

Draft DPP of DS449 for NUSSC-RASSC-WASSC and NSGC
Revision of the Safety Guide on “Format and Content of the Safety Analysis Report for Nuclear Power Plants”
(Version 1 dated 5 June 2015)

Resolution: *Blue*: Text from the draft DPP // *Red*: changes incorporated to the revised version of the draft DPP (Rev. 3)

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
BELGIUM Reviewer/s: P. De Gelder / B. De Boeck Organization: Bel V				Pages: 1 Date: 18-05-2015			
1 BELG-1	Section 4 Parag 4	Concerning “The main changes...” a bullet could be added, saying: <ul style="list-style-type: none"> <i>To provide more consideration towards considering a site as a whole and potential harmful interactions between installations</i> 	To reflect better that the revision should include lessons learned from Fukushima [Daiichi NPP accident]		The concept is covered by bullet 3. Specifically, Requirement 17 of SSR-2/1 Rev. 1 (Internal and external hazards), paragraph 5.15b., states: <i>“For multiple unit plant sites, the design shall take due account of the potential for specific hazards to give rise to impacts on several or even all units on the site simultaneously”</i>		
2 BELG-2	Section 6	To indicate somewhere that ageing of SSC should be covered in Chapter 3 or to enlarge the title of this Chapter 3 into “ <u>Design and ageing management</u> of Structures, Systems and Components”.	Ageing management gets more and more attention. Also WENRA RLs require to cover ageing management in the SAR.		<i>(See resolution to comment 13).</i> Guidance to fulfill the Requirement 31 of SSR-2/1 Rev. 1 (Ageing management), will be provided. We plan to include it in Chapter 13 „ <i>Conduct of operations</i> “.		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
3 BELG-3	Section 6	To integrate Emergency preparedness in Chapter 13 (as in many SARs nowadays) and to reserve Chapter 19 for “PSA and severe accident management” (as in the SRP of the USNRC)	In a former version of the DPP, Chapter 15 was foreseen to cover deterministic and probabilistic aspects. This is no longer reflected (PSA is absent in Table of content). We propose to keep Chapter 15 deterministic and to foresee a specific chapter for PSA and severe accident management.		<i>(Cfr comments 9-10-11-15-25-26-27-29-31-39-42). The revised safety guide will allow flexibility to users regarding the format of the Safety Analysis Report (SAR). Structure of Section 6 is given for illustration. We will consider this comment in detail in the preparation of the draft revised SG. In DPP we prefer not to incorporate these changes. We plan to cover safety provisions for DEC and engineered safety features in Ch 6; safety analysis of severe accidents (at least deterministic) demonstrating design adequacy in Ch 15; SAMG/EOPs in Ch 13. This is preliminary. Given the complementary of DSA and PSA it seems logical to cover both in Ch 15, Safety analysis, at the same level.</i>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
GERMANY (To NUSSC and WASCC) Reviewer: Pages: 3 Organization: Federal Ministry for the Environment, Nature Conservation, Build- ing and Nuclear Safety (BMUB) (with comments of GRS) Date: 2015-05-19 Note: <u>Blue parts</u> are those to be added in the text. Red parts are those to be deleted.							
