

Explanatory Note

Safety Demonstration of Innovative Technology in Nuclear Power Plants (DS537)

The draft text for review, entitled *Safety Demonstration of Innovative Technology in Nuclear Power Plants*, was prepared as a draft Safety Guide to be issued in the IAEA Safety Standards Series.

The draft text has already been reviewed through consultants' meetings, as well as by the Nuclear Safety Standards Committee (NUSSC), the Transport Safety Standards Committee (TRANSSC), the Waste Safety Standards Committee (WASSC), and also by the Nuclear Security Guidance Committee (NSGC).

The objective of this draft text, as accepted by the Commission on Safety Standards (CSS), is to provide recommendations on approaches to address challenges associated with innovative technology in safety demonstrations for nuclear power plants, as well as recommendations on the use of specific strategies for the safety demonstration of innovations such as new fuel concepts, new coolants, innovative safety features, innovative modes of operation, innovative materials, and advanced manufacturing techniques.

Comments are requested in relation to:

- Relevance and usefulness: Are the stated objectives appropriate, and are they met by the draft text?
- Scope and completeness: Is the scope appropriate, and is it adequately covered by the draft text?
- Quality and clarity: Does the guidance in the draft text represent the current consensus among specialists in the field, and is this guidance expressed clearly and coherently?

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

Any comments should be made in English, should refer to the relevant paragraph number and line 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 Shahan Poghosyan 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 25823 or via email at: s.poghosyan@iaea.org.

Any comments should be sent through the competent national authority (Ministry of Foreign Affairs, Permanent Mission to the IAEA or National Atomic Energy Authority) to the responsible IAEA officer by **1 August 2025**.

Form for Comments
Safety Demonstration of Innovative Technology in Nuclear Power Plants (DS537)

COMMENTS BY REVIEWER					RESOLUTION		
Reviewer: Country/Organization:			Page.... of.... Date:				
Comment No.	Para No. 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 standard¹ 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.² The responsible IAEA officer is Ms Maria Nikolaki, Head of the Safety Standards and Security Guidance Development Section of the Department of Nuclear Safety and Security. She may be contacted for further information in connection with this subject by telephone at: + 43 1 2600 22033 or via email at: M.Nikolaki@iaea.org.

¹ 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.

² See <https://nucleus.iaea.org/sites/committees/Policy%20Documents/status.pdf>.