

SPESS F

Document Preparation Profile (DPP)

Version 5 dated 8 May 2023

1. IDENTIFICATION

Document Category or set of publications to be revised in a concomitant manner

Safety Requirements

Working ID: DS543

Proposed Title: Regulations for the Safe Transport of Radioactive Material, 20xx Edition – SSR-6 (Rev. 2)

Proposed Action: Revision of a publication

Regulations for the Safe Transport of Radioactive Material, 2018 Edition – SSR-6 (Rev. 1)

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

Technical Officer(s): Eric Reber

2. BACKGROUND

In 1961 the International Atomic Energy Agency, within the framework of its statutory functions and in accordance with recommendations made by its Preparatory Commission and by the Economic and Social Council of the United Nations, published safety regulations for application to the national and international transport of radioactive material by all means of transport. These requirements were published as “Regulations for the Safe Transport of Radioactive Materials”, Safety Series No. 6, 1961 edition. At the same time, the Director General of the Agency indicated that these regulations would be revised at appropriate intervals in consultation with Member States and relevant organizations and invited suggestions for their improvement in light of experience and increased knowledge.

In May 2005, the Board of Governors established its policy for the review and revision of the IAEA Transport Regulations in *Policy for reviewing and revising the Agency's Regulations for the Transport of Radioactive Material* (GOV/2005/31). According to this policy, the Transport Regulations will be reviewed every two years at intervals consistent with the schedules of the United Nations Subcommittee of Experts on the Transport of Dangerous Goods and of the relevant international modal organizations in order to remain in step with the review cycles of the other relevant international bodies. If TRANSSC decides that proposals for revisions stemming from a review cycle are sufficiently important for safety, the Secretariat initiates the revision process for the Transport Regulations and will submit all changes approved by TRANSSC to the CSS for endorsement.¹

3. JUSTIFICATION FOR THE PRODUCTION OF THE PUBLICATION

In accordance with the policy of the Board of Governors (GOV/2005/31), a review cycle was initiated

¹ The roles and responsibilities of the Review Committees and CSS for a revision of the Transport Regulations will be as specified in SPESS.

on 5 November 2021, with the issuance of a Note Verbale that invited Member States to submit proposals for change and identified problems for review.

As documented in the 2021 Transport Regulation Review Quality Plan, TRANSSC has developed decision criteria and a process for determining whether proposals for changes are sufficiently important to recommend the publication of a new edition of Transport Regulations. This quality plan includes overarching principles that should be taken into account when considering regulatory changes, examples of individual regulatory changes that may warrant a revision of SSR-6 (Rev. 1), a “Primary set of questions” that should be used by TRANSSC when considering whether a collective set of proposed changes are important to safety, and a “Secondary set of questions” that are intended to be used in a qualitative assessment of the potential impact of individual regulatory changes.

Within the review cycle of SSR-6 (Rev. 1), many proposals were submitted by Member States that could form the basis, either individually or in the aggregate, for its revision. Some of the key areas for which proposals were submitted are as follows:

- Scope of SSR-6, e.g. exclusion of the transport of Transportable Nuclear Power Plants
- Fissile material requirements
- Freight containers
- Exclusive use
- Basic radionuclide values, including A₁ and A₂ values
- Emergency response
- New packages
- Industrial packages for transport of ‘high dose’ rate LSA/SCO
- Transport of ‘high dose’ rate LSA/SCO in industrial packages
- Transport plan
- Dose rates under normal conditions of transport
- Special form working life/expiration of certificate of approval
- Test and design requirements
- Harmonization with IAEA Safety Standards Series
- Harmonization with UN Model Regulations
- Clarification of requirements
- Transitional arrangements

In accordance with the policy established by the Board of Governors, at its meeting on 28 November – 2 December 2022, TRANSSC reviewed the proposals for change stemming from the review cycle and decided whether, either individually or in aggregate, the change(s) are sufficiently important for safety so that the revision of SSR-6 (Rev. 1) is justified.

4. OBJECTIVE

The objective of SSR-6 (Rev. 1) is to establish requirements that must be satisfied to ensure safety and to protect people, property and the environment from harmful effects of ionizing radiation during the transport of radioactive material. The primary objective of the revision of SSR-6 (Rev. 1) is to take action in response to the prospective TRANSSC decision on the issues requiring regulatory change (a summary of the key issues that are being considered is provided in Section 3 above) and to update SSR-6 (Rev. 1) accordingly. The inputs for such a decision are the 304 proposals submitted by Member States during the 120-day comment period of the review cycle for SSR-6 (Rev. 1) that was initiated with a Note Verbale on 5 November 2021². Comments submitted by Member States as part of the review

² NB: The review cycle for SSR-6 (Rev. 1) is not part of SPESS. The various aspects of the review cycle are documented in the 2021 Transport Regulation Review Quality Plan, which was approved by TRANSSC. One aspect of the quality

cycle are available here in this web folder: [TRANSSC 2021 Review Cycle SSR-6 \(Rev. 1\)](#). Changes that are made to SSR-6 (Rev. 1) as part of a prospective revision process will be consistent with the other publications of the IAEA Safety Standards Series and the IAEA Nuclear Safety and Security Glossary.