4 GER-1 Relev.: 2	Section 4 Paragr 2	“Reference will be made to applicability of the revised Safety Guide for the devel- opment of a Safety Analysis Report for different <u>types of</u> nuclear fuel cycle facilities, based on GSR Part 4.”	Clarification.	YES			

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
5 GER-2 Relev.: 2	Section 4 Paragra 3	<p>“The revised Safety Guide is intended for use by designers, operators, technical support organizations and regulators primarily in connection with authorization (licensing) of the nuclear power plants of new construction and, as far as reasonable, also for the safety reevaluation of existing nuclear power plants. <u>Within the revised Safety Guide, it will be emphasized that the safety analysis report has to be up-to-date and represents the actual status of the plant. It is the main document for information exchange in licensing procedures.</u> Applicable feedback of lessons learned from the Tepco Fukushima Daiichi nuclear power plant accident is to be taken into account.”</p>	<p>This is an important requirement which is addressed in GSR Part 4, Para. 4.65. This should be reflected and explained in more detail in DS449.</p>		<p>This aspect is already included in the published version of the Safety Guide. Nevertheless, in Section 4, paragraph 4, bullet 3, we will put:</p> <ul style="list-style-type: none"> • <i>„To provide guidance for the adequate ... those from GSR Part 4 Rev.1 SSR-2/1 Rev. 1 and SSR-2/2 Rev. 1“</i> <p>This emphasizes the relevance of fulfilling Requirement 20 of GSR Part 4 Rev.1 and specifically paragraph 4.65.</p> <p>In the „General considerations“ of the revised Safety Guide we plan to cover the „Use and updating of the SAR during plant operation“.</p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
6 GER-3 Relev.: 2	Section 5 Paragr 1	“The new version of the Safety Guide will be directly related with all the General Safety Requirements established. Regarding Specific Safety Requirements, it will be mainly related to SSR-2/1 Rev. 1 and SSR-2/2 Rev. 1 .”	In the frame of the IAEA Action Plan on Nuclear Safety, SSR-2/1 and SSR-2/2 have been revised by amendment (ex DS462).	YES			
7 GER-4 Relev.: 2	Section 5 Paragr 2	“Interfaces with other Safety Guides and Security Guides will also be considered. Among the long list of them the following can be highlighted: ... • NS-G-3.5 “Flood Hazard for Nuclear Power Plants on Coastal and River Sites (2003) SSG-18 Meteorological and Hydrological Hazards in Site Evaluation for Nuclear Installations (2011) ” ...”	The Safety Guide NS-G-3.5 was superseded and replaced by the Specific Safety Guide SSG-18 in 2011. The DS449 should refer to the valid IAEA Safety Standards Series publications.	YES			

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
8 GER-5 Relev.: 2	Section 5 Paragr 3	<p>“Other Safety Guides that will be taken into account include those dealing with the following areas:</p> <ul style="list-style-type: none"> • Siting Site evaluation; • ... • Accident analysis (in-cluding analysis-of shut-down, operational states, <u>design basis accidents</u> and design extension conditions); • Deterministic and proba-bilistic safety analysis <u>analyses</u>.” 	<p>1st bullet: Grammar.</p> <p>9th bullet: DBAs are to be included in the accident analysis.</p> <p>10th bullet: Editorial.</p>	<p>YES</p> <p>YES</p>	<p>Bullet 9 will be modified: <i>Accident analysis (including all plant states considered in design)</i></p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
9 GER-6 Relev.: 1	Section 6, line 9	“3.3 Design of Structures, Systems and Components <u>Safety objectives and engineering design requirements</u> ”	It is proposed to have a separate chapter in the SAR dealing with safety objectives and design requirements. This chapter in DS449 could be very similar to Chapter 2 of a SAR for a research reactor (see e.g. the Safety Guide SSG-20, Appendix, pages 37–42).		(Cfr comments 3-10-11-15-25-26-27-29-31-39-42). <i>Structure of Section 6 is given for illustration. The revised safety guide will allow flexibility to users regarding the format of the SAR.</i> The comment will be considered in the preparation of the revised safety guide. We plan to cover: <i>Safety objectives and acceptance criteria in Chapter 15.</i> Regarding <i>Engineering design requirements</i> : The generic aspects in Chapter 3 (<i>Design of Structures, Systems and Components</i>) and the specifics in the chapters devoted to each system.		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
