Agenda Item W 2.7
Waste Safety Standards – Status and future steps

Sandra Geupel
WASSC Scientific Secretary
Division of Radiation, Transport and Waste Safety (NSRW)
Long-Term Structure of IAEA Safety Standards

Published in March 2019

All GSRs and SSRs published – long term structure completed
Overall situation of the IAEA Safety Standards development (October 2019)

Numbers in brackets: WASSC-led documents

- Project approval: 0
- Drafting and first review by RCs: 24
- MS comments: 11
- Final review by RCs and CSS: 6
- Establishment and publication: 17
- Published: 126

Total: 140
Steps in the development process of IAEA Safety Standards

STEP 1: Preparing a Document Preparation Profile (DPP)
STEP 2: Internal review of the DPP
STEP 3: Review of the DPP by the SSC(s)
STEP 4: Review of the DPP by the CSS
STEP 5: Preparing the draft safety standard
STEP 6: First internal review of the draft safety standard
STEP 7: First review of the draft safety standard by the SSC(s)
STEP 8: Soliciting comments by Member States
STEP 9: Addressing comments by Member States
STEP 10: Second internal review of the draft safety standard
STEP 11: Second review of the draft safety standard by the SSC(s)
STEP 12: Review of the draft safety standard by the CSS
STEP 13: Establishment as an IAEA safety standard (by the Publications Committee and/or Board of Governors (for SF and SR only))
STEP 14: Publication of the safety standard
Current status of IAEA Safety Requirements for Waste Management
Predisposal Management of Radioactive Waste

IAEA Safety Standards
for protecting people and the environment

Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards
General Safety Requirements Part 3
No. GSR Part 3

GSG-1
(2009)

WS-G-6.1
(2006)

SSG-40
(2016)

SSG-41
(2016)

SSG-45
(January 2019)

GSG-3
(2013)

Rev. of GS-G-3.3
(Step 9)

The Management System for the Predisposal and Disposal of RW

DS 477

2008
Predisposal Management of Radioactive Waste at Nuclear Fuel Cycle Facilities

SSG-41 (2016)


Rev. of SSG-15 (Step 12b)

DS 489

Storage of Spent Nuclear Fuel

2012
Disposal of Radioactive Waste

- **IAEA Safety Standards** for protecting people and the environment

  - **Classification of Radioactive Waste**
    - General Safety Guide No. GSG-1
  - **Near Surface Disposal Facilities for Radioactive Waste** Specific Safety Guide No. SSG-29

- **Borehole Disposal Facilities for RW**
  - Specific Safety Guide No. SSG-1

- **The Safety Case and Safety Assessment for the Disposal of Radioactive Waste**
  - Specific Safety Guide No. SSG-23

- **Monitoring and Surveillance of Radioactive Waste Disposal Facilities**
  - Specific Safety Guide No. SSG-31

- **The Management System for the Predisposal and Disposal of RW**
  - Safety Guide No. GS-G-3.4

- **Disposal of Radioactive Waste** Specific Safety Requirements No. SSR-5

- **DS 512**

- **DS 477**

- **Rev. of SSG-1** (Step 5) (2009)
- **SSG-23** (2012)
- **SSG-31** (2014)
- **Rev. of GS-G-3.4** (Step 9) (2008)

- **GS-G-3.4** (2008)

- **Rev. of SSG-1** (Step 5) (2011)
- **SSG-23** (2012)
- **SSG-31** (2014)

- **Rev. of GS-G-3.4** (Step 9)

- **GS-G-3.4** (2008)

- **GSG-1** (2009)
- **SSG-29** (2014)
- **SSG-14** (2011)
Management of Radioactive Waste & Residues from Uranium Production and other NORM Industries

- IAEA Safety Standards for protecting people and the environment
  - Radiation Protection and Safety of Radiation Sources: International Basic Safety Standards
  - General Safety Requirements Part 3 No. GSR Part 3
  - DS 459
- IAEA Safety Standards for protecting people and the environment
  - Management of Residues Containing NORM from Uranium Production and Other Activities
  - SAFETY GUIDE No. WS-G-1.2
  - Rev. of WS-G-1.2 (Step 12b)
- IAEA Safety Standards for protecting people and the environment
  - Predisposal Management of Radioactive Waste
  - General Safety Requirements Part 5 No. GSR Part 5
- IAEA Safety Standards for protecting people and the environment
  - Disposal of Radioactive Waste
  - Specific Safety Requirements No. SSR-5

Timeline:
- 2002: Rev. of WS-G-1.2 (Step 12b)
- 2006
- 2009
- 2011
Decommissioning of Facilities

2014
- IAEA Safety Standards for protecting people and the environment
- Decommissioning of Nuclear Power Plants, Research Reactors and Other Nuclear Fuel Cycle Facilities
  - Specific Safety Guide No. SSG-47

2006
- IAEA Safety Standards for protecting people and the environment
- Decommissioning of Medical, Industrial and Research Facilities
  - Specific Safety Guide No. SSG-49

2014
- IAEA Safety Standards for protecting people and the environment
- Release of Sites from Regulatory Control on Termination of Practices
  - Safety Guide No. WS-G-5.1
- Safety Assessment for the Decommissioning of Facilities Using Radioactive Material
  - Safety Guide No. WS-G-5.2

2004
- IAEA Safety Standards for protecting people and the environment
- Rev. of RS-G-1.7 (Step 5)

2006
- DS 500
- Application of the Concept of Clearance
Environmental Remediation

DS 468
IAEA Safety Standards
for protecting people and the environment
Remediation Process for Areas Affected by Past Activities and Accidents
Safety Guide No. WS-G-3.1
2007
Rev. of WS-G-3.1 (Step 11)

DS 505
IAEA Safety Standards
for protecting people and the environment
Source Monitoring, Environmental Monitoring and Individual Monitoring for Protection of the Public and the Environment
Safety Guide No. RS-G-1.8
2005
Rev. of RS-G-1.8 (Step 5)

DS 500
IAEA SAFETY STANDARDS SERIES
Application of the Concept of Clearance
Safety Guide No. RS-G-1.7
2004
Rev. of RS-G-1.7 (Step 5)
Management of Environmental Releases

- **IAEA Safety Standards**
  - **Prospective Radiological Environmental Impact Assessment for Facilities and Activities**
    - General Safety Guide No. GSG-10
      - (October 2018)
  - **Regulatory Control of Radioactive Discharges to the Environment**
    - General Safety Guide No. GSG-9
      - (September 2018)
  - **Radiation Protection of the Public and the Environment**
    - General Safety Guide No. GSG-8
      - (May 2018)

- **DS 505**
  - Source Monitoring, Environmental Monitoring and Individual Monitoring for Protection of the Public and the Environment
  - (Step 5)
  - Rev. of RS-G-1.8
    - (2005)

- **DS 500**
  - Application of the Concept of Clearance
  - Rev. of RS-G-1.7
    - (2004)
Among the IAEA's key publications are its Safety Standards, which provide the fundamental principles, requirements and recommendations to ensure nuclear safety. They serve as a global reference for protecting people and the environment and contribute to a harmonized high level of safety worldwide.

Activities such as the medical uses of radiation, the operation of nuclear installations, the production, transport and use of radioactive material, and the management of radioactive waste must be subject to standards of safety.

The prime responsibility for nuclear safety must rest with the person or organization responsible for these activities. Regulating safety is a national responsibility. However, radiation risks may transcend national borders, and international cooperation serves to promote and enhance safety globally by exchanging experience and by improving capabilities to control hazards, to prevent accidents, to respond to emergencies and to mitigate any harmful consequences.
Updated Work Plan for WASSC
(2018 – 2021)
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Drafts for approval for submission to MS (Step 7):

- DS500, Application of the Concept of Clearance
- DS499, Application of the Concept of Exemption
- DS505, Source Monitoring, Environmental Monitoring and Individual Monitoring for Protection of the Public and the Environment
- DS512, Borehole Disposal Facilities for Radioactive Waste
DPPs under development / in planning


- DPP for a draft Safety Guide: Release of Sites from Regulatory Control on Termination of Practices (Revision of Safety Guide WS-G-5.1)
Useful links

Safety Standards:
https://www.iaea.org/resources/safety-standards

Current Status of Draft Safety Standards (updated monthly):

Long term structure of Draft Safety Standards (as of 10 Oct 2019):

Drafts Safety Standards endorsed by the CSS awaiting publication:
https://www-ns.iaea.org/committees/css/default.asp?fd=1084
Thank you!