5. SCOPE

SSR-6 (Rev. 1) applies to the transport of radioactive material by all modes on land, water, or in the air. Transport comprises all operations and conditions associated with, and involved in, the movement of radioactive material; these include the design, manufacture, maintenance and repair of packaging, and the preparation, consigning, loading, carriage including in-transit storage, shipment after storage, unloading and receipt at the final destination of loads of radioactive material and packages. The regulations of SSR-6 (Rev. 1) do not apply to the items listed in para. 107 of SSR-6 (Rev. 1).

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

SSR-6 (Rev. 1) is one of six specific safety requirements publications within the IAEA Safety Standards Series.

Other Safety Standards Series publications that have a direct interface with SSR-6 (Rev. 1) are:

- Advisory Material for the Regulations for the Safe Transport of Radioactive Material (2018 Edition), SSG-26 (Rev. 1)
- Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material (2018 Edition), SSG-33 (Rev. 1)
- Preparedness and Response for a Nuclear or Radiological Emergency Involving the Transport of Radioactive Material, SSG-65
- Radiation Protection Programmes for the Safe Transport of Radioactive Material, TS-G-1.3 (under revision as DS521)
- The Management System for the Safe Transport of Radioactive Material, TS-G-1.4 (under revision as DS530)
- Compliance Assurance for the Safe Transport of Radioactive Material, TS-G-1.5 (under revision as DS515)
- Format and Content of the Package Design Safety Report for the Transport of Radioactive Material, SSG-66
- Fundamental Safety Principles, SF-1
- Governmental, Legal and Regulatory Framework for Safety, General Safety Requirements, GSR Part 1 (Rev. 1)
- Leadership and Management for Safety, GSR Part 2
- Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards, GSR Part 3
- Safety Assessment for Facilities and Activities, GSR Part 4 (Rev. 1)
- Preparedness and Response for a Nuclear or Radiological Emergency, GSR Part 7
- Application of the Management System for Facilities and Activities, GS-G-3.1
- Communication and Consultation with Interested Parties by the Regulatory Body, GSG-6
- Occupational Radiation Protection, GSG-7
- Radiation Protection of the Public and the Environment, GSG-8
- Organization, Management and Staffing of the Regulatory Body for Safety, GSG-12
- Functions and Processes of the Regulatory Body for Safety, GSG-13
- Storage of spent Nuclear Fuel - Specific Safety Guide No. SSG-15 (Rev. 1)
- Establishing the Safety Infrastructure for a Nuclear Power Programme, SSG-16 (Rev. 1)

plan is a 120-day comment period, during which proposals for change and identified problems for review were solicited from Member States. This 120-day comment period is distinct from the 120-day comment period in Step 8 of SPESS.

- Establishing the Infrastructure for Radiation Safety, SSG-44
- Ageing Management and Development of a Programme for Long Term Operation of Nuclear Power Plants, SSG-48
- IAEA Nuclear Safety and Security Glossary, Terminology Used in Nuclear Safety, Nuclear Security, Radiation Protection and Emergency Preparedness and Response, 2022 (Interim) Edition

Nuclear Security Series publications that have a direct interface with SSR-6 (Rev. 1) are:

- Security of Radioactive Material in Transport, NSS No. 9-G (Rev. 1)
- Security of Nuclear Material in Transport, NSS No. 26-G
- Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities, NSS No. 13 (INFCIRC/225/Revision 5)
- Nuclear Security Recommendations on Radioactive Material and Associated Facilities, NSS No. 14

Other IAEA publications that have a direct interface with SSR-6 (Rev. 1) are:

- Managing the Interface between Safety and Security for Normal Commercial Shipments of Radioactive Material, Technical Reports Series No. 1001
- Management of Damaged Spent Nuclear Fuel, IAEA Nuclear Energy Series No. NF-T-3.6

7. OVERVIEW

The content of SSR-6 (Rev. 1) is primarily requirements that must be satisfied to ensure safety and to protect people, property and the environment from harmful effects of ionizing radiation during the transport of radioactive material. Transport comprises all operations and conditions associated with, and involved in, the movement of radioactive material. These requirements apply to the transport of radioactive material by all modes of transport under routine (incident free), normal (minor mishaps) and accident conditions.

The proposed scope of the 20XX edition of SSR-6, if determined to be needed, would be the same as the scope of the 2018 edition of SSR-6, unless changes to the scope are approved during the revision process. The table of contents of the 2018 Edition of SSR-6 will serve as the basis for the 20XX edition should its development be determined necessary according to the criteria outlined above. The current table of contents is as follows:

- I. Introduction
- II. Definitions
- III. General Provisions
- IV. Activity Limits and Classification
- V. Requirements and Controls for Transport
- VI. Requirements for Radioactive Material and for Packagings and Packages
- VII. Test Procedures
- VIII. Approval and Administrative Requirements

References

- Annex I: Summary of Approval and Prior Notification Requirements
- Annex II: Conversion Factors and Prefixes
- Annex III: Summary of Consignments Requiring Exclusive Use

Contributors to Drafting and Review

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Appropriate text about Requirement 12 of GSR Part 1, which concerns interfaces of safety with nuclear security and with the State system of accounting for, and control of, nuclear material, will be incorporated into a prospective revision of SSR-6 (Rev. 1).

Historically, the IAEA Transport Regulations and the supporting Safety Guides have not been co-sponsored by other international organizations. However, input from the following International Organizations, regional organizations and non-governmental organizations will be solicited and taken into account during a prospective revision of SSR-6 (Rev. 1):

- International Civil Aviation Organization (ICAO)
- International Maritime Organization (IMO)
- UN/ECE/Inland Transport Committee's International Regulations Concerning the Carriage of Dangerous Goods by Rail (RID), Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR), and European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (AND)
- Universal Postal Union (UPU)
- International Standards Organization (ISO)
- European Commission (EC)
- International Air Transport Association (IATA)
- International Federation of Airline Pilots Associations (IFALPA)
- World Nuclear Transport Institute (WNTI)
- International Source Suppliers and Producers Association (ISSPA)
- Tantalum-Niobium International Study Center (TIC)
- World Nuclear Association (WNA)

Feedback from transport events, incidents/accidents, regional seminars, questions asked during IAEA e-learning and trainings, and feedback from inspections carried out by the competent authorities should be taken into account during a possible revision of SSR-6 (Rev. 1).

8. PRODUCTION SCHEDULE: Provisional schedule for preparation of the publication, outlining realistic expected dates for each step (*fill the column corresponding to your proposed publication and delete the other columns*):

STEP 1: Preparing a DPP	DONE
STEP 2: Internal review of the DPP (Approval by the Coordination Committee)	August 2022
STEP 3: Review of the DPP by the review Committee(s) (Approval by review Committee(s))	November 2022
STEP 4: Review of the DPP by the CSS (approval by CSS) or information of the CSS on the DPP	April 2023
STEP 5: Preparing the draft publication	December 2022 – September 2023
STEP 6: First internal review of the draft publication (Approval by the Coordination Committee)	September - October 2023
STEP 7: First review of the draft publication by the review Committee(s) (Approval for submission to Member States for comments)	November 2023
STEP 8: Soliciting comments by Member States	December 2023 – April 2024
STEP 9: Addressing comments by Member States	April 2024 – September 2024
STEP 10: Second internal review of the draft publication (Approval by the Coordination Committee)	September 2024
STEP 11: Second review of the draft publication by the review Committee(s) (Approval of the draft)	November 2024
STEP 12: (For Safety Standards) Editing of the draft publication in MTCD and endorsement of the draft publication by the CSS (For nuclear security guidance) DDG's decision on whether additional consultation is needed, establishment by the Publications Committee and editing	April 2025
STEP 13: Approval by the Board of Governors (for SF and SR only)	September 2025
STEP 14: Target publication date	January 2026

9. RESOURCES

Estimated resources involved by the Secretariat (person-weeks) and the Member States (number and type of meetings)

- IAEA Staff: 52 staff weeks
- STEP 5: Preparing the draft publication
 - Consultancy Services Meetings: 3 (12 non-staff weeks)
 - Home Based Assignment Contract: 60 days (non-staff)
 - Ad hoc virtual meetings between the Secretariat and members of TRANSSC/TTEGs: 4
 - TRANSSC 46 (Development and refinement of draft regulatory text by TRANSSC/TTEGs/WGs)
- STEP 9: Addressing comments by Member States
 - Consultancy Services Meetings: 2 (8 non-staff weeks)
 - Home Based Assignment Contract: 30 days (non-staff)
 - Ad hoc virtual meetings between the Secretariat and members of TRANSSC/TTEGs: 2
 - TRANSSC 48 (Revision of draft regulatory text in response to Member State comments by TRANSSC/TTEGs/WGs)