

April 14, 2011

ATTACHED ARE COMMENTS

FOR A NOVEMBER 20, 2010

MEETING WITH IAEA

Resolution table
DS 441 DPP Construction of Nuclear Installations

COMMENTS BY REVIEWER				RESOLUTION			
Country/Organization: See each comment number							
Date: 15.11.2010							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1 Germany /WASSC	p. 3	“ <u>Regarding those new Safety Standards and guides</u> , the proposed Safety Guide must be consistent <u>in particular</u> with the following IAEA publications:...”	Consistency between IAEA publications should be a general requirement and not be restricted to some special documents.		✓ “The proposed Safety Guide must be consistent <u>in particular</u> with the following <u>most relevant</u> IAEA publications (<u>in addition to the general requirement of maintaining consistency with all Safety Standards</u>):”		The statement has been modified according to the suggested comment to reflect general requirement of maintaining consistency with all the IAEA Safety Standards.
2 Germany /WASSC	p. 4	Amend the term “Quality Assurance” in the DPP Draft Outline, e. g. in Section 3 “THE GENERAL CONSIDERATIONS” under the sub-heading “Construction Processes”.	Quality assurance (QA) is a very important issue in each stage of a nuclear project and should be addressed directly in the DPP though it is acknowledged that specific aspects of QA are mentioned at different places of the Draft Outline.			✓	The term management system has been adopted in current Safety Standards instead of the terms <u>quality assurance</u> and <u>‘quality assurance programme.’</u> The concept of the system to ensure quality of the product will be discussed briefly under Section 3 “The Management systems during Construction” and more

							details will be included in the following sections.
3. France/ ASN			Clarify the scope of the guide: NPP or nuclear installations? If it is nuclear installations, see comments below	✓			Answer to the question: The scope of the guide is nuclear installations as the title of DS441 suggests.
4. France/ ASN	2/2 nd paragr aph/1 ^s t senten ce	Insert reference to other NS-R-# publications	After recalling the requirement of NS-R-1, it would be useful to add similar requirements applicable for other types of nuclear installations (NS-R-4, NS-R-5 §7...)	✓			In addition to NS-R-1, NS-R-4 and NS-R-5 will be added.
5. France/ ASN	2/2 nd paragr aph/la st senten ce	Delete last sentence	The scope of the guide is broader than NPP		✓ (1) NPP → nuclear installations (2) NS-R-1 → NS-R-1, NS-R-4 and NS-R-5		The main text will be modified to maintain consistency with the title.
6. France/ ASN	3.		Who will be the primary users of this guidance (regulators, operating organization, vendors, contractors...)	✓			The primary users are operating organizations which should ensure these activities to be planned, specified, checked and reviewed in preparation for and during construction.
7. France/ ASN	4/1 st paragr aph	Delete reference to NS-R-1	Why focusing on NS-R-1			✓	The requirements related to construction in NS-R-1, NS-R-4 and NS-R-5 are the main justifications to develop DS441.
8. France/	5/1 st paragr	After this 1 st paragraph, add one or several additional paragraph to	The scope of the guide is broader than NPP (see		✓		The main text is modified to incorporate NS-R-4 and NS-

ASN	aph	deals with other NS-R-# publications	comment 2)				R-5.
9. France/ASN	5/bullet list	Add reference to other NS-R-# publications	See comment 2	✓			
10. France/ASN	Draft outline	Delete “5. Authorization and commissioning”	It seems such topic is already covered in 3.	✓			
11. Japan/NISA, JNES	General	Weak justification for developing a new Safety Guide; TECDOC seems more appropriate	The revised DPP says in JUSTIFICATION that this new Safety Guide supplements and elaborates the guidance provided by GS-G-3.1; Application of the Management Systems for Facilities and Installations, and GS-G 3.5; The Management System for Facilities and Activities. If so, these mentioned Safety Guides should be revised in order to address necessary and sufficient guidance with regard to safe construction. The contents of the outline proposed in revised DPP stay within the areas of management and control, that are covered in above mentioned documents, thus justification for			✓	Suggested revision of GS-G-3.1/3.5 “to address necessary and sufficient guidance with regard to safe construction” is not consistent with the current and long term structure of the IAEA Safety Standard Series. According to the long term structure of the IAEA Safety Standard Series, GS-G-3.1/3.5 are categorized as General Safety Guides. DS441 would be categorized under Specific Safety Guides which elaborates Specific Safety Requirement of “2.1 Design and Construction.” General Safety Guides are to supplement IAEA Specific Safety Guides and vice versa. To follow this plan, the development of DS441 has already been proposed and listed in Appendix X of the “Strategies and Processes for the Establishment of IAEA Safety Standards (SPESS)”.

