

## Document Preparation Profile (DPP)

### 1. IDENTIFICATION

<b>Document Category</b>	<b>Safety Guide</b>
<b>Working ID:</b>	<b>DS-403</b>
<b>Proposed Title:</b>	<b>Decommissioning of Medical, Industrial and Research Facilities</b>
<b>Proposed Action:</b>	<b>Revision of Existing Safety Guide</b>
<b>Published Title/Date</b>	<b>Decommissioning of Medical, Industrial and Research Facilities/1999</b>
<b>Safety Series No.:</b>	<b>WS-G-2.2</b>
<b>SS Committee(s):</b>	<b>WASSC</b>
<b>Technical Officer(s):</b>	<b>B. Batandjieva, Waste Safety Section</b>

### 2. OBJECTIVE

The objective of this Safety Guide is to provide guidance to regulatory bodies and operating organizations where radioactive material are produced, handled, used and stored to ensure that the decommissioning is conducted in a safe and environmentally acceptable manner, i.e.:

- Medical facilities (e.g. with radiotherapy units, using radioisotopes);
- Industrial facilities (e.g. producing or using radioisotopes);
- Research facilities (associated with the nuclear industry, pharmaceuticals or medicine);
- Teaching and research laboratories (e.g. at universities); and
- Chemical facilities with enhanced concentrations of naturally occurring radionuclides.

### 3. BACKGROUND

The original version of the Safety Guide (WS-G-2.2) was published in 1999 in line with the Safety Requirements "Predisposal Management of Radioactive Waste, including Decommissioning" (WS-R-2). Since then extensive experience has been gathered from the application of the standard and also from the increasing decommissioning activities around the world. The experience of regulators and operators has been presented and broadly discussed at different fora, including the International Conference on the Safe Decommissioning for Nuclear Facilities, which was held in Berlin, Germany in October 2002 and the recent Conference on Lessons Learned from the Decommissioning of Nuclear Facilities and the Safe Termination of Nuclear Activities, held in Greece in December 2006.

On the basis of the Berlin conference a new Safety Requirements “Decommissioning of Facilities Using Radioactive Material” (WS-R-5) was developed and published in November 2006. In addition new Safety Fundamentals SF-1 and two Safety Guides on Application of the Concepts of Exclusion, Exemption and Clearance (RS-G-1.) and on Release of Sites on Termination of Practices (WS-G-5.1) were also published in 2004 and 2006. Following these developments and growing Member States (MSs) experience in decommissioning, a review and revision of the existing safety guide WS-G-2.1. is proposed in accordance with International Action Plan on Decommissioning of Nuclear Facilities (GOV/2004/40).

The revision of the Safety Guide WS-G-2.2 will: (i) update the existing recommendations according to the recent good practice and experience in MSs; (ii) provide link and consistency with the newly published safety standards SF-1, WS-R-5, WS-G-5.1, RS-G-1.7; (iii) provide more detailed and additional guidance in areas such as development and review of preliminary decommissioning plans; application of the graded approach; safety assessment; safety culture; retaining staff and knowledge; decommissioning management and funding mechanisms; periodic review of and feedback from decommissioning; facilitating decommissioning at early stages of facility lifecycle.

#### **4. INTERFACES**

There are a number of Safety Standards that will be applicable when developing this document. The new Safety Requirements “Decommissioning of Facilities Using Radioactive Material” (WS-R-5) provides requirements that are needed to ensure that decommissioning activities are performed in a safe manner. Other documents provide general guidance for decommissioning for other types of facilities (nuclear power plant and research reactors in WS-G-2.1 and nuclear fuel cycle facilities in WS-G-2.4.) and complement this revised Safety Guide. It should be noted that these two Safety Guides will also be revised in the near future to accommodate the new Safety Requirements document.

The International Basic Safety Standards for the Protection against Ionizing Radiation and for the Safety of Radiation Sources (Safety Series No. 115) provides the radiation protection criteria that must be met during decommissioning activities. The Safety Guide on “Application of the Concepts of Exclusion, Exemption and Clearance” (RS-G-1.7) provides guidance on the release of material as a result of decommissioning. Guidance on the release of sites, that have been part of a practice that is being decommissioned, is contained in the Safety Guide “Release of Sites from Regulatory Control on Termination of Practices” (WS-G-5.1). The requirements for the legal and governmental infrastructure that must be met when developing and implementing a decommissioning strategy are contained in the Safety Requirements “Legal and Governmental Infrastructure for Nuclear, Radiation, Radioactive and Waste Safety” (GS-R-1). Consideration will be given to the draft Safety Guide “Safety Assessment for Decommissioning of Facilities Using Radioactive Material” (DS376), as well as to the Safety Requirement “Management Systems” (GS-R-3) and the supporting Safety Guide “Management Systems: Generic Guidance” (GS-G-3.1). The preparation of this

Safety Guide will also take into account the relevant safety standards on waste management.

## 5. OVERVIEW

This Safety Guide will identify the key issues associated with decommissioning of a variety of facilities with different hazard potential and complexities. It will provide guidance on duties and responsibilities for the various organizations involved with decommissioning planning and implementation. It will provide recommendations on factors that should be considered during the decommissioning strategy selection process. A section of ensuring that decommissioning activities are included in the design and construction of the facility that will facilitate decommissioning will be provided. Guidance will be provided on the planning activities including the development of the decommissioning plan, along with all of its supporting documentation.

Differences in the approach to decommissioning smaller facilities, vs large facilities, will be provided for consideration during the planning and implementation of the decommissioning activities. The use of the graded approach will be discussed and guidance provided on its application in the development, implementation and review of decommissioning strategies for these smaller facilities.

Critical tasks associated with decommissioning will be identified and guidance for managing decommissioning activities provided, especially where limited resources are available. The Safety Guide will also provide information for determining when the decommissioning activities have been completed and methods for ensuring that the regulatory requirements have been met that will allow the facility's release from regulatory control. Attached is a copy of the proposed Table of Contents.

## 6. PRODUCTION:

Provisional schedule for preparation of the document, outlining expected dates for:

Approval on DPP by the Steering Committee	– December 2005
Approval of DPP by WASSC and NUSSC	– April 2006
Approval of DPP by CSS	- November 2007
Development (CSs)	- 2008 - 2009
Submittal to Member States for comment	– August 2009
Approval on draft by WASSC, NUSSC	– March 2010
Approval by CSS	– October 2010
Submission to Publications Committee	– November 2010
Target publication date	– 2011

12/24/2007

**Proposed Table of Contents**

1. Introduction
2. Key Issues Specific to Decommissioning
3. Protection of Health and Environment
4. Responsibilities
5. Selection of a Decommissioning Strategy
6. Decommissioning Planning
7. Safety Assessment (link to DS376)
8. Application of the Graded Approach
9. Decommissioning Management
10. Critical Tasks of Decommissioning
11. Completion of Decommissioning (link to WS-G-5.1)
12. Facilitation for Decommissioning (incl. early consideration in facility design)
13. Periodic Review and Feedback from Decommissioning Experience
14. Record Keeping and Maintenance

References

Appendices