

IAEA Nuclear Security Series No. 29-G

Implementing Guide

Developing Regulations and Associated Administrative Measures for Nuclear Security



IAEA

International Atomic Energy Agency

IAEA NUCLEAR SECURITY SERIES

Nuclear security issues relating to the prevention and detection of, and response to, criminal or intentional unauthorized acts involving, or directed at, nuclear material, other radioactive material, associated facilities or associated activities are addressed in the **IAEA Nuclear Security Series**. These publications are consistent with, and complement, international nuclear security instruments, such as the Convention on the Physical Protection of Nuclear Material and its Amendment, the International Convention for the Suppression of Acts of Nuclear Terrorism, United Nations Security Council resolutions 1373 and 1540, and the Code of Conduct on the Safety and Security of Radioactive Sources.

CATEGORIES IN THE IAEA NUCLEAR SECURITY SERIES

Publications in the IAEA Nuclear Security Series are issued in the following categories:

- **Nuclear Security Fundamentals** specify the objective of a State's nuclear security regime and the essential elements of such a regime. They provide the basis for the Nuclear Security Recommendations.
- **Nuclear Security Recommendations** set out measures that States should take to achieve and maintain an effective national nuclear security regime consistent with the Nuclear Security Fundamentals.
- **Implementing Guides** provide guidance on the means by which States could implement the measures set out in the Nuclear Security Recommendations. As such, they focus on how to meet the recommendations relating to broad areas of nuclear security.
- **Technical Guidance** provides guidance on specific technical subjects to supplement the guidance set out in the Implementing Guides. They focus on details of how to implement the necessary measures.

DRAFTING AND REVIEW

The preparation and review of Nuclear Security Series publications involves the IAEA Secretariat, experts from Member States (who assist the Secretariat in drafting the publications) and the Nuclear Security Guidance Committee (NSGC), which reviews and approves draft publications. Where appropriate, open-ended technical meetings are also held during drafting to provide an opportunity for specialists from Member States and relevant international organizations to review and discuss the draft text. In addition, to ensure a high level of international review and consensus, the Secretariat submits the draft texts to all Member States for a period of 120 days for formal review.

For each publication, the Secretariat prepares the following, which the NSGC approves at successive stages in the preparation and review process:

- An outline and work plan describing the intended new or revised publication, its intended purpose, scope and content;
- A draft publication for submission to Member States for comment during the 120 day consultation period;
- A final draft publication taking account of Member States' comments.

The process for drafting and reviewing publications in the IAEA Nuclear Security Series takes account of confidentiality considerations and recognizes that nuclear security is inseparably linked with general and specific national security concerns.

An underlying consideration is that related IAEA safety standards and safeguards activities should be taken into account in the technical content of the publications. In particular, Nuclear Security Series publications addressing areas in which there are interfaces with safety — known as interface documents — are reviewed at each of the stages set out above by relevant Safety Standards Committees as well as by the NSGC.

DEVELOPING REGULATIONS
AND ASSOCIATED
ADMINISTRATIVE MEASURES
FOR NUCLEAR SECURITY

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The Agency's Statute was approved on 23 October 1956 by the Conference on the Statute of the IAEA held at United Nations Headquarters, New York; it entered into force on 29 July 1957. The Headquarters of the Agency are situated in Vienna. Its principal objective is "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world".

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IMPLEMENTING GUIDE

INTERNATIONAL ATOMIC ENERGY AGENCY
VIENNA, 2018

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FOREWORD

**by Yukiya Amano
Director General**

The IAEA's principal objective under its Statute is "to accelerate and enlarge the contribution of atomic energy to peace, health and prosperity throughout the world." Our work involves both preventing the spread of nuclear weapons and ensuring that nuclear technology is made available for peaceful purposes in areas such as health and agriculture. It is essential that all nuclear and other radioactive materials, and the facilities at which they are held, are managed in a safe manner and properly protected against criminal or intentional unauthorized acts.

Nuclear security is the responsibility of each individual State, but international cooperation is vital to support States in establishing and maintaining effective nuclear security regimes. The central role of the IAEA in facilitating such cooperation and providing assistance to States is well recognized. The IAEA's role reflects its broad membership, its mandate, its unique expertise and its long experience of providing technical assistance and specialist, practical guidance to States.

Since 2006, the IAEA has issued Nuclear Security Series publications to help States to establish effective national nuclear security regimes. These publications complement international legal instruments on nuclear security, such as the Convention on the Physical Protection of Nuclear Material and its Amendment, the International Convention for the Suppression of Acts of Nuclear Terrorism, United Nations Security Council resolutions 1373 and 1540, and the Code of Conduct on the Safety and Security of Radioactive Sources.

Guidance is developed with the active involvement of experts from IAEA Member States, which ensures that it reflects a consensus on good practices in nuclear security. The IAEA Nuclear Security Guidance Committee, established in March 2012 and made up of Member States' representatives, reviews and approves draft publications in the Nuclear Security Series as they are developed.

The IAEA will continue to work with its Member States to ensure that the benefits of peaceful nuclear technology are made available to improve the health, well-being and prosperity of people worldwide.

EDITORIAL NOTE

Guidance issued in the IAEA Nuclear Security Series is not binding on States, but States may use the guidance to assist them in meeting their obligations under international legal instruments and in discharging their responsibility for nuclear security within the State. Guidance expressed as 'should' statements is intended to present international good practices and to indicate an international consensus that it is necessary for States to take the measures recommended or equivalent alternative measures.

Security related terms are to be understood as defined in the publication in which they appear, or in the higher level guidance that the publication supports. Otherwise, words are used with their commonly understood meanings.

An appendix is considered to form an integral part of the publication. Material in an appendix has the same status as the body text. Annexes are used to provide practical examples or additional information or explanation. Annexes are not integral parts of the main text.

Although great care has been taken to maintain the accuracy of information contained in this publication, neither the IAEA nor its Member States assume any responsibility for consequences which may arise from its use.

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1. INTRODUCTION

BACKGROUND

1.1. Nuclear security focuses on the prevention of, detection of and response to criminal or intentional unauthorized acts involving or directed at nuclear material, other radioactive material, associated facilities or associated activities. Other acts determined by the State to have an adverse impact on nuclear security are to be dealt with appropriately [1]. A nuclear security regime depends upon responsibilities related to nuclear security being clearly defined and assigned. A nuclear security regime includes provisions for appropriate integration and coordination of responsibilities related to nuclear security and for State oversight to ensure the continued appropriateness of these responsibilities [1].

1.2. A legislative and regulatory framework is an essential element of a State's nuclear security regime [1]. An effective legislative and regulatory framework for nuclear security within a State includes appropriate regulations, agreements and associated administrative measures to govern nuclear security.

OBJECTIVE

1.3. The objective of this publication is to provide guidance for States and their competent authorities on measures they should take to develop and maintain a legislative and regulatory framework to govern the nuclear security regime and to put its provisions into effect.

1.4. This publication is intended to assist States and their competent authorities in developing suitable regulations, agreements and associated administrative measures so that assigned roles and responsibilities are fulfilled and powers exercised according to law, cooperatively and in a coordinated manner among competent authorities within a State and, where necessary, between competent authorities of different States.

1.5. This publication aims to assist States to identify the responsibilities of those involved in nuclear security so that suitable regulations, agreements and associated administrative measures may be developed for establishing and sustaining an effective nuclear security regime. The publication is structured to provide an overview of the most important aspects to be covered by a State's legislative and regulatory framework for governing nuclear security. States may

therefore use this publication to undertake a gap analysis of their legislative and regulatory framework for nuclear security in order to take actions to update their framework as necessary.

SCOPE

1.6. This publication addresses the national legislative and regulatory framework for all aspects of nuclear security as an essential element of a State's nuclear security regime [1]. It therefore addresses the framework for implementing nuclear security recommendations on nuclear material and nuclear facilities [2], other radioactive material, associated activities and facilities that are under regulatory control [3] and nuclear and other radioactive material that is out of regulatory control [4].

1.7. This publication includes material to assist States in:

- Identifying key subject matters that relate to nuclear security;
- Defining roles and responsibilities for nuclear security;
- Identifying regulations, agreements and associated administrative measures that may be developed to govern nuclear security within a State, and between States, where necessary.

This publication includes an overview of the typical content of regulations and agreements between competent authorities and an outline of an example regulation and an example agreement.

1.8. This publication does not provide specific recommendations on the drafting of legislation. It does not contain model regulations, model agreements or model associated administrative measures as there are many approaches that may be taken to the development of each.¹ This publication provides the means for a State to select and develop regulations, agreements and associated administrative measures compatible with its own national legislative framework and institutions.

1.9. This publication refers to relevant guidance in the IAEA Nuclear Security Series and to other relevant IAEA publications, including the following:

¹ The IAEA has developed model text for regulations, which is available to Member States upon request.

- The International Legal Framework for Nuclear Security [5], which details the principal international instruments and relevant international legal obligations in this field;
- The Handbook on Nuclear Law (the 2003 Handbook) [6] and its second volume, Handbook on Nuclear Law: Implementing Legislation (the 2010 Handbook) [7], which describe the necessary legislative measures needed to address key issues related to the peaceful uses of nuclear energy, including some aspects of nuclear security.

1.10. Nuclear security and nuclear safety have in common the aim of protecting people, property, society and the environment. The Nuclear Security Fundamentals [1] states that:

“Security measures and safety measures have to be designed and implemented in an integrated manner to develop synergy between these two areas and also in a way that security measures do not compromise safety and safety measures do not compromise security.”

Requirement 12 of General Safety Requirements Part 1 [8] states that:

“The government shall ensure that, within the governmental and legal framework, adequate infrastructural arrangements are established for interfaces of safety with arrangements for nuclear security and with the State system of accounting for, and control of, nuclear material.”

This safety requirement applies when a State is implementing its legislative and regulatory framework for nuclear security. In developing regulations and associated administrative measures for nuclear security, States should ensure that the interface between safety and security is appropriately managed.

STRUCTURE

1.11. Following this Introduction, this publication contains three sections (2, 3 and 4) and two appendices. Section 2 lists and describes those institutions within a State that are usually responsible for the implementation of nuclear security measures within the legislative and regulatory framework. Section 3 gives an overview of regulations, agreements and associated administrative measures. Section 4 is divided into six thematic areas that assist States to consider the regulations, agreements and associated administrative measures that are necessary to govern a State’s nuclear security regime:

- General regulatory activities for nuclear security;
- Threat assessment;
- Security of information;
- Detection of nuclear and other radioactive material out of regulatory control;
- Preparedness for and response to nuclear security events²;
- Offences and penalties related to nuclear security, including criminalization.

1.12. Two appendices provide illustrative examples of regulations and agreements of the types referred to in the main text. Appendix I includes an overview of the typical content of regulations and an outline of an example regulation. Appendix II includes an overview of the typical content of agreements between competent authorities and an example agreement.

2. IDENTIFICATION OF RESPONSIBILITIES WITHIN THE LEGISLATIVE AND REGULATORY FRAMEWORK FOR NUCLEAR SECURITY

INTERNATIONAL INSTRUMENTS

2.1. Article 2A of the amended Convention on the Physical Protection of Nuclear Material (CPPNM) [10, 11] requires each State Party to establish and maintain a legislative and regulatory framework to govern physical protection. Fundamental Principle D of the amended Convention states that:

“the State should establish or designate a competent authority which is responsible for the implementation of the legislative and regulatory framework, and is provided with adequate authority, competence and financial and human resources to fulfill its assigned responsibilities.”

2.2. The Convention on Early Notification of a Nuclear Accident [12] and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency [13] were conceived and adopted as instruments for response in

² This publication does not cover preparedness or response to nuclear or radiological emergencies initiated by a nuclear security event. This is covered in Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GSR Part 7 [9] and supporting guides.

cases of nuclear and radiological accidents. However, these conventions serve to strengthen the international response to any nuclear or radiological emergency, including those initiated by a nuclear security event. These conventions provide a mechanism for rapid information exchange and mutual assistance with a view to minimizing the consequences of such emergencies and protecting people and the environment against the effect of radioactive releases. These conventions require the designation within a State of the key competent authorities that have roles and responsibilities in the context of a radiological emergency as well as the key mechanisms to ensure appropriate cooperation, coordination and communication at the international level.

2.3. The Code of Conduct on the Safety and Security of Radioactive Sources [14], which is a non-binding instrument, recommends States to have in place legislation and regulations that, inter alia, prescribe and assign governmental responsibilities to assure the safety and security of radioactive sources and provide for the effective control of radioactive sources. The Guidance on the Import and Export of Radioactive Sources [15] supplementary to the Code encourages States to nominate a point of contact in order to facilitate the import and export of radioactive sources in accordance with the Code of Conduct and the Guidance.

IAEA GUIDANCE

2.4. The State's obligation to establish competent authorities that have nuclear security functions, as reflected in the amended CPPNM [10, 11], is reflected in IAEA guidance. Essential Element 2 of the Nuclear Security Fundamentals [1] provides that nuclear security responsibilities of competent authorities designated by the State are clearly defined and provisions are made for the appropriate integration and coordination of responsibilities within the nuclear security regime. In addition, Ref. [1] provides that the legislative and regulatory framework and associated administrative measures to govern the nuclear security regime should: assign the nuclear security responsibilities of each competent authority³; provide these authorities with sufficient financial, human and technical resources to fulfil the assigned responsibilities; and establish measures to ensure proper coordination and communication among competent authorities, as well as

³ A competent authority is defined as "A governmental organization or institution that has been designated by a State to carry out one or more nuclear security functions" [1].

between competent authorities and authorized persons in order to fulfil their nuclear security responsibilities.

2.5. The Nuclear Security Recommendations publications [2–4] stipulate that the State’s competent authorities involved in the physical protection of nuclear material and nuclear facilities, the nuclear security of radioactive material and associated facilities and nuclear and other radioactive material out of regulatory control should have clearly defined legal status and the legal authority to enable each competent authority to fulfil its responsibilities and perform its functions effectively.

RESPONSIBILITIES FOR NUCLEAR SECURITY WITHIN A STATE

2.6. Each State will organize its nuclear security responsibilities according to its own institutional framework [1]. In many States, nuclear security is considered to be a subset of national security and the sovereign responsibility for nuclear security may reside in the office of the head of government or head of state, assisted by a national security committee, with responsibilities divided at the national level between ministries or departments of the State.⁴ Ministries of the State typically have policy responsibilities but may also have competent authorities within or under them. Competent authorities may also be structured as separate government bodies. These competent authorities, along with authorized persons, typically have the responsibility to implement the legislation and regulations relevant to nuclear security.

2.7. Those competent authorities and other organizations having nuclear security responsibilities within such a framework typically include, but may not be limited to, the following:

- The executive branch of government, including ministers, typically has responsibilities for national security, including nuclear security, develops national policy in relation to nuclear security, including the State’s response to the threat of nuclear terrorism, and may also have responsibility for issuing regulations, decrees and orders or similar subordinate legislation.
- The ministry of foreign affairs typically is responsible for developing and carrying out the State’s foreign policies, including those related to

⁴ For simplicity and clarity, the text henceforth refers to such State authorities as ‘ministries’. In some States, these may be designated as ‘departments’ or by other terms.

international security (including nuclear security aspects), may be the primary ministry involved in the negotiation and fulfilment of the State's treaty obligations, exchanges assurances with other States in relation to international agreements pertaining to nuclear security and in addition may have some responsibilities as a competent authority, for example, for the licensing of certain nuclear related exports and imports.

- The ministry of defence or the ministry of the interior may have responsibility for response to nuclear security events.
- A ministry of energy or ministry of industry is typically responsible for government activities relating to the promotion and development of energy technologies, including nuclear energy. In addition, the ministry of energy may also be an owner of facilities within the State and therefore have responsibility for the protection of nuclear material and nuclear facilities.
- The ministry of justice or prosecuting authority is typically responsible for prosecuting violations of national laws and regulations.
- The ministry of justice or the attorney-general's or advocate-general's office is, in some cases, responsible for the development and implementation of legislation, and for the representation of government entities in legal proceedings.
- A regulatory body is typically an independent competent authority responsible for conducting the regulatory process including issuing authorizations and undertaking inspections and enforcement. The State may have one or more competent authorities responsible for regulatory activities in relation to the safety and security of nuclear and other radioactive material, associated facilities and associated activities.
- A national emergency response agency is typically responsible for the overall development and coordination of the State's plan(s) for addressing all types of national emergency, including those arising from nuclear security events.
- Intelligence agencies are typically responsible for the collection, evaluation and appropriate communication of information that could have security implications and could inform the development of a national threat assessment.
- Interior or home affairs authorities are typically responsible for activities inside the State that may have national security implications, including the development and implementation of legislation related to the protection of sensitive information.
- Border protection authorities are typically responsible for the monitoring and enforcing of laws related to the movement of persons and/or conveyances across national borders (at points of entry and exit).

- Transport authorities are typically responsible for regulation of air, sea and land transport, including the approval process for the transport of dangerous goods.
- Customs authorities are typically responsible for regulating the import and export of controlled items and technology, which may include responsibilities for screening and the deployment of detection capabilities, including in the context of combatting illicit trafficking in nuclear and other radioactive material.
- Police and other law enforcement agencies are typically responsible for dealing with criminal activities within the State or involving nationals of the State, including investigations, crime scene management and forensic analytical capability.
- Public affairs or communications offices are typically part of each ministry and each competent authority and may be responsible for public communication strategies, including communication related to security information.
- Civil defence and emergency response organizations (fire, ambulance and other rescue services) are typically under the control of regional and/or local government and are called upon to provide assistance in cases of injury to persons and damage to property, including those arising from a nuclear security event.
- Authorized persons are typically responsible for nuclear security measures in the context of specific licensed activities.
- Consignors and carriers are typically responsible for security measures during the transport of nuclear and other radioactive material.

2.8. The State should consider all relevant international instruments and guidance related to nuclear security and establish its nuclear security regime on the basis of the functions of prevention, detection and response to criminal or intentional unauthorized acts involving or directed at nuclear and other radioactive material, associated facilities and associated activities.

2.9. Subject to its own institutional framework, the State should identify all competent authorities, authorized persons and other organizations with nuclear security responsibilities.

2.10. The State should make provision for the appropriate integration and coordination of responsibilities within its nuclear security regime. All nuclear security activities within the State should be coordinated by a body or mechanism under the head of government or head of State, which may, for example, be a national security committee or a nuclear security committee. The lead ministries

and their competent authorities with nuclear security functions are identified in accordance with the State's national institutional framework.

3. OVERVIEW OF REGULATIONS, AGREEMENTS AND ASSOCIATED ADMINISTRATIVE MEASURES TO GOVERN THE NUCLEAR SECURITY REGIME

GENERAL LEGAL HIERARCHY

3.1. In most States, the legal hierarchy consists of several levels. Constitutional instruments, the first level of the legal hierarchy, typically establish basic institutional and legal structures governing all relationships in the State. The second level, statutory instruments, comprises primary or principal legislation enacted by a legislature to govern a broader range of activities of national interest. The third level comprises regulations and other types of subordinate, secondary or delegated legislation, which contain detailed sets of technical rules to control or regulate activities in particular subject areas, promulgated by expert governmental bodies. The fourth level of the legal hierarchy consists of non-mandatory guidance instruments, which contain recommendations designed to assist persons and organizations in meeting the legal requirements arising from the higher levels of the hierarchy [6].

3.2. Primary legislation confers powers and functions and, in addition, assigns institutional roles and responsibilities. Detailed technical, procedural and administrative rules are typically developed by the relevant ministry or the body to which the role and responsibilities are assigned, using powers and functions assigned in primary legislation, in the form of subordinate secondary or delegated legislation, which is commonly called regulations⁵. For simplicity, all such instruments will be referred to as 'regulations' throughout the remainder of this publication. Legal systems may allow the making of regulations and other types of secondary or delegated legislation by either the legislature or by a delegated competent authority.

⁵ These may also be called orders, decrees, rules, by-laws or norms, depending on the legal system of the State in question.

3.3. In addition to primary legislation and regulations, which are legally binding instruments, associated administrative measures may be developed by competent authorities to illustrate the manner in which requirements may be implemented by authorized persons. Such measures include guidance, manuals, protocols and policies, and are not legally binding.

REGULATIONS

3.4. Development of regulations requires the necessary legal authority to be conferred through primary legislation. The scope of subject matter on which regulations may be developed is usually limited by the primary legislation. Regulations are legally binding instruments. In an area such as nuclear security, technical requirements tend to be set out in regulations rather than in primary legislation. Regulations are usually more detailed and prescriptive than the primary or principal legislation. However, regulations may also set out performance based objectives to be achieved, rather than specifying the means of achieving such objectives. Regulations are usually more amenable to amendment or revision than primary legislation, and are typically updated and revised more regularly than primary legislation.

AGREEMENTS

3.5. In addition to regulations, an effective nuclear security regime depends on agreements such as memoranda of understanding (MOUs), inter-agency agreements and other similar agreements⁶. Different States use different terms to describe these agreements; in this publication, all such instruments are referred to as ‘agreements’. The purpose of such agreements is typically to ensure coordination and cooperation between competent authorities.

3.6. Agreements may or may not be legally binding, depending on the parties concerned and the provisions of the agreement. For example, MOUs are typically non-binding agreements, unless otherwise agreed by the parties.

⁶ Such similar agreements might include, for example, memoranda of agreement, memoranda of intent, memoranda of cooperation or cooperative agreements.

3.7. Agreements may be bilateral or multilateral, i.e. between more than two competent authorities, such as in the case of a national strategy for detection or the national response plan involving several authorities.

3.8. Prior to entering into any such agreements, the parties should ensure that they have the legal or administrative power to conclude them. They should ensure that they are reviewed by legal advisors to confirm that they are lawful and appropriate, including that they avoid the inappropriate assignment of responsibilities or roles to another competent authority through such agreements.

3.9. The power to conclude agreements is typically conferred upon the competent authority in primary or secondary legislation. Agreements typically establish the manner in which the respective roles and responsibilities of the parties to the agreement are to be carried out. These agreements define the parties involved, the work to be performed, the manner in which the work is to be performed and, where necessary, the transfer of technologies and funds. They are usually concluded for the purpose of enhancing coordination and cooperation in key areas of nuclear security.

3.10. Bilateral or multilateral agreements may also be concluded between competent authorities of different States in areas such as the investigation of alleged offences related to nuclear security, the sharing of sensitive information in the context of threat assessment, the import and export of nuclear and other radioactive material and preparedness and response to a nuclear security event.

Agreements between competent authorities within a State

3.11. Responsibilities under the nuclear security regime may be shared between competent authorities (such as in the case of a response to a nuclear security event, and to any associated nuclear or radiological emergency, when various authorities are involved in both aspects of the response). In these situations, there should be clear definition of respective roles and responsibilities and agreements for overall coordination, communication and cooperation.

Agreements between competent authorities of different States

3.12. A competent authority of one State may need to conclude an agreement with one or more competent authorities of one or more other States in order to discharge its nuclear security responsibilities. This situation may arise, for example, when there is a transnational or transboundary issue that has to be resolved between States, such as in relation to the investigation of an alleged

criminal offence connected to a nuclear security event. It may also arise when there is a need to coordinate between competent authorities in two or more States when radioactive sources are regularly moved between them. Other examples include: legally binding agreements, such as treaties, for example, in the case of mutual legal assistance in criminal matters; administrative agreements under nuclear cooperation agreements, such as in the case of protection and sharing of information; MOUs and associated agreements, such as in the case of emergency preparedness and response; and law enforcement agreements.

ASSOCIATED ADMINISTRATIVE MEASURES

3.13. In addition to regulations and agreements, the nuclear security regime also needs associated administrative measures, such as strategies and policies, guidance, administrative procedures and protocols, to be developed by competent authorities. States may describe these associated administrative measures in a variety of ways and using other terms.

3.14. Associated administrative measures are generally not legally binding, but may provide important guidance and information that supports the legislative and regulatory framework for nuclear security. Associated administrative measures should include regulatory guidance that establishes the regulatory body's expectations as to how an authorized person should demonstrate compliance with the legislation and regulations. Because of their sensitive nature, the contents of some administrative measures for nuclear security should themselves be subject to restriction based on their classification; for example, they may not be available to the public and may be available even to authorized persons only on a need to know basis (see paras 4.44–4.56).

3.15. Associated administrative measures should be regularly reviewed and updated and those responsible for their development should ensure that they are consistent with any rules, requirements and principles arising from primary legislation or regulations.

4. APPLICATION OF THE GUIDANCE TO SPECIFIC SUBJECTS WITHIN NUCLEAR SECURITY

4.1. This section provides more detailed guidance on the content of regulations, agreements and associated administrative measures that should be developed by States for establishing, maintaining and sustaining the nuclear security regime, with reference to the following thematic areas:

- General regulatory activities for nuclear security;
- Threat assessment;
- Security of information;
- Detection of nuclear and other radioactive material out of regulatory control;
- Preparedness for and response to nuclear security events;
- Offences and penalties related to nuclear security, including criminalization.

GENERAL REGULATORY ACTIVITIES FOR NUCLEAR SECURITY

International instruments

4.2. Fundamental Principle C of the amended CPPNM [10, 11] provides that “The State is responsible for establishing and maintaining a legislative and regulatory framework to govern physical protection” and that this framework includes physical protection requirements, an authorization (licensing) system, a system of inspection to verify compliance, and a means of enforcement. The Code of Conduct on the Safety and Security of Radioactive Sources [14] recommends that States have in place legislation and regulations that provide for the security of radioactive sources, including a regulatory body, which establishes and applies a system of authorization, regulation, inspection and enforcement.

IAEA guidance

4.3. The Nuclear Security Fundamentals [1] states that one of the essential elements of a State’s nuclear security regime is a legislative and regulatory framework, with associated administrative measures that, inter alia:

- Establish competent authorities, including regulatory bodies, with adequate legal authority to fulfil their assigned nuclear security responsibilities;

- Provide for the establishment of nuclear security regulations and requirements and associated procedures for evaluating applications and granting authorizations or licences;
- Provide for the establishment of systems and measures to ensure that nuclear material and other radioactive material are appropriately accounted for or registered and are effectively controlled and protected;
- Establish verification and enforcement measures to ensure compliance with applicable laws, regulations and requirements, including the imposition of appropriate and effective sanctions.

4.4. The Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities [2] recommends that a State’s legislative and regulatory framework “provide for the establishment of applicable physical protection requirements and include a system of evaluation and licensing or other procedures to grant authorization.” Authorization is granted if there is an adequate demonstration that effective nuclear security systems are in place and comply with applicable regulatory requirements. The regulatory framework includes the power to issue, amend, revoke, cancel and suspend an authorization. The legislative and regulatory framework also provides for other sanctions for violations. Criminal offences and penalties are addressed further in paras 4.88–4.99.

4.5. The Nuclear Security Recommendations on Radioactive Material and Associated Facilities [3] recommends that “The State should establish, implement and maintain an effective national legislative and regulatory framework to regulate the nuclear security of *radioactive material, associated facilities* and *associated activities*”, which establishes, inter alia, the enforcement process for the failure to comply with security requirements. The regulatory body should verify continued compliance with nuclear security regulations and relevant authorization conditions, notably through periodic inspections and ensuring that corrective action is taken, when needed. Reference [3] also includes recommendations to the State to develop security requirements for radioactive material in transport in order to minimize the likelihood of loss of control or malicious acts.

Considerations for a State to select appropriate regulations, agreements and associated administrative measures

Identification of responsibilities within a State for regulatory activities

4.6. In some States, the competent authority with responsibility for assessing nuclear security in the context of authorization decisions may also have responsibility for safety. In this publication, all actions that relate to authorization functions are referred to as the responsibility of the regulatory body.

Regulations

4.7. The nuclear security responsibilities of a regulatory body are assigned in primary legislation. Primary legislation generally assigns the power to establish regulatory requirements through the issue of regulations, as well as the power of the regulatory body to issue legally binding directions.

4.8. Regulations should establish nuclear security requirements for nuclear material and nuclear facilities, other radioactive material, associated facilities and associated activities, taking account of the essential elements set out in the Nuclear Security Fundamentals [1] and the recommended requirements specified in the Nuclear Security Recommendations [2–4]. These regulations should reflect:

- The State’s approach to risk management by which it ensures that the nuclear security regime is capable of establishing and maintaining the risk associated with nuclear security events at acceptable levels through a risk informed approach [4, 8];
- The State’s assessment of the threat and the potential consequences of malicious acts and actions, which should be used as a basis to ensure that appropriate nuclear security measures are put in place;
- The State’s application of the graded approach, which should also require authorized persons to apply the graded approach in designing and implementing nuclear security measures;
- The State’s application of defence in depth, which should require authorized persons to take into account the principle of defence in depth in designing and implementing nuclear security measures.

4.9. Regulations should specify formal objectives and requirements that are a necessary part of the nuclear security regime, including requirements for security measures to be taken against sabotage and unauthorized removal of nuclear and

other radioactive material. Regulations should also set out requirements for recovery of any damaged, stolen or lost nuclear and other radioactive material, as well as for the mitigation of any radiological consequences arising from unauthorized removal or sabotage.⁷

4.10. Legislation or regulations should require an authorized person to maintain control over radioactive sources for which he or she is responsible that may pose risks to nuclear security, including a requirement for registration or an accounting and inventory system that is maintained and verified by the authorized person. Legislation or regulations should also require the regulatory body to maintain a national register or inventory of radioactive sources.

4.11. To help counter potential insider threats [17] — i.e. adversaries with authorized access to material, a facility, a transport operation or sensitive information that might facilitate a malicious act — the State should establish a trustworthiness policy intended to identify the circumstances in which a trustworthiness determination is required and how it is to be made, taking account of the graded approach. In carrying out this policy, the State should ensure that processes are in place to determine the trustworthiness of persons with access to sensitive information or, as applicable, to nuclear and other radioactive material or nuclear and related facilities. Such processes would be subject to national employment and privacy laws where applicable.

4.12. The State is responsible for national security and, depending on the circumstances, may also be responsible for the provision of response forces on the sites of nuclear facilities and other associated facilities, as well as off-site response forces. If the authority responsible for the response force at the facility is not the operator of the facility, the State should ensure through the legislative and regulatory framework that there is clear guidance as to the jurisdiction and mandate of response forces.

⁷ The State system of accounting for and control of nuclear material is an obligation imposed under a comprehensive safeguards agreement as described in INFCIRC/153 (Corrected) [16], paras 7, 31, 32 and 51–69, which relate to States with a comprehensive safeguards agreement concluded pursuant to the Treaty on Non-Proliferation of Nuclear Weapons. As such it is outside the scope of this publication. However, States may establish a system of accounting for and control of nuclear material to meet their needs in a number of different areas simultaneously, including for nuclear security purposes. This system may contribute to achieving nuclear security objectives including the detection of any unauthorized removal of nuclear material and the deterrence, by this capability, of malicious acts by an insider threat.

4.13. Regulations should be issued for use by those assigned responsibility by primary legislation for inspection and monitoring of nuclear security systems and measures. The regulatory body is typically responsible for conducting inspection and oversight activities to confirm that authorized persons comply with applicable regulatory requirements. The inspection process includes the planning, conduct and reporting of inspections, which may be announced or unannounced, and may be scheduled, reactive or ad hoc.

4.14. Regulations should be issued for use by those assigned responsibility by primary legislation for enforcement. Enforcement powers are typically set out in primary legislation, with more detailed related measures that are legally binding set out in regulations. Enforcement action should be taken against authorized persons who breach applicable regulatory requirements or conditions of authorization. The State should impose sanctions that are commensurate with the significance of the non-compliance, in accordance with a graded approach [2]. Such sanctions may include recorded verbal notifications, written notifications, imposition of additional regulatory requirements and conditions, written warnings and penalties. In cases of grave non-compliance or failure to cooperate with the regulatory body in addressing the non-compliance through corrective action, more severe penalties such as fines or cancellation of authorization should be imposed. (In many States, prosecution of an authorized person leading to a fine or imprisonment may only be undertaken by the judicial system of the State (see paras 4.88–4.99).)

4.15. If not provided for in primary legislation, regulations should require authorized persons to report specified non-compliances with nuclear security implications, including failure to maintain nuclear security in relation to their authorized activities, to the regulatory body within specified time frames.

Agreements

4.16. If not covered by legislation or regulations, the regulatory body should put in place agreements with other relevant competent authorities for sharing information on significant non-compliances with regulatory requirements that relate to nuclear security, including loss of control of nuclear or other radioactive material and other nuclear security events [2–4]. When the regulatory body receives such reports, national agreements should require it to notify other relevant competent authorities involved in nuclear security within the State and, where appropriate, provide reports to relevant international organizations, such as the IAEA. Competent authorities that may need to be notified of significant non-compliance include customs authorities (for example, if material is lost,

missing or stolen and may be trafficked out of the country), law enforcement agencies and, if there is evidence that indicates that a criminal offence has been committed, the State's prosecuting authority.

4.17. In circumstances where responsibility for nuclear security at a site is assigned to more than one authorized person, or to authorized persons and competent authorities, agreements should be made for the coordination of nuclear security responsibilities among the parties.

Associated administrative measures

4.18. In addition to the requirements set out in primary legislation and regulations, a regulatory body should develop and issue regulatory guidance, manuals and procedures to guide authorized persons in complying with regulatory requirements and inspectors in evaluating compliance, and to ensure consistent application of the regulatory body's requirements.

4.19. The regulatory body should issue guidance on the expected content of an application for authorization, including its expectations as to the content of an authorized person's security plan and security management systems.

4.20. The regulatory body should specify its expectations regarding the conduct of inspections in a security inspection manual or a similar instrument. A security inspection manual provides guidance to the regulatory body's security inspectors in planning, conducting and reporting on security inspections of the facilities and activities of authorized persons.

4.21. The regulatory body should develop and issue an enforcement policy to provide the administrative foundation for the relevant authority's consideration, on a systematic and consistent basis, of appropriate action in cases of non-compliance, including imposing sanctions that relate to the gravity of the non-compliance.

Considerations for a State to select appropriate regulations, agreements and associated administrative measures for the security of nuclear and other radioactive material in transport

4.22. Fundamental Principle B of the amended CPPNM [10, 11] provides that the responsibility of a State for ensuring that nuclear material is adequately protected extends to the international transport thereof, until that responsibility is properly transferred to another State, as appropriate. The CPPNM provides that each State

Party shall not import or authorize the import of nuclear material from a State not party to the Convention unless the State Party has received assurances that such material will, during international nuclear transport, be protected at the levels described in annex I of the Convention [10]. A State Party shall not allow the transit of nuclear material through its territory by land or internal waterways or through its airports or seaports between States that are not party to the Convention unless the State Party has received assurances as far as practicable that this nuclear material will be protected during international nuclear transport at the levels described in annex I [10].

4.23. Recommendations on the security of nuclear material during transport are given in Ref. [2] and those for radioactive material during transport in Ref. [3]. The guidance in Refs [18, 19] applies to the security of international and domestic transport of all packages containing nuclear material and radioactive material, respectively. IAEA guidance for security in transport reflects the provisions of the Transport of Dangerous Goods Model Regulations [20], which recommend a basic security level for all dangerous goods and an enhanced security level with additional provisions for those quantities of dangerous goods defined as ‘high consequence’ dangerous goods.

Identification of responsibilities within a State for transport security

4.24. In some States, the regulatory body may be assigned the responsibility for security of nuclear and other radioactive material during transport. In some States, there may be another competent authority with responsibility for security during the transport of dangerous goods (including Class 7 goods (radioactive material)). In cases where these responsibilities may overlap, there should be close cooperation between the two authorities.

Regulations

4.25. Responsibilities for the security of nuclear and other radioactive material in transport are typically assigned in legislation and regulations. Regulations should include formal objectives and requirements, including requirements for security measures to be taken during transport and for the preparation of a transport security plan, on a graded basis. Regulations should set out the requirements that the competent authority for transport security should ensure are met in relation to the measures to be put in place against sabotage and unauthorized removal of material. Regulations should also set out requirements for the recovery of any damaged, stolen or lost nuclear or other radioactive material as well as the

mitigation of any radiological consequences arising from unauthorized removal or sabotage of material during transport.

Agreements between competent authorities within a State

4.26. Advance notification and involvement of the competent authorities for transport or the regulatory body, law enforcement and response agencies should be required for any transport of nuclear and other radioactive material within the State. All the authorities to be notified and involved should be identified in a transport security plan.

Agreements between competent authorities of different States

4.27. Carriers should be required to comply with the provisions of the legislative and regulatory frameworks of each competent authority having jurisdiction in each State through which the consignment is transported (transit States) in addition to the consigning State and the receiving State. For the international transport of nuclear and other radioactive material, agreements may need to be entered into between the competent authorities with this responsibility in each jurisdiction through which the nuclear or other radioactive material is transported, namely the consigning State, the receiving State and any transit States.

Associated administrative measures

4.28. The competent authority for transport security should establish regulatory guidance for consignors, carriers and consignees and procedures for meeting its requirements for the security of nuclear and other radioactive material in transport, taking into account the concept of defence in depth and the use of a graded approach. The regulatory guidance should take into account: the amount and physical form of the material, the mode of transport and the packages being used; the measures that are required to deter, detect and delay unauthorized access to the material while in transport and during storage in transit; and the capabilities for recovering any damaged, stolen or lost material and bringing it under regulatory control as well as minimizing and mitigating the radiological consequences of any sabotage or other malicious use of radioactive material.

Actions for the State to select appropriate regulations, agreements and associated administrative measures for the import and export control of radioactive sources

4.29. An important component of a State's nuclear security regime is a comprehensive and properly enforced national import and export control regime for radioactive sources. A publication containing non-binding Guidance on the Import and Export of Radioactive Sources [15] supplementary to the Code has been developed, in conjunction with the Code of Conduct on the Safety and Security of Radioactive Sources [14], which applies to sources categorized as Category 1 and Category 2 sources as defined in the Code. States may also apply this supplementary Guidance to other radioactive sources or other radioactive material.

Identification of the responsibilities within a State for the import and export control of radioactive sources

4.30. The State may choose to give this responsibility to the regulatory body responsible for regulating radioactive sources. Many of the associated responsibilities related to the import and export control of radioactive sources involve a determination as to whether the recipient is authorized to receive the radioactive source and whether the importing State has the capacity to safely and securely manage the radioactive source.

Regulations

4.31. The State should establish and apply a system of control for the import and export of radioactive sources through primary legislation and regulations that confer responsibilities on the relevant competent authority. The regulations should at least cover requirements for the export of Category 1 and 2 radioactive sources, including the evaluation of applications for export authorization, consent of the importing State and requirement for notification prior to shipment. In addition, the regulations should cover requirements for the import of Category 1 and 2 radioactive sources, including authorization and control of imports, including whether or not a recipient is authorized to receive the radioactive source in accordance with the laws and regulations of the importing State.

Agreements between competent authorities within a State

4.32. Requirements for licensing the import and export of radioactive sources are typically supported by agreements between competent authorities within the

State to ensure appropriate coordination and cooperation between the regulatory body responsible for security and the regulatory body responsible for safety, if different, and the competent authority with responsibility for import and export, where this responsibility does not lie with the regulatory body responsible for security or safety. There should also be an agreement with the body responsible for enforcing compliance with the export and import regime, which is typically the customs authority.

Agreements between competent authorities of different States

4.33. In relation to the import and export of radioactive sources, agreements should be entered into between competent authorities of different States (importing State and exporting State) in order that each is satisfied that the source is legally exported from one State and imported into the other. This depends upon a satisfactory regulatory framework for the safety and security of radioactive sources existing in each State.

Associated administrative measures

4.34. The competent authority with responsibility for the import and export of radioactive sources should develop a process for the approval of applications for import and export, and accompanying documents that support its decision making.

THREAT ASSESSMENT

International instruments

4.35. Fundamental Principle G of the amended CPPNM [10, 11] states that “The State’s physical protection should be based on the State’s current evaluation of the threat.” The Code of Conduct on the Safety and Security of Radioactive Sources [14] recommends that:

“Every State should define its domestic threat, and assess its vulnerability with respect to this threat for the variety of sources used within its territory, based on the potential for loss of control and malicious acts involving one or more radioactive sources.”

IAEA guidance

4.36. Essential Element 7 of a State's nuclear security regime [1] is the identification and assessment of nuclear security threats, both internal and external to the State. Essential Element 8 is the identification and assessment of targets and potential consequences to determine which targets need protection from nuclear security threats. Both the threat assessments and the target assessments are to be kept up to date [1].

4.37. The Nuclear Security Recommendations [2–4] provide recommendations for States on the development of a threat assessment and a design basis threat and highlight the importance of continuously reviewing and evaluating the threat assessment and design basis threat as the basis for designing effective nuclear security systems. The national threat assessment also informs the national detection strategy and national response plan. Each of these publications [2–4] recommends that competent authorities work closely together and that the State facilitate timely, secure and reliable exchange of threat information related to nuclear security, on both national and international levels.

Actions for a State to select appropriate regulations, agreements and associated administrative measures for threat assessment

4.38. The State should include in its legislative and regulatory framework requirements for:

- A national threat assessment for nuclear and other radioactive material, associated facilities and associated activities [2, 3];
- A design basis threat (DBT) for nuclear material and nuclear facilities, specifically addressing the threat of unauthorized removal of Category I nuclear material and sabotage of nuclear material and nuclear facilities that has potentially high radiological consequences, e.g. for a nuclear power plant [2];
- A DBT, or a threat assessment using an alternative threat based approach, for other nuclear and other radioactive material, associated facilities and associated activities [2, 3];
- A threat and risk assessment for nuclear and other radioactive material out of regulatory control [4].

Identification of responsibilities within a State for threat assessment

4.39. The State should assign to a specific competent authority the responsibility to undertake each of the threat assessments identified in para. 4.38. Typically, the competent authority for threat assessment consults and involves in the development of the threat assessment other competent authorities, such as internal security or national security agencies, intelligence agencies, the regulatory body, police and law enforcement agencies, customs authorities, border protection authorities, the ministry of defence and military services. Consideration should be given to obtaining input from authorized persons and other organizations with responsibilities for nuclear security.

Regulations

4.40. Further detail about the roles and responsibilities for threat assessment assigned in primary legislation should be set out in regulations. This should be set out in the framework of national security legislation and accompanying regulations. It should also be referred to in the legislation and regulations establishing a regulatory body.

Agreements between competent authorities within a State

4.41. As the development of threat assessment is usually dependent on information from a number of competent authorities, agreements should be concluded to include such matters as:

- The respective roles of each agency in the preparation and review of the threat assessment (consistent with their assigned responsibilities in law);
- Assignment of points of contact for each agency involved in the preparation and review of the threat assessment;
- Clear lines of communication between the competent authority and other agencies involved;
- The distribution of the threat assessment to appropriate recipients within the State, and principles governing its further use.

Agreements between competent authorities of different States

4.42. Competent authorities of a State may enter into bilateral or multilateral agreements with competent authorities of other States to share information that may increase the understanding of a threat as it affects each State. Such agreements should contain appropriate clauses to establish the classification and

protection levels of information that can be exchanged under the arrangement (see also paras 4.44–4.56 on the security of information).

Associated administrative measures

4.43. Guidance to support development of the national threat assessment and/or the DBT or alternative threat based approach and threat and risk assessment for nuclear and other radioactive material out of regulatory control may be provided in an associated administrative measure, such as a procedural document that includes the methodology for preparing the assessment.

SECURITY OF INFORMATION

International instruments

4.44. Fundamental Principle L of the amended CPPNM [10, 11] provides that the State should establish requirements for protecting the confidentiality of information, the unauthorized disclosure of which could compromise the physical protection of nuclear material and nuclear facilities. The International Convention for the Suppression of Acts of Nuclear Terrorism (ICSANT) [21] provides that States Parties shall take appropriate measures consistent with their national law to protect the confidentiality of any information that they receive in confidence by virtue of the provisions of the Convention from another State Party or through participation in an activity carried out for the implementation of the Convention.

IAEA guidance

4.45. Essential Element 3(g) of a State's nuclear security regime [1] is the establishment of regulations and requirements for protecting the confidentiality of sensitive information. Essential Element 6(e) is that when States cooperate and assist each other, they ensure through appropriate agreements that sensitive information or other information exchanged in confidence is adequately and appropriately protected.

4.46. Each of the three Nuclear Security Recommendations publications [2–4] highlights the importance of the protection of sensitive information in the context of nuclear security systems and measures. In addition, IAEA guidance recognizes that, in contexts in which sensitive information should be shared, a condition of sharing is the appropriate protection of the information [22]. One context for the

sharing of sensitive information is in the circumstances of an actual or potential nuclear security event.

4.47. Reference [2] highlights the need for the protection of information and computer systems that process information and provide control functions for physical protection, nuclear safety and nuclear material accountancy and control at nuclear facilities. The State should ensure that measures are in place to protect those systems against compromise from cyber-attack. There should be a graded approach to security systems that protects the confidentiality, integrity and availability of information in those systems consistent with the threat assessment or DBT.

Actions for a State to select appropriate regulations, agreements and associated administrative measures for the security of information

4.48. States should establish an effective framework for ensuring the confidentiality, integrity and availability of sensitive information and the security of sensitive information assets⁸.

4.49. An effective national framework for ensuring the confidentiality, integrity and availability of sensitive information includes legislation, regulations, national guidance and security policy. Key elements of this framework are information classification schemes and the protective measures required for the respective classification levels. In many States, the classification scheme may already exist, in which case sensitive information related to nuclear security is identified and assigned within the current scheme [22].

Identification of responsibilities within a State for the security of information

4.50. Effective information security begins with the identification of information, the unauthorized disclosure of which could compromise nuclear security. The security of such information is the responsibility of every organization and individual with access to it [22]. This may include competent authorities, authorized persons and third party contractors or vendors. All these entities are

⁸ ‘Sensitive information’ is “Information, in whatever form, including software, the unauthorized disclosure, modification, alteration, destruction or denial of use of which could compromise nuclear security”. ‘Sensitive information assets’ are: “any equipment or components that are used to store, process, control or transmit sensitive information. —*Example:* Sensitive information assets include control systems, networks, information systems and any other electronic or physical media” [1].

subject to relevant legislation, regulations or other requirements of the State in relation to sensitive information.

4.51. The State should assign responsibilities for the security of information in primary legislation, such as national security legislation. The State should also develop an appropriate system for the enforcement of the obligations of persons to comply with the State programme for information security.

Regulations

4.52. The State should develop regulations to further define the rules for the security of information. As a minimum, regulations should establish information security requirements for authorized persons. These requirements could be included as part of more general nuclear security regulations applicable to such persons.

Agreements between competent authorities within a State

4.53. Competent authorities should establish agreements regarding the sharing of sensitive information between different organizations within the State when necessary. Specific provisions within an agreement between competent authorities, such as an MOU or other inter-agency agreement, typically refer to the obligation to protect sensitive information and specify the manner in which such information is to be transmitted, received, stored, used or disposed of.

Agreements between competent authorities of different States

4.54. Each State should consider concluding agreements between its competent authorities and those of other States for the secure exchange of nuclear security related information. States typically develop agreements that govern both the sharing of information between States and the reporting of sensitive information to relevant international organizations (such as the IAEA's Incident and Trafficking Database (ITDB)), having regard to the provisions of relevant international instruments to which the State may be a Party.

Associated administrative measures

4.55. The State should establish a classification system for information to ensure appropriate levels of protection for information depending on its classification. In some States this is contained in national legislation such as security legislation. In other States this is established through promulgation of a national security

classification system by the government of the State that may or may not require primary legislation to be in place.

4.56. The State should specify its requirements for the protection of sensitive information through a national policy that applies to all organizations and persons that hold sensitive information. The State, through its competent authorities, should establish requirements and provide guidance on the protection of sensitive information. Guidance on the security of such information is provided in Ref. [22].

DETECTION OF NUCLEAR AND OTHER RADIOACTIVE MATERIAL OUT OF REGULATORY CONTROL

International instruments

4.57. The CPPNM [10] and its Amendment [11] require States to ensure the implementation of measures to locate and, where appropriate, recover missing or stolen nuclear material. United Nations Security Council Resolution 1540 [23] requires States to develop and maintain appropriate effective physical protection measures, border controls and national export and trans-shipment controls, and to take cooperative action to prevent illicit trafficking.

IAEA guidance

4.58. Essential Element 3(k) of a State's nuclear security regime [1] is that a State's legislative and regulatory framework should include appropriate and effective steps to prevent, deter, detect, respond to and otherwise combat illicit trafficking in nuclear material and other radioactive material. Essential Element 3(j) is that States establish law enforcement systems and measures relevant to nuclear security, including those for the import, export and for border control of nuclear material and other radioactive material.

4.59. Recommendations on nuclear security systems and measures for nuclear and other radioactive material out of regulatory control are contained in Ref. [4]. In relation to the detection aspects, the recommendations are supplemented by the guidance in Ref. [24].

Actions for a State to select appropriate regulations, agreements and associated administrative measures for detection of material out of regulatory control

4.60. The State should include in its legislative and regulatory framework requirements for:

- A national strategy for the detection of criminal or intentional unauthorized acts with nuclear security implications involving nuclear or other radioactive material out of regulatory control;
- Nuclear security systems and measures for the detection of nuclear and other radioactive material out of regulatory control;
- Agreements for international cooperation and assistance in relation to the detection of nuclear and other radioactive material out of regulatory control.

Identification of responsibilities within a State for the detection of material out of regulatory control

4.61. The competent authorities with responsibilities for the detection of material out of regulatory control should be designated in primary legislation, such as nuclear law, national security legislation and legislation related to border protection and customs. The main competent authorities involved in the detection of material out of regulatory control include those with responsibilities to monitor and control the movements of goods and people. Competent authorities with responsibilities for the detection of material out of regulatory control may include the regulatory body, police and law enforcement agencies, customs authorities, border protection authorities and intelligence agencies.

Regulations

4.62. The primary legislation that assigns roles and responsibilities to the competent authorities involved in the State's detection systems should be supplemented by regulations that provide more detail as to how the functions of relevant competent authorities are to be carried out and their powers exercised.

4.63. Nuclear security detection systems rely on information alerts and instrument alarms. The regulations should support appropriate competent authorities in fulfilling the roles and responsibilities assigned to them in primary legislation to undertake inspection of vehicles, transport routes, facilities and other locations that may be the target of criminal or intentional unauthorized acts. These functions are typically carried out by customs and border authorities and law enforcement

agencies as part of their operations and should focus on strategic locations within the State's territory as well as designated and undesignated points of entry and exit.

4.64. Competent authorities involved in these activities may need regulations that further describe their powers and functions for the inspection of, detection and seizure of nuclear and other radioactive material out of regulatory control. Such regulations may need to provide specifically for relevant competent authorities' powers to be exercised throughout the State, including at its facilities and other strategic locations, such as designated and undesignated points of entry and exit, and for powers to obtain information where appropriate, such as operational information, medical surveillance data and non-compliance reports from the regulatory body and other competent authorities who provide information alerts.

Agreements between competent authorities within a State

4.65. Effective detection needs integration of systems and measures, which in turn needs effective cooperation, communication and coordination between the different competent authorities that work together to apply the detection strategy. Agreements should be concluded between competent authorities to support such cooperation, communication and coordination by ensuring that relevant information is shared between competent authorities when it is related to their detection functions.

4.66. As indicated in the general regulatory activities section (see para. 4.16), the regulatory body should share information with other competent authorities in circumstances where nuclear or other radioactive material is lost, missing or stolen, to aid the detection and recovery of such material. Information should also be shared between relevant competent authorities in cases where nuclear or other radioactive material out of regulatory control is detected.

Agreements between competent authorities of different States

4.67. Agreements should be concluded between competent authorities of different States in order to share, on a voluntary basis, details of nuclear security events following the detection of nuclear or other radioactive material out of regulatory control. Where groups of States cooperate for the free movement of people and goods and a regional approach to detection systems and measures would be appropriate, agreements should be concluded between competent authorities of different States to support such an approach.

Associated administrative measures

4.68. Each State's national detection strategy relies upon an effective nuclear security detection system and measures, applied within a concept of operations supported by communications, law enforcement, intelligence and response authorities. Systems and procedures for conducting radiation surveys or radiation searches aimed at detecting nuclear and other radioactive material out of regulatory control should be developed by the relevant competent authorities. In addition, competent authorities should establish systems and procedures for the initial assessment of alarms and for other secondary inspection actions such as the location, identification, categorization and characterization of nuclear and other radioactive material, including obtaining technical support from experts to assist in the assessment of an alarm that cannot be resolved on-site [4].

PREPAREDNESS FOR AND RESPONSE TO NUCLEAR SECURITY EVENTS

International instruments

4.69. The amended CPPNM [10, 11] requires that: "States Parties shall identify and make known to each other directly or through the International Atomic Energy Agency their point of contact in relation to matters within the scope of this Convention." It also requires States Parties to provide cooperation and assistance to the maximum feasible extent in the recovery and protection of nuclear material, by informing other States as soon as possible and by exchanging information with one another, to cooperate in a case of sabotage of nuclear material or a nuclear facility and to cooperate and consult with each other directly or through the IAEA and other international organizations in order to obtain guidance regarding the physical protection of nuclear material. Fundamental Principle K states that:

"Contingency (emergency) plans to respond to unauthorized removal of nuclear material or sabotage of nuclear facilities or nuclear material, or attempts thereof, should be prepared and appropriately exercised by all license holders and authorities concerned" [10].

4.70. Article 18 of the ICSANT provides that, upon seizing or otherwise taking control of radioactive material (including nuclear material), devices or nuclear facilities (including conveyances for the transport of radioactive material), following the commission of an offence, a State Party in possession of such items should take steps to render harmless the radioactive material, device or nuclear

facility, ensure that any nuclear material is held in accordance with applicable IAEA safeguards, have regard to physical protection recommendations and take steps to determine whether the radioactive material may be returned to the State Party to which it belongs [19].

4.71. As part of the international cooperative effort to identify material out of regulatory control, States Parties should also promptly report the potential loss of control of any such material to the IAEA and to any States that may be of assistance in recovering the material in accordance with the CPPNM and the ICSANT. Timely reporting of the potential loss of material significantly improves the likelihood of the location and recovery of such material.

4.72. The Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency [13] requires States Parties to cooperate between themselves and with the IAEA to facilitate prompt assistance in the event of a nuclear accident or radiological emergency. The Convention on Early Notification of a Nuclear Accident [12] requires of States Parties that, in the event of a nuclear accident that may have trans-boundary radiological consequences, they will notify States that may be affected, and the IAEA, and provide relevant information on the development of the accident in order that trans-boundary radiological consequences can be minimized.

4.73. The Code of Conduct on the Safety and Security of Radioactive Sources [14] recommends that every State should ensure that its regulatory body requires authorized persons to prepare emergency plans; is prepared, or has established provisions, to recover and restore appropriate control over orphan sources and to deal with radiological emergencies; and has established appropriate response plans and measures.

IAEA guidance

4.74. As part of Essential Element 11, competent authorities and authorized persons are prepared to respond to nuclear security events appropriately at local, national and international levels, by developing arrangements and response plans and by periodically exercising, testing and evaluating the plans for effectiveness [1].

4.75. Reference [2] recommends that the State and authorized persons establish contingency plans to counter effectively acts of unauthorized removal of nuclear material or sabotage of nuclear facilities, or nuclear material in transport, and that exercises are conducted to assess and validate such plans and train the

various participants. Contingency plans are initiated following the detection and assessment of any malicious act.

4.76. Reference [3] recommends that operators be required to develop, implement, test, periodically review and revise as necessary a security plan and comply with its provisions. The plan should include, inter alia, response to nuclear security events. The response actions described in the plan should include cooperation with relevant competent authorities in the location and recovery of radioactive material consistent with national practice.

4.77. Reference [4] recommends that the State develop a national response system, which is documented in a national response plan outlining the various response measures, and which is implemented coherently by the various competent authorities, ideally coordinated by the coordinating body. Effective and sustainable response measures for material out of regulatory control necessarily involve several competent authorities from different disciplines, and coordination between such authorities is vital for effective response. For nuclear security events that give rise to nuclear or radiological emergencies, the responsible competent authorities should complement and support the safety emergency response activities at the international, national and local levels to mitigate and minimize the radiological consequences to human health and the environment.

4.78. A comprehensive national response plan for nuclear security events should include preparations to seize, recover or take control of material out of regulatory control and to render harmless any threat or associated device. IAEA guidance highlights the need to ensure the availability of human resources for the recovery of material [3].

4.79. Reference [25] recommends that all organizations involved in response establish internal plans describing their particular roles, responsibilities, equipment, teams and the various standard operating procedures to be followed in a nuclear security event, as well as multidisciplinary group agreements and protocols to determine necessary cooperation foreseen by the nuclear security response plan.

4.80. Reference [26] recommends that States establish effective cooperative arrangements with other States and with relevant international organizations regarding nuclear security events, designate national points of contact, and establish notification systems in relation to alleged criminal or unauthorized acts involving nuclear or other radioactive material among relevant competent

authorities of other States to facilitate mutual assistance in these matters. In addition, it recommends that States consider participating in the ITDB programme maintained by the IAEA. It is also recommended that a State that has located, seized, recovered or otherwise obtained nuclear or other radioactive material out of regulatory control should safely and securely store the material and then, where appropriate, cooperate with the State in which regulatory control had been lost to arrange for the safe and secure return of the material. Actions taken by a State should be consistent with the national laws of the State including, for example, any regulatory obligations that should be imposed for the safe and secure storage of the material. In addition, the State should have regard to any bilateral or multilateral agreements that it may have in place, for example, with neighbouring States [26].

Actions for a State to select appropriate regulations, agreements and associated administrative measures for preparedness and response

4.81. The State should establish a comprehensive system to prepare for and respond to a nuclear security event, including the development of capabilities for radiological crime scene management and ensuring the availability of capabilities for nuclear forensic analysis and interpretation (either by developing national capabilities or by entering into agreements with other States or relevant regional or international institutions). The State should establish national, subnational and local provisions to enhance their ability to prepare for and respond to a nuclear security event. In some States this occurs under the overall national legislative scheme for crisis or emergency management.

Identification of responsibilities for preparedness and response within a State

4.82. The State should identify in primary legislation the competent authorities responsible for preparedness and response for nuclear security events. Preparedness and response for nuclear security events involves the participation of several competent authorities with different roles and responsibilities, which need to cooperate and coordinate with one another (through a clear delineation of roles and responsibilities and through the conclusion of agreements). The competent authorities involved in preparedness and response may include police and law enforcement agencies, intelligence agencies, military organizations, customs authorities, border protection authorities, national emergency response agencies, the ministry of defence, civil defence and other safety and security response organizations.

Regulations

4.83. The requirement to establish a national response plan should be set out in legislation, with more detail on the requirements regarding the content of such a plan set out in regulations. The regulatory framework developed under the relevant legislation typically requires the State, through assigned competent authorities, to establish a national response plan, a national response system for nuclear security events and a coordinating body or mechanism to ensure that the various response measures are taken coherently by the responsible competent authorities. Depending on the legislative framework for national response, multiple sets of regulations may be needed to define the role of each competent authority involved in the response to a nuclear security event.

Agreements between competent authorities within the State

4.84. All competent authorities that are assigned roles and responsibilities in the national response plan should ensure that they have appropriate agreements in place to work with one another as necessary to fulfil these. If subnational competent authorities are assigned roles and responsibilities in the national response plan, these agreements should include agreements between such subnational competent authorities and the relevant national competent authorities within the State.

Agreements between competent authorities of different States

4.85. To ensure the effectiveness of preparedness and response measures for nuclear security events, coordination and cooperation between competent authorities of different States and international organizations will often be necessary. National points of contact should be designated and notification systems and other measures should be established through bilateral or multilateral agreements.

4.86. In circumstances where material has been recovered and has to be returned to the State of origin, the State that has recovered the material should work with the State of origin (if this can be ascertained) and other relevant States to return the material to regulatory control. The respective States' agreement to return and to accept the material should be contained in a written agreement, such as an MOU, that clearly specifies each party's responsibilities in relation to the material. Such an agreement may be concluded on a case-by-case basis following the recovery of material.

Associated administrative measures

4.87. All competent authorities that are assigned roles and responsibilities in preparedness and response to nuclear security events should develop internal plans, defining their particular roles, responsibilities, equipment teams and standard operating procedures to be followed in a nuclear security event. The State or regulatory body may provide guidance to assist them in preparing such plans and to promote consistency and coherence between different authorities' plans. The competent authorities should also regularly conduct training, exercises and drills in order to evaluate the effectiveness of their plans.

OFFENCES AND PENALTIES RELATED TO NUCLEAR SECURITY INCLUDING CRIMINALIZATION

International instruments

4.88. A number of key international instruments developed in the context of countering nuclear terrorism address the prosecution and, where necessary, extradition of offenders and punishment of offenders commensurate with the gravity of the offence. Article 7 of the amended CPPNM [11] and Articles 2 and 5 of the ICSANT [21] oblige States Parties to criminalize a range of acts related to nuclear and other radioactive material, associated facilities and associated activities. The obligation of States Parties to prosecute or extradite suspects in cases related to nuclear terrorism is embodied in both the CPPNM [10] (Article 10) and the ICSANT [21] (Article 9). Mutual legal assistance in nuclear security is mandated in Article 13(1) of the CPPNM [10] and Article 7 of the ICSANT [21].

IAEA guidance

4.89. Essential Element 5 of a State's nuclear security regime [1] includes defining as offences or violations under domestic laws or regulations those criminal or intentional unauthorized acts involving or directed at nuclear material, other radioactive material, associated facilities and associated activities and establishing appropriate penalties that are proportionate to the gravity of the harm that could be caused by the commission of the offences or violations. A nuclear security regime also includes measures to establish the jurisdiction of the State over such offences or violations and providing for the prosecution or, as appropriate, extradition of alleged offenders. Reference [7] includes model criminalization legislation in the nuclear security field.

4.90. Reference [2] recommends that sanctions against persons violating confidentiality requirements related to nuclear security be part of the State's legislative or regulatory framework.

4.91. Reference [4] recommends that the State establish criminal offences under domestic law that should include the wilful, unauthorized acquisition, possession, use, transfer or transport of nuclear or other radioactive material and threats or attempt to commit such offences, consistent with international treaties, conventions and legally binding United Nations Security Council resolutions, establish its jurisdiction where appropriate over such offences and appropriate penalties and, if they are States Parties to relevant bilateral and multilateral instruments, provide effective cooperation with other States in connection with criminal proceedings related to nuclear security events.

4.92. References [6, 7] provide recommendations and model legislation on the criminalization of offences relating to nuclear security.

Actions for the State to select appropriate regulations, agreements and associated administrative measures for offences and penalties related to nuclear security including criminalization

4.93. The State should have legislation in place that creates punishable offences in its domestic laws related to criminal or intentional unauthorized acts involving or directed at nuclear and other radioactive material, associated facilities and associated activities. Such legislation should establish appropriate penalties proportionate to the gravity of the harm caused by the commission of these offences. The State should also establish by legislation its jurisdiction over these offences and provide for the prosecution or, where necessary, extradition of alleged offenders. In some legal systems, criminal offences can only be established by primary legislation, while in others these may be established in regulations that support primary legislation.

4.94. The national legislative framework should establish those offences that States Parties are required by relevant conventions to establish, and further offences related to unauthorized disclosure of sensitive information, unauthorized access to a site or facility and knowingly or recklessly breaching licensing requirements, where these actions could compromise nuclear security.

Assertion of jurisdiction over alleged offenders

4.95. International instruments, such as the CPPNM and the ICSANT, require States Parties to assert jurisdiction over persons suspected of having committed offences involving nuclear and other radioactive materials, associated facilities or associated activities. This typically involves the apprehension and arrest of suspects and detention until a decision is taken on jurisdiction over the alleged offence. This can be of particular importance for offences related to nuclear security, to prevent suspected offenders from evading prosecution by seeking a safe haven in a State other than that in which an offence has been committed or threatened.

Investigations

4.96. The investigation of suspected criminal offences related to nuclear security may be triggered by information alerts, instrument alarms or some other physical evidence detected by a regulatory body, customs or border agency or another law enforcement agency. States have different procedures for conducting criminal investigations. However, the State should designate a specific competent authority to coordinate the investigation into an alleged offence related to nuclear security. Typically, the national police service is the lead authority for such investigations.

4.97. Successful criminal investigations related to nuclear security call for close cooperation, coordination and communication between relevant competent authorities within the State at all levels — national, regional and local — and not only with those primarily responsible for law enforcement and prosecution. In some cases, an investigation may reveal an international dimension that requires communication with other States or with international agencies such as INTERPOL or EUROPOL. Appropriate agreements and associated administrative measures are necessary to provide for communication and coordination between relevant competent authorities, including determining methods for the conduct of joint operations to support investigations of possible offences related to nuclear security.

Prosecution and extradition

4.98. A fundamental principle of international criminal law, as reflected in instruments such as the CPPNM and the ICSANT, is that alleged offenders must either be prosecuted by States Parties or transferred through extradition to a State Party having jurisdiction over the offence. Extradition treaties between States Parties should include provisions for offences related to nuclear security.

However, the CPPNM and the ICSANT contain provisions that make offences of the types defined in these Conventions extraditable from one State Party to another, even in the absence of a relevant extradition treaty between the affected States Parties. Implementing mechanisms, such as national laws and regulations governing criminal procedure, should provide for the extradition, where necessary, of persons alleged to have committed offences related to nuclear security, even in the absence of a relevant extradition treaty between the States involved.

International mutual legal assistance

4.99. In some cases, alleged offences related to nuclear security may have a transboundary aspect. For example, an alleged offender, forensic evidence or witnesses may be located in a State other than the one in which the offence is alleged to have occurred. The CPPNM [10, 11] and the ICSANT [21] mandate the greatest measure of cooperation between the respective States Parties in assisting in criminal proceedings regarding offences related to nuclear security. States that have not already done so may wish to negotiate bilateral or multilateral mutual legal assistance treaties or agreements, particularly if they have close geographical connections or commercial relationships in the nuclear field. A resource for drafting such treaties is the Model Treaty on Mutual Assistance in Criminal Matters developed by the United Nations Office of Drugs and Crime and adopted by the United Nations General Assembly in 1990 (amended in 1998) [27].

Appendix I

EXAMPLE REGULATIONS

I.1. This appendix provides further detail on regulations and provides an example to illustrate the guidance given in the main text. The example in this appendix is intended for illustration only. The content of the primary legislation, responsibilities and powers vested in difference agencies, their working agreements and other conditions and limitations differ from State to State and should be taken into account when developing regulations and agreements for nuclear security.

OVERVIEW OF CONTENT OF REGULATIONS

I.2. All regulations should be drafted having regard to: the legal drafting rules of the State; the primary legislation under which the regulation is made; the degree of specificity or prescription that the subject requires; the technical subject matter to be covered; and the appropriateness of the articles that are included.

I.3. It is recommended that all regulations and other like instruments be drafted in close coordination and cooperation between legal advisors and technical experts of a State and other relevant stakeholders, including public participation, as appropriate.

I.4. The *title* of the regulations should be clear and reflect the subject matter and purpose of the regulations.

I.5. The *authority to issue* regulations should be clear and *reference should be made to the relevant primary legislation that gives authority for the making of regulations*. Regulations are made having regard to a primary or principal legislative instrument. A reference to the primary legislation in the regulations indicates that there is specific authority to issue the regulations and that the regulations are designed to implement an aspect of a specific piece of primary legislation. For example, primary legislation may deal with an overall subject (customs control) and only one part may relate to nuclear security areas (detection of nuclear and other radioactive material, for example); however, a specific regulation should be drafted in relation to detection responsibilities of a customs authority carried out under customs legislation.

I.6. The *date of entry into force* of the regulations should be clearly expressed in the regulations as regulations are generally not retrospective and can only apply on and from their date of entry into force.

I.7. The *purpose* of the regulations should be clearly expressed. The purpose of a regulation should be consistent with the purpose expressed in the primary legislation cited at the very beginning of the regulations. The purpose is also important in the context of interpretation of substantive provisions in the regulations.

I.8. The *scope* of the regulations should be clearly stated and indicate the subject matter that is covered by the regulations. The scope of the regulations should not exceed what the primary legislation authorizes. The scope may also indicate whether earlier regulations are revoked.

I.9. Regulations may expressly state that the *regulations are legally binding* on those that are subject to the regulations.

I.10. Regulations should *include all relevant definitions, unless included in primary legislation*, that are essential to the understanding of, interpretation of and consistent application of the regulations. Definitions have the role of limiting or expanding a term beyond its ordinary meaning and of translating technical terms into common language.

I.11. Each substantive provision of the regulations should *describe the key subjects* that the regulations relate to. In the context of nuclear security it should assist each competent authority that has a role and responsibility defined in legislation to clearly understand the scope of its role and responsibilities. Whether or not the regulations describe this in prescriptive language is a matter of drafting style and national legal practice.

I.12. Regulations may refer to other documents that may be developed as part of the regulatory framework; for example, they may describe the content of administrative measures that further describe the application of the provisions of the regulations. Regulations may contain information as to the content of forms or applications or inspectors' identification cards, for example.

I.13. Provisions relating to *enforcement* may include sanctions, such as: verbal or written notification, imposition of additional requirements, written warnings, penalties, fines, etc., and if provided under primary legislation, may include criminal offences.

I.14. The regulation should *clearly state the entities that have responsibility* for carrying out obligations under the regulation.

EXAMPLE OF A REGULATION

I.15. The regulation outline below is an example structure that can be used by States to develop their own regulations. States should develop regulations according to their own national legislation. Given the multitude of legal systems and the different approaches for drafting regulations, some of the articles or matters contained in the example below may be dealt with in primary legislation. This example does not represent a recommended regulation on this topic, rather, it provides an outline of basic elements of regulations from which States may choose elements to draft their own regulations in line with their national legal systems and according to their needs. As appropriate, nuclear security provisions could be integrated within an existing regulation for safety or radiation protection. In addition, States should ensure the substantive technical accuracy of regulations by having regard to appropriate guidance publications, including the IAEA Nuclear Security Series.

Outline of a regulation for the security of radioactive sources for possession, use, storage and transfer

These Regulations are issued under the following authority *[make reference to the relevant primary legislation or statute which gives the authority to issue regulations — only subjects referred to in that legislation can form the basis of any regulation made under it or pursuant to it]*:

Part I. General Provisions

Article 1. Entry into force *[unless provided for in other legislation]*

These Regulations *[or full name of regulations]* shall enter into force on *[include date]*.

[Alternative:] These Regulations *[or full name of regulations]* shall enter into force on *[a date determined by [title of official]]* and when published in *[name of official publication or gazette]*.

Article 2. Purpose

These Regulations specify the basic requirements for the security of radioactive sources for possession, use, storage and transfer.

Article 3. Scope

- (1) These Regulations apply to the management of all Category 1, 2 and 3 radioactive sources within *[include State]*.
- (2) These Regulations do not cover the manufacture, import, export or disposal of radioactive sources.
- (3) These Regulations do not apply to nuclear material, except for sources incorporating plutonium-239.
- (4) These Regulations do not apply to radioactive sources within military or defence programmes.

Article 4. Fundamental obligation

No person shall engage in the management of radioactive sources as specified in Article 3 of these Regulations unless the requirements of *[insert applicable relevant primary legislation]* and these Regulations are met.

Article 5. Definitions *[unless provided for in primary legislation]*

[Set out all relevant definitions in this article of the regulations.]

Article 6. Responsibilities of licensees

- (1) Licensees shall be responsible for establishing and implementing the measures that are needed for ensuring the security of radioactive sources for which they are licensed and for compliance with all applicable requirements of these Regulations.
- (2) Licensees shall notify the regulatory body of their intention to introduce any modification to facilities or activities affecting the security of a radioactive source for which they are licensed, and shall not carry out any such modification unless specifically authorized *[by the regulatory body]* under *[cite principal legislation]*.

Article 7. Integrated management system

Licensees shall establish an integrated management system, commensurate with the size and nature of the authorized activity, which ensures that:

- (1) Policies and procedures are established that identify security as an important priority.
- (2) Problems affecting security are promptly identified and corrected in a manner commensurate with their importance.
- (3) The responsibilities of each individual for security are clearly identified and each individual is suitably trained and qualified.
- (4) Clear lines of authority for decisions on security are defined.
- (5) Organizational arrangements and lines of communication are established that result in an appropriate flow of information on security at and between the various levels in the entire organization of the operator.

Article 8. Qualification and training

- (1) Licensees shall ensure that all personnel on whom security depends are appropriately trained and qualified so that they understand their responsibilities and can perform their duties with appropriate judgement and according to defined procedures.
- (2) All employees shall be periodically informed of the importance of effective security measures and be trained as appropriate in taking such measures.
- (3) Training programmes shall be periodically evaluated and updated as necessary.

Article 9. Requirements for transfer of radioactive sources

Licensees shall not transfer radioactive sources to another party (recipient) unless:

- (1) They are authorized to do so by the regulatory body;
- (2) The recipient possesses a licence for sources issued by the relevant regulatory body.

Article 10. Regulatory inspection of premises and information

Licensees shall permit authorized representatives of the *[regulatory body]* immediate access to premises and facilities in which radioactive sources are

located in order to obtain information about the status of security and verify compliance with regulatory requirements. Each licensee shall make available to *[regulatory body]* information and records regarding security as required.

Article 11. Reporting of events

- (1) In the event of any failure to comply with any applicable requirements of these Regulations, licensees shall:
 - (a) Report to *[the regulatory body]* promptly and in any case within 24 hours;
 - (b) Take appropriate action to remedy circumstances and to prevent a recurrence of similar situations;
 - (c) Provide *[the regulatory body]* with a report on the causes of the failure, its circumstances and consequences and on the corrective or preventive actions taken or to be taken.
- (2) Whenever a situation involving loss of control of, unauthorized access to, actual or attempted theft or sabotage of a radioactive source has occurred, or is occurring, licensees shall:
 - (a) Immediately inform *[the regulatory body]* and local law enforcement bodies;
 - (b) Take appropriate action to remedy the circumstances and to prevent a recurrence of similar situations;
 - (c) Investigate the event and its causes, circumstances and consequences;
 - (d) Within 30 days, or as required, provide *[the regulatory body]* with a report on the causes of the event, its circumstances and consequences and on the corrective or preventive actions taken or to be taken.
- (3) Failure to take corrective or preventive actions within a reasonable time in accordance with these Regulations shall be grounds for enforcement in accordance with the provisions of the *[cite relevant principal legislation]*.

Part II. Requirements for security in possession, use and storage

[The content of the paragraphs below will depend on the overall requirements established by the principal legislation. The principal legislation may set out the scheme including a system of categorizing security levels to be applied to radioactive sources and, in those circumstances, this regulation would then provide any other necessary detail for the implementation of the scheme. On the other hand, if the need for such a scheme is simply referred to in the principal legislation, then a detailed scheme may be set out in its entirety in the regulations.]

Article 12. Security levels

Article 13. Assignment of sources to security levels [*this may be done in an annex containing a schedule of tables*]

Article 14. Security objectives and measures for radioactive sources

Article 15. Security management

Article 16. Requirements for security plans

Article 17. Inventory and records

Article 18. Physical verification

Appendix II

EXAMPLE AGREEMENTS

OVERVIEW OF THE CONTENT OF AGREEMENTS

II.1. *Agreements between competent authorities of different States are generally concluded having regard to an overarching agreement between the Governments of each State. Agreements should not establish additional responsibilities upon competent authorities. (Roles and responsibilities are generally established in primary or secondary legislation, or government agreements.)*

II.2. It is recommended that agreements be drafted in close coordination and cooperation between policy experts, legal advisors, technical experts and other relevant stakeholders of a State.

II.3. The *parties* should be clearly defined by name at the beginning of the agreement.

II.4. The *purpose* of the agreement should be a concise statement explaining the reason why the agreement is being entered into. The purpose shows when and in what context the agreement applies and how the agreement will be applied (used).

II.5. The agreement generally has an *introductory clause or background* to explain the context of the agreement.

II.6. The agreement should set out the *specific matters that are agreed* under the agreement.

II.7. The agreement should include the following within its *substantive clauses*:

- *Definitions*, which are important so that all relevant terms in the agreement are defined to enable the agreement to be interpreted and applied consistently.
- *The scope* of the agreement is clearly defined in the agreement.
- *Protection of information*: In most agreements entered into in the context of nuclear security it is essential to define the circumstances of the exchange of information, protection of information and other relevant matters. Such

clauses should be expressed as being subject to appropriate legislative and regulatory provisions that operate in the area of protection of information.

- *Area of cooperation:* In most agreements entered into in the context of nuclear security it is important to define the areas of cooperation. In any substantive clauses that relate to cooperation any limitation on cooperation should to be clearly defined.

II.8. The *appointment of an administrator* for each party for the purposes of the agreement is important. These may have other names or descriptors, such as a point of contact, for example.

II.9. A clause on the *implementation and interpretation of the agreement*, which should include provisions as to how any dispute will be resolved under the agreement.

II.10. A substantive clause related to *costs* resulting from the cooperation under the agreement can be included. The general rule is that the costs resulting from the agreement are the responsibility of the Party that incurs them.

II.11. In addition, there may be a clause that states that the ability of parties to carry out their obligations is subject to the appropriation of funds by the appropriate governmental authority and to the legislation and regulations applicable to the parties.

II.12. If there are *annexes* or other attachments that are intended to form part of the agreement, it is advisable to include a clause that sets out the *documents that form the agreement*.

II.13. A clause should be included that sets out *when the agreement comes into effect* and clauses that allow for *early termination under certain conditions*.

II.14. Agreements specify mutually accepted expectations between the parties, as they work together towards a common purpose.

II.15. Agreements are generally concluded for cooperation and coordination purposes.

II.16. The *power to enter into such agreements* is conferred upon the competent authorities in primary or secondary legislation.

EXAMPLE OF A MEMORANDUM OF UNDERSTANDING BETWEEN COMPETENT AUTHORITIES OF TWO STATES

II.17. The MOU outline below is an example containing elements that can be used by States as a tool for developing their own MOU with another State, in line with their own legal systems and according to their needs.

Outline of an MOU between a competent authority in State A and a competent authority in State B for the exchange of information and cooperation in nuclear security matters

PARTIES

The Competent Authority of State A (hereafter called CA-A) and the Competent Authority of State B (hereafter called CA-B), both hereafter called the Parties:

WHEREAS the Government of State A and the Government of State B have entered into an agreement for cooperation concerning measures to counter criminal and intentional unauthorized acts involving or directed at nuclear and other radioactive material, associated facilities and associated activities;

[NOTE: In order to identify particular competent authorities in each of the States that are cooperating it is generally the case that an overarching agreement between the Governments of each State is entered into so that subsidiary agreements between competent authorities may be entered into.]

AND WHEREAS the Parties are concerned to establish acceptable nuclear security measures for the prevention, detection and response to criminal and intentional unauthorized acts involving or directed at nuclear and other radioactive material in their jurisdictions;

AND WHEREAS the Parties have an interest in exchanging information and requesting cooperation in relation to nuclear security matters;

The PARTIES have now agreed as follows:

1.0 Definitions

It is important in this clause to define all the relevant terms in the MOU to enable the Agreement to be interpreted and applied consistently.

2.0 Scope of the Agreement

[Note: the scope describes the competent authorities of State A and State B and their relationship. This section might also make reference to the overarching agreement between the governments of the two States.]

2.1 Information exchange

To the extent that the Parties are permitted to do so under the legislation, regulations and policy directives of their respective States and subject to *[insert reference to clause that limits exchange of information in accordance with national law]*, the Parties will exchange, pursuant to this MOU, information related to *[outline relevant areas of information exchange]*.

2.2 Cooperation

To the extent that the Parties are permitted to do so under the legislation, regulations and policy directives of their respective States and subject to *[insert any references on limitation of cooperation]*, the Parties will cooperate in relation to the following areas *[outline relevant areas of cooperation, e.g. cooperation could include cooperation for the recovery and return of material from State A to State B]*.

3.0 Administrators

[Appointment of an administrator for each Party for the purposes of the agreement. These may have other names or descriptors, such as a point of contact, for example.]

4.0 Duties of administrators

[Generally the roles relate to the management of the agreement on behalf of each competent authority from each State including communication and coordination and ensuring any conditions or prohibitions are adhered to — in particular in relation to any conditions or prohibitions in relation to the exchange of sensitive information.]

5.0 Implementation and interpretation

The Parties agree that, except as otherwise provided in this MOU, the administrators will be jointly responsible for its implementation and interpretation

and that any difference of opinion between the administrators concerning such matters which they are not able to resolve between them will be resolved by mutual agreement of the Parties.

6.0 Costs

Unless otherwise agreed, all costs resulting from cooperation pursuant to this MOU will be the responsibility of the Party that incurs them. The ability of Parties to carry out their obligations is subject to appropriation of funds by the appropriate governmental authority and to the legislation and regulations applicable to the Parties.

7.0 Entire Agreement

The following annexes *[not included in this publication]* shall form an integral part of this Agreement:

- Annex A: Administrative Arrangements;
- Annex B: Exchange and Use of Sensitive Information.

8.0 Entry into effect and early termination

8.1 This MOU will become effective upon its execution by both Parties and, paragraph 8.2 of this MOU, will remain in effect *[for five years]*. It may be extended for further periods of time by the written consent of the Parties.

8.2 Either Party may withdraw from the MOU upon informing the other Party of its intention 180 days prior to the effective date of the withdrawal.

8.3 The obligation to protect sensitive information continues beyond the life of this Agreement.

SIGNATURES of the Authorized Officers of the Parties

EXAMPLE OF A MEMORANDUM OF UNDERSTANDING BETWEEN COMPETENT AUTHORITIES WITHIN A STATE

II.18. The MOU outline below is an example containing elements that can be used by competent authorities as a tool for developing a MOU, in line with their own national legal systems and according to their needs. The two entities

in the MOU below are examples of competent authorities and may be changed accordingly. Given the multitude of national legal systems, the subject matter contained in the MOU below might be a matter to be dealt with in primary or secondary legislation.

Outline of an MOU between the nuclear regulatory authority of State A and the prosecuting authority of State A

Parties to the MOU

The Nuclear Regulatory Authority (hereinafter called NRA) *[insert the name of the Nuclear Regulatory Authority, the address and other contact details]* and The Prosecuting Authority (hereinafter called PA) *[insert name and address of the prosecuting authority, and any other contact details]* have agreed as follows:

I. Purpose

The *[Name of Nuclear Regulatory Authority]* and the *[Name of Prosecuting Authority]* enter into this Agreement *[or MOU]*:

- (1) To provide for coordination of matters that could lead to both enforcement action by the NRA as well as criminal prosecution by the PA regarding nuclear security incidents;
- (2) To facilitate the exchange of information relating to matters within their respective responsibilities regarding nuclear security.

This Agreement *[or MOU]* does not affect the procedures and responsibilities set forth in *[cite any relevant previous agreements or MOUs]* between the NRA and *[cite any other relevant agencies or organizations]*.

This agreement does not apply to matters arising from internal investigations conducted by the NRA *[name the relevant internal inspector office]*.

II. Background [to the MOU]

Under the relevant laws of *[name of State]*, the NRA is responsible for implementing regulatory measures to protect public health, safety, security and the environment from hazards that might arise from the peaceful uses of nuclear and other radioactive materials and related facilities and activities. The enforcement programme of the NRA is designed to carry out these policies

by ensuring compliance with NRA regulatory requirements, securing prompt correction of violations that may affect nuclear security and to deter violations.

The responsibility of the Prosecuting Authority is to conduct prosecutions of criminal violations of NRA requirements as well as violations of other criminal laws of *[name of State]* that may jeopardize nuclear security. Therefore, it is important for the NRA and the PA to coordinate to the maximum practicable extent in discharging their related, but separate, responsibilities.

[Paragraph citing relevant law or laws authorizing the NRA to conduct investigations and take enforcement action.]

Enforcement actions within NRA authority include licence revocations, suspensions and modifications, cease and desist orders, imposition of civil monetary penalties and notices of violation *[include any other relevant NRA enforcement actions]*.

The PA has the responsibility for determining whether to institute criminal prosecution for violations of relevant laws including *[cite relevant laws]*. Such violations should be brought to the attention of the PA through a number of sources including *[cite NRA and other law enforcement bodies that should refer cases to the PA]*.

Thus, both the NRA and the PA have the authority and responsibility to investigate and take action for certain violations that may arise from the same circumstances or activities. Although each agency will discharge its legal responsibilities independently, the NRA and the PA agree that maintaining and enhancing nuclear security will be enhanced by cooperation and timely consultation on enforcement actions and possible criminal prosecutions. In some cases, it may be appropriate for the NRA to delay enforcement action pending a criminal prosecution. Both the NRA and the PA recognize that these enforcement decisions are matters of judgement for each agency, but that due regard should be given to the responsibilities and perspectives of the other.

III. Areas of cooperation

A. PA notification to the NRA of information concerning nuclear security

Should the PA learn of or discover information related to a possible nuclear security event or other related matter within the jurisdiction of the NRA, with no

reasonable expectation that this information is already known to the NRA, the PA should communicate such information to the NRA as soon as practicable.

Should the PA, during initial proceedings involving a potential criminal prosecution, discover information concerning a potential nuclear security event, the PA should seek *[cite relevant procedure such as a court order]* to authorize the disclosure of such information to the NRA in connection with its enforcement responsibilities.

[Include a paragraph detailing the specific procedure of communicating to the NRA, including contact offices or officials.]

B. NRA notification to the PA of suspected criminal violations

If the NRA learns of or discovers information regarding suspected criminal violations on matters not within the regulatory jurisdiction of the NRA, the NRA will provide the information regarding such suspected criminal violations promptly or as soon as practicable to the PA *[or other relevant investigative agency]* having jurisdiction over the matter.

[Include a paragraph detailing the specific procedure of communicating with the PA, including contact offices or officials. This should include language authorizing the NRA to take prompt enforcement action in cases where regulatory action is necessary to prevent or deter a nuclear security event.]

C. Procedure for parallel NRA regulatory activities that may affect future PA activity

NRA regulatory activities with respect to matters that have been referred to the PA for criminal prosecution, or to which the notification provisions of Section B apply, shall be coordinated as follows:

1. If the NRA concludes at any time that it lacks reasonable assurance that authorized activities are being conducted without jeopardizing nuclear security, and that immediate action is required to protect the public, it will proceed with such action as necessary. If time permits, the NRA shall notify the PA of its proposed action prior to acting, but in any event, shall notify the PA of its action as soon as practicable. *[This paragraph shall apply only to those situations that do not allow sufficient time for reasonable consultation.]*

2. If the NRA concludes that the regulatory action other than the actions described in paragraphs 1 and 2 of this section is necessary in the public interest, the NRA shall first consult with the PA concerning its intended action. The NRA shall take into account the views of the PA and proceed in a manner that accommodates these views to the fullest extent possible. *[Include examples of measures such as delay or regulatory proceedings to accommodate a criminal prosecution.]*

D. Timing of notification of matters referred to the PA

1. If, on completion of its investigation, the NRA concludes that civil enforcement action is appropriate, it will notify the PA of its proposed action within *[state time in days, e.g. 30, 45, 60]* of its referral to the PA.

2. The PA will notify the NRA, normally within *[state time in days]* of the referral, of its preliminary decision as to whether a criminal investigation or prosecution is warranted.

E. NRA assistance to the PA

The NRA will make reasonable efforts, at the PA's request, to provide assistance regarding applicable NRA requirements, technical issues and factual circumstances of matters under investigation or prosecution. Such assistance should be requested to *[name of NRA office]*. *[Include any specific requirements for the form and content of such an assistance request].*

[Note: Given the special nature of the field of nuclear security, providing assistance (especially on technical issues) to the PA is very important.]

F. Exchange of information related to civil or criminal enforcement

Following a PA decision not to prosecute a referred case, or at the conclusion of a criminal proceeding, the PA will provide the NRA, upon its request, information not protected from disclosure by *[cite relevant rule of procedure, if applicable]* relevant to an associated legal proceeding. Similarly, the NRA will provide information to the PA, upon its request, on matters being considered by the PA for action.

IV. Responsible officials

The PA official responsible for implementation of this MOU is *[state name of relevant official]*. The NRA official responsible for implementation is *[state name of relevant official]*.

V. Effective date

This agreement is effective *[state date or when signed by both parties, as applicable]*.

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This publication aims to assist States to identify the responsibilities of those involved in nuclear security so that suitable regulations, agreements and associated administrative measures may be developed for establishing and sustaining an effective nuclear security regime. The publication is structured to provide an overview of the most important aspects to be covered by a State's legislative and regulatory framework for governing nuclear security. States may therefore use this publication to undertake a gap analysis of their legislative and regulatory framework for nuclear security in order to take actions to update their framework as necessary.

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