

Revision of 7 closely interrelated Safety Guides on the Operation of Nuclear Power Plants: NS-G-2.2 to 2.6, NS-G-2.8 and NS-G-2.14 (DPP DS497 indice 2)

NS-G-2.4: 76 comments / **Accepted** (fully or partially): **45** (61%) / **Rejected: 29** (39%)

Some comments are multiple: one part can be accepted and another rejected; hence, total of “accepted” and “rejected” is not equal to number of comments

Country or Organization	Number of comments	Accepted	Rejected
Brazil	2	2	0
Egypt	4	2	2
Finland	44 (2 comments are N/A)	26	16
Germany	7	5	2
Iran	1	1	0
Japan	10	8	2
UK	6	1	5
Pakistan	2	0	2

COMMENTS BY REVIEWER

Guide: NS-G-2.4

Reviewer: Jaqueline Alves de Almeida Calabria

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Country & Organization: Brazil - CNEN

Date: 17/04/2019

RESOLUTION

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for rejection
1.	General	Correct "Contents"	The pages in "Contents" do not correspond to the actual pages.	Yes	IAEA in final stage.		
2.	6.53	"The EFFLUENT monitoring programme should ensure that gaseous and liquid releases from the operation of the nuclear power plant are ..."	Environmental monitoring programs are intended to assess the impact to the public and to the environment; the control of discharges is related to the effluent monitoring programs. The reference material (SSG-40) also describes the concepts in this way. It should be noted that the main topic of the publication "The Operating Organization for Nuclear Power Plants" is not related to environmental monitoring, which is performed outside the facility area.	Yes	It is in line with SSR-2/2 Revision 1.		

COMMENTS BY REVIEWER				RESOLUTION			
Guide: NS-G-2.4 Reviewer: Moustafa Aziz Country & Organization: Egypt - ENRRA				Page 3 Date: 25/05/2019			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for rejection
1.	6.42	The surveillance programme should ensure that items important to safety continue to operate...	Replace perform by operate			Yes	This is out of the scope of the DPP. It is original text of safety Guide. In addition, "perform" is better word to use.
2.	6.46	Reviewing the experiments before applying them in the reactor to ensure that safety requirements are met.	Added this sentence to the list of items at para 6.46			Yes	It is covered with following item at paragraph 6.46 - performing a specific safety review for non-routine activities and special tests.
3.	6.54.B	Delete LSEP, this symbol appears, it may be printed error.	Editorial	Yes			
4.	6.70.C	Define IT	Editorial	Yes			

COMMENTS BY REVIEWER				RESOLUTION			
Guide: NS-G-2.4 Reviewer: M-L Järvinen Country & Organization: Finland - STUK				Page 3 Date: 28/05/2019			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for rejection
1.	General	IAEA should consider developing a process for simultaneous development or revision of several safety guides. Lessons learned from the revision of the Safety Requirements after Fukushima Dai-ichi accident 2011 should be used in developing this process.		Yes	The team have been working like this. Lessons learned from the revision of the Safety Requirement were followed. DPP was developed based on this experience.		

2.	General	IAEA should consider presentation of the recommendations for maintenance only in one safety guide. The new safety guide for ageing management and LTO, SSG-48 presents current, updated recommendations for maintenance. The safety guide NS-G-2.6 and SSG-48 are overlapping.				Yes	Comment not relevant for NS-G-2.4.
3.	General	Development of procedures for accidents in NS-G-2.2 is overlapping and may be conflicting with SSG-54. The new accident management guide SSG-54 should be considered also in other relevant safety guides in this set. IAEA should consider presentation of the recommendations only in one safety guide.				Yes Yes	Comment not relevant for NS-G-2.4. Presentation of recommendations only in one guide is not possible and not recommended.
4.	General	Core management section is overlapping in NS-G-2.5 and in DS488. IAEA should consider presentation of the recommendations only in one safety guide.				Yes	Comment not relevant for NS-G-2.4
5.	General	It is not clear from the guidance which safety requirements are covered by each safety guide. There should be a transparent and systematic way of presented the covered safety requirements in each safety guide. As a part the allocation of the requirements made for DPP DS497 should be utilized.		Yes	But reference to requirements 2, 10, 17, 23 and 32 is made in relevant paragraph 1.1 according to the DDP.	Yes	The team considered that it was not necessary to quote requirements 1 and 5 in the paragraphs 6.56 and 5.1 respectively.
6.	General	Safety-security interface should be implemented to all of the safety guides in a systematic manner. Some guides do not even mention the word security. The set of safety guide demonstrate the need for guidance on the management of the safety-security interface. Presently the safety guides				Yes	Addressed consistently with the DPP scope. In addition, it is in contrary with comments No. 2, 3, 4 and 5.

