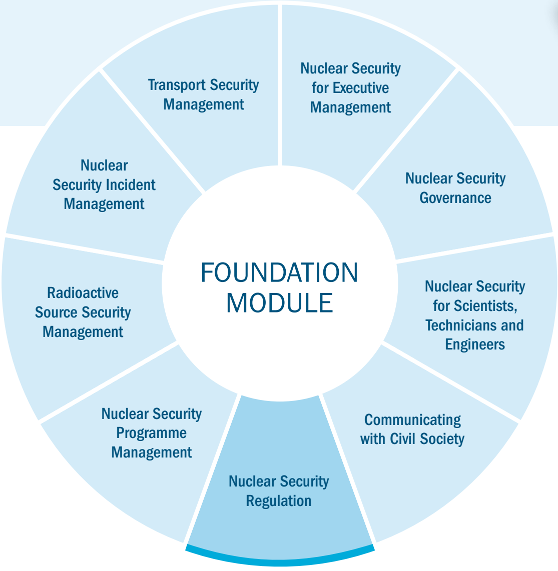
- Licensing
- Compliance & Enforcement
- Performance Assessment
- Establishment of Rules and Regulations
- Human Performance and Reliability
- Inspection
- Event Investigation and Causal Analysis
- Enforcement
- Communications (Public and Industry)
- Presentations at Hearings and Tribunals
- Implementation of International Legal Commitments

The module emphasises that regulation should be an integral part of the legislative and regulatory framework for protecting persons, property, society and the environment from malicious acts involving nuclear and other radioactive material. For this reason, nuclear security regulators must have the same lawful authority as nuclear safety regulators to carry out their mandate effectively, including the right to establish nuclear security regulations and responsibilities.

As a baseline, the module draws from international guidance produced by the International Atomic Energy Agency (IAEA), the Organisation for Economic Co-Operation (OECD) and many other sources to synthesise the key issues that help determine nuclear security regulatory effectiveness. Clearly the overall performance of nuclear safety and security is the result of the combined efforts of regulators and the licensees who are accountable for implementing the regulations. Their relationship and confidence in one another are key factors in determining safe and secure operations. However, ensuring the safety and security of nuclear and radiological materials is a balancing act: Safety regulations must not be implemented at the expense of security and vice versa. Accordingly, the relationship between safety and security regulators is of special concern and relevance.

By the end of the course, participants will understand:

- What regulation is, why it is commonly enacted, what causes it to fail, and some alternatives that can be used instead of regulation.
- How to build trust between themselves and the organisations they regulate and why it is so important to do so.
- What effective regulatory reporting consists of.
- What the regulatory cycle is and how to work within it.
- The three phases of regulation (permissioning, inspection and enforcement).
- How to use WINS' security event assessment scale as a useful framework for regulatory decision making.
- The difference between the performance-based/outcome-focused approach to regulation and the more prescriptive regulatory/direct and inspect approach.
- How to measure regulatory performance and ensure regulatory competence.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UNIT 1: THE EVOLUTION OF REGULATORY REGIMES

1.1 What is meant by Regulation
1.2 Reasons for Regulation
1.3 Failures in Regulation
1.4 Alternatives to Regulation

UNIT 2: FACTORS CONTRIBUTING TO EFFECTIVE REGULATION

2.1 Building Trust between Regulators and Licensees
2.2 Regulatory Independence
2.3 Effective Regulatory Reporting

UNIT 3: THE REGULATORY CYCLE

3.1 The Design Basis Threat (DBT)
3.2 Phases of Regulation; Permissioning, Inspection and Enforcement
3.3 A Generic Enforcement Management Model (EMM)
3.4 A Security Event/Non-Compliance Assessment Scale
3.5 Other Regulatory Activities
3.6 New Regulations

UNIT 4: STYLES OF REGULATION

4.1 Prescription versus Performance
4.2 Self-Regulation and Co-Regulation
4.3 Licensee Assurance Programmes

UNIT 5: REGULATORY PERFORMANCE AND COMPETENCE

5.1 Measuring Regulatory Performance
5.2 Strategy Mapping and Performance Metrics
5.3 Competency Requirements for Nuclear Security Regulators
5.2 The Safety/Security Interface: Consequences for Regulation

UNIT 6: SCENARIO (MODEL ATTRIBUTES FOR A REGULATOR)

Nuclear Security Programme Management

CONTENTS

The WINS Academy Elective on Nuclear Security Programme Management has been developed primarily for senior managers who, as functional specialists, are responsible for implementing their organisations' nuclear security arrangements.