10 GER-7 Relev.: 1	Section 6, after line 9	“ 3.4 Civil engineering of buildings and structures ”	<p>After 3.3, a new chapter is proposed to be added where buildings and structures are explicitly described. Within this chapter, important safety aspects need to be addressed, like e.g.</p> <ul style="list-style-type: none"> • Spatial separation, • Protection against external hazards, • Fire protection, • Escape routes, • Access to buildings for accident management measures, • etc. <p>Those topics are in the current list of chapters not sufficiently addressed.</p>		<p><i>(Cfr comments 3-9-11-15-25-26-27-29-31-39-42).</i> <i>Structure of Section 6 is given for illustration.</i> <i>The revised safety guide will allow flexibility to users regarding the format of the SAR.</i> We plan to include these aspects in Chapter 9 „<i>Auxiliary systems and civil structures</i>“; having two parts, 9A and 9B, the second one devoted to „<i>civil works and structures</i>“. We agree with comment’s goal; it will be considered in the preparation of the revised draft safety guide.</p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
11 GER-8 Relev.: 1	Section 6, line 10	“3.4—Reactor <u>3.5 Design of reactor core and spent fuel storage”</u>	To address that the spent fuel pool is sufficiently covered in the design. Here, especially sub criticality in spent fuel storage shall be demonstrated by design.		<i>(Cfr comments 3-9-10-15-25-26-27-29-31-39-42). Structure of Section 6 is given for illustration. The revised safety guide will allow flexibility to users regarding the format of the SAR. We plan to cover new fuel handling and storage, SNF handling and storage and spent fuel pool cooling and clean up, including criticality assessment, in Chapter 9 „Auxiliary systems and civil structures“; specifically in 9A (Auxiliary systems)</i>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
FINLAND (To all Committees) Reviewer: M-L Järvinen, K-L Hutri Organization: STUK Pages: 1 Date: 22-May-2015							
12 FINL-1	General	<p>The updating of the DPP for the guide “format and Content of the Safety Analysis Report for Nuclear Power Plants” is good. There is a need for the updated guidance as indicated in the DPP:</p> <p>The time table for the work is challenging.</p>			<p>The schedule is provisional. We plan to be adjusted to it as much as possible, although some additional time might be necessary to reach consensus.</p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
13 FINL-2	Chapter 5. the high- lighted list	<ul style="list-style-type: none"> NSS-17 “Computer security at Nuclear Facilities” (2011) NS-G-12 “Ageing Management for Nuclear Power Plant guide” (2009); DS485 “Ageing management and Programme for Long Term Operation for Nuclear Power plants” GS-R-3, The Management System for Facilities and Activities Safety Requirements, (2006); DS456 Leaderships and Management for Safety 	<p>There have been two additional topics concerning the safety of the NPPs that could be highlighted due to resent interest.</p> <p>For the first the computer security and for the second the ageing management of the NPPs.</p> <p>The safety culture and safety management system requirements should be included in the highlighted list.</p>	<p>YES</p> <p>Ageing YES</p>	<p>NSS-17 has been added</p> <p>Ageing: see resolution to comment 2.</p> <p>GS-R-3 and DS456 are already included in draft DPP (first paragraph of Section 5): ... <i>all the General Safety Requirements established, as revised.</i></p>		
14 FINL-3	Chapter 6.	The content of the SAR in chapter 3. should be described more detailed. As an example it is not clear weather the safety classification is included in the 3.1 Introduction and general considerations.					<p>The content associated to the the structure presented in Section 6 (given for illustration) has to be discussed during the preparation of the draft safety guide.</p> <p>We plan to include safety classification in Chapter 3 „<i>Design of structures, systems and components</i>“.</p>

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
