Resolutions of comments on DS 449 DPP Content of the Safety Analysis Report for Nuclear Power Plants
FOR SUBMISSION AT IAEA NUSSC/RASSC/WASSC MEETINGS

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
Belgium 1	Appendix 3.3	The title of chapter 3 should reflect the need to cover also the "General NPP Safety Objectives and Design Bases" (cfr Chapter 2 as a further argument). It is currently too much hardware limited.	Improvement		PA		New title "General NPP Safety Objectives and Design Bases" will be subchapters in the detailed table of content
Belgium 2	Appendix 3.13	Chapter 13 should include "Training" also, which precedes the "Conduct"	Improvement	A			In the detailed table of content
Belgium 3	Appendix 3.18	We suggest to merge chapter 18 with chapter 7 (most aspects of HF are translated into I&C solutions) and 13.	Reduce risk of overlap			R	There are different objectives of those chapters
Belgium 4	Appendix 3	The Ageing Management Programs should be made an explicit chapter, as is the case in modern (new or updated) SARs.	Improvement		PA		It will be subchapter of the related chapters in the detailed table of content
CAN 1	p. 2, para 3	A revised list for Section 3, Content of the SAR is provided in Table 1.	Although, I wholly agree with the statement: “While there is a general trend to follow the USNRC Regulatory Guide 1.206 regarding the content and level of details, there is also a need to harmonize approaches and to ensure consistency with recently developed and/or published IAEA Safety Standards on			R	1.206 is the most commonly used table of content as it is stated in the DPP. The harmonization with the IAEA safety standards will be one of the major task during the revision.

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			siting, design, operation, licensing process and safety assessment of nuclear power plants.'; the proposed list follows the format of US Nuclear Regulatory Commission Regulatory Guide 1.70 Rev. 3 and Regulatory Guide 1.206, and is not appropriately structured. I suggest that a more logical order, aligned with IAEA Safety Guide GS-G-4.1, Format and Content of Safety Analysis Report for Nuclear Power Plants, and taking in account Canadian experience, is needed.				
CAN 2	general	A revised list for Section 3, Content of the SAR is provided in Table 1. In addition, refer to Appendix 1 for information on the contents for chapters on Plant Description, Management of Safety, General Design Aspects and Support Programs, and Construction and Commissioning	The CNSC has adapted IAEA GS-G-4.1 to develop CNSC Guidance Document GD-369, "Licence Application Guide: Licence to Construct Nuclear Power Plants". Based on the CNSC's work in adapting GS-G-4.1, the following should also be considered in a revised version of GS-G-4.1. • Plant Description: This		PA		Comment will be considered during the revision.

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			is in the current version of GS-G-4.1, and should be remain as a separate section in the revised document (refer to Appendix 1 for further information); • Management of Safety: he CNSC has added sections on Safety Culture and Design Authority (refer to Appendix 1 for further information); and • General Design Aspects and Support Programs: This is listed as "General Design Aspects" in the current version of GS-G-4.1, and should be remain as a separate section in the revised document, taking into consideration additions as listed in the CNSC version (refer to Appendix 1 for further information). • Construction and Commissioning: The list proposed in DPPDS 449 does not address facility construction (including manufacturing and procurement). Given				

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			recent world-wide experience, appropriate focus should be given to facility construction. The CNSC has added sections on Construction to the Commissioning chapter in GS-G-4.1 (refer to Appendix 1 for further information).				
CAN 3	general	See Appendix 1 for an example of the level of detail that could be provided in the structure of the revised document	In addition, it is suggested that the IAEA should provide a further breakdown of the content for the revised GS-G4.1.		PA		Detailed table of content will be developed during the revision.
CAN 4	Guide title	"Content of the Safety Report for Nuclear Power Plants"	Suggested to drop the word 'analysis" from the title as the guide will cover much more than the analysis (which is only one section out of 21).	A			NUSSC should make a decision on it.
CAN 5	Section 2, 3rd & 4th para.	The reasons why IAEA GS-G-4.1 is not widely used (if known) should be explained in this section.	Without knowing the reasons why IAEA GS-G-4.1 is not widely used, there is no guarantee that the revised document would be different. IAEA should focus on this first if the reasons are not known yet.		PA		IAEA experience showed this as explained in the DPP.
CAN 6	First sentence in Section 3. Objectives and	Add in the end of the sentence "and national requirements".	Many countries with existing nuclear programs have detailed national regulatory requirements. It is important for the	A			

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
	Justification.		promotion of the Guide use to make sure that the Guide is reasonably aligned with national practices.				
CAN 7	Appendix	The information that will be required under each heading should be described. At least, lower tier sub-section headings should be provided. For instance, USNRC RG 1.206 has detailed description for each major heading and sub-heading.	Without more detailed information in each heading, it is difficult to judge whether all required information is included.		PA		In the DPP it would be to detailed. Detailed table of detailed content will be developed.
CAN 8	Appendix	Propose to add to the contents of the SAR (as new sections or as expansion of the already proposed sections): - Plant Design Basis - Safety Classification of SSC - Hazard analysis (common cause events: earthquakes, fires etc) - Security assessment - Life cycle / Ageing management	These are the examples of important recent activities related to Safety Report from the Canadian experience.	A			It will be listed in the detailed table of content
CAN 9	Appendix	It is suggested that a sub-section of Severe Accident Evaluation be added under Section 15, Safety Analysis.	For new reactor design, more and more attention has been given to severe accident analysis in addition to traditional design basis accident analysis. This should be reflected.	A			It will be listed in the detailed table of content
CAN 10	Appendix	The major headings are basically identical to USNRC RG 1.206 (with a few exceptions). It is not clear if the basic frame work should be decided so	Without knowing why IAEA GS-G-4.1 is not widely used, it is not clear if this is the right approach.		PA		The DPP gave some explanation on it. The reason could be just following the old

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		early.					practice.
FIN 1	5. Overwiev	Safety Standards in the following areas: •description of the plant description of different types of plant systems, • civil and structured engineering (mechanical, electrical and I &C), • defence in depth, • management of safety, • emergency preparedness, • decommissioning, • environmental aspects, • accident analysis (modes of operation, operational occurances, design basis accidents, design extention conditions, and severe accidents), • deterministic and probabilistic safety analysis.	The plant design should be presented. Clearly present that all modes of operation should be analyzed as well as different types of accidents.		PA		"Description of the Plant" well described in GS-G-4.1. All modes of operation will be analyzed as well as different types of accidents will be considered during the revision process
FIN 2	Appemdox	3. CONTENT OF A SAR 1. Introduction and general considerations (including principles of safety management) 2. Site related characteristics – External Events Design Bases 3. Design basis of Plant, Systems, Structures and Components 4. Reactor 5. Reactor coolant and connected systems 6. Engineered safety features 7. Instrumentation and control 8. Electric power	Add to 3. plant design should be described. Add to 15 all modes of operation and list of different types of accidents.	A			It will be considered during the revision process in the detailed table of content of the SAR. Table of content of SAR was modified.

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		9. Auxiliary systems 10. Steam and power conversion systems 11. Radioactive waste management 12. Radiation protection 13. Conduct of operations 14. Plant commissioning 15. Safety analysis (all modes of operation/ operational occurrences, design basis accidents, design extension conditions and severe accidents) • deterministic • probabilistic) 16. Limits and conditions 17. Management systems 18. Human factors engineering 19. Emergency preparedness 20. Environmental aspects 21. Decommissioning and end of life aspects					
France 1	§2	The SAR is the main licensing document for design, construction, operation…		A			
France 2	Appendix	It would be of interest to add a chapter at the beginning of the guide to explain the history of the state of a Unit (hypothesis, modification, safety reassessment…)	In France, for instance, after only 30 years, we often wonder whether a design disposal comes from the basis design, from modification, from reassessment.. Some future reactors are expected to be operated for a longer time and the follow up of design disposals could reveal to be	A			But maybe the IAEA Safety Glossary should give such explanation

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
			of a great importance in order to better control the design of a NPP.				
France 3	Appendix	Adding a chapter on ageing management would be useful		A			It will be a Subchapter In the detailed table of content
France 4	Appendix	Adding a chapter on fuel characteristics would be useful		A			It will be a Subchapter In the detailed table of content
France 5	Appendix	Adding a chapter on the containment building would be useful		A			Subchapter In the detailed table of content
France 6	Appendix	It would have been of interest to create a specific § dedicated to Ageing		A			Subchapter In the detailed table of content
France 7	Appendix		It would be valuable to check consistency of topic listed in appendix with the topic listed in the update of NS-R-1	A			It is considered and will be checked during the revision.
Japan 1	General	Legislative system for the Safety Analysis Report (SAR) varies depending on the country therefore the content of the SAR varies according to the national legislation. The definition of the SAR should be explained somewhere in this DPP.			PA		It is explained in NS-G-4.1
Japan 2	Appendix 3. content of a SAR	21 Decommissioning and end of the life aspect Comment: Items important for decommissioning should be taking into account in this guide. However, detailed analysis would not be requested in the content	clarification	A			It will be in the detailed table of content

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		of a SAR. Clear and concrete content of this section should be mentioned.					
PAK 1	Appendix 2.	Comments: "GENERAL CONSIDERATIONS" are included in two sections 2.0 and 3.1. The section 3.1 of Appendix. may be modified as "Introduction and general ~~Considerations~~ plant descriptions".	Authors may have an idea to include different items in two sections. But the heading/title of sections are same.		PA		"2 GENERAL CONSIDERATIONS " is one of the section of the safety guide. In the detailed table of content of SAR it will be a subchapter with the proposed title.
PAK 2	3. 1st para	The main objective of this Safety Guide is to provide guidance for preparing a safety analysis report following a structure and content that allows verifying the compliance of the siting, design, commissioning, ~~and~~ operation, and decommissioning of the Nuclear Power Plant with the IAEA Safety Standards.	Commissioning and decommissioning aspects are included in the guide as per chapter 14 and 21 respectively. Therefore, may be included in the objective also.	A			
PAK 3	Appendix 3. content	CONTENT OF ~~A~~ SAFETY ANALYSIS REPORT (SAR)	Better clarity	A			
PAK 4	Appendix 3. content	Comment: Chapter 15 – should also include the requirements for severe accidents.	Severe accidents and mitigation of their consequences requirements are included in Agency documents. therefore, it should also be the part of this guide.	A			It will be in the detailed table of content

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
PAK 5	Appendix 3. content	Comment: Physical security plan is usually submitted separately under section 13.6 of SAR. Does the new guide include this topic in chapter 13? Otherwise, chapter 22 may be added with titled "physical security plan" similar to emergency preparedness may also be included.	Physical security plan is different area and should not be the part of chapter "conduct of operation". It should be included as separate chapter.		PA		It depends on the national regulation. NUSSC should make a decision on it.
PAK 6	2. Background Para 3 & 4	Comment: NS-G-4.1, mentioned in background, is relevant to the commissioning of research reactors. It should be replaced with relevant one. It night be GS-G-4.1.	Relevant document not referred.	A			
UK 1	General		We support the proposal to produce this DPP taking into account the following comments.	A			
UK 2	Section 2 Background		The stress in the opening paragraph is wrong; the SAR is first for the benefit of safety and second to support licensing decisions.	A			
UK 3	Section 4		The list of documents in this section could usefully include the soon to be updated guide on NPP periodic reviews, especially since the Appendix suggests there will be a whole section on Review and Updating of the SAR.		PA		It is included as a safety guide under NS-R-2. DS 426 will be considered after its approval.
UK 4	Section 5		The proposed description of	A			It will be considered

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
	Overview		different types of plant systems should be very limited; the implication of an overly PWR-focussed guide would not be too helpful.				
UK 5	Section 5 Overview	It might be useful to add a section on Defence in Depth.	The guide is looking to expand what is said about Defence in Depth. However, there is no specific section proposed on this topic.	A			It will be in the detailed table of content
USA 1	general	DPP DS449 does not specifically address security. DS396 is a similar document on research reactors, so security considerations should similarly be covered in DS449.		A			It depends on the national regulation. NUSSC should make a decision on it.
USA 2	Appendix / CONTENT OF SAR	"3. Design of Systems, Structures ~~and~~ Components, and Equipment"	Clarify that equipment is also addressed.	A			Equipment is included in SSCs. It will be in the detailed table of content
USA 3	Appendix / CONTENT OF SAR	"14. Plant commissioning after Verification of Programs"	Preoperational tests, initial fuel loading and initial criticality, low-power tests, and power-ascension tests are performed and verified before plant commissioning.	A			In the detailed table of content it will be a subchapter about the "Verification of Programs"
USA 4	Appendix / CONTENT OF SAR	"15. Safety analysis including Transient and Accident Analyses (deterministic and probabilistic)	Clarify that Transient and Accident Analyses are included in the Safety Analysis in addition to PRA and Severe Accident Evaluation	A			In the detailed table of content
USA 5	Appendix /	"16. Limits and conditions (Technical	To maintain consistency	A			It will be in the

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
	CONTENT OF SAR	Specifications) 17. Management Systems (Quality Assurance and Reliability Assurance)"	with National and International guidance documents				detailed table of content
EC 1	General	The current guide GS-G-4.1 will most probably need to be revised following the completion of the IAEA Requirements on Safety Assessment and Verification of Nuclear facilities and Activities" and NS-R-1 Requirements on Safety of NPPs: Design, and in particular, if the new definition of the plant states are respective modification to the design requirements are accepted as suggested by the new NS-R-2. It is however, questionable if this IAEA SS has to follow the US NRC Reg Guide 1.70 and not the structure of the IAEA Requirements. Such a discussion was held when the NS-G-4.1 was first developed and at that time it was found that the current IAEA safety standards covered broader topics than the ones included in NUREG 1.70 (for example explicit requirements to demonstrate in SAR that DiD is implemented effectively) It may be reasonable to check this issue again.	Consistency of the IAEA SS.		PA		NUSSC should make the decision about the table of content of the SAR. The revised guide will be consistent with the new IAEA safety standards
ENISS 1	General	The Safety Analysis Report of a Nuclear Power Plant is the main licensing document for construction, operation and decommissioning. The licensing procedure in Member States is quite different. For instance if a license is granted in 2 steps (construction and operation) the effects on the different contents of the PSAR and of the FSAR should be clearly addressed.		A			It will be considered during the revision process

COMMENTS				RESOLUTIONS			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
		In chapter 15 “Safety Analysis” a description of the applied methodology for evaluation and assessment (e.g. setting out the framework and the tools to be utilized) should be implemented Regarding the design phase of the plant it is recommended that in chapter 17 (Management Systems) guidance should be given how to maintain the integrity of the design of the plant throughout the whole life cycle. The implementation of a designated entity as part of the license holder’s organisation should be pointed out. Furthermore the document handling and approval process should be described. The title of the guide should be “Safety Analysis Report for Nuclear Power Plants”.					NUSSC should make a decision about the new title