

## Document Preparation Profile (DPP) Revision 1 Version 2.0 dated 26 March 2018

### 1. IDENTIFICATION

**Document Category** Nuclear Security Series- Technical Guidance

**Working ID:** NST016

**Proposed Title:** **Detection of Nuclear and Other Radioactive Material out of Regulatory Control at State Borders**

**Proposed Action:** New publication

**Interface Document:** No

**Review Committee(s) or Group:** NSGC

**Technical Officer(s):** Anne McQuaid

Commented [MA1]: Comment 1 from Japan, Comment 1 from Russian Federation

### 2. BACKGROUND/RATIONALE

The IAEA Nuclear Security Series (NSS) No. 15, “*Nuclear Security Recommendations on Nuclear and Other Radioactive Materials out of Regulatory Control*”, presents recommendations for the security of nuclear and other radioactive material out of regulatory control. As part of a comprehensive nuclear security regime, NSS No. 15 includes recommendations for the detection and assessment of alarms and alerts related to criminal or unauthorized acts with nuclear security implications involving nuclear or other radioactive material out of regulatory control. These recommendations cover assessment, confirmation, notification and response to a nuclear security event. In particular, NSS No. 15 highlights that detection systems and measures should be based on a risk informed approach and addresses situations in which the material originates from both within and outside of the State.

Building upon recommendations in NSS No. 15, the Implementing Guide NSS No. 21 “*Nuclear Security Systems and Measures for the Detection of Nuclear and Other Radioactive Material out of Regulatory Control*” describes how States can develop a national-level approach to ~~an effective nuclear security detection architecture (NSDA) to detect of~~ criminal or unauthorized acts with nuclear security implications involving material out of regulatory control. NSS No. 21 discusses detection by instrument and information alert and provides general guidance on the design, implementation and sustaining of an NSDA as well as considerations for the initial assessment of alarms and alerts for the detection of material out of regulatory control.

Commented [MA2]: Comment 2 from Russian Federation

A draft DPP for an Implementing Guide originally titled “*Detection of and Response to Radioactive Material at Points of Entry and Exit* (NST016)” was approved by AdSec prior to 2011 and was intended to respond to the need for further detailed guidance for States on designing, implementing, and sustaining systems and measures to detect material out of regulatory control at State borders. Similarly, a Technical Guide “*Verification of Declared Shipments* (NST008)” was approved by AdSec prior to 2011. In addition, a DPP for an Implementing Guide titled “*Detection of and Response to Radioactive Material at Undesignated Points of Entry and Exit*” was proposed to and approved by NSGC in June 2014.

In October 2017, responding to the NSGC's expressed preference for consolidation of publications, the Secretariat proposed the merging of these three draft publications (NST016, NST008 and NST049) to create a single Technical Guidance document addressing the detection of nuclear and other radioactive materials at State borders. This was proposed to an ad hoc sub-group of the NSGC charged with considering a revision to the NSS Roadmap in October 2017 and discussed further by the NSGC during its 12<sup>th</sup> meeting in November 2017. The Secretariat also presented a DPP for a new publication addressing detection of nuclear and other radioactive material within a State (NST061) to the 12<sup>th</sup> meeting of the NSGC.

Stressing their interest in further consolidation of publications, the NSGC rejected the DPP proposed for NST061 and requested that the Secretariat develop a new DPP for Technical Guidance consolidating the content originally planned to be contained not only in NST016, NST008 and NST049, but also that proposed for inclusion in NST061 as well as relevant updated and revised content from NSS No. 3, "*Monitoring for Radioactive Material in International Mail Transported by Public Postal Operators*".

However, following careful consideration of NSGC's request, the Secretariat would propose separating the requested publication into two dedicated Technical Guidance publications, taking into account the differences in the nature of detection at borders and within a State as well as differing audiences, technologies, the importance of detection by information alert within a State as well as the large scope of the proposed consolidation. The first Technical Guidance (described in this DPP) will focus on detection at borders and the second (described in a separate DPP) will address detection within the State. During the preparation of these two publications, it will be considered whether there are aspects of NSS No. 3 to be updated and included in these publications.

This proposed Technical Guidance publication will focus on detection of nuclear and other radioactive material out of regulatory control at all State borders (designated and undesignated land, water and air).

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

The proposed Technical Guidance will provide detailed guidance to States on designing, implementing, and sustaining systems and measures to detect material out of regulatory control, at State borders and will be complementary to NST061 which covers the detection within a State. [The need for this guidance has been raised on several occasions by Member States.](#)

~~Specific guidance in this area is urgently needed because some Member States have purchased detection equipment without clear plans for how it will be implemented, evaluated, or maintained. This can result in wasted resources, particularly if equipment is incorrectly installed, ineffectively placed, not fully staffed, not responded to appropriately, or if the equipment's maintenance is not fully funded.~~

The development of this publication in conjunction with NST061 will ~~replace-reduce~~ five proposed detailed publications (NST016, NST008, NST049, NST061 and a revision of NSS-3) addressing detection ~~with-to~~ two publications, in line with the NSGC's request to further consolidate NSS publications.