		<p>give references to security guides and vice versa. However, there is not always a suitable guide to reference for instance for safety-security interface in change management. The utilization of the synergies of implementation of safety security interface should be emphasized.</p> <p>There is need for a specific guidance on safety security interface management.</p>					<p>And, on 16/08/2018: NUCLEAR SECURITY asked to add this in NS-G-2.4 to fix this cross question.</p> <p>It is proposed to replace Paragraphs 6.51-6.54.E under the heading Nuclear Security with the below text.</p> <p>“Ref.[1] requires: Requirement 17: Consideration of objectives of nuclear security in safety programmes.</p> <p>The nuclear safety and security measures have the common aim of protecting people, society and the environment from the radiological hazards.</p> <p>The operating organization shall ensure that the implementation of safety requirements and security requirements satisfies both safety objectives and security objectives.</p>
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							<p>Security measures and safety measures have to be designed and implemented in an integrated manner so that security measures do not compromise safety and safety measures do not compromise security.</p> <p>Additional guidance on the physical protection of nuclear power plants and nuclear materials can be found in IAEA Nuclear Security Series publications, especially in the Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Revision 5) IAEA Nuclear Security Series No. 13 [16A] and Physical Protection of Nuclear Material and Nuclear Facilities (Implementation of INFCIRC/225/Revision 5) IAEA Nuclear Security Series No. 27-G [].“</p>
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7.	General	<p>The terminology should be harmonized. There are several examples of the harmonization needs in the safety guide specific comments. The examples concerning the term risk are collected for safety guide NS-G-2.6. However similar review should be made for all of the safety guides and the use of term risk should be systemized.</p>				Yes	<p>This is out of the scope of the DPP.</p> <p>The word “risk” (or risks) is used twelve times in the NS-G-2.4, all without any conflict with the interpretation of the term in the IAEA Safety Glossary. In the IAEA Safety Glossary, “risk” is mentioned 93 times!</p> <p>Words used have to - the extent possible - been checked against the IAEA Safety Glossary.</p>
8.	General	<p>IAEA should consider including the organizational aspects of safety assessment into the safety guide NS-G-2.4 and adding GSR Part 4 to the reference list.</p> <p>The safety assessment of modifications is well covered by NS-G-2.3.</p>				Yes	<p>There are several statements about assessment in NS-G-2.4.</p> <p>However, TO will discuss (at the step 10) with NSOC in this regard.</p>
9.	General	<p>Please harmonize methodology to make reference to Requirements in the set of safety guides and within the safety guides. It is preferable to make clear reference to requirement for which further advice is given. In NS-G-2.4 mostly referencing to safety requirements are made to sections of the SSR-2/2 Revision 1 and GSR Part 2. The basis of the guidance remains ambiguous, the new terminology used in the requirements</p>				Yes	<p>Repeating comment (comments 5, 7, 9, 10, 11, 12 and 13 are quite similar).</p> <ul style="list-style-type: none"> Sections 2, 3, 4 & 6: Requirements 1 and 2 – To revise the guidance on Responsibilities

