

Document Preparation Profile (DPP)

Version 1.1 4 April 2019

1. IDENTIFICATION

Document Category: Nuclear Security Series - Technical Guidance

Working ID: NST062

Proposed Title: Expert Support for the Assessment of Alarms and Alerts for Nuclear and Other Radioactive Material out of Regulatory Control

Proposed Action: New publication

Interface Document: No

Review Committee(s) or Group: Nuclear Security Guidance Committee (NSGC)

Technical Officer(s): Mirza MOHAMED

2. BACKGROUND/RATIONALE

Nuclear security systems and measures for responding to a criminal act, or an unauthorized act, with nuclear security implications involving nuclear or other radioactive material out of regulatory control (MORC), are an essential part of a State's nuclear security regime. The role of expert support¹ to assist those at the detection site in the assessment of alarm and alerts² is essential to initiate appropriate response action.

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 MORC. As part of a comprehensive nuclear security regime, NSS No. 15 includes recommendations for the detection of, including assessment of alarms and alerts related to, criminal or unauthorized acts with nuclear security implications involving MORC. The recommendations cover assessment, confirmation, notification and response to a nuclear security event.

Building upon the 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 to detect criminal or unauthorized acts with nuclear security implications involving MORC. NSS No. 21 discusses detection by instrument and by information alert and provides general guidance on the design, implementation and sustaining of the detection architecture, as well as some considerations for the initial assessment of alarms and alerts for the detection of MORC.

¹ Expert Support refers to an offsite entity that assist those at the detection site, advisory and coordination support for operational, technical, analytical or scientific matters.

²Assessment of instrument alarms and information alerts may require different method, techniques, capabilities and expertise for adjudication process.

3. JUSTIFICATION FOR THE PRODUCTION OF THE DOCUMENT

Practical guidance in the Nuclear Security Series remains to be developed for designing, implementing, and sustaining a support mechanism (expert support) for the assessment of instrument alarms and information alerts within a State and at State borders to support the detection of nuclear security events.

The development of this publication, in conjunction with Technical Guidance in development on detection measures at State borders (NST016) and within States (NST061), will provide a comprehensive set of technical guidance to support the content of the Implementing Guide NSS No. 21, and fill a gap for detailed guidance addressing the complexities of alarm and alert assessment, in line with the NSGC's request to further consolidate NSS publications.

4. OBJECTIVE

The objective of this proposed Technical Guidance publication is to provide detailed guidance for providing expert support to the assessment of instrument alarms and information alerts for the detection of nuclear and other radioactive materials out of regulatory control within a State and State borders.

This publication is intended for the competent authorities responsible for the assessment of alarms and alerts for MORC and organizations providing expert support. This may include but not limited to technical and scientific organizations, research institute, academia, regulatory bodies, intelligence organizations, law enforcement agencies, national security organizations, and other relevant responsible organizations.

5. SCOPE

The scope of the proposed Technical Guidance publication will focus on the role of expert support for the assessment of alarms and alerts, as part of detection of nuclear and other radioactive material out of regulatory control (MORC), within a State and at State borders. This may involve detection of trafficking, illegal shipment, or any other intentional criminal acts involving MORC through instrument alarms or through information alerts obtained from various sources such as operational information, medical surveillance, reports of regulatory non-compliance and reports of loss of regulatory control.

The proposed Technical Guidance publication will not address detection of nuclear and other radioactive material in regulated facilities and activities, nor will it address response activities after 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 the Implementing Guide NST004 "Developing a National Framework for Response to Nuclear Security Events", and relevant IAEA Safety Standards Series publications in the emergency preparedness and response area, which are providing guidance on how to meet the requirements established in GSR Part 7 "*Preparedness and Response for a Nuclear or Radiological Emergency*".

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

The proposed publication will be Technical Guidance within the IAEA Nuclear Security Series. It will support the Recommendations publication NSS No. 15, and the Implementing Guide NSS No. 21. It will also be complementary to the Technical Guidance publications in development “*Detection of Nuclear and Other Radioactive Material out of regulatory control at State Borders*” (NST016) and “*Detection of Material out of Regulatory Control within a State*” (NST 061).

Reference will be made to the Implementing Guide NSS No. 18 “*Nuclear Security Systems and Measures for Major Public Events*”, as appropriate. Reference will also be made to IAEA-TECDOC-1734 “*Establishing a National Nuclear Security Support Centre*” (currently being revised), which describes the importance of human resource development in an NSSC structure to support the function of experts in providing the expertise in the area of technical and scientific support, including remote or on-site analytical support to various nuclear security stakeholders. As appropriate, reference will be made to, and consistency maintained with, other Implementing Guides and Technical Guidance, existing or under preparation.

As this publication is proposed as Technical Guidance, it will not be formally an interface document, but this publication will make reference as appropriate to safety standards on emergency preparedness and response and on radiation safety.

7. OVERVIEW

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

7.1 Introductory topic to provide overall view of expert support in the spectrum of nuclear security activities

- Holistic view of Expert Support covering:
 - Definition of Expert Support;
 - State’s Nuclear Security Detection Architecture;
 - Planning and design;
 - Detection and response;
 - Sustainability;
 - Domestic and regional exercise;
 - Procurement of Detection Instruments.
- Foundation for Establishing Expert Support:
 - Legal framework and administration,
 - Minimum requirements, core capabilities and cross-cutting functions in the Nuclear Security Detection Architecture.

7.2 Specific topic focuses on Expert Support for the assessment of alarms and alerts

- Standard Operating Procedures (SOPs) and Concepts of Operation (CONOPs) for Expert Support for the Assessment of Alarms and Alerts;
- Assessment of Instruments Alarms and Information Alerts in nuclear security detection at:
 - All strategic locations and targets with applicable technology;
 - Operational information, medical surveillance, reports of regulatory non-compliances and reports of loss of regulatory control.
- Challenges for assessment of instrument alarms and information alerts within the State's interior and border;
- Cooperation and coordination among relevant competent authorities including information sharing for Expert Support;
- International assistance for Expert Support for the assessment of alarms and alerts.

8. PRODUCTION SCHEDULE:

	Date
STEP 1: Preparing a DPP	March-April 2019
STEP 2: Approval of DPP by the Coordination Committee	April 2019
STEP 3: Approval of DPP by the relevant review Committees	July 2019
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	July 2019
STEP 6: Approval of draft by the Coordination Committee	August 2020
STEP 7: Approval by the relevant review Committees for submission to Member States for comments	November 2020
STEP 8: Soliciting comments by Member States	December 2020
STEP 9: Addressing comments by Member States	April-August 2021
STEP 10: Approval of the revised draft by the Coordination Committee Review in NSOC-SGDS (Technical Editorial review)	August 2021
STEP 11: Approval by the relevant review Committees	November 2021
STEP 12: - Submission to the CSS - Submission in parallel and approval by the Publications Committee - MTCB 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)	December 2021
STEP 14: Target publication date	June 2022

9. RESOURCES

The development of this publication will involve preparation of a draft over the course of four (4) Consultancy Meetings. The IAEA staff and other key stakeholders will review the draft. Input and comments from the wider group of audience will be solicited through the convening of a final Consultancy Meeting. This will result in a total of five Consultancy Meetings to develop this publication.

DRAFT