### 4. OBJECTIVE

The objective of this proposed Technical Guidance is to provide detailed guidance for implementing systems and measures for the detection of nuclear and other radioactive materials out of regulatory control at State borders (land, air and water).

The intended audience for this document would be the competent authorities responsible for developing, designing, implementing, and sustaining detection system and measures at borders, such as border guards, customs authorities, operators of airports and sea ports, national or local law enforcement and intelligence officers.

Commented [MA3]: Clarification addresses Comment 2 from France

Commented [MA4]: Clarification addresses Comment 3 from Russian Federation

## 5. SCOPE

The Technical Guidance will address the process for developing, implementing and evaluating the nuclear security systems and measures for detection of nuclear and other radioactive material out of regulatory control, including the use of radiation detection instruments and information alerts. The Technical Guidance will further address considerations that are specific to designated/undesignated points of entry/exit, border areas, and will include international mail facilities. Guidance for operational planning, system design, concept of operations, design and deployment, procedure development, human resource development and sustainability considerations related to detection by instrument alarm and information alerts for trafficking and borders will be included in this Technical Guidance publication.

The proposed Technical Guidance will not address response activities in the situation that a nuclear security event has been declared. Once material is detected and a nuclear security event is declared, the subsequent activities would fall within the scope of other guidance, such as “*Developing a National Framework for Response to Nuclear Security Events (NST004)*” and relevant IAEA Emergency Preparedness and Response Guides.

The proposed Technical Guidance will not cover detection of nuclear and other radioactive material at regulated facilities and activities

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

The proposed publication will be a Technical Guidance publication within the IAEA Nuclear Security Series. It will support the Recommendations level document NSS No. 15 and the Implementing Guide NSS No. 21 and be complementary to the Technical Guidance publication in development “*Detection of Nuclear and Other Radioactive Material out of Regulatory Control within a State (NST061)*”.

References will be made to Technical Guidance NSS No.1 *Technical and Functional Specifications for Border Monitoring*, as appropriate, and consistency will be maintained with other implementing and technical guides under preparation. As appropriate, reference will be made to other Implementing Guides and Technical Guidance, existing or under preparation.

This publication is likely to have interfaces with emergency preparedness and response and with radiation safety, for example, when considering the effectiveness of mechanisms to coordinate the response to nuclear security events with emergency response and the need for radiation safety measures. As this publication is proposed as Technical Guidance, it will not be an interface document; however, as appropriate, drafts will be provided to RASSC and EPRESC for their information.

This guide is anticipated to have contributions from or interface with WCO, ICAO, IMO and INTERPOL.

## 7. OVERVIEW

The content of this Technical Guidance publication should cover the following topics:

- Concept of operations and procedures for design, implementation, evaluation and sustainment of detection systems and measures at designated borders (land, air and water), such as:
  - Systems and measures for detection of material within different traffic streams, inter alia:
    - Pedestrians
    - Rail (passenger, cargo)
    - Vehicles
    - Containerized and non-containerized cargo

- Mail
  - Commercial aviation (passenger, baggage, cargo, scheduled, non-scheduled)
- Concept of operations and procedures for design, implementation, evaluation and sustainment of detection systems and measures at undesignated borders and different modalities land, air, and water inter alia; coastal shoreline regions, small maritime craft, general aviation, green borders;
- Detection by information alerts obtained from operational information, reports of loss of regulatory control;
- Human resource development;
- Short description of applicable technologies and challenges for detection by instrument alarms and information alerts at designated and undesignated borders;
- Cooperation and coordination among relevant competent authorities including information sharing and technical support.

**8. PRODUCTION SCHEDULE:**

	Date
STEP 1: Preparing a DPP	Done
STEP 2: Approval of DPP by the Coordination Committee	March 2018
STEP 3: Approval of DPP by the relevant review Committees	June 2018
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	
STEP 6: Approval of draft by the Coordination Committee	
STEP 7: Approval by the relevant review Committees for submission to Member States for comments	
STEP 8: Soliciting comments by Member States	Nov 2018
STEP 9: Addressing comments by Member States	
STEP 10: Approval of the revised draft by the Coordination Committee Review in NSOC-SGDS (Technical Editorial review)	
STEP 11: Approval by the relevant review Committees	June 2019
STEP 12: - Submission to the CSS - Submission in parallel and approval by the Publications Committee - MTCO 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))	
STEP 14: Target publication date	

## **9. RESOURCES**

The drafting of this publication, based on the work that has previously been done, will involve preparation of a draft over the course of 1-2 Consultancy Meetings. The draft will then be reviewed by IAEA staff and other key stakeholders, and comments and input will then be solicited from a much wider group through the convening of a final Consultancy Meeting. This will result in a total of 2-3 Consultancy Meetings, not including those that were conducted between 2011 and 2017. Following the final CM, the draft will be provided to the Coordination Committee and then the NSGC. The project will be funded through extra-budgetary funds.