DS 563 – Seismic Design for Nuclear Installations
Step 3

COMMENTS BY REVIEWER Reviewer: Page.... of.... Country/Organization: Belgium – FANC/Bel V Date: 28/04				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	Annex Table A.1 Section# 2 2nd bullet	• Review seismic design principles for completeness and consistency with current state of practice, including new structural materials, configurations, systems (e.g., steel-plate composite walls, precast concrete, deeply embedded structures), elephant-foot buckling and aging effects.	Many new SMR designs are featuring submerged modules and/or tanks with massive volumes of liquid. Therefore, there should be an emphasis on the elephant-foot buckling effect.		✓		Consideration of seismic effects and seismic design for new SMR structures is extremely important, and the comment is agreed with. This sentence outlines the conditions for considering seismic design in relation to new structure, configurations, systems, etc. Since elephant foot buckling represents a damage mode, the term "submerged modules" has been added.
2	Annex Table A.1 Section# 4 New bullet	• Add a section for full module seismic qualification, including the potential impact of transportation on some parts like control rod mechanism	Some vendors suggest to deliver a sealed and directly operational module. The seismic qualification of such		✓		This is an important observation. For the transport of TNPPs and FNPPs, it is necessary to provide

			solution, including the potential impact of chocs during shipment is a challenge to be addressed.				recommendations on the approach to the seismic design of systems and components, taking into account factors such as the means of transport, plant states during transport, fuel loading status, and the presence of radioactive waste. This comment will be addressed in Chapter 4, *Systems and Components*.

Form for Comments

DPP DS563 Seismic Design for Nuclear Installations

COMMENTS BY REVIEWER Reviewer: Canadian Nuclear Safety Commission Country/Organization: Canada			Page 1 of 5 Date: October 10, 2025	RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
1.	Title	"Seismic Design for Nuclear Installations Including Advanced and Emerging Reactor Types"	The draft title is technically clear and focused but may benefit from referencing advanced and emerging reactor types explicitly to increase relevance.			✓	The comment is considered potentially beneficial for readers. However, taking into account consistency with the IAEA Safety and Security Glossary and other high-level documents, as well as continuity with the current version of SSG-67, it was deemed appropriate to retain the current title.
2.	Section 2, para. 2	"… there is a growing need for clearer recommendations on applying a graded approach to seismic design, tailored to the specific hazards and characteristics of diverse nuclear installations, to optimize safety measures without over-conservatism; advancements in methods of probabilistic seismic hazard analysis (PSHA) and approaches to determination of	To reflect recent industry developments.		✓		Since specific recommendations regarding PSHA and PSA are provided in SSG-9 (Rev.1) and SSG-89, SSR-2/1 (Rev.1) presents deterministic and probabilistic assessments in parallel, and some

		beyond design basis earthquake; enhanced role of probabilistic safety assessment (PSA) in seismic design; trends toward risk-informed and performance-based principles and practices in seismic design have evolved, …"					Member States adopt only deterministic design approaches, the explicit use of the terms PSHA and PSA has been avoided. Nevertheless, as *Evolution of Methods for Performing Evaluations for Beyond Design Basis Earthquake* has been identified as a major topic, it is considered that sufficient discussion and description will be provided within this context.
3.	Section 3	It is recommended to add summary table or section contrasting scope and boundaries of SSG-67 and related publications such as SSG-68.	Given the close coordination between SSG-67 and SSG-68, and their distinct scopes, seismic versus non-seismic external events, a summary table or dedicated section contrasting their scope, boundaries, and application would significantly enhance clarity for users.	✓			In the revised version, a flowchart illustrating the seismic design process is planned to be included. This is expected to incorporate aspects such as the relationship between seismic

							design and other external hazards.
4.	Section 3	• Development of advanced nuclear technologies such as small modular reactors (SMRs), non-water cooled reactors (non-WCRs), floating nuclear power plants (FNPPs), transportable nuclear power plants (TNPPs), and fuel cycle installations. • Emphasis on the application of a graded approach. • Evolution of methods of seismic hazard determination, including PSHA. • Evolution of methods of seismic capacity determination and seismic fragility analysis, including considerations of seismic interactions and seismically induced geotechnical failures. • Enhanced role of PSA in seismic design. • Evolution of methods for performing beyond design basis evaluations. • Experience-based qualification methods. • Incorporation of risk-informed and performance-based design principles for enhanced risk understanding and balanced design under consideration of	To reflect recent industry developments. Sections on risk-informed approaches should be updated regularly to capture best practices and evolving analytical techniques.		✓		The description in Section 3 is extracted from the titles in the Feedback Analysis Report. However, as noted in the Feedback Analysis Report, the points raised will be fully taken into account during the stage in which the evolution of seismic margin assessments and probabilistic safety assessments is reflected.

