

Document Preparation Profile (DPP)

1. IDENTIFICATION

Document Category:	Safety Guide
Working ID:	DS452
Proposed Title:	Decommissioning of Nuclear Facilities, except Facilities using NORM and Medical, Industrial, Research and Disposal Facilities
Proposed Action:	Revise and combine of existing SGs
Existing Series number(s):	Safety Standard Series No. WS-G-2.1 and WS-G-2.1
Review Committee(s):	WASSC (Leading committee); NUSSC
Technical Officer(s):	<u>M. Wong, NSRW</u> and V. Ljubenov, NSRW

2. BACKGROUND/RATIONALE

The safety guides “Decommissioning of Nuclear Power Plants and Research Reactors” (WS-G-2.1) and “Decommissioning of Nuclear Fuel Cycle Facilities” (WS-G-2.4) were published in 1999 and 2001, respectively. These guides were consistent with the Safety Requirements, “Predisposal Management of Radioactive Waste, including Decommissioning” (WS-R-2), published in 2000. Since that time, extensive experience has been gained from the application of the IAEA Safety Standards and from decommissioning activities around the world. Organizations such as the Nuclear Energy Agency and the U.S. Nuclear Regulatory Commission have documented such experience and lesson learnt. The experience of regulators and operators has been presented and broadly discussed during several appraisals and peer reviews applying the IAEA Safety Standards, in the course of completing IAEA international projects related to safe decommissioning, and at various workshops and conferences including the International Conference on the Safe Decommissioning for Nuclear Facilities, which was held in Berlin, Germany in October 2002 and 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, new Safety Requirements, “Decommissioning of Facilities Using Radioactive Material” (WS-R-5) were developed and published in November 2006. It should be noted that WS-R-5 is currently under further review and was approved to be revised (DS450). In addition, new Safety Fundamentals, SF-1, other General Safety Requirements (GSRs) and Specific Safety Requirements (SSRs) and other relevant safety guides including those related to exclusion, exemption and clearance (RS-G-1.7), termination of practices (WS-G-5.1), safety assessment (WS-G-5.2) and management system (GS-R-3, GS-G-3.1, and GS-G-3.5) have been published or are under development. Following these developments and growing Member States (MSs) experience in decommissioning, a review and revision of the existing safety guides were proposed in accordance with International Action Plan on Decommissioning of Nuclear Facilities (GOV/2004/40).

In November 2007, the Commission on Safety Standards approved the DPPs for revising WS-G-2.1 and WS-G-2.4, subsequently designated as DS402 and DS404. Also, a decision was made to revise and maintain the documents separately with the possibility to combine them in 2015. Several consultancies to review and revise these documents were held during the 2008 – 2010 period. As a result of the consultancies, both documents were submitted for initial review at the June 2010 joint meeting of WASSC/NUSSC. Based on their review, the representatives of these Safety Standards Committees strongly encouraged the Secretariat to consolidate both documents. This DPP represents a consolidated DPP for both DS402 and DS404 (i.e., consolidation of DS402 and DS404 into a single safety guide).

This consolidated safety guide on decommissioning of nuclear facilities, except facilities using NORM and medical, industrial, research and disposal facilities 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 Fundamentals, SF-1, and other Safety Standards such as WS-G-5.1, RS-G-1.7, GS-R-3, GS-G-3.1, WS-G-5.2 and GS-G-3.5; (iii) provide consistency with the concurrent review and revision of the WS-R-5; and (iv) combine existing guidance and where necessary, provide more detailed and additional guidance in areas such as development of decommissioning plans and safety assessment; application of the graded approach and decommissioning management; and facilitating decommissioning throughout the facility lifecycle.

3. OBJECTIVE

The objective of this safety guide is to provide guidance to regulatory bodies, operating organizations, technical support organizations, and other interested parties on planning, implementation and completion of the decommissioning of nuclear facilities, except facilities using NORM and medical, industrial, research and disposal facilities. It also aims to assist MSs in ensuring that the decommissioning of all of these facilities is conducted in a safe and environmentally acceptable manner in accordance with good international practice.

4. JUSTIFICATION

This safety guide is intended to address the decommissioning of nuclear facilities, except facilities using NORM and medical, industrial, research and disposal facilities within a single guidance document. It will help ensure a clear and safe implementation of decommissioning activities, ensuring decommissioning is performed in a systematic and comprehensive manner. It will take into consideration other work underway on decommissioning (e.g., review and revision of WS-R-5).

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

This safety guide will be part of a set of publications within the framework of the IAEA Safety Standards Programme, which, amongst other things, addresses decommissioning. It will be published as a Specific Safety Guide. Due account will be given to the SF-1 and existing IAEA Safety Standards on government infrastructure, management systems, radiation protection, waste management, and transport. For example, DS452 will be harmonized with “GSR Part 1: Governmental, Legal and Regulatory Framework for Safety;” “GSR Part 3: Radiation Protection and Safety of Radiation Sources;” “GSR Part 5: Predisposal Management of Radioactive Waste;” “SSR 5: Disposal of Radioactive Waste”

and “SSR 6: Regulations for the Safety Transport of Radioactive Material.” In addition, it will be necessary to coordinate with the development and revision of other relevant IAEA Safety Standards, particularly the proposed revision of WS-R-5 (i.e., DS450).

Supersedes: This safety guide is a revision and combination of the IAEA safety guides: “Decommissioning of Nuclear Power Plants and Research Reactors” (WS-G-2.1) and “Decommissioning of Nuclear Fuel Cycle Facilities” (WS-G-2.4) published in 1999 and 2001 respectively, and supersedes them.

6. OVERVIEW

This safety guide addresses the decommissioning of nuclear facilities, except facilities using NORM and medical, industrial, research and disposal facilities from design until completion of decommissioning. On the basis of general considerations regarding safety, radiation protection, protection of human health and the environment and regulatory aspects, this document provides guidance on the selection of a decommissioning strategy, development of initial and final decommissioning plans, transition from operations to decommissioning and implementation of decommissioning management principles and completing decommissioning. Several key decommissioning tasks are also discussed. This safety guide does not explicitly address non-radiological hazards, but they should be given due consideration during the planning, conduct and completion of decommissioning and in the supporting assessments.

Provisional Table of Content

The proposed Table of Contents is the same as the WS-R-5 Table of Contents. While new sections, subsections and appendices could be added, it would be premature to change the Table of Contents at this time. In future drafting sessions, the Table of Contents will be revised. The proposed Table of Contents is as follows:

1. INTRODUCTION
(includes Background, Objective, Scope, and Structure)
2. PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT
(includes Graded approach to decommissioning safety, Consequences of the graded approach, Radiation protection programme, and Environmental protection programme)
3. RESPONSIBILITIES ASSOCIATED WITH DECOMMISSIONING
(includes Government, Regulatory body, Operating organization, and Interested parties)
4. DECOMMISSIONING STRATEGY
(includes Definition of decommissioning strategies, Selection of decommissioning strategy, and Factors influencing the selection of a decommissioning strategy)
5. DECOMMISSIONING PLANNING DURING FACILITY LIFECYCLE
(includes Design, construction and commissioning, Facility operation, Transition from operation to decommissioning and Decommissioning)
6. FUNDING

(includes Financial Assurance)

7. **DECOMMISSIONING MANAGEMENT**
(includes Management system, Safety management, Organization and administrative controls, Staffing and qualification, Project management, Documentation and recordkeeping, and Subcontractors involvement)
8. **CONDUCT OF DECOMMISSIONING**
(includes Preparation for decommissioning and Decommissioning tasks such as accounting for waste inventories, waste handling and treatment, as well as decommissioning waste handling and ultimate disposal)
9. **COMPLETION OF DECOMMISSIONING**
(includes Final radiological Survey, Final decommissioning reporting documents, Record retention system, and License termination)

REFERENCES

- 7. PRODUCTION SCHEDULE:** Provisional schedule for preparation of the document, outlining realistic expected dates for:

STEPS	Projected Dates
STEP 1: Preparing a DPP	DONE
STEP 2: Approval of DPP by the Coordination Committee and by the Safety Standards Committees	October 2010
STEP 3: Approval of DPP by the Safety Standards Committees or the relevant group where appropriate	December 2010
STEP 4: Approval of DPP by the CSS	2Q 2011
STEP 5: Preparing the draft	4Q 2011
STEP 6: Approval of draft by the Coordination Committee	1Q 2012
STEP 7: Approval by the Safety Standards Committees for submission to Member States for comments or the relevant group where appropriate	2Q 2012
STEP 8: Soliciting comments by Member States	4Q 2012
STEP 9: Addressing comments by Member States	1Q 2013
STEP 10: Approval of the revised draft by the Coordination Committee Review in NS-SSCS	1Q 2013
STEP 11: Approval by the Safety Standards Committees for submission to the CSS or the relevant group where appropriate	2Q 2013
STEP 12: Endorsement by the CSS	4Q 2013
STEP 13: Establishment by the Publications Committee and/or Board of Governors (for SF and SR only))	1Q 2014
STEP 14: Target publication date	2Q 2014

8. RESOURCES

Staff: 52 staff weeks

Consultants: 20 consultant weeks