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## Document Preparation Profile (DPP) Version 3.0 dated 2013-06-05

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### 1. IDENTIFICATION

**Document Category** Safety Guide

**Working ID:**

**Proposed Title:** Arrangements for the termination of a nuclear or radiological emergency

**Proposed Action:** New Document

**Review Committee(s) or Group:** RASSC, WASSC, TRANSSC, NUSSC

**Technical Officer(s):** Elena Buglova, NS-IEC, Svetlana Nestoroska Madjunarova, NS-IEC

### 2. BACKGROUND

The IAEA General Safety Requirements No. GSR Part 3 (Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, Interim Edition), following the 2007 Recommendations of the International Commission on Radiological Protection (ICRP Publication 103) defines three different types of exposure situations, i.e. planned, emergency and existing exposure situations, recommending that the management of long-term exposures following a nuclear or radiological emergency be treated as an existing exposure situation. Although the transition from an emergency exposure situation to an existing exposure situation is based on an administrative decision made by the authority responsible for the overall response, the IAEA General Safety Requirements No. GSR Part 3, recognizes that the transition requires planning in advance and such planning is to be undertaken as part of the overall emergency preparedness process. Nevertheless, the IAEA Safety Requirements Publication, Preparedness and Response for a Nuclear or Radiological Emergency No. GS-R-2 (2002), as part of the functional requirement on conducting recovery operations, requires arrangements to be in place for a planned transition from the emergency phase operations to routine long term recovery operations.

**Deleted:** (Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, Interim Edition), No. GSR Part 3, following the ICRP Recommendations,

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In order to facilitate the implementation of the IAEA requirements related to termination of an emergency phase by transition from an emergency exposure situation to an existing exposure situation and/or by returning to a planned exposure situation, this topic needs to be further elaborated in a Safety Guide.

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

The current IAEA Safety Standards Series in emergency preparedness and response area consist of the Safety Requirements Publication, Preparedness and Response for a Nuclear or Radiological Emergency No. GS-R-2 (2002) supported by two General Safety Guides. The General Safety Guide on Arrangements for Preparedness for a Nuclear or Radiological Emergency No. GS-G-2.1 (2007) provides recommendations on the implementation of the safety requirements established in IAEA Safety Standards publication No. GS-R-2. The General Safety Guide on Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency No. GSG-2 (2011) supports the IAEA Safety Standards publication No. GS-R-2 providing guidance on the criteria for use in determining the protective actions and other response actions to be taken in a nuclear or radiological emergency.

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The current IAEA Safety Requirements publication, Preparedness and Response for a Nuclear or Radiological Emergency No. GS-R-2 is under revision to take into account the developments and experience gained since its publication in 2002 including, but not limited to, lessons identified in the response to the accident at TEPCO's Fukushima Daiichi nuclear power plant. In the new structure of the IAEA Safety Standards Series, the revised safety requirements in Preparedness and Response for a Nuclear or Radiological Emergency are to be Part 7 of

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the General Safety Requirements (GSR Part 7). This revision considers recommendations provided in the ICRP publications 103 and 109 and the IAEA Safety Requirements contained in GSR Part 3 for emergency exposure situations, including those for the transition from an emergency exposure situation to an existing exposure situation. As the termination of an emergency phase and subsequent transition to an existing exposure situation and/or subsequent returning to a planned exposure situation have not been addressed in the existing safety guides, additional guidance is required.

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The need for a specific guidance on the transition from an emergency exposure situation to an existing exposure situation was identified at two meetings convened by the IAEA: (1) Technical Meeting for Review of the Draft Safety Requirements in Emergency Preparedness and Response, held 12-16 November 2012; and (2) International Experts Meeting on Decommissioning and Remediation after a Nuclear Accident, held 28 January – 1 February 2013.

#### 4. OBJECTIVE AND SCOPE

The objective of this Safety Guide is to provide guidance to the Member States on meeting requirements on developing arrangements for preparedness to respond to a nuclear or radiological emergency in relation to the termination of an emergency phase following meeting the conditions that will enable the termination and (a) transition to an existing exposure situation and/or (b) returning to a planned exposure situation, as appropriate.

This Safety Guide will be applicable for any nuclear or radiological emergency that could occur at a facility or an activity in relation to the emergency arrangements to be in place for ensuring clear termination of an emergency phase and smooth (a) transition to an existing exposure situation and/or (b) returning to a planned exposure situation, as appropriate.

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

Within the IAEA Safety Standards Series, this Safety Guide will be part of the General Safety Guides supporting the Part 7 of the General Safety Requirements on emergency preparedness and response (revised GS-R-2, currently under development as DS457) and the Section IV on emergency exposure situations of the Part 3 of the General Safety Requirements on radiation protection and safety of radiation sources.

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This Safety Guide will interface with the following international conventions and the IAEA Safety Standards:

1. INTERNATIONAL ATOMIC ENERGY AGENCY, Convention on Early Notification of a Nuclear Accident and Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, Legal Series No. 14, IAEA, Vienna (1987);
2. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, OECD NUCLEAR ENERGY AGENCY, PAN AMERICAN HEALTH ORGANIZATION, UNITED NATIONS OFFICE FOR THE COORDINATION OF HUMANITARIAN AFFAIRS, WORLD HEALTH ORGANIZATION, Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GS-R-2, IAEA, Vienna (2002) (under revision, DS457);
3. INTERNATIONAL ATOMIC ENERGY AGENCY, Governmental, Legal and Regulatory Framework for Safety, IAEA Safety Standards Series No. GSR Part 1, IAEA, Vienna (2010) (under revision, DS462);
4. EUROPEAN COMMISSION, FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, OECD NUCLEAR ENERGY AGENCY, PAN AMERICAN HEALTH ORGANIZATION, UNITED NATIONS ENVIRONMENT PROGRAMME, WORLD HEALTH ORGANIZATION, Radiation Protection and Safety of Radiation Source: International Basic Safety Standards (Interim Edition), IAEA Safety Standards Series No. GSR Part 3, IAEA, Vienna (2011);

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5. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, PAN AMERICAN HEALTH ORGANIZATION, UNITED NATIONS OFFICE FOR THE CO-ORDINATION OF HUMANITARIAN AFFAIRS, WORLD HEALTH ORGANIZATION, Arrangements for Preparedness for a Nuclear or Radiological Emergency, [IAEA Safety Standards Series No. GS-G-2.1](#), IAEA, Vienna (2007);

6. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, PAN AMERICAN HEALTH ORGANIZATION, WORLD HEALTH ORGANIZATION, Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency, [IAEA Safety Standards Series No. GSG-2](#), IAEA, Vienna (2011);

7. INTERNATIONAL ATOMIC ENERGY AGENCY, Planning and Preparing for Emergency Response to Transport Accidents Involving Radioactive Material, [IAEA Safety Standards Series No. TS-G-1.2 \(ST-3\)](#), IAEA, Vienna (2002) ([under revision, DS469](#));

8. INTERNATIONAL ATOMIC ENERGY AGENCY, Environmental and Source Monitoring for Purposes of Radiation Protection, [IAEA Safety Standards Series No. RS-G-1.8](#), [IAEA, Vienna](#) (2005);

9. INTERNATIONAL ATOMIC ENERGY AGENCY, Remediation process for areas affected by past activities and accidents, [IAEA Safety Standards Series No. WS-G-3.1](#), IAEA, Vienna (2007) ([under revision, DS468](#)).

The Safety Guide will interface with [the following documents](#) under development:

10. General Safety Requirements No. GSR Part 7 (revision of GS-R-2, DS457);

[11. General Safety Requirements No. GSR Part 1 Rev. 1 \(revision through addition of addendum, DS462\);](#)

[12. Planning and Preparing for Response to Transport Events Involving Radioactive Material, Safety Guide \(revision of TS-G-1.2, DS469\);](#)

[13. Remediation Process for Areas with Residual Radioactive Material, Safety Guide \(revision of WS-G-3.1, DS468\).](#)

The following recommendations publications of the ICRP will also support the development of this Safety Guide:

[14. INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION, The 2007 Recommendations of the International Commission on Radiological Protection, ICRP Publication 103, Ann. ICRP 37 \(2–4\), Elsevier \(2007\); and](#)

[15. INTERNATIONAL COMMISSION ON RADIOLOGICAL PROTECTION, Application of the Commission's Recommendations for the Protection of People in Emergency Exposure Situations, ICRP Publication 109, Ann. ICRP 39 \(1\), Elsevier \(2009\).](#)

No interface with security is expected. While RASSC will co-ordinate the document preparation, WASSC, TRANSSC and NUSSC should participate since emergency preparedness and response issues are cross-cutting.

## 6. OVERVIEW

This Safety Guide is expected to cover the following contents:

1. Introduction
  - Background
  - Objective
  - Scope
  - Structure
2. Termination of an emergency phase

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- Emergency phase
- Objectives and conditions to be met
- Recommendations
- Applying a graded approach

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3. Arrangements for the termination of an emergency at preparedness stage

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- Allocation of responsibilities and other organizational aspects
- Characterization of the exposure situation and exposure pathways
  - Methods for assessing radiological consequences
- Adjusting the protective actions and remediation actions
- Radioactive waste management activities
- Use of:
  - Reference levels
  - Generic criteria as a target dose for enabling the transition to an existing exposure situation
  - Predetermined operational criteria
- Application of the principles on justification and optimization
- Consideration of the non-radiological consequences
- Protection of emergency workers and helpers in an emergency taking actions aimed at enabling the termination of an emergency phase
- Review of the hazard assessment
- Involvement of the public and other interested parties

- References

Annex: Case study (e.g. Chernobyl Accident, Accident at the TEPCO’s Fukushima Daiichi Nuclear Power Plant; radiological accident at Goiânia, Brazil; accidental overexposure of patients, Panama; radiological accident in Nueva Aldea, Chile; PAKS NPP fuel damage in Hungary)

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- Contributors to drafting and review
- Bodies for endorsement of the IAEA Safety Standards.

Interest for co-sponsoring this Safety Guide is expected by the relevant international organizations - members of the Inter-agency Committee for Radiological and Nuclear Emergencies (IACRNE) that are already co-sponsoring GS-R-2 or have already expressed their interest to co-sponsor GSR Part 7 (revised GS-R-2). The interactions with these organizations will be coordinated through the IACRNE Secretary.

**7. PRODUCTION SCHEDULE:**

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STEP 1: Preparing a DPP	DONE
STEP 2: Approval of DPP by the Coordination Committee	1Q 2013
STEP 3: Approval of DPP by the relevant review Committees	2Q/4Q 2013
STEP 4: Approval of DPP by the CSS	4Q 2013
STEP 5: Preparing the draft	2014
STEP 6: Approval of draft by the Coordination Committee	1Q 2015
STEP 7: Approval by the relevant review Committees for submission to Member States for comments	2Q 2015
STEP 8: Soliciting comments by Member States	3Q/4Q 2015
STEP 9: Addressing comments by Member States	4Q 2015/1Q 2016
STEP 10: Approval of the revised draft by the Coordination Committee	1Q 2016
Review in NS-SSCS	
STEP 11: Approval by the relevant review Committees for	2Q 2016

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submission to the CSS	
STEP 12: Endorsement by the CSS	4Q 2016
STEP 13: Establishment by the Publications Committee <del>and/or</del> <del>Board of Governors (for SF and SR only)</del>	1Q 2017
STEP 14: Target publication date	4Q 2017

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## 8. RESOURCES

Estimated resources involved by the:

Secretariat: 40 person-weeks

Member States: five (5) consultants' meetings and one (1) technical meeting.

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