		uncertainties in seismic hazard and site response, along with a defined process for periodically updating related guidance"					
5.	Section 4	It is recommended to add a distinct paragraph in Section 4 clearly identifying the primary target audience (regulators, designers, operating organizations) and secondary stakeholders (TSOs, vendors, researchers).	Explicitly identifying the target audience improves usability during drafting.	✓			
6.	Section 5	It is recommended to add clarifying statement in Scope section explaining why existing facilities are excluded and propose consideration of retrofit guidance in future updates.	Given the widespread interest in seismic renovations and life extension, an explanation should be provided as to why upgrade guidelines for existing facilities are not included.		✓		*Design of Modifications to Existing Nuclear Installations* is described in SSG-89. The content of the comment addresses an important point, and SSG-89 is cited in the related references.
7.	Section 7	It is recommended to consider adding explicit sections on SMRs / advanced reactors either within "General Considerations" or as a dedicated subsection under seismic design principles	Section expansions for SMRs and innovative configurations should be prioritized to ensure practical value for new nuclear deployments.			✓	To ensure the general applicability of the document, chapters focusing on specific reactor types have not been considered. However, as declared in this DPP, recommendations

							will be provided if SMRs exhibit characteristics that differ from conventional seismic design.
8.	Section 7	"3. INPUT FOR SEISMIC DESIGN OF NUCLEAR INSTALLATIONS General concept of seismic design Design basis earthquake Combination of earthquake loads with other loads Combination of earthquake with other external events Beyond design basis earthquake Seismic categorization for structures, systems and components Selection of seismic design and qualification standards 4. SEISMIC DESIGN PRINCIPLES FOR STRUCTURES, SYSTEMS, AND COMPONENTS OF NUCLEAR INSTALLATIONS Layout of the installations Types of Structures in Seismic Design Seismically isolated structures Building and civil structures Systems and components Seismic capacity Design extension conditions	Suggested updates for clarity	✓			

9.	Table A.1	Edit bullets as follows: 3, Input for Seismic Design of Nuclear Installations "Address combinations of earthquakes with other external events" 7, Beyond Design Basis Evaluations of Seismic Design of Nuclear Installations New bullet after the first bullet: "Identify enhanced role of PSHA and PSA in seismic design driven by risk-informed performance-based design principles including uncertainty considerations"	Proposed edits for consistency with key points proposed in the scope of work		✓		Chapter 3 has been revised accordingly. As for Chapter 7, similar to Comment No. 2, it is preferred to avoid explicitly using the terms PSHA and PSA; however, the related recommendations will be reflected in Chapter 7.

DPP DS563: Seismic Design for Nuclear Installations

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: Jun PENG Page 1 of 1 Country/Organization: China Date: 30 Sep 2025							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	6	It is suggested to remove version (publication year) references for both the revised version and the version to be revised.	It is necessary to align with the latest version and concurrently revised version.	✓			For documents currently undergoing revision, the differences from the existing versions have been clarified by indicating "Under revision as DS***."
2	7	It is suggested that content related to floating reactors be separately specified in the standard framework.	There are significant differences between floating reactors and land-based stationary reactors.			✓	That is correct. It will be noted that FNPPs are significantly less affected by seismic events. However, for FNPPs that are connected to the seabed by wires or similar structures, seismic loads may still be transmitted.

ENISS members' comments on DS DPP563
IAEA draft Seismic Design of NPP; rev. SSG-67

COMMENTS BY REVIEWER Reviewer: ENISS Page 1 of 2 Country/Organization: ENISS Date: 13 October 2025				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	§ 2, 3rd para	The Safety Guide ~~should~~ ~~address~~ will provide recommendations on how to meet the requirements in the higher-level documents, which emphasize avoiding cliff-edge effects, ensuring seismic margins beyond the design basis earthquake, and considering multi-unit site impacts.	For enhanced clarity	✓			
2	Page 2	The Safety Guide should address the requirements in the higher-level documents, which emphasize avoiding cliff-edge effects, ensuring seismic margins beyond the design basis earthquake~~, and considering multi-unit site impacts~~.	This list does not seem to be exhaustive and the specific mention of consideration of multi-unit site is questionable.	✓			
3	Pages 4-5	Chapters listed in chapter 7 are different in comparison with current SSG-67.	Design specific chapters from current SSG-67 are missing in the proposed list of chapters, e.g. "Mechanical equipment, Storage tanks, Piping, Buried pipes" and more.		✓		The intended structure follows a storyline comprising Chapter 4 on design concepts, Chapter 5 on response