			<p>developing a new safety guide is still weak.</p> <p>Based on the current scope and contents of the revised draft DPP, we still recommend this document as for a TECDOC, understanding its usefulness. After the TECDOC would have been issued, we can consider what kind of Safety Guide for the construction of nuclear installations should be needed.</p>			<p>Therefore, suggested revision of GS-G-3.1/3.5 to include “specific safety guide” is not consistent with the long term structure of the IAEA Safety Standard Series and the revision of GS-G-3.1/3.5 would also unreasonably increase the volume of these management system “general” guides (especially Appendix V of GS-G-3.5). Furthermore, it can be seen that due to lack of Safety Guide on construction, Appendix V of GS-G-3.5 is much larger than Appendices III, IV, VI, VII and VIII (design, commissioning, operation, and decommissioning) because there exists no reference to construction guides. Therefore it is best to develop DS441 as a separate guide and then simplify Appendix V of GS-G-3.5 in future to maintain consistency with other appendices.</p>
12. Japan/ NISA, JNES	General	The resolution of the discussion and various recommendations made during last NUSSC meeting (NUSSC29), as well as how the results of the relevant Technical Meetings held after NUSSC29 implemented to the revised DPP,		✓		The suggested information will be provided to before the NUSSC 30 meeting.

		should be informed to the NUSSC members prior to the NUSSC30 meeting in order to discuss more efficiently at the 30 th NUSSC meeting.					
13. USA/USNRC	General	<p>The document appears to focus and address only NPPs. For example, it was stated in Section 2, Page 1, Para 2:</p> <p><i>“However, an additional guidance is needed to designate the technical processes and complement the existing guidance on management systems necessary to ensure that the NPP is constructed in accordance with the approved design and safety commitments as stipulated by NS-R-1.”</i></p> <p>However, the title of this document, “Construction of Nuclear Installations,” implies that the document should cover all nuclear installations as defined in GS-G-3.5 (e.g.; “Nuclear Installations” includes nuclear power plants, other reactors (such as research reactors and critical assemblies) and nuclear fuel cycle facilities). In other words, the statements in the text contemplate that the current guidance applies only to NPPs. Therefore, there is a need for reconciliation to establish harmony between the title, the scope & objective, as well as the document text through consideration of all nuclear installations rather than</p>	<p>Harmony, coordination, consistency, and Completeness:</p> <p>The text of the document needs to be consistent with the title which refers to all nuclear installations; otherwise, the title needs to be modified to be in harmony with the text.</p> <p>The current DPP relies heavily on safety requirements of NPP designs, particularly recent design updates that involve additional safety features and guidance (e.g.; DS414, Rev. 26; September 28, 2010). Therefore, it is necessary that revisions of safety requirements such as those under DS414 be finalized before development of this safety guide.</p>	✓			<p>The text will be modified to maintain consistency with the title.</p> <p>(1) NPP → nuclear installations (2) NS-R-1 → NS-R-1, NS-R-4 and NS-R-5</p> <p>With regards to revision of NS-R-1(DS414), the main requirements with regards to construction will always be based on the following principles, and their intention and significance should always be retained:</p> <ul style="list-style-type: none"> - Items important to safety shall be designed to be manufactured, constructed, assembled, installed and erected in accordance with established processes that facilitate the achievement of the design specifications and the required safety performance. - First level of defense in depth which SSCs must be

		<p>NPPs only. Alternatively, the title can be modified to read "Construction of NPPs).</p> <p>In addition, We note that the Safety Standard Series No. NS-R-1 (Safety of Nuclear Power Plants: Design) and others key standards are under review and development (e.g.; DS414). Therefore we recommend that the current safety guide be developed after completion of these key documents.</p>				<p>constructed with high quality to avoid plant failures and deviations from normal operation; that accidents are prevented as far as practicable; that the activation of safety systems is minimized; and that a small deviation in a plant parameter does not lead to a cliff edge effect.</p> <p>Nevertheless the content of DS441 will always be under scrutiny during the development to maintain its consistency with DS414.</p>
14. USA/USNRC	General	<p>The safety guide key objective as stated in Section 3, "<i>It identifies safety significant construction activities which construction organization should ensure to be planned, specified, checked, and reviewed in preparation for, and during construction in the areas of civil, architectural, mechanical, electrical, I&C and software for ensuring safety and quality.</i>"</p> <p>We suggest modifying the statement to read: "<i>It identifies safety significant construction activities which construction organization should ensure to be planned, specified, checked and reviewed in preparation for and during construction in the areas of</i></p>	<p>Integration of safety and security is an issue of paramount importance in planning, design, construction, operation, and decommissioning of nuclear facilities and installations. Therefore, we believe security issues should be taken into consideration, as well, along with safety issues.</p>	✓		

		<i>civil, architectural, mechanical, electrical, I&C and software for ensuring safety, security, and quality.”</i>					
15. USA/USNRC	General	The draft outline of topics listed in the current DPP-DS441 appears to overlap with similar topical areas discussed in other Safety Guides such as GS-G-3.1 and GS-G-3.5. Therefore, we caution of possible repetition and redundancy in this safety guide.	Minimize overlap, repetition, and redundancy with other standards.	✓			We are well aware of the overlapping topics with GS-G-3.1/3.5. DS441 will include practical guidance based on most recent construction experience and lessons learned with references to GS-G-3.1/3.5.
16. USA/USNRC	Section 6. Overview/Draft Outline	The outline did not include a Section/Sub-Section on modifications of technical specifications and/or design during the construction process and resolution of potential conflicts that may arise as such. We recommend adding a Sub-section under Sections 3&4 to address this issue.	Conflicts and delays may arise during construction due to arising needs of design modification and/or modification in the technical specifications of structures, systems, or components.		✓		The suggested topics about modification of technical specifications and/or design and resolution of conflicts are covered under subsection titled “Change and Configuration Control” under GENERAL CONSIDERATIONS.
17. USA/USNRC	Section 6. Overview/Draft Outline	The specific outline presented under “ <i>Electric, I&C, and Computer Based Systems and Components</i> ” lacks a Section/Sub-Section on “Test and Evaluation of Software employed in I&C, and Computer Based Systems.” In addition, security and protection of control software system from intruders, hackers, or unauthorized persons need to be addressed.	Test and evaluation of I&C software as well its security and protection are essential safety elements that need to be addressed during construction of nuclear installations.		✓		The topic on test and evaluation of software employed in I&C and computer based systems would be covered under the section on “Pre-commissioning Test / System Function Test.” The suggested topic about security issue on software is added to Section 6 subtopic.
18. USA/USNRC		For all three categories: “Civil and Architectural Works”; “Mechanical	Criterion IX of 10CFR50, Appendix B; NQA-1; and		✓		The topic of “special

		SSCs"; and "Electrical, I&C and Computer Based Systems and Components" there should be a sub-section in the areas of fabrication and/or installation concerning the "Control of Special Processes"	related ISO QA documents provide requirements for the licensees, manufacturers, and contractors to have measures for the control of special processes. Most entities tend to limit the implementation of this requirement to the areas of welding and non-destructive examination. There should be a number of other areas of fabrication and testing, (especially in the electrical, I&C, and computer based systems) where it will be important to provide special controls on the training and qualification of workers, and qualification and control of procedures.				processes" as described in criterion IX of 10CFR50 Appendix B, NQA-1 and related ISO will be identified and guided in DS441 as necessary under fabrication or installation subtopics.
19. USA/USNRC	Draft Outline, #4	Under Electric, I&C and Computer Based Systems and Components >> Fabrications and Installations, add a subheading titled "Cable Pulling"	During new plant construction, several miles of cable will need to be pulled throughout the plant, and proper attention needs to be focused on this activity		✓		Identifications of cables, tools for pulling cables, minimum bent radiuses of cables, etc. will be included into topics such as "Installation Sequences and Instructions", "work tools", and "Components required for Special Cares"
20. USA/USNRC	Draft Outline, #4	Add New Category at end of Section 4 of the outline with the following:	For some SSCs, (especially in the case of modular construction)		✓		The maintenance and preservation of products for the suggested SSCs will be

		<p>Maintenance of SSCs during time between Construction/Testing Completion and Commissioning</p> <p>Scope Technical Considerations Inspection Activities Maintenance Activities</p>	<p>there can be many months, or even years, between the time that an individual SSC's construction has been certified as complete and the commissioning of the unit. Many degradation mechanisms can affect the operability of individual SSCs during this time. The US NRC has recognized this issue and is currently in process of preparing rulemaking to require licensee programs for 10CFR Part 52 COLs for the inspection and maintenance of completed ITAAC-related SSCs during the time between completion of construction/testing and the unit's readiness for fuel load.</p>				<p>covered under the subsection "Receipt, Storage, Preservation and <u>Maintenance</u>." (originally "Receipt, Storage and Preservation")</p>
<p>21. Pakistan/ PNRA</p>	<p>Para 3/line 3 Page 1</p>		<p>Subcontractors and vendors should also be addressed here as they are not the same as contractors</p>		✓		<p>Modified to "----- supervision of contractors (incl.,subcontractors and vendors) and also the issues related to -----" to avoid run-on sentence.</p>
<p>22. Pakistan/ PNRA</p>	<p>Para 1/Line 4 Page</p>	<p>----- in the areas of civil, architectural, mechanical, electrical, metallurgical, I&C and software --- -----</p>	<p>Metallurgical engineering is involved in the manufacturing and fabrication of</p>			✓	<p>Guidance related to metallurgical engineering is mostly for manufacturers and this is considered too detailed for this guide. This guide will</p>

	2		components				limit its guidance to making sure that the material of the product agrees with design intent and its preservation and maintenance must be appropriately considered.
23. Pakistan/ PNRA	Para 1/last line Page 03	----- from Member States which will ensure that the construction is in accordance with approved codes & standards and design.	Apart from design, designer also mention the codes and standards used for the construction like ASTM, ACI, ASME etc.		✓----- from Member States which will ensure that the construction is in accordance with approved design and applicable codes & standards for construction.		
24. Pakistan/ PNRA	Draft outline, Section 4 on Page 4	Quality Assurance program Technical considerations <ul style="list-style-type: none"> • Dewatering • Design basis/ approved procedures • Control point inspections 	QA program should be implemented before the beginning of any siting work (these should be mentioned under scope)		✓		Management System including QA programme will be covered in Section 3 “General Considerations.” Anything specific to siting will be mentioned at the beginning of sub-section of “Site Preparation” and suggested topics would be noted.
25. Pakistan/ PNRA		The guides are generally issued under some requirement documents. At present requirement level documents of IAEA cover site evaluation, design, operation (including commissioning and decommissioning) and management system but no specific requirement			✓		Although no one single dedicated safety requirement document on construction exists at the moment, NS-R-1, NS-R-4 and NS-R-5’s have clear requirements on construction which can not be ignored and also there is an urgent need to develop such a

		level document is available for construction. The issue will then be how to establish a link of this guide with some requirement level document. A link with NS-R-1 cannot be established as this document is specific for the design requirements. Link may be established with requirement document on management system, however, the current guidance document generally covers construction phase activities (particularly GS-G 3.5 and in general GS-G-3.1). Technical level information is not needed as such information is available in industrial standards (such as ACI, ASME, RCC, ASTM, etc.).					guide in light of today's rapid increase in the number of constructions. Therefore DS441 will be developed with links to these requirements. With regards to technical details, DS441 will not concentrate on technical details comparable to industry standards.
26. Pakistan/ PNRA		In previous editions of IAEA safety standards specific guidance document was available for construction (e.g., 50-SG-Q7 and 50-SG-Q11), however, while considering the new set of safety guides on management system such guidance documents were not considered (may be due to the reason that such guidance are available in industrial standards mentioned in comments above). Therefore, NUSCC members may consider the overall principle/policy/philosophy of				✓	The overall principle/ policy/ philosophy of IAEA for this guide is described in the "STRATEGIES AND PROCESSES FOR THE ESTABLISHMENT OF IAEA SAFETY STANDARDS (SPESS)" and this is confirmed already with Member States. See comment #10 for more details.

		IAEA and make a decision regarding issuance of such a guide only if it is in agreement with the policy/philosophy.					
27. Pakistan/ PNRA		Nevertheless, if a decision is made for the issuance of such a guide, repetition of guidance which is already covered in other guidance level documents may be avoided as can be seen from the table of contents given in the DPP. A number of topics for the contents seem repetition of GS-G-3.1 and GS-G-3.5.		✓			See comment #15 and #11
28. Canada/ CNSC	General Comment	The point at which operation begins and construction ends is not clearly defined. It is suggested that the document adopt the decision to load fuel into the reactor core as the point at which operation begins and large scale construction ends. (limited construction does continue occur during operation for low level non-safety related systems, but they would be part of continuing construction under operating license / permit.)				✓	The beginning of fuel loading should not be the beginning of operation because (1)there are still many commissioning tests to be done after fuel loading before operation is allowed and (2)the current structure of the IAEA Safety Standards separates phases of design, commissioning and operation phases. From the perspective of a whole facility, construction, commissioning and operation can always be overlapped, unless regulatory/licensing process clearly segregates them. The construction and commissioning are defined in terms of SSCs (the IAEA

						<p>Safety Glossary) and DS441 will maintain consistency with these definitions.</p> <p>From the IAEA Safety Glossary:</p> <p>Commissioning is “the process by means of which systems and components of facilities and activities having been constructed, are made operational and verified to be in accordance with the design and to have met the required performance criteria. Commissioning may include both non-nuclear and/or non-radioactive and nuclear and/or radioactive testing.”</p> <p>Construction is defined in the Safety Glossary as “the process of manufacturing and assembling the components of a facility, the carrying out of civil works, the installation of components and equipment and the performance of associated tests” (before commissioning).</p>
29. Canada/ CNSC	General Comment	The document description implies that commissioning begins at the end of construction (See Section 5 para 1, second sentence). This is not the case. In modern construction practices, certain commissioning			✓ Section 5 para. 1: “For ensuring the newly constructed SSCs or nuclear installation to be	The phrase “after construction is complete” in Section 5 para. 1 will be deleted and the word “SSCs” will be added to allow overlap of commissioning and construction.

		activities are performed as SSCs are installed / constructed (“cold” commissioning) in order to demonstrate construction completeness to the plant owner and allow the plant owner to complete their Final Safety Analysis Report (FSAR) which is needed as a prerequisite for operation. These commissioning activities then continue into the plant operation phase as “hot” commissioning with fuel in core. What this means is that this document should be positioned <u>in parallel</u> with NS-R-2 (DS413). (i.e. NS-R-2 would be used both for construction and operation)			commissioned and operated safety, this safety guide can only be valid...”		Similar modification is made to Section 3 2 nd sentence as follows: “It will also provide the necessary assurance that SSCs or nuclear installations as constructed can be commissioned and operated safely.” NS-R-2(DS413) includes requirements on construction (Requirement 25: Commissioning Programme 6.12-6.15) so these will be elaborated in DS441.
30 Canada/ CNSC	Section 3 Para 1	Needs footnote added for text “...that safety requirements are met...” to clarify to the reader that this includes a continuing demonstration of site suitability with the design as constructed.	The as-built design needs to consider the original site evaluation and site selection case. (this would link this document more clearly to NS-R-3.		✓		The term “design” here already includes site requirements and just to stress the suggested requirement on maintaining the original site evaluation and site selection case here in the objective is not appropriate since there are other safety requirements not stated. But the additional section “Suitability of the Site and the As-Built Nuclear Installation after Completion” will be added under “GENERAL CONSIDERATION”.
31.	Section	Wording:	Replace text as per	✓			

Canada/ CNSC	n 3 Para 1	Delete “systems, structures and components” and keep SSCs only since acronym was already introduced in previous section. “The objective of this Safety Guide is to make recommendations based on international good practices in construction of nuclear installations, as currently followed in Member States, which will enable construction to implement the design so that safety requirements are met and the systems, structures and components SSCs important to ..”	column on left				
32. Canada/ CNSC	Section 4 Para 1	Replace term “pre-commissioning tests” with “commissioning tests”	“pre-commissioning tests” are simply a subset of commissioning tests. In some cases (e.g. complex I&C systems) a significant amount of commissioning occurs at the factory of origin with post installation focusing on large scale integration and performance testing. Essentially, the line between pre-commissioning and post installation commissioning is becoming too blurry to distinguish from one			✓	Pre-commissioning tests should be differentiated from commissioning tests. Pre-commissioning tests are prerequisites for the next SSC pre-operational and they are sometimes done before transferring the ownership and responsibility to commissioning groups. Past experience has shown the importance of clarifying and checking the result of pre-commissioning tests. These are, for instance, ensuring of correct pump/motor rotation and vibration, or valve opening/closing times, leaks,

			another.				strokes, torque, etc. These are not always included and checked during commissioning tests. More details about prerequisites for pre-operational tests are provided in the Annex of NS-G-2.9. In Section 3, the section titled “Factory Tests, Construction Tests & Inspection, and Pre-Commissioning Tests” is added to describe these.
33. Canada/ CNSC	Section 4 Para 5	Comment only: How will document be continuously updated to represent “the latest construction experience” as the large wave of new builds occurs over the next 10-20 years? Suggest this document focus on the best high level practices that will withstand the test of time.		✓			The latest construction experience and lessons learned will be reflected as much as possible to DS441. After it is published, new feedbacks to the Safety Guide will be collected and accumulated according to the IAEA procedure of Safety Standards feed back system.
34. Canada/ CNSC	Section 5, Para 2	Wording: “The publication will not supersede any existing IAEA document. This will be the first guide providing that provides more detailed recommendations for the construction management of nuclear installations in the areas of civil, architectural, mechanical, electrical, I&C and software.”	Replace providing with “that provides”	✓			
35. Canada/	Section 5,	Wording: Unclear: Appendix III and V of		✓			Appendix III of GS-G-3.1 and Appendix V of GS-G-3.5. But

CNSC	Para 2	which document? “This guide closely interfaces with Appendix III to GS-G-3.1 and Appendix V to GS-G-3.5.”					the given sentence is grammatically correct (“of” is also correct) so no change is made.
36. Canada/ CNSC	Section 5 Paragraph 3	Change “will be positioned between safety guides” to “will be positioned in parallel with safety guides”	See comment #29. Commissioning overlaps both construction and operation			✓	The use of the word “parallel” is not accurate because DS441 is not for commissioning or operation of SSCs. What is intended here by the word “positioned between” is that there is a clear gap in the current line of safety guide series and DS441 is intended to “fill in” this gap. Therefore “between” is maintained because there is not much overlaps in terms of recommendations and guidance.
37. Canada/ CNSC	Section 5 Paragraph 5	Please add to list of documents IAEA NS-G-2.12 <i>Aging Management for Nuclear Power Plants</i> .	Aging Management should be considered and implemented into each plant SSC as it is installed and commissioned. By the end of construction, the aging management program should be at a state of readiness to collect baseline data prior to operation.	✓			
38. Canada/ CNSC	Draft Outline	Add discussion to Section 1 Introduction to cover “where does construction end and operation begin?”	To add context. At the end of construction, the plant and the owner/operator should be fully	✓			Introduction will include some discussion on the overlap of construction, commissioning and operation phases.

		Add new Section 6: Readiness for Operation	prepared for operation. Construction should not just be about installing / construction of SSCs but about preparing for the next stage. The transition to operation should be smooth and the construction timeline should be used to ensure the smooth transition.			✓	Readiness for operation is out of scope for the DS441 because commissioning will always exist before operation, according to the IAEA definition of construction and commissioning. The suggested topic is covered by NS-G-2.9 “Commissioning of Nuclear Power Plants”
39. Canada/ CNSC	Draft Outline	(1)To Section 2, need to break down for Prerequisites. (2)To Section 3, The Management Systems during Construction, add “Quality Assurance” (3)To Section 3, need explanation for “Grading Application of Construction Requirements”.			(1)✓	(2) ✓	Prerequisites for construction will be elaborated as the draft Safety Guide is developed. The term management system has been adopted in current Safety Standards instead of the terms ‘quality assurance’ and ‘quality assurance programme.’ The concept of the system to ensure quality of the product will be discussed briefly under Section 3 “The Management Systems during Construction” and more details will be in Section 4. (3) From section 6’ OVERVIEW’ 2 nd par.: “In this safety guide it is considered that all relevant safety requirements must be complied with, in all
				(3) ✓			

		(4)To Section 3, Construction Processes, add “Inspection”			(4) ✓ Factory Tests, Construction Tests &Inspection, and Pre-commissioning Tests	applications of the graded approach. The graded approach should be used to determine the appropriate manner to comply with a requirement.”
		(5)To section 3, add “Suitability of the Site and the As-Built Facility”	(5)At the end of construction, stakeholders should be assured that based on what was constructed, the site remains suitable for the facility. This requires a process be in place to compare as-built modifications to the original safety case used to declare the site as suitable.	(5) ✓		(4) “Factory Tests, Construction Tests &Inspection, and Pre-commissioning Tests” is added.
40. Canada/	Draft outlin	#3. General Considerations: Wording:	Wording unclear. Are you trying to give the		✓ “Application of Graded Approach”	Similar wording already exists in GS-R-3 Section 2.6-2.7

CNSC	e	“Grading Application of Construction Requirements”	application a grade or a graded approach for an application? Consider: Requirements for a Graded Construction Application if it’s the latter.				“Grading the application of management system requirements” so it should be OK. But for more clarity, it is changed to “Application of Graded Approach.” to be more understandable.
Total number of resolutions				Total number of acceptance	Total number of partly accepted	Total number of rejection	
45				18	17	10	