The module outlines how managing a nuclear security programme effectively is a complex and challenging task—not least because the range of potential threats is becoming more complex every year and the cost of security continues to rise. Furthermore, leaders in some nuclear organisations still view security as a non-productive and expensive regulatory overhead expense. In such circumstances, security management is at a stage of development similar to where safety management was a few decades ago: perceived as interfering with production, operations, commissioning and design.

The module also discusses why nuclear security management has lagged behind nuclear safety management. In the wake of a few serious nuclear accidents, attitudes toward safety management began to change; today, the nuclear sector seeks excellence in all aspects of safety and operation. National and international industry organisations conduct independent, wide-ranging peer reviews of safety arrangements and readily share best practices. Boards of directors appoint subcommittees to oversee safety performance in their own organisations, and the regulatory framework for nuclear safety management is extensive and highly developed. Some countries and organisations approach nuclear security management in a similar way, but many other countries and organisations do not. Furthermore, divisions often remain between safety and security management.

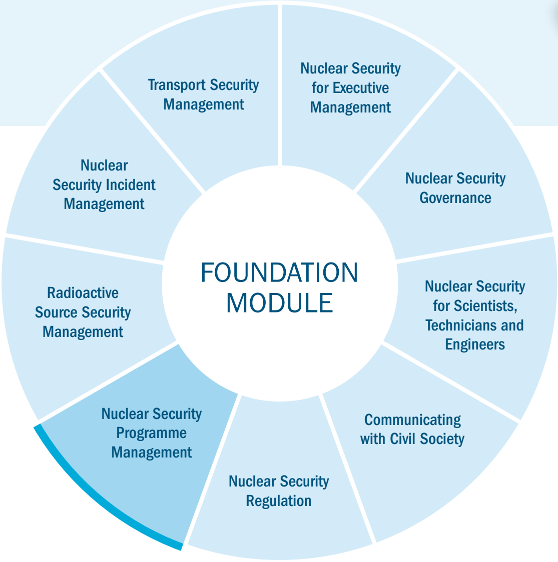
Another reason that nuclear security management has lagged behind nuclear safety management is that security is generally a shared responsibility between the State and the licensee. This means that the licensee is likely to have a large number of external interfaces with government-related organisations responsible for national security, including policing and law enforcement, intelligence assessment and dissemination, and regulation of nuclear facilities and transport operations. Each interface is a potential source of confusion over roles and responsibilities. In the absence of significant incidents or comprehensive security exercises, gaps in capability and procedures can develop quickly.

Furthermore, the absence of significant incidents makes it challenging to motivate security personnel and to persuade other members of the senior management team that the threats are real and must be taken seriously to prevent real harm and reputational damage. The threat no longer comes solely from armed outside assailants seeking to cause physical damage; it also comes from those who exploit vulnerabilities in IT & IC systems and from insiders who act maliciously, either alone or in league with external attackers. In addition, the growth in mobile communications technology and 24-hour media coverage can quickly transform a relatively benign security incident into a full-blown crisis.

By the end of the module, participants will understand how to:

- Establish and implement a comprehensive nuclear security programme to address threats and interfaces—and to do it in a way that gains organisational support.

- Address security management challenges and objectives at their organisation and how they can be improved. Being technically competent is essential, but unless participants can promote security to the wider managerial team their efforts may be in vain.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UNIT 1: IMPLEMENTING AN EFFECTIVE NUCLEAR SECURITY PROGRAMME

1.1 Responsibilities and Risk Assessment
1.2 The Components of a Nuclear Security Programme
1.3 Strategy Mapping
1.4 Overcoming Challenges to the Security Strategy

UNIT 2: WHAT MAKES AN EFFECTIVE SECURITY DIRECTOR?

2.1 The Security Director Position
2.2 Success Criteria for Nuclear Security Directors
2.3 Professional Development and Assessment

UNIT 3: MANAGING RELATIONSHIPS: EXTERNAL STAKEHOLDERS

3.1 The State and the Nuclear Security Regulator
3.2 Communicating about Security Events
3.3 Working with Outside Communities
3.4 Civil Society Engagement

UNIT 4: MANAGING RELATIONSHIPS: INTERNAL STAKEHOLDERS

4.1 Executive Decision Making
4.2 The RACI Technique
4.3 Management Issues
4.4 Conducting Employee Attitude Surveys on Security
4.5 Developing Employee Discussion and Focus Groups
4.6 Implementing Systematic Training, Evaluation and Communications
4.7 Creating Effective Internal Policies and Procedures

UNIT 5: MANAGING RELATIONSHIPS: THE SECURITY TEAM

5.1 Styles of Leadership and Management
5.2 Team Recruitment and Motivation

UNIT 6: PERFORMANCE MEASUREMENT, EXERCISING AND REPORTING

6.1 Understanding and Managing Security Expenditure
6.2 Performance Exercises
6.3 Performance Reports

Radioactive Source Security Management

CONTENTS

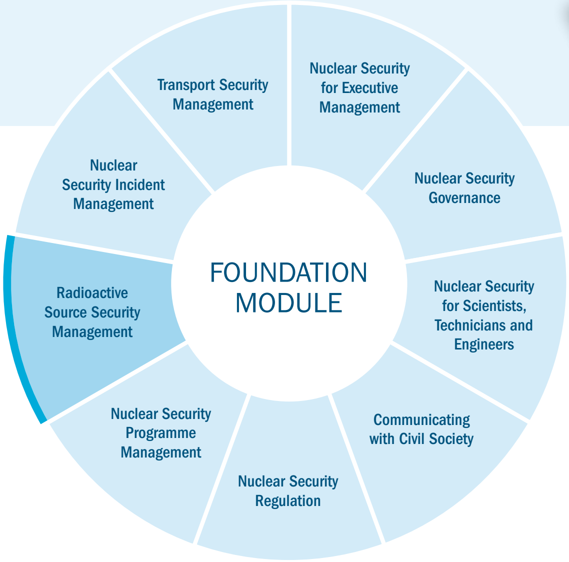
The WINS Academy Elective on Radioactive Source Security Management has been designed for professionals with accountability for the security of radioactive sources used at medical, industrial and research facilities. In particular, it targets senior and line managers who are responsible for the use of 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.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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

Nuclear Security Incident Management

CONTENTS

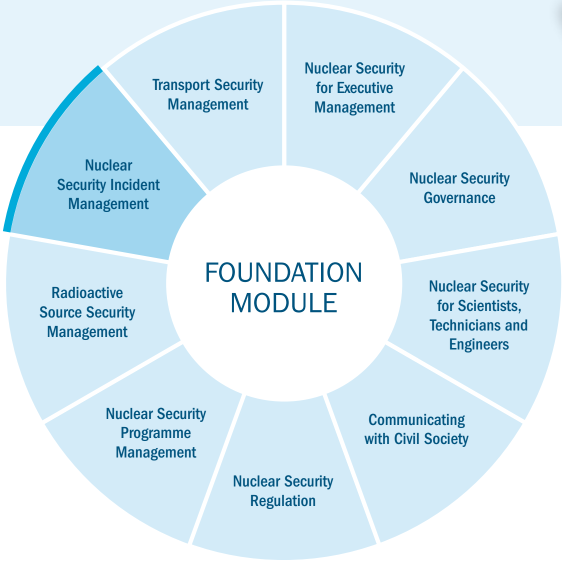
The WINS Academy Elective on Nuclear Security Incident Management has been designed for managers in the nuclear and emergency response communities, as well as regulators, government departments and others who want to gain a broad understanding of the issues. It should also assist those who are planning to develop nuclear facilities and emergency management systems. The content of the module is based upon practical experience, research, and best practice as identified from WINS' broad membership, relevant workshops, and expert professionals in the field—not only in the nuclear industry, but also in other relevant industries such as aviation.

Each State is legally accountable for its own nuclear safety and security arrangements and for introducing legislation and regulations that ensure its nuclear operators comply with national requirements. Amongst the plethora of guidance and standards that have been developed are requirements that emergency arrangements be put in place should an incident cause a radiological or nuclear event. The potential consequences of such an incident could extend far beyond the site perimeter and have international consequences and repercussions. This is why stakeholders at all levels—international, national, regional, and local—need to plan and test their arrangements regularly to ensure that their incident management will be as rapid, effective and coordinated as possible.

The module aims to address some of the key issues that organisations could face when planning and implementing security incident management arrangements. In doing so, it recognises that circumstances will vary from State to State. Therefore, the purpose of the module is not to establish standards but to provide insight into the principles of effective emergency management and incident response and to ask informed questions that will prompt reflection and further enquiry. The module's overall objective is to give participants the opportunity to identify and address potentially complex issues that could arise when responding to security incidents (including the use of deadly force) and to translate their understanding into relevant and effective planning, training, exercising and deployment activities in their particular context.

By the end of this module, participants will understand:

- The strategic context for creating an effective Nuclear Security Programme and implementation strategy.
- Who the stakeholders are in this process and how and why their viewpoints could differ.
- How to categorise the threat using a threat assessment scale developed specifically for nuclear security.
- The hierarchy of people who would respond to a nuclear emergency, the agencies and departments they would come from, and the ways in which they could work together to resolve the situation.
- What is involved in commanding, controlling and coordinating a major incident, as well as why it is so important to document all decisions made.
- Some of the most important questions and issues surrounding the use of an armed guard force.
- What might happen in the post-incident management phase and what they need to do to prepare for it.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OUTLINE

UNIT 1: UNDERSTANDING THE STRATEGIC CONTEXT

1.1 The Need for a National Nuclear Security Strategy
1.2 The Importance of Stakeholder Perspectives
1.3 Existing Guidance for Emergency Response and Incident Management

UNIT 2: MANAGING INCIDENT RESPONSE

2.1 Incident and Crisis Management Planning
2.2 Threat Assessment
2.3 The Hierarchy of Incident Command
2.4 Tactical Command: The Incident Management Team

UNIT 3: IMPLEMENTING COMMAND, CONTROL, AND COORDINATION

3.1 Logistical Considerations
3.2 Multi-agency Command, Control, and Coordination
3.3 Principles of Interoperability and Joint Working

UNIT 4: PREPARING THE GUARD FORCE

4.1 Effective Response Arrangements
4.2 Guard Force Training
4.3 Self-Sufficiency
4.4 Tactical Response Plans and the Use of Deadly Force
4.5 Remotely Operated Weapon Systems
4.6 Transporting Nuclear Material

UNIT 5 POST-INCIDENT MANAGEMENT

5.1 Evidence Gathering and Forensics
5.2 Lessons to Be Learned about Interoperability

UNIT 6: PUTTING IT INTO PRACTICE: SCENARIO DEVELOPMENT

Transport Security Management

CONTENTS

The WINS Academy Elective on Transport Security Management has been designed for individuals employed by organisations with responsibilities for the safe, secure shipment of nuclear or other radioactive material. Examples include those who prepare nuclear material for transport (i.e. producers, suppliers, distributors and consignors), those who transport nuclear material (i.e. carriers), those who take delivery of a shipment (i.e. receivers, consignees), and those who provide operational support, such as escort and guard force personnel. The audience may also include freight forwarders and customs brokers, field service providers, response force personnel, customs and border crossing personnel and regulators.

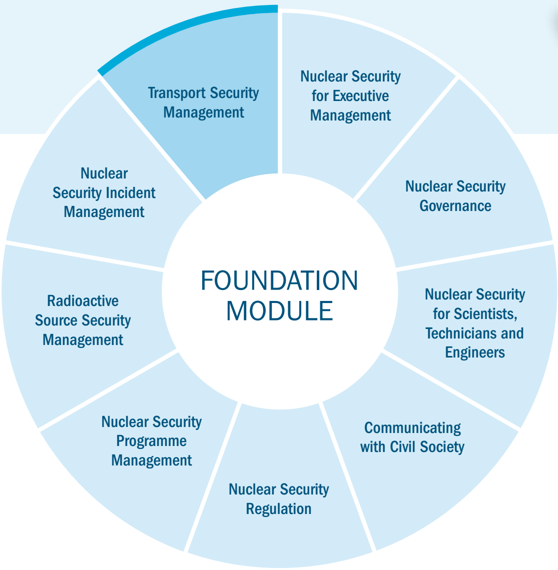
The transport of nuclear and other radioactive material may comprise multiple modes (e.g. roads, rail, air, inland waterways or sea), take place across national boundaries, require adherence to a variety of laws and regulations, and involve numerous stakeholders, many of whom change as the transport proceeds. Consequently, ensuring effective transportation security requires careful planning, communication and coordination. This module helps participants understand what is required to achieve this goal—whether they are arranging, carrying, receiving or protecting a shipment or are responsible for responding should a security event occur.

The module also helps participants understand that, since shipments of nuclear and other radioactive material occur in the public domain as compared to a fixed facility, and since shipments may frequently involve transport across national boundaries and possibly involve more than one mode of transport, these shipments pose a high security risk. In fact, such shipments may be one of the most vulnerable, if not the most vulnerable activity involving these materials. The module also focuses on how to manage a uniform, adequate and consistent approach to security during transport. Using a practical approach to learning, it helps participants understand what is required of them to ensure an adequate level of security for shipments.

The module also recognises that circumstances will vary from State to State; therefore, its purpose is not to establish standards but to provide insight into the principles of nuclear materials transport and to ask informed questions that will prompt reflection and further inquiry. The content is based upon practical experience, research and best practice as identified from WINS' broad membership, relevant workshops, and expert professionals in the field.

By the end of the module, participants will understand:

- The roles and responsibilities involved in preparing for and managing the secure transport of nuclear and other radioactive material.
- The types of materials that might be transported, the threats and vulnerabilities they face during transport, and specific actions that can be taken to ensure their security.
- How to plan, develop and implement an effective security system according to a graded approach based on the level of risk posed by the material being transported.
- How to create a transport security plan, assess the degree to which the transport system satisfies the plan's requirements, and correct deficiencies before the shipment departs.
- How to analyse, respond to, and document a security incident.
- How to contribute effectively to transport security within their organisation.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OUTLINE

UNIT 1: THE EVOLUTION OF NUCLEAR TRANSPORT SECURITY

1.1 Modern Transport Security
1.2 Threats and Potential Consequences
1.3 The Challenges of Shipping Nuclear Materials

UNIT 2: THE FRAMEWORK FOR TRANSPORT SECURITY

2.1 The Role of International Organisations
2.2 State Roles and Responsibilities

UNIT 3: PREPARING FOR TRANSPORT

3.1 Principles of Transport Security
3.2 Categorising Nuclear Material for Transport
3.3 Categorising Radioactive Material for Transport
3.4 Designing a Transport Security Plan

UNIT 4: KEY OPERATIONAL CONSIDERATIONS

4.1 Command, Control and Communications
4.2 Managing Transport Personnel and Resources

UNIT 5: TRANSPORT OPERATIONS AND INCIDENT RESPONSE

5.1 Monitoring and Tracking Shipments
5.2 Transport Incident Management
5.3 Significant Incident Response
5.4 Post-Shipment Performance Evaluation

UNIT 6: TRANSPORT SCENARIO DEVELOPMENT

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