			An objective is to provide recommendations for advanced technologies and another objective is to pursue harmonisation in the approaches, therefore it seems important to include design specific chapters (or annexes) to address the impacts of key differences between the technologies (e..g. for PWR reactors we can have hours to mitigate the consequences of the seismic event and for innovative designs, such as sodium fast reactors, the timing after the initiating event may be totally different).				analysis and design of structures, and Chapter 6 on systems and components. The list of chapters included in the current version—e.g., "Mechanical equipment, Storage tanks, Piping, Buried pipes" and more—is planned to be incorporated into Chapter 6. Please understand that detailed sub-sections have not been specified at this stage.
4	Annex	Incorporation of **Risk-Informed Performance-Based** Design Principles for Enhanced Risk Understanding and Balanced Design Address **RIPB** methods to inform selection of design basis and beyond design basis earthquakes	Is the wording RIPB uniquely defined in the frame of IAEA standards?		✓		The comment is appreciated. This terminology has been used in current SSG-67 and similar terminologies have already begun to appear in higher-level documents such as SSG-89.

							While the substantive content is reflected in each document, we will continue to pay attention to the definition and usage of the term as we proceed with drafting.

TITLE: DS 563 DPP - Seismic Design for Nuclear Installations

COMMENTS BY REVIEWER Country/Organization: FRANCE - ASNR Date: 03/10/25 pages				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	1	It is recognized that there are steady advances in technology, scientific knowledge, regulations, and events that prompt the update and revision of IAEA Safety Standards. The following are some of the issues that have emerged since the publication of the current Safety Guide in 2021 and prompt an update: the rapid development of small modular reactors (SMRs) and advanced nuclear technologies, including non-water cooled reactors (non-WCRs), has introduced novel structural types and configurations that require reviewing of ~~updated~~ seismic design recommendations to ensure safety while accommodating innovative reactor designs; there is a growing need for clearer recommendations on applying a graded approach to seismic design, tailored to the specific hazards and characteristics of diverse nuclear installations, to optimize safety measures to achieve ~~without~~ adequate ~~over-~~conservatism; trends toward risk-informed and performance-based principles and practices in seismic design have evolved, ~~enabling~~ ~~better~~ contributing to understanding of seismic risks, ~~more~~ balanced use of deterministic and probabilistic insights in the design~~s~~, and quantifiable safety goals that align with probabilistic safety assessments; advancements in computational techniques and increased computing capacity have enhanced capabilities for complex seismic analyses, ~~such as nonlinear soil-structure interaction and site response modelling, allowing for more accurate and efficient design processes~~; the accumulation …	This paragraph is not based on a duly referenced document agreed by all Member States. It is based on the annex that only reminds a consultancy meeting. The statements in this paragraph shall be formulated in a more neutral way (it would be also worthwhile to consider deletion of this paragraph).	✓			

2.	3	Development of advanced nuclear technologies such as small modular reactors (SMRs), non-water cooled reactors (non-WCRs), ~~floating nuclear power plants (FNPPs), transportable nuclear power plants (TNPPs),~~ and fuel cycle installations	The consideration of seismic hazard regarding floating reactors is not clear. Concerning transportable NPP, it is not sufficiently mature to be developed in a general guidance without clear identification of specificities in corresponding requirements			✓	The work is being carried out in alignment with the revision of SSR-2/1 (Rev.1), DS562. Transportable reactors are included within the scope of DS562.
3.	4	The revision will address recommendations on the design provisions to address new seismic design concept arising from evolving siting environments, such as increased deployment of innovative reactor technologies, including small modular reactors (SMRs), ~~floating reactors,~~ and other types of advanced design reactors.	See above			✓	The work is being carried out in alignment with the revision of SSR-2/1 (Rev.1), DS562. Transportable reactors are included within the scope of DS562.
4.	6	IAEA Safety Standards Series No. GSR Part 2, Leadership and Management for Safety (2016)	Please elaborate more in detail the link with leadership and management or consider deletion	✓			
5.							
6.							