		<p>documents is not adopted and overlapping with the requirements documents is not identified.</p>					<p>and Integrated Management Systems in a consistent manner with GSR Part 2</p> <ul style="list-style-type: none"> • Section 6: Requirement 5 12 – To revise commitment to periodic safety review • Section 6: Requirement 10 – To address configuration control • Section 6: Requirement 17 – To address safety and security interfaces in a consistent manner with NST041 • Section 6: Requirement 23 - To replace industrial safety terminology with non-radiation-related safety terminology • Section 6: Requirement 32 – To address outage management • Section 5: To provide guidance on the activities,
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							<p>responsibilities and functions of appropriate safety committees</p> <ul style="list-style-type: none">• Section 6: To provide guidance on responsibilities of Operating Organization to establish the proper accident management programme• Sections 4 & 6: To make reference to the GSR Part 7 on guidance on responsibility of operating organization for provision of clear and understandable safety related information to the public during and after a nuclear or radiological emergency• Sections 5 & 6: To provide guidance on responsibilities and functions of Operating organization for the lifetime extension of operating power plants
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10.	General	<p>The NS-G-2.4 should be checked against SSR-2/2 Revision 1 and GSR Part 2.</p> <p>Below are some examples:</p> <p>Para 3.1. seems to almost the same text as Para. 3.2 in SSR-2/2 Revision 1. The content has been expanded and rephrased during the development of SSR-2/2 Revision 1.</p> <p>The content of 4.1-4.4. is almost the same as the content of SSR-2/2 Revision 1 para. 3.7 states that “The operational safety of a plant is subject to oversight by a regulatory body independent of the operating organization. The operating organization, in accordance with the regulatory requirements, shall submit or make available to the regulatory body all necessary documents and information. The operating organization shall develop and implement a procedure for reporting events to the regulatory body in accordance with the established criteria and the State’s regulations. The operating organization shall provide the regulatory body with all necessary assistance to enable it to perform its duties, including enabling unhindered access to the plant and providing documentation.”</p> <p>GSR Part 2 Requirement 11: “Management of the supply chain”.</p> <p>The organization shall put in place arrangements with vendors, contractors and suppliers for specifying, monitoring and managing the supply to it of items, products and services that may influence safety” and paragraphs 4.33 to 4.36 could be better reflected in the NS-G-2.4 paragraphs 4.5 to 4.10.</p>			Yes	<p>The NS-G-2.4 was checked against SSR-2/2 Revision 1 during several CS meetings with participants from many countries. Regarding examples: paragraph 3.1 is further elaborated in paragraph 3.2 of NS-G-2.4.</p> <p>The content of paragraphs 4.1-4.4 is more detailed in comparison with SSR-2/2 Revision 1. In addition, please, see DDP: “All references to the involvement of regulators in the operational activities (commissioning, maintenance, operation, modification, etc.) currently available in the operational safety guides should be deleted.”; all recommendations are better described in the Safety Guides under GSR Part 1 Revision 1. Requirement 11 of GSR Part 2 is further elaborated as</p>
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							recommendations in GS-G-3.1 and GS-G-3.5.
11.	General	<p>Please check the terminology used in the NS-G-2.4 and align that with in the SSR-2/2 Revision 1.</p> <p>Phrases such as high performance standards, high standards in safe operation of the plant.</p>				Yes	<p>This is out of the scope of the DPP (except non-radiation-related safety instead of industrial safety according to the DPP).</p> <p>However, the team checked in SSR-2/2 Revision 1: it is using similar wording.</p>
12.	2.9 6.12 6.14	“Retraining”	Consider aligning terminology retraining and continuous training with NS-G-2.8.			Yes	<p>This is out of the scope of the DPP.</p> <p>However, NS-G-2.8 is using both terms: 4.22. Comprehensive training should comprise initial training and continuing training or retraining.</p>
13.	General	Please harmonize the use or terms staff and personnel throughout the safety guide.				Yes	This is out of the scope of the DPP. See also NS-G-2.8.
14.	1.3/2	The attention to be paid to safety requires that the management recognizes that personnel involved in the <u>nuclear power programme</u> the <u>operation of a nuclear power plant</u> should understand, respond effectively to, and continuously search for ways to enhance safety in the light of any additional	<p>Please clarify: “nuclear power programme” might confuse.</p> <p>The term nuclear power programme is used for the national programme.</p>	Yes			

