



*Atoms for Peace and Development*

الوكالة الدولية للطاقة الذرية

国际原子能机构

International Atomic Energy Agency

Agence internationale de l'énergie atomique

Международное агентство по атомной энергии

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The Secretariat of the International Atomic Energy Agency (IAEA) presents its compliments to the IAEA's Member States and has the honour to draw their attention to the following draft safety standards:

***Revision of eight closely interrelated Safety Guides on the safety of research reactors  
NS-G-4.1, NS-G-4.2, NS-G-4.3, NS-G-4.4, NS-G-4.5, NS-G-4.6, SSG-10 and SSG-37  
(DS509)***

Member States and their experts are hereby provided with an opportunity to review and evaluate these draft safety standards, which are available online at:

<https://www.iaea.org/resources/safety-standards/draft-standards-for-ms-comment>

A hard copy of the draft texts will be sent out upon request.

Any proposed changes to these draft texts resulting from the review by Member States will be taken into account in the finalization of the safety standards.

Member States are kindly requested to provide comments on the draft texts following the guidance given in the attached Explanatory Note.

The Secretariat of the International Atomic Energy Agency avails itself of this opportunity to renew to the IAEA's Member States the assurances of its highest consideration.



2020-01-02

Enclosures:      Explanatory Note  
                         Form for Comments  
                         Statement by the Commission on Safety Standards



## Explanatory Note

***Revision of eight closely interrelated Safety Guides on the safety of research reactors:  
NS-G-4.1, NS-G-4.2, NS-G-4.3, NS-G-4.4, NS-G-4.5, NS-G-4.6, SSG-10 and SSG-37***

**(DS509)**

The draft texts for review, entitled

- *Commissioning of Research Reactors* (DS509A) (revision of NS-G-4.1);
- *Maintenance, Periodic Testing and Inspection of Research Reactors* (DS509B) (revision of NS-G-4.2);
- *Core Management and Fuel Handling for Research Reactors* (DS509C) (revision of NS-G-4.3);
- *Operational Limits and Conditions and Operating Procedures for Research Reactors* (DS509D) (revision of NS-G-4.4);
- *The Operating Organization and the Recruitment, Training and Qualification of Personnel for Research Reactors* (DS509E) (revision of NS-G-4.5);
- *Radiation Protection and Radioactive Waste Management in the Design and Operation of Research Reactors* (DS509F) (revision of NS-G-4.6);
- *Ageing Management for Research Reactors* (DS509G) (revision of SSG-10);
- *Instrumentation and Control Systems and Software Important to Safety for Research Reactors* (DS509H) (revision of SSG-37);

were prepared as draft Safety Guides to be issued in the IAEA Safety Standards Series.

The draft texts have already been reviewed through consultants' meetings, as well as by the Nuclear Safety Standards Committee (NUSSC), the Radiation Safety Standards Committee (RASSC), the Transport Safety Standards Committee (TRANSSC), the Waste Safety Standards Committee (WASSC), the Emergency Preparedness and Response Standards Committee (EPReSC), and also by the Nuclear Security Guidance Committee (NSGC).

The objective of these draft texts, as accepted by the Commission on Safety Standards (CSS), is to provide research reactor operating organizations, regulatory bodies and other organizations involved in the safety of research reactors in Member States with recommendations on meeting the requirements of *Safety of Research Reactors* (IAEA Safety Standards Series No.SSR-3) and other Safety Requirements publications as they apply to research reactors. This has been achieved by amending the earlier set of Safety Guides to take into consideration:

- Revisions made to safety requirements in IAEA Safety Standards Series No. SSR-3 and in other Safety Requirements publications issued since publication of the earlier editions of the Safety Guides;
- Feedback from users of the IAEA safety standards related to research reactors;
- Application of the recommendations set out in these Safety Guides for subcritical assemblies;
- Lessons from the accident at the Fukushima Daiichi nuclear power plant and from other events in the nuclear industry, including those occurring at research reactors that were reported to the Incident Reporting System for Research Reactors; and

- Experience gained from Integrated Safety Assessment of Research Reactors missions.

Comments are requested in relation to:

- Relevance and usefulness: Are the stated objectives appropriate, and are they met by the draft texts?
- Scope and completeness: For each draft text, is the scope appropriate, and is it adequately covered by the draft text?
- Quality and clarity: Does the guidance in the draft texts represent the current consensus among specialists in the field, and is this guidance expressed clearly and coherently?
- Safety–security interfaces: Does each draft text appropriately address the interfaces between safety and nuclear security?
- The following specific issues:
  - DS509A/revision of NS-G-4.1: Does this draft Safety Guide adequately cover the commissioning of research reactors (and major modifications and new utilization activities) and provide recommendations on meeting Requirements 1, 5, 12, 24, 30, 36, 40, 51, 55, 67, 73, 74, 82 and 83 of SSR-3?
  - DS509B/revision of NS-G-4.2: Does this draft Safety Guide adequately cover the maintenance, periodic testing and inspection of research reactors and provide recommendations on meeting Requirements 24, 31, 37, 51, 63, 67, 69, 70, 71, 72, 74, 77, 80, 81, 82, 84, 87, 88 and 90 of SSR-3?
  - DS509C/revision of NS-G-4.4: Does this draft Safety Guide adequately cover core management and fuel handling for research reactors and provide recommendations on meeting Requirements 7, 9, 15, 38, 39, 41, 44, 45, 58, 63, 71, 74, 77, 78, 82, 87 and 90 of SSR-3?
  - DS509D/revision of NS-G-4.4: Does this draft Safety Guide adequately cover operational limits and conditions and operating procedures for research reactors and provide recommendations on meeting Requirements 6, 18, 20, 21, 24, 35, 41, 45, 50, 67, 69, 70, 71, 72, 74, 75, 77, 78, 81, 82, 83, 84, 85, 87, 88 and 90 of SSR-3?
  - DS509E/revision of NS-G-4.5: Does this adequately cover the operating organization and the recruitment, training and qualification of personnel for research reactors and provide recommendations on meeting Requirements 2, 3, 4, 5, 6, 11, 67, 68, 69, 70, 76, 79, 81, 82, 87 and 90 of SSR-3?
  - DS509F/revision of NS-G-4.6: Does this draft Safety Guide adequately cover radiation protection and radioactive waste management in the design and operation of research reactors and provide recommendations on meeting Requirements 8, 15, 34, 43, 57, 59, 69, 70, 71, 77, 84 and 85 of SSR-3?
  - DS509G/revision of SSG-10: Does this draft Safety Guide adequately cover ageing management of research reactors and provide recommendations on meeting Requirements 9, 10, 17, 24, 29, 37, 38, 77, 86 and 87 of SSR-3?
  - DS509H/revision of SSG-37: Does this draft Safety Guide adequately cover instrumentation and control systems and software important to safety for research reactors and provide recommendations on meeting Requirements 10, 16, 17, 24, 25, 26, 27, 28, 29, 31, 35, 37, 39, 41, 49, 50, 51, 52, 53, 54, 55, 71, 75, 77, 86, 87 and 90 of SSR-3?

Comments from Member States are especially welcomed on the technical parts of the draft Safety Guides (Section 2 and onwards), in which the changes from the earlier editions are shown.

Comments of an editorial nature will be considered; however, it should be noted that the draft texts will be comprehensively edited by the IAEA Secretariat.

Any comments should be made in English, should refer to the relevant paragraph number in the draft text being reviewed, and should propose alternative text where appropriate. Please use the attached Form for Comments to record all comments.

The responsible IAEA officer is Mr David Sears of the Department of Nuclear Safety and Security, who may be contacted for further information in connection with this subject by telephone at: +43 1 2600 22726 or via email at: [D.Sears@iaea.org](mailto:D.Sears@iaea.org).

Any comments should be sent through the established official channels to the responsible IAEA officer by **15 June 2020**.



**Form for Comments**

*Revision of eight closely interrelated Safety Guides on the safety of research reactors: NS-G-4.1, NS-G-4.2, NS-G-4.3, NS-G-4.4, NS-G-4.5, NS-G-4.6, SSG-10 and SSG-37*

**(DS509)**

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Country/Organization:		Page.... of.... Date:					
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection





## Statement by the Commission on Safety Standards

Publications in the IAEA Safety Standards Series are prepared and reviewed in accordance with a uniform process. To this end, the Commission on Safety Standards (CSS) and five committees with harmonized terms of reference — the Emergency Preparedness and Response Standards Committee (EPRaSC), the Nuclear Safety Standards Committee (NUSSC), the Radiation Safety Standards Committee (RASSC), the Transport Safety Standards Committee (TRANSSC) and the Waste Safety Standards Committee (WASSC) — have been established. The CSS has a special overview role with regard to the IAEA's safety standards and provides advice to the Director General on the IAEA's overall programme with regard to regulatory aspects of safety.

The uniform preparation and review process involves organizing expert group meetings; arranging at different stages of preparation for the internal review of draft texts; submitting the texts to the relevant Committee(s) for review; submitting draft texts to the IAEA's Member States for comment; and submitting the approved final draft of the safety standard<sup>1</sup> for endorsement by the CSS before publication.

The CSS stresses the importance of Member States' comments to the preparation and review process for safety standards. Publications in the IAEA Safety Standards Series not only should be of the requisite quality but also should represent the consensus view of the Member States and should address the issues of importance to the Member States. While the CSS, the Committees and the Secretariat strive to provide safety standards that satisfy these criteria, the review of draft standards by experts in the Member States is an essential stage in obtaining the broadest possible technical consensus and the highest possible quality and relevance.

Member States are also encouraged to provide the IAEA with feedback on their use of the safety standards. The status of safety standards extant and in preparation can be seen on the IAEA's website, where there are also links to electronic files for existing publications, including those in other official languages.<sup>2</sup> The responsible IAEA officer is Mr Dominique Delattre, Head of the Safety and Security Publications Unit of the Department of Nuclear Safety and Security. He may be contacted for further information in connection with this subject by telephone at: + 43 1 2600 22696 or via email at: [D.Delattre@iaea.org](mailto:D.Delattre@iaea.org).

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<sup>1</sup> Safety Guides are published under the authority of the Director General. Safety Fundamentals and Safety Requirements publications require the approval of the Board of Governors, after endorsement by the CSS.

<sup>2</sup> See <http://www-ns.iaea.org/committees/files/CSS/205/status.pdf>.