DS563 "Seismic Design for Nuclear Installations"
Status: STEP 3
Version dated 29 August 2025

COMMENTS BY REVIEWER Reviewer: **Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety (BMUKN)** (with comments of GRS) Pages: 4 Country/Organization: **Germany** Date: 30.09.2025				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	Page 2 Section 3 Line 5	Furthermore, this revision will be developed in close coordination with IAEA Safety Standards Series No. SSG-68, "Design of Nuclear Installations Against External Events Excluding Earthquakes." Owing to the differing modes of impact on SSCs ~~structures, systems and components~~, it is considered necessary that SSG-67 and SSG-68 be revised as separate safety guides. However, close coordination remains essential, in particular with respect to the consistency of design approaches and criteria, as well as the consideration of the combination and cascading of external events.	1) Abbreviation of SSCs has been introduced in text above 2) Cascading of external events is important for revision of SSG-68 (DS564); is this the case for current document as well? Please verify.	✓			
2.	Page 2 Section 3 Line 16	• Development of advanced nuclear technologies such as small modular reactors (SMRs), non-water cooled reactors (non-WCRs), floating nuclear power plants (FNPPs), transportable nuclear power plants (TNPPs), ~~and~~ fuel cycle installations and other types of advanced design reactors.	Clarification		✓ and other types of advanced design nuclear installations.		In order to better align the scope with SSR-1.

3.	Page 2 Section 3 Line 20	• Evolution of methods for performing beyond design basis earthquake evaluations.	What exactly is meant? Evaluation of "beyond design basis accident" or evaluation of "beyond design basis earthquake"? Please verify. Wording "beyond design basis" is not a justified IAEA term and is very confusing, as it is triggering an outdated concept.		✓ Evaluations for beyond design basis earthquake.		Clarified.
4.	Page 3 Section 4 Line 11	In addition, the revision aims to further enhance seismic safety by providing recommendations for possible design extension conditions triggered by an earthquake and measures beyond the design basis.	Proposition No. 1 Beyond Design Basis Earthquakes may or may not trigger Design Extension Conditions. Design Extension conditions may be also triggered by earthquake within the design basis (although with very low conditional probability). The relationship is not one to one. See also Table A.1 of DS563 which is more careful in its wording	✓			
5.	Page 3 Section 4 Line 11	In addition, the revision aims to further enhance seismic safety by ~~providing recommendations for design extension conditions and measures beyond the design basis~~ clarifying the connection between the seismic margins and Beyond Design Basis Earthquake.	Proposition No. 2 Please harmonise with SSR-2/1 (Rev. 1), Requirements 13 and 20: design extension conditions are part of the design basis, this should be clearly stated. Do you mean Beyond Design Basis Earthquake and seismic margins? We made a suggestion, please verify.			(✓)	Proposition 1 is to be adopted.

6.	Page 3 Section 5 Line 7	The update will enhance the existing recommendations by incorporating recent developments in seismic design and qualification methodologies, and design provisions for evolving conditions. In particular, the revision will provide expanded guidance for addressing development of advanced nuclear technologies, the application of a graded approach, design extension conditions and beyond design basis earthquake evaluations, experience-based qualification methods, and incorporation of risk-informed performance-based design principles.	1) please use "design extension condition" in plural 2) please use the terms in line with SSR-2/1 (Rev. 1) and IAEA Safety Glossary: which defines the term "beyond design basis earthquake". Wording "beyond design basis" is confusing as it represents an outdated concept.		✓ consideration for beyond design basis earthquake.		Same as No.3.
7.	Page 4 Section 6 Line 1	• IAEA Safety Standards Series No. SSR-2/1 (Rev. 1), Safety of Nuclear Power Plants: Design (2016), (Under revision as DS562).	SSR-2/1 (Rev. 1) is under revision, currently in Step 3, please add	✓			
8.	Page 4 Section 6 Line 20	• IAEA Safety Standards Series No. NS-G-3.6, Geotechnical Aspects of Site Evaluation and Foundations for Nuclear Power Plants (2004). (Under revision as DS531).	NS-G-3.6 is under revision as well, currently in Step 12	✓			
9.	Page 4 Section 7 Line 11	GENERAL CONSIDERATIONS FOR SEISMIC DESIGN OF NUCLEAR INSTALLATIONS External hazards Seismic design principles Design extension conditions Beyond design basis accidents considerations Other seismic design aspects	1) please use "design extension condition" in plural 2) please use the phrase "beyond design basis consideration" in line with SSR-2/1 (Rev. 1) and IAEA Safety Glossary.		✓ consideration for beyond design basis earthquake.		Same as No.3.
10.	Page 5 Section 7 Line 35	10. MANAGEMENT SYSTEM FOR SEISMIC DESIGN REFERENCES ~~GLOSSARY~~	Is it necessary for this document to have its own Glossary?	✓			

			Terms should be aligned with IAEA Safety and Security Glossary. Delete please				
11.	Annex Page 7 Line 22	• **Development of Advanced Nuclear Technologies**: With increasing global demand for energy and plans for new NPPs, including SMRs, FNPP, TNPP and non-WCRs, the updated SSG-67 will provide recommendations to accommodate novel structural types and seismic design solutions tailored to these innovative reactor designs and new site types.	Please consider new site types as well		✓ In response to the comments from Japan, a new item has been added regarding the "new site types."		
12.	Annex Page 7 Line 22	• **Evolution of Methods for Performing Beyond Design Basis Earthquake Evaluations**: Advances in beyond design basis earthquake evaluation practices, including seismic margin assessments and probabilistic safety assessments, will be incorporated to enhance assessment safety margins and address cliff-edge effects.	Clarification		✓ **Evaluations for Beyond Design Basis Earthquake**		Same as No.3.
13.	Table A.1 Section 5 Line 3	• Introduce concept of overall planning for coherent modelling and analysis approaches, address ground motion characterization, and include provisions for nonlinear time-domain structure-soil interaction (SSI) analysis. • Clarify when structure-soil-structure interaction (SSSI) analysis is appropriate	Editorial	✓			

Title: Comments on the IAEA Safety Standard DPP 563 Seismic Design for Nuclear Installations

COMMENTS BY REVIEWER **Reviewer:** Shri S.S. Prasad and H. Seshadri **Country/ Organization:** India **Date: 13-10-2025**				RESOLUTION			
Comment No.	Para No. /Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	Section 3; Para 2	Replace the words “Owing to the differing modes of impact…” to “Due to differing impact mechanisms…”	For more clarity	✓			
2.	Section 3; Justification	Inclusion of guidance for hybrid reactor types including SMRs with passive safety systems can be indicated in the revised document	For more clarity		✓		Seismic design considerations for passive safety systems are extremely important, and the comment is fully acknowledged. However, the term "advanced nuclear technologies" already encompasses all innovative

							technologies, including passive safety systems; therefore, the original wording will be retained.
3.	Section-5; Scope	It is suggested to include temporary installations including mobile reactors.	Suggestion for improvement		✓		Consideration of mobile reactors is one of the objectives of this revision, and the comment is fully agreed with. Mobile reactors are encompassed within the terms "floating nuclear power plants (FNPPs)" and "transportable nuclear power plants (TNPPs)".

Japan NUSSC comments on DPP-DS563 (Step 3), "Seismic Design for Nuclear Installations"

COMMENTS BY REVIEWER Reviewer: Japan NUSSC member Country/Organization: Japan / NRA			Page of Date: 10 Oct., 2025	RESOLUTION			
No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	**2. BACKGROUND** 2nd para Line 15	the accumulation of seismic experience from past events, including the Niigataken Chuetsu-oki ~~offshore~~ earthquake (2007) and the Great East Japan ~~the Tohoku~~ earthquake (2011), continues to provide valuable lessons on building responses, sloshing effects in pools, and the effectiveness of good practice design rules, even under motions exceeding design levels.	1) Use the official name 2) Take some examples for "the effectiveness of good practice design rules".	✓			
2.	**2. BACKGROUND** 3rd para.	The Safety Guide should address the requirements in the higher-level documents, which emphasize avoiding cliff-edge effects, ensuring seismic margins for beyond ~~the~~ design basis earthquake, and considering multi-unit site impacts. These topics are related to achieving realistic seismic margins and will be addressed in the revised Safety Guide.	The current SSG-67 uses only the term *"beyond design basis earthquake"* in the context of events exceeding the design basis. If *"seismic margins beyond the design basis earthquake"* is intended to refer specifically to the seismic margins to beyond design basis earthquakes, it should be stated explicitly without abbreviation.	✓			
3.	**3. JUSTIFICATION FOR THE PRODUCTION OF THE PUBLICATION** 4th para	Based on the result of this analysis, key drivers for this revision include the following themes, which are elaborated further in the Annex. The results of the analysis revealed that there is a growing expectation for these items to be incorporated into this Safety Guide.	To keep consistency with DPP-DS562, the distinction between nuclear technology and deployment options should be clarified. Furthermore, the document should address the potential application of remote	✓			Corresponding to this revision, the ANNEX has been revised accordingly.

COMMENTS BY REVIEWER Reviewer: Japan NUSSC member Country/Organization: Japan / NRA			Page of Date: 10 Oct., 2025	RESOLUTION			
No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		• Development of advanced nuclear technologies such as ~~small modular reactors (SMRs),~~ non-water cooled reactors (non-WCRs), ~~floating nuclear power plants (FNPPs), transportable nuclear power plants (TNPPs)~~, and fuel cycle installations~~.~~ • New deployment options, such as small modular reactor, remote location, underground, floating nuclear power plants (FNPPs), transportable nuclear power plants (TNPPs). • Emphasis on the application of a graded approach. • Evolution of methods for performing evaluations of beyond design basis ~~evaluations~~ earthquake. • Experience-based qualification methods. • Incorporation of risk-informed performance-based design principles for enhanced risk understanding and balanced design.	locations and underground siting. Similarly to the comment 2, if *"beyond design basis evaluation"* is intended to refer specifically to the evaluation of beyond design basis earthquakes, it should be stated explicitly without abbreviation.				
4.	**4. OBJECTIVE** 2nd para.	The Safety Guide provides recommendations on how to meet the safety requirements established in SSR-2/1 (Rev. 1), SSR-3, and SSR-4 in relation to the design aspects of nuclear installations subjected to seismic hazards defined in accordance with SSG-9 (Rev. 1). Appropriate consistency with the contents of all relevant Safety Standards will be maintained, in particular SSR-1 (DS557), SSR-2/1 (Rev. 1)	To keep consistency with related requirements that are being revised at the same time. Now SSR-2/1 (Rev. 1) is being revised in DS562 and it is expected to develop further time than DS563. So specify how to harmonize between the requirement and this guide.	✓			SSR-1 has been added to the list.

COMMENTS BY REVIEWER Reviewer: Japan NUSSC member Country/Organization: Japan / NRA			Page of Date: 10 Oct., 2025	RESOLUTION			
No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		(DS562) and SSR-2/2 (Rev. 1) (DS532).	In addition, it should be harmonized with SSR-1 (DS557) and SSR-2/2 (Rev. 1) (DS532). The same comment is in the DPP-DS564.				
5.	**4. OBJECTIVE** 5th para.	In addition, the revision aims to further enhance seismic safety by providing recommendations for design extension conditions and measures against beyond ~~the~~ design basis earthquake.	For clarification: there are two terms “design extension conditions” and “beyond the design basis”. The first one means recommendations in seismic design for structures, systems and components classified for design extension conditions. The second one means recommendations for measures against beyond design basis earthquake. The current document, SSG-67, uses the term "beyond design basis earthquake."	✓			
6.	**5. SCOPE** 2nd para.	The update will enhance the existing recommendations by incorporating recent developments in seismic design and qualification methodologies, and design provisions for evolving conditions. In particular, the revision will provide expanded guidance for addressing development of advanced nuclear technologies, the application of a graded approach, design extension condition and evaluations of beyond design basis ~~evaluations~~ earthquake, experience-based qualification	See the comment 2.	✓			The word "of" was replaced with "for".

COMMENTS BY REVIEWER Reviewer: Japan NUSSC member Country/Organization: Japan / NRA			Page of Date: 10 Oct., 2025	RESOLUTION			
No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		methods, and incorporation of risk-informed performance-based design principles.					
7.	**7. OVREVIEW** CONTENTS	2. GENERAL CONSIDERATIONS FOR SEISMIC DESIGN OF NUCLEAR INSTALLATIONS External hazards **Seismic design principles** Design extension condition Considerations regarding b~~B~~eyond design basis ~~considerations~~ earthquake Other seismic design aspects ...	For SMRs installed on remote islands or remote locations, the control room may be far from the reactor, unlike with traditional nuclear reactors. Para. 2.7 of current Guide SSG-67 addresses **control room**. The revised Guide should also include considerations of design measures for remote control rooms in this sub-section. If *"beyond design basis considerations"* is intended to refer specifically to the considerations regarding beyond design basis earthquakes, it should be stated explicitly without abbreviation.	✓			The word "regarding" was replaced with "for".
8.	**7. OVREVIEW** CONTENTS	7. EVALUATION OF BEYOND DESIGN BASIS ~~EVALUATION~~ EARTHQUAKE OF SEISMIC DESIGN OF NUCLEAR INSTALLATIONS Adequate considerations on beyond design basis ~~conditions~~ earthquake Seismic margin considerations	See the comment 2.		✓ CONSIDERATIONS FOR BEYOND DESIGN BASIS EARTHQUAKE		Consistency with No. 7 has been ensured.

COMMENTS BY REVIEWER Reviewer: Japan NUSSC member Country/Organization: Japan / NRA			Page of Date: 10 Oct., 2025	RESOLUTION			
No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
9.	**ANNEX: Feedback Analysis Report** 2nd para 4th bullet	• **Evolution of Methods for Performing Evaluations of Beyond Design Basis ~~Evaluations~~ Earthquake**: Advances in beyond design basis earthquake evaluation practices, including seismic margin assessments and probabilistic safety assessments, will be incorporated to enhance assessment safety margins and address cliff-edge effects.	See the comment 2.	✓			The word "of" was replaced with "for".
10.	**ANNEX: Feedback Analysis Report** Table A.1. Section 7	**Section Title (Proposed New)** Evaluations of Beyond Design Basis ~~Evaluations~~ Earthquake of Seismic Design of Nuclear Installations	See the comment 2.		✓		Same as No.8

TITLE
DPP DS563 Seismic Design for Nuclear Installations

COMMENTS BY REVIEWER Reviewer: WASSC Member Page 1 of 1 Country/Organization: Republic of Korea (ROK)/Korea Institute of Nuclear Safety (KINS) Date: October 10, 2025				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	Page 2/ Line 27	Remove a phrase in the first dot. (before) Development of advanced nuclear ~~~, and fuel cycle installations. (after) Development of advanced nuclear ~~~. ~~and fuel cycle installations.~~	o In my opinion, it would be better to remove the phrase based on the feedback analysis report.	✓			

DPP DS563 Seismic Design for Nuclear Installations

COMMENTS BY REVIEWER Reviewer: WASSC (A. Ponizov, M. Nepeypivo) Page.... of.... Country/Organization: Russian Federation / SEC NRS Date:				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	3. Justification for the production of the publication, para 4, bullet 1	• Development of advanced nuclear technologies such as small modular reactors (SMRs), non-water cooled reactors (non-WCRs), floating nuclear power plants (FNPPs), transportable nuclear power plants (TNPPs), and **nuclear** fuel cycle **facilities**.	To bring the term into line with the IAEA Nuclear Safety and Security Glossary, 2022 (Interim) Edition		✓ The terminology of "nuclear fuel facilities" was deleted.		The terminology of "nuclear fuel facilities" was deleted regarding the comment from ROK.

TITLE OF PUBLICATION (DS557) - DPP for revision of IAEA Safety Standard Series No. SSG-67, Seismic Design for Nuclear Installations

COMMENTS BY REVIEWER				RESOLUTION			
Reviewer: A. AMRI Page 1.... of.... Country/Organization: Nuclear and Radiological Regulatory Commission Date: **12/10/2025**							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	General	The DPP should explain how to manage references to requirements/recommendations that are themselves undergoing revisions in parallel.	Reference is made to requirements (e.g. SSR-2/1 (Rev. 1)) that are or will be undergoing revision.	✓			"(Under revision as DS562)" has been added to the reference to SSR-2/1 (Rev.1) in Chapter 6. This indicates that the revision of SSR-2/1 (Rev.1) and that of this SSG are being carried out in coordination with each other.
1.	Section 4 (Objective), paragraph 5	Please consider clarifying this paragraph in particular with respect to "providing recommendations for design extension conditions and measures beyond the design basis".	The statement is quite vague. For example, one can understand from "recommendations for design extension conditions" recommendations for safety features for design extension conditions in terms of seismic categorization or something else completely different. In addition, "measures beyond the design basis" is confusing without 'earthquake' at the end.	✓			

COMMENTS BY REVIEWER Reviewer: A. AMRI Page 1.... of.... Country/Organization: Nuclear and Radiological Regulatory Commission Date: **12/10/2025**				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
2.	Section 5 (Scope), paragraph 2	Please refer to the previous comment.	Same as in comment 1.	✓			
3.	Section 7 (Overview), contents of the report, chapter 2 (General considerations for seismic design of nuclear installations)	Please consider Design extension conditions in plural.	Editorial.	✓			
4.	Section 7, contents of the report, chapter 2 (General considerations for seismic design of nuclear installations)	Please consider using a correct terminology by changing 'Beyond design basis considerations' to 'Beyond design basis earthquake considerations'	Terminology/editorial The beyond design basis is associated to earthquake in the context of this safety guide.	✓			
5.	Section 7, contents of the report, chapter 7 (Beyond Design Basis Evaluation of Seismic Design of Nuclear Installations)	Please consider clarifying and reformulating the title of chapter 7.	Terminology/editorial As it is, the title of chapter 7 means that there is a type of evaluation that can be qualified of 'beyond design basis'; such an evaluation does not exist. It is likely that the intent of the title was: Evaluation of seismic design of nuclear installations under beyond design basis earthquake conditions.	✓			

COMMENTS BY REVIEWER Reviewer: A. AMRI Page 1.... of.... Country/Organization: Nuclear and Radiological Regulatory Commission Date: **12/10/2025**				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
6	Section 7, contents of the report, chapter 8 (Seismic Instrumentation and Post-Earthquake Actions for Nuclear Installations)	Seismic instrumentation should be considered for all licensing phases, including site monitoring during site evaluation and in sufficient details to be useful for end users.	Experience feedback of some Member States in reviewing site seismic monitoring system during site evaluation revealed the lack of detailed and useful IAEA recommendations for that end.	✓			Your important comment is appreciated, and the revision will be carried out taking into account the comment.

TITLE: DS 563 DPP - Seismic Design for Nuclear Installations

COMMENTS BY REVIEWER Country/Organization: FRANCE - ASNR Date: 03/10/25 pages				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1.	1	It is recognized that there are steady advances in technology, scientific knowledge, regulations, and events that prompt the update and revision of IAEA Safety Standards. The following are some of the issues that have emerged since the publication of the current Safety Guide in 2021 and prompt an update: the rapid development of small modular reactors (SMRs) and advanced nuclear technologies, including non-water cooled reactors (non-WCRs), has introduced novel structural types and configurations that require reviewing of ~~updated~~ seismic design recommendations to ensure safety while accommodating innovative reactor designs; there is a growing need for clearer recommendations on applying a graded approach to seismic design, tailored to the specific hazards and characteristics of diverse nuclear installations, to optimize safety measures to achieve ~~without~~ adequate ~~over-~~conservatism; trends toward risk-informed and performance-based principles and practices in seismic design have evolved, ~~enabling~~ ~~better~~ contributing to understanding of seismic risks, ~~more~~ balanced use of deterministic and probabilistic insights in the design~~s~~, and quantifiable safety goals that align with probabilistic safety assessments; advancements in computational techniques and increased computing capacity have enhanced capabilities for complex seismic analyses, ~~such as nonlinear soil-structure interaction and site response modelling, allowing for more accurate and efficient design processes~~; the accumulation …	This paragraph is not based on a duly referenced document agreed by all Member States. It is based on the annex that only reminds a consultancy meeting. The statements in this paragraph shall be formulated in a more neutral way (it would be also worthwhile to consider deletion of this paragraph).	✓			

2.	3	Development of advanced nuclear technologies such as small modular reactors (SMRs), non-water cooled reactors (non-WCRs), ~~floating nuclear power plants (FNPPs), transportable nuclear power plants (TNPPs),~~ and fuel cycle installations	The consideration of seismic hazard regarding floating reactors is not clear. Concerning transportable NPP, it is not sufficiently mature to be developed in a general guidance without clear identification of specificities in corresponding requirements		✓ New deployment options such as small modular reactors (SMRs), remote location with limited infrastructure, floating nuclear power plants (FNPPs), transportable nuclear power plants (TNPPs), whose impact is worth to be evaluated.		The work is being carried out in alignment with the revision of SSR-2/1 (Rev.1), DS562. Transportable reactors are included within the scope of DS562. In DS563, to clarify that the description of transportable reactors is to be provided in accordance with their characteristics and necessity, the text has been revised.
3.	4	The revision will address recommendations on the design provisions to address new seismic design concept arising from evolving siting environments, such as increased deployment of innovative reactor technologies, including small modular reactors (SMRs), ~~floating reactors,~~ and other types of advanced design reactors.	See above		✓ See above		See above.
4.	6	IAEA Safety Standards Series No. GSR Part 2, Leadership and Management for Safety (2016)	Please elaborate more in detail the link with leadership and management or consider deletion	✓			