15 FINL-4	Section 6	<p>3. CONTENT OF THE SAFETY ANALYSIS REPORT (SAR)</p> <p>3.1. Introduction and general considerations</p> <p>3.2. Characteristics of the region and the site</p> <p>3.3. Design of Structures, Systems and Components</p> <p>3.4. Reactor</p> <p>3.5. Reactor coolant and connected systems</p> <p>3.6. Engineered safety features</p> <p>3.7. Instrumentation and control</p> <p>3.8 Human Factor Engineering</p> <p>3.8. Electric power</p> <p>3.9. Auxiliary systems and civil structures</p> <p>3.10. Steam and power conversion systems</p> <p>3.11. Radioactive waste management</p> <p>3.12. Radiation protection</p> <p>3.13. Conduct of operations</p> <p>3.14. Plant commissioning</p> <p>3.15. Transient and accident analysis</p> <p>3.16. Operational Limits and conditions</p> <p>3.xx Propabilitic Safety Analysis</p> <p>3.17. Management systems</p> <p>3.xx Ageing management of the NPP</p>	<p>justification for the proposal to change the content of the SAR:</p> <p>a) 3.2 The site and its surroundings should be described. Clarification.</p> <p>b) Human Factor Engineering and the other human and organizational factors could be separated for clarity.</p> <p>c) Deterministic analysis in at the subchapter level. Also the PRA should be presented at the same level.</p> <p>d) The lifetime of the NPPs about 60 years. The ageing management of the plant should be described</p> <p>e) Organizational and human factors should be described.</p> <p>f) Nuclear Security</p>		<p>(Cfr comments 3-9-10-11-25-26-27-29-31-39-42). Structure of Section 6 is given for illustration. The revised safety guide will allow flexibility to users regarding the format of the SAR.</p> <p>We plan to cover:</p> <p>a) Regional aspects in Chapter 3 (under Geography and demgraphy)</p> <p>b) Both aspects in Chapter 18, taking into account guidance from DS492 (Human Factors Engineering in NPPs)</p> <p>c) (Comment to be considered in Chapter 15).</p> <p>d) Relevant attention will be provided to ageing management; at the moment in Chapter 13.</p> <p>e) (We agree)</p> <p>f) We agree to cover Nuclear Security in general terms (details provided separately) and taking into account the available guidance; not clear yet in which chapter.</p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
Cont		3.17. Management systems 3.xx Ageing management of the NPP 3.18. Human and organiza-tional factor 3.xx Nuclear Security 3.19. Emergency prepar-edness 3.20. Environmental as-pects 3.21. Decommissioning and end of life aspects					
16 FINL-5	Section 6	The list of topical report should be included.	The topical report are part of the justification of the safety of the NPP.	YES	We plan to cover it in Chapter 1 (<i>Introduction and general considerations</i>), under „Additional documentation considered as a part of the SAR“.		
JAPAN (To WASSC) Reviewer: Organization: Nuclear Regulation Authority (NRA)				Pages: 1 Date: 22-May-2015			
17 JPN- WASSC- 1	Section 5 (p.3)	Add GSR Part 5 and other relevant Guides to the list of the interface documents.	Radioactive waste manage-ment is dealt with in section 3.11 of this Guide (p.4), how-ever any documents about radioactive waste management are not shown in the interface documents.		We agree. All the General Safety Requirements are considered part of the inter-faces, as stated in paragraph 1.		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
JAPAN (To NUSSC) Reviewer: Japanese NUSSC Member Organization: NRA Pages: 1 Date: 22-May-2015							
18 JPN-NUSSC-1	Sec. 5 Parag 2	Add DS484 "Site evaluation for Nuclear Installations" in the list of Safety Guides, and should be harmonized in a timely manner.	NS-R-3 is now being revised as DS484 and will be published in 2017 before finalizing this draft.		<i>NS-R-3 (as revised)</i> has been added to the list of Interfaces regarding Specific Safety Requirements. (It is recommended not to list project revisions, see resolution to comment 19).		
19 JPN-NUSSC-2	Sec. 5 Parag 2	Add DS473 "Functions and Processes of the Regulatory Body for Safety" in the list of Safety Guides, and should be harmonized in a timely manner.	DS473 are now being drafted and will be published in 2016 before finalizing this draft..		Consideration of the revision of all the Safety Guides and Security Guides highlighted has been added: ... <i>the following, as revised, can be highlighted</i> ". This includes DS473 to revise GS-G-1.2. (As stated in comment 19, it is recommended not to list project revisions).		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
SWEDEN (To NUSSC) Reviewer: Anders Hallman Organization: SSM				Pages: 1 Date: 22-May-2015			
20 SWED-1	Chap 6	The description of the content of SAR does not include "General description of plant". It should be included somewhere.	There is a need for a general description and it is included in NS-G- 4.1 chapter II and V. Where will SSG2-1 be addressed?		We plan to include the „ <i>General description of the plant</i> “ with all the relevant aspects in Chapter 2 „ <i>Site characteristics</i> “. Regarding SSG2-1[?], provided that it means „ <i>NS-G-2.1 Fire Safety in the Operation of NPPs</i> “, we plan to cover these aspects in Chapter 9 (<i>Auxiliary systems</i>), under " <i>Fire protection systems</i> " [see comment 10]		
UNITED STATES OF AMERICA Reviewer: Organization: US Nuclear Regulatory Commission				Pages: 1 Date: 22-May-2015			
21 USA-1	2. / para. 1 / line 4	...taking into account other <u>requirements</u> ...	completeness	YES			
22 USA-2	2. / para. 2 / line 1	A full set of General Safety Requirements has been developed in the <u>few</u> last years and is being finalized.	editorial	YES			
23 USA-3	2. / para. 2 / line 8	The revised Safety Standards <u>imply facilitate</u> significant enhancements of...	editorial	YES			

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
24 USA-4	2. / para. 3 / line 3	...strengthening of the independence and effectiveness of the different levels of defence--in--depth,	editorial	YES			
25 USA-5	6. CON-TENT OF SAR, 3.3	3.3. Design of Structures, Systems, and Components, and Equipment	Clarify that equipment is also addressed.		<i>(Cfr comments 3-9-10-11-15-26-27-29-31-39-42). Structure of Section 6 is given for illustration. The revised safety guide will allow flexibility to users regarding the format of the SAR. Equipment i spart oft he scope to be addressed in this chapter. For consistency we consider more convenient not to change the title</i>		
26 USA-6	6. CON-TENT OF SAR, 3.15.	3.15. Safety Analysis including Transient and accident analysis	Clarify that Transient and Accident Analyses are included in the Safety Analysis in addition to PRA and Severe Accident Evaluation		<i>(Cfr comments 3-9-10-11-15-25-27-29-31-39-42). Structure of Section 6 is given for illustration. The revised safety guide will allow flexibility to users regarding the format of the SAR. Title of Chapter 15 has been changed into „<i>Safety Analysis</i>“. It will include transient and accident analyses.</i>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
27 USA-7	6. CON-TENT OF SAR, 3.17.	3.17. Management sys-tems (Quality Assurance and Reliability As-surance)	To maintain consistency with National and Interna-tional guidance documents		<p><i>(Cfr comments 3-9-10-11-15-25-26-29-31-39-42). Structure of Section 6 is given for illustration. The revised safety guide will allow flexibility to users regarding the format of the SAR.</i></p> <p>The title included in the DPP has been considered together with other titles. At this stage we recommend not to modify it. The comment will be considered in the preparation of the revised safety guide.</p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
UKRAINE (1) (To NUSSC) Reviewer: Pages: 2 Organization: State Scientific and Technical Centre for Nuclear and Radiation Safety (SSTC NRS) Date: 22-May-2015							
28 UKR1-1	Page 4, Chapter 6	<p>The structure and content of the planned revision of the Safety Guide are going to be significantly changed against GS-G-4.1.</p> <p>It is proposed to provide additional explanation of the reasons for such SG modifications since it is not clear from the last para. on page 2.</p>	<p>To clarify the reasons for modifications in the structure and content of the planned revision of the Safety Guide against GS-G-4.1.</p>		<p>The last paragraph of Section 2 (<i>Background</i>) has been modified: „... <i>their nuclear power programme represent relevant differences versus the one presented in GS-G-4.1</i>“.</p> <p>Explanation: The format of the SAR used in the last decade and currently by most countries has been enlarged compared to the one presented in GS-G-4.1, and consequently the content too.</p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
29 UKR1-2	Page 4, Chapter 6	It is proposed to add a chapter devoted to “Fuel Handling and Storage Systems” to the SAR contents or clarify where these systems are going to be considered	To cover all safety-related systems in the SAR contents		<p><i>(Cfr comments 3-9-10-11-15-25-26-27-31-39-42).</i></p> <p><i>Structure of Section 6 is given for illustration.</i></p> <p><i>The revised safety guide will allow flexibility to users regarding the format of the SAR.</i></p> <p>We plan to cover „Fuel handling and storage, systems“ in Chapter 9 „Auxiliary systems and civil structures“; specifically, in subchapter 9A (Auxiliary systems)</p>		
30 UKR1-3	Page 4, Chapter 6	The content of annex 1 “Safety Analysis Report development in the course of the Nuclear Power Plant project evolution” should be clarified. What details are going to be provided, specifics of preliminary and final SAR, review and updating of SAR or SAR development process in parallel with the design process?	To clarify the SAR contents		<p>We plan to cover 3 project phases:</p> <ul style="list-style-type: none"> - Site Permit (Initial SAR) - Construction Permit (Preliminary SAR) - Commissioning (Pre-operational/Final SAR) 		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
31 UKR1-4	Page 4, Chapter 6	Change the order of SAR chapters in the contents, as follows: 3.13. Plant commissioning 3.14. Conduct of operations	To structure the SAR chapters in the order of life-cycle stages		<i>(Cfr comments 3-9-10-11-15-25-26-27-29-39-42). Structure of Section 6 is given for illustration. The revised safety guide will allow flexibility to users regarding the format of the SAR.</i> In general terms, organizational and operational aspects, plant procedures and security may be presented in the SAR before commissioning		
32 UKR1-5	Page 4, Chapter 6	Change the title of 3.15 “Transient and Accident Analysis“ to “Safety Analysis“	To be consistent with GSR Part 4 (Requirements 14, 15 and others), SSR-2/1 (chapter 5, requirement 42). The term "accident analysis" is generally associated with deterministic part of safety analysis (see, for example safety report series No. 23 "Accident Analysis for Nuclear Power Plants").	YES			

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
UKRAINE (2) (To NUSSC) Reviewer: Z. Alekseeva Pages: 1 Organization: State Scientific and Technical Centre for Nuclear and Radiation Safety (SSTC NRS) Date: 18-May-2015 (posted 26 May)							
33 UKR2-1	Section 5, para 3	Add a new bullet <ul style="list-style-type: none"> Radioactive waste management and give references to relevant IAEA standards.	The requirements for pre-disposal radwaste management (e.g. GSR, Part 5 “Predisposal Management of Radioactive Waste”; GSG-1 “Classification of Radioactive Waste” etc.) should be mentioned and taken into account to facilitate the disposal of generated waste during NPP operation and decommissioning.	YES	Bullet 7 has been modified as follows: <ul style="list-style-type: none"> <i>Radioactive waste management, decommissioning and remediation</i> GSR, Part 5 was already included. GSG-1 has been added.		
REPUBLIC OF KOREA Reviewer: Pages: 1 Organizat.: Korea Instit of Nuclear Safety (KINS) Date: 20-5-2015 (posted 29)							
34 KOR-1	Page 1, Section 2, Para 1, Line 5	... mainly from NS-R-1 “Safety of Nuclear Power Plants: Design (2000)” and NS-R-2 “Safety of Nuclear Power Plants: Operation (2000)” <u>and</u> NS-R-3 “Site Evaluation for Nuclear Installations (2003)” .	GS-G-4.1 was developed to provide guidance in taking into account Specific Safety Requirements from NS-R-1, NS-R-2 and NS-R-3.	YES	NS-R-3 has been added		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
35 KOR-2	Page 2, Section 3, Para 1, Line 3	The set of requirements of GSR Part 1 and those of SSR-2/1, SSR-2/2 and revise NS-R-3 (all of the published after publishing GS-G-4.1) represent relevant changes ...	To notify the revision of GS-R-1.		The sentence has been modified: „ <i>The General Safety Requirements and those of SSR-2/1, SSR-2/2 and NS-R-3 established (as revised) after publishing GS-G-4.1 represent relevant ...</i> “		
36 KOR-3	Page 2, Section 4, Para 4, bullet 1	<ul style="list-style-type: none"> In general, the terminology of the Safety Guide needs to be revised and made consistent with the plant states described in SSR-2/1 Rev. 1. 	To correct a minor typo.	YES			
37 KOR-4	Page 3, Section 5, Para 1	Regarding Specific Safety Requirements, it will be mainly related to SSR-2/1 and , SSR-2/2 and NS-R-3 .	Specific Safety Requirements from NS-R-3 also should be considered.	YES	Consistent with comments 18 and 34		
38 KOR-5	Page 3, Section 5, Parag 3, bullet 1	Other Safety Guides that will be taken into account include those dealing with the following areas: <ul style="list-style-type: none"> Siting-evaluation Site evaluation; ...	To clarify the meaning of the words. ‘Siting’ means ‘site selection’ and hence is not proper term for the SAR.	YES	Consistent with comment 8		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
39 KOR-6	Page 4 Section 6, Line 4	<p><i>General comments on Chap. 2 GENERAL CONSIDERATIONS</i></p> <p>The operator's submissions should demonstrate that the facility complies its lifetime including decommissioning and post closure with the safety objectives stipulated or approved by the regulatory body.</p>	<p>To make consistent with GS-G-1.2, Chap. 2 REVIEW AND ASSEMENT PROCESS, not only design and operation but also decommissioning or post closure should be included to determine whether proposals and commitments of the operator to meet the regulatory body's requirement.</p> <p>An outline plan for decommissioning, covering issues such as strategies to be used, radiation doses to be expected and amounts of waste to be produced, should be prepared by the operator at the design stage. The plan should be subject to review and assessment by the regulatory body.</p>		<p><i>(Cfr comments 3-9-10-11-15-25-26-27-29-31-42).</i></p> <p>We plan to cover these aspects in Chapter 21 „<i>Decommissioning and end of life aspects</i>“.</p> <p>This comment will be considered in the preparation of the draft revised safety guide.</p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
40 KOR-7	Page 4, Section 6, Line 6	<p><i>General comments on 3.1 Introduction and general considerations</i></p> <p>It is recommended to add the content of public acceptance with transparency and security and safety complementarity.</p>	<p>§2.19 of SSG-12 describes that Examples of licensing principles. (i) The licensing process should be transparent to the public, and any licence or authorization should be published or made available to the public by other means, except for security sensitive and commercial proprietary information. (q) Clear conditions should be established for public participation in the licensing process.</p> <p>§2.19 of SSG-12 describes that Security and safety should be viewed as being complementary, as many of the measures designed to address one will also serve the interests of the other.</p>		<p>These aspects are more related to the licensing process than to the demonstration of safety. Nevertheless, this comment will be considered in detail during the preparation of the draft revised safety guide.</p>		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
41 KOR-8	Page 4, Section 6, Line 7	<i>General Comments on 3.2 Site Characteristics</i> Regarding '3.2 Site characteristics', it is recommended to keep consistency of the result document of DS449 with the final revision of NS-R-3 (2003).	NS-R-3 (2003) is under a major revision, including re-structuring, in light of the lessons learned from the 'Fukushima Daiichi nuclear power plant accident'.	YES	NS-R-3, as revised, will be taken into account in the preparation of the draft revised safety guide.		
42 KOR-9	Page 4 Section 6, Line 13	3.8. Electric Power Systems	To keep consistency with other chapters such as 3.5, 3.9, 3.10 and etc.		<i>(Cfr comments 3-9-10-11-15-25-26-27-29-31-39). Structure of Section 6 is given for illustration. The revised safety guide will allow flexibility to users regarding SAR format.</i> The title for Chapter 8 takes into account current practices. The convenience to modify the title or not will be considered during the preparation of the draft revised safety guide.		

COMMENTS BY REVIEWER				RESOLUTION			
Com-ment No.	Section/Para/Line	Proposed new text	Reason	Ac-cepted	Accepted, but modified as follows	Rejec-ted	Reason for modificati-on/rejection
SOUTH AFRICA Reviewer: Organization:		(To NUSSC) Pages: 1 Date: (posted 31-May-2015)					
43 SOUTH AFR-1	Section 4, paragr 4 bullets	<ul style="list-style-type: none"> • ... • To provide guidance regarding the use of up-to-date safety analysis tools and approaches for demonstrating safety. • To provide guidance on how an existing Safety Analysis Report should be updated for major plant changes such as replacement of steam generators and/or thermal power uprates. 	Suggested additional bullet. In case it is considered that enhanced focus on this added topic would require too much expansion of this Specific Safety Guide, it should be considered to add at least some text on the topic in the Specific Safety Guide accompanied by references to other recommended documents that cover the topic.	YES	A new bullet has been added: <i>To provide guidance on how to revise and keep the Safety Analysis Report updated to reflect the current state and the licensing basis of the plant. This includes cases of major plant changes, such as the replacement of steam generators and the thermal power uprates</i>		