		requirements socially and legally demanded of nuclear energy. This will help to ensure that a safety policy that result in the safe operation of nuclear power plants is implemented and that margins of safety are always maintained. The structure of the organization, management system and administrative controls should be such that there is a high degree of assurance that the safety policy and decisions are implemented, safety is continuously enhanced and a strong safety culture is promoted and supported.	This safety guide is dealing with the operating organization.				
15.	2.5/1	The operating organization should <u>define</u> the functions that are needed...	Proposal to change word	Yes			
16.	2.9(11)/1	... all organizational factors that <u>may</u> affect...	Proposal to change word	Yes			
17.	2.9	The factors to be considered in determining the structure of the operating organization and its staffing requirements for a nuclear power programme should include, but are not limited to, the following <u>needs</u> : (1) the need to ensure that structures, systems and components important to safety remain in accordance with the design assumptions and intent; (2) (3) (17) the need to ensure an open exchange of information, both upwards and downwards within the organization.	Proposal for editorial change to remove repetitions by deleting all “the need” from (1) to (17). This is a guide for the operating organization. the use of nuclear power programme is confusing.	Yes	Deleted “for a nuclear power programme”. Regarding “needs”, editor [NSOC] should decide.		
18.	2.9	(10) the need for emphasis on training and retraining of personnel and contractors to achieve and maintain an adequate level of competence, and to inculcate <u>instill</u> the necessary attitude towards safety;	Referring to comment no. ?? referring to 4.34. regarding NS-G-2.8. Manageable, working language.	Yes			
19.	2.15	The description of the responsibilities and competences needed for each position should form the basis for the definition of the required qualifications and of the prerequisites	Proposal to increase correlation between Safety Guides.	Yes			

		for recruiting, training and continuing training of the individual persons. <u>Further guidance on the recruitment and selection of plant personnel can be found in Ref. Recruitment, qualification and training of personnel for nuclear power plants Safety Standards Series No. NS-G-2.8 [9].</u>					
20.	2.16/1	Changes to <u>headcount</u> , ways of working...	Proposal to change word			Yes	Staffing is from Requirement 4, SSR-2/2 Revision 1.
21.	3.2(9)/1-2	...decision making process gives adequate consideration to the selection of priorities <u>taking into account safety and risk aspects</u> and the organizational of activities.	Proposal to add phrase	Yes			
22.	3.5/3	... operating organization, detailed <u>enough</u> job specifications	Proposal to add word			Yes	Detailed is satisfactorily clear.
23.	3.5/5	... indirect <u>impact</u> on safety	Propose to change word	Yes			
24.	3.8	The operating organization often delegates operating authority to the on-site management of the nuclear power plant which has direct day to day control. Accordingly, the operating organization should have a responsibility to monitor the effectiveness of management for safety at the nuclear power plant and to take necessary measures to ensure that safety is continuously improved or at least maintained at the level established by design.	Please rephrase end of the last sentence to be consistent with SSR-2/2 Revision 1 Req. 12 and Para. 4.47 states that on the basis of the results of the systematic safety assessment, the operating organization shall implement any necessary corrective actions and reasonably practicable modifications for compliance with applicable standards with the aim of enhancing the safety of the plant by further reducing the likelihood and the potential consequences of accidents.	Yes	In SF-1, it is also written optimization.		

25.	3.14/1	In cases where <u>off-site</u> functions are...	Proposal to add	Yes	But as: In case where off-site functions are wholly or partially not under direct control.		
26.	3.16/1	A part of a manager's role is setting the standards...	Proposal to change/ clarity	Yes			
27.	3.19	Since the operating organization has overall responsibility for the safe operation of its nuclear power plants, its management objectives should be to ensure that: ...	Editorial	Yes			
28.	3.19	... — adequate facilities and services are available in a timely manner during normal operation and for responding to all kinds of anticipated operational occurrences, design basis and accidents and postulated severe accidents; — for all levels of requirements, the arrangements with participating organizations are adequate and effective; — adequate arrangements for response to all kinds of anticipated operational occurrences and accident have been made and appropriate actions have been taken to provide for protection of the health and safety of the site personnel and the public, and for protection of the environment.	AOOs and Accidents in line with SSR-2/1 and SSR-2/2 Revision 1.	Yes	Based on SSR-2/1 Changed - design basis accidents and design extension conditions.		
29.	4.5/2	... to hