

## **Document Preparation Profile (DPP) Version 4.1 dated 09 June 2021**

### **1. IDENTIFICATION**

**Document Category** Nuclear Security Series Technical Guide

**Working ID:** NST 005

**Proposed Title:** Nuclear Security Aspects of Regaining Control Over Nuclear and Other Radioactive Material Out of Regulatory Control

**Proposed Action:** Revised DPP

**Co-Sponsors (TBC):** IMO, INTERPOL, WCO

**Interface Document:** Yes

**Review Committee(s) or Group:** NSGC, RASSC, TRANSSC, WASSC, and EPRReSC

**Technical Officer(s):** Charles Massey (MORC) and Garl Bultz (MAFA)

### **2. BACKGROUND**

Nuclear security activities are directed towards the prevention of, detection of, and response to theft, sabotage, unauthorized access, illegal transfer or other criminal acts or unauthorized acts with nuclear security implications involving nuclear material, other radioactive material or their associated facilities. If the theft, unauthorized access, illegal transfer or other criminal act precipitates a nuclear or radiological emergency, then emergency response measures such as those addressed in GSR Part 7 take precedence; however, there are nuclear security considerations associated with these events that should be addressed. Nuclear Security Recommendations on Nuclear and Other Radioactive Material Out of Regulatory Control (NSS No. 15), provides “recommendations to States and their competent authorities on the establishment or improvement of effective strategies to deter, detect, and respond to a criminal act, or an unauthorized act, with nuclear security implications, involving nuclear or other radioactive material that is out of regulatory control.” The recommendations assist in “ensuring that any nuclear or other radioactive material that is out of regulatory control, whether originating from within the State or from outside the State, is placed under regulatory control and the alleged offenders are, as appropriate, prosecuted or extradited.” Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (NSS No. 13), Section 4 provides recommendations for the State and operator to “participate in a coordinated response for the location and recovery of missing or stolen nuclear material”.

Additionally, States have obligations that may result in the implementation of a nuclear security detection architecture involving the use of radiation detection equipment or information alerts **considering risk informed approaches**. The implementation of a nuclear security detection architecture may result in detection of nuclear and other radioactive material out of regulatory control within the geographic boundaries of a State because of the sensitivity of the radiation detection equipment used or in detection by information. Additionally, many of the detection events occur at

border locations involving shipments that are transboundary, transhipped, or in transit. In these cases, particularly with transit and transshipment, the security obligations and regaining control activities are complicated, with little practical guidance available for a Member State.

NSS No. 15, Section 2.1, declares that the objectives of a State's nuclear security regime for nuclear and other radioactive material out of regulatory control are achieved by, among other actions, providing sufficient and sustained resources to "Recover, detain and/or seize and place such material under regulatory control." Further in Section 6.18, NSS No. 15 provides that national response plans for nuclear security events in combination with, inter alia, the national radiological emergency plan should describe steps to "detain and/or seize, recover and control material...and isolate, classify, package and document, any nuclear or other radioactive material, for transport, carriage, storage or disposal and placement under proper regulatory control." These statements address the nuclear security aspects of regaining control of nuclear or other radiological material.

Additionally, NSS No. 13 Section 4.61 states that the operator should take all appropriate measures to locate any declared missing or stolen nuclear material on-site and possibly off-site (in hot pursuit) in accordance with the legal and regulatory framework and the contingency plan. NSS No. 14 states that operators should cooperate and assist in efforts to locate and recover radioactive material, including cooperation in on-site and off-site response. However, the Recommendations do not provide details on the practical aspects of coordination of the operator with the competent authorities for the nuclear security aspects of regaining and maintaining regulatory control over recovered material. The practical situation for States is that many transboundary movements of material out of regulatory control may be detected but the guidance from practical security, operational, financial, and legal perspectives with respect to nuclear security is missing.

### **3. JUSTIFICATION FOR THE PRODUCTION OF THE DOCUMENT**

A review of existing Nuclear Security Series documents and other relevant IAEA publications (e.g., Safety Standards) determined that practical technical guidance is insufficient regarding the nuclear security activities that should be undertaken by competent authorities and operators when regaining regulatory control of detected and seized material that was out of regulatory control. While the Nuclear Security Recommendations on Nuclear and other Radioactive Material out of Regulatory Control (NSS No. 15), Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (NSS No. 13) and Nuclear Security Recommendation on Radioactive Material and Associated Facilities (NSS No. 14) present best practices that should be adopted by Member States in the application of the Objective and Essential Elements of a States Nuclear Security Regime (NSS No 20), the proposed technical guidance aims at providing more detailed nuclear security guidance on the implementation of these recommendations. Examples of topics needing more detailed guidance include nuclear security aspects of dispositioning of "discovered" material detected in trans-border shipments, and nuclear security responsibilities of operators in the recovery process when material is reported missing. The publication will provide nuclear security guidance in the development and implementation of a national strategy for recovering, securing, and ultimately dispositioning nuclear and other radioactive material for activities such as nuclear forensics and related actions in the support of investigations of a nuclear security event.

Adequately addressing the nuclear security aspects in regaining control of nuclear and other radioactive material that is out of regulatory control is an essential part of an overall nuclear security infrastructure. The proposed Technical Guidance will focus on the appropriate nuclear security systems and measures for States that have seized, located, recovered or otherwise obtained nuclear or other radioactive material that is out of regulatory control. The proposed Technical Guidance is intended to serve as a reference

document for Member States for supporting activities in NSS No. 13, NSS No. 14, and NSS No. 15 by providing nuclear security-based guidance for the secure transport, carriage, storage or disposal, of material for which regulatory control must be re-established. It will be complementary to other nuclear security and nuclear safety publications related to this topic.

#### **4. OBJECTIVE**

The objective of this publication is to provide guidance on the nuclear security aspects of regaining control over nuclear and other radioactive material and ensuring that control is maintained until ultimate disposition of the material. The target audience of the guidance includes competent authorities, operators, industry stakeholders, involved in the development and implementation of nuclear security activities related to recovery and regaining control of nuclear and other radioactive material which was out of regulatory control.

#### **5. SCOPE**

This draft publication will provide needed guidance for States on the nuclear security aspects of regaining control over nuclear and other radioactive material that is located, seized, recovered or otherwise obtained, whether detected at a point of entry or exit or at some other location under their jurisdiction. These aspects will address nuclear security requirements not covered in GSR Part 7, Section 1.16 which states that “The requirements do not cover preparedness for, or response measures that are specific to, nuclear security events, for which recommendations are provided in Refs [9–11]. Such response measures include activities for the identification, collection, packaging and transport of evidence contaminated with radionuclides, nuclear forensics and related actions in the context of investigation into the circumstances surrounding a nuclear security event.” References 9-11 referred to in GSR Part 7 are the NSS documents described in Section 2 of this document, i.e., NSS 13, NSS 14, and NSS 15.

Specifically, the draft publication will provide guidance for the nuclear security activities a State should undertake to regain regulatory control of the material from the time of detection and to ensure continuity of such control until the material has minimal nuclear security risk implications, e.g., the material has been securely transported and stored or disposed by a competent authority in the origin State, within the framework of established and sustained regulatory control. The activities and responsibilities for regaining control over nuclear or radioactive material will apply whether the material originated inside the State or from outside the State.

The publication will not address issues associated with safety aspects of nuclear or radioactive material recovery. The scope of the publication will be limited to the nuclear security aspects of material out of regulatory control; if detection of material out of regulatory control triggers a nuclear or radiological emergency, then recovery activities will be conducted within the appropriate State and international Emergency Preparedness and Response (EPR) framework.

In addition, depending on the nature and amount of nuclear material, a State may have to satisfy relevant obligations under Non-Proliferation Treaty and relevant IAEA Safeguards. These issues are out of the scope of this publication.

## **6. PLACE IN THE OVERALL STRUCTURE OF THE RELEVANT SERIES AND INTERFACES WITH EXISTING AND/OR PLANNED PUBLICATIONS**

New and other existing IAEA publications in the Nuclear Security Series do not adequately elaborate on the nuclear security processes and mechanisms for regaining control over nuclear and other radioactive material that was out of regulatory control and for ensuring that regulatory control is established and maintained until ultimate secure disposition of the material. Regaining regulatory control is addressed at a high level in the context of material lost or stolen from regulated facilities in NSS 13 (4.50-4.63; 6.44-6.51) and to a lesser degree in NSS 14 (3.15, 4.1, 4.14). The implementing guide for NSS 13 (NSS 27-G) generically describes this topic (4.71-4.75), and the implementing guide for NSS 14 (NSS No. 11-G (Rev. 1) has brief mention.

The basic principles in the Code of Conduct on the Safety and Security of Radioactive Sources state that every State should have national strategies promulgated in their legislative and regulatory system for gaining or regaining control over orphan sources. For development and implementation of such national strategies, the Safety Guide on National Strategy for Regaining Control over Orphan Sources and Improving Control over Vulnerable Sources (IAEA SSG-19) will be referenced, as well as other relevant Safety Standards including, but not limited to, GSR Part 7, as well as EPR-IEComm (2019).

## **7. OVERVIEW**

It is expected that the publication will contain the following table of contents related to nuclear security aspects for regaining control of nuclear and other radioactive material out of regulatory control.

### **1. Introduction**

- 1.1. Background
- 1.2. Objective
- 1.3. Scope
- 1.4. Structure

### **2. State Nuclear Security Regime - Legislative and Regulatory Framework**

- 2.1. Content of nuclear security related legislation and regulations on this topic
- 2.2. Regulatory status of found or detected MORC;
- 2.3. Assignment of nuclear security roles and responsibilities of competent authorities;
- 2.4. Assignment of nuclear security roles and responsibilities for operators;
- 2.5. Coordination on nuclear security aspects between competent authorities responsible for detection and the regulatory body

### **3. Nuclear Security Aspects of Regaining Control of Material Out of Regulatory Control**

- 3.1.** Nuclear security actions taken by the operator to regain control or assist in regaining control of missing or stolen material;
- 3.2.** Nuclear security actions taken by competent authorities to regain control of missing or stolen material;
- 3.3.** Nuclear security actions taken by competent authorities to regain control of undeclared material.
- 3.4.** Nuclear security elements of a National Response Plan for nuclear security events that addresses a coordinated response by national competent authorities and operators.

#### 4. Implementing Nuclear Security for Materials for which Control has been Regained

- 4.1. Discussion of nuclear security aspects of ensuring control, and ultimate disposition of nuclear and other radioactive materials;
- 4.2. Establishment of specific nuclear security actions that determine whether regulatory control of detected material is necessary for security reasons (e.g., to address the situation where naturally occurring or other exempt material is detected);
- 4.3. Assignment of responsibility for secure management of the material for which control is regained and to ensure control until secure disposition (e.g., by national competent authorities and operators);
- 4.4. Designation or development of one or more secure storage facilities for this purpose;
- 4.5. Assignment of financial and legal responsibility for secure transport of the material to interim and/or final storage or disposal facility;
- 4.6. Prior arrangements with originating States for the secure return of material over which control is regained; and
- 4.7. International cooperation and assistance regarding nuclear security issues with regaining control.

#### 8. PRODUCTION SCHEDULE:

	Date
STEP 1: Preparing a revised DPP (original approved in 2011 with a revised document approved May 2013)	Done
STEP 2: Approval of DPP by the Coordination Committee	March 2021
STEP 3: Approval of DPP by the relevant review Committees	June 2021
STEP 4: Approval of DPP by the CSS	
STEP 5: Preparing the draft Indicate as to whether a TM is expected to be organized for the preparation of the draft	June 2021 – February 2022
STEP 6: Approval of draft by the Coordination Committee	March 2022
STEP 7: Approval by the relevant review Committees for submission to Member States for comments	June 2022
STEP 8: Soliciting comments by Member States	July- October 2022
STEP 9: Addressing comments by Member States	October 2022 – February 2023
STEP 10: Approval of the revised draft by the Coordination Committee Review in NSOC-SGDS (Technical Editorial review)	March 2023
STEP 11: Approval by the relevant review Committees	June 2023
STEP 12: - Submission to the CSS	
	July 2023

- Submission in parallel and approval by the Publications Committee - MTCDD Editing - Endorsement of the edited version by the CSS	
STEP 13: Establishment by the Publications Committee and/or Board of Governors (for SF and SR only))	N/A
STEP 14: Target publication date	Early 2024

## 9. RESOURCES

Estimated resources involved by the Secretariat 10 person-weeks and the Member States 20 person-weeks through 2 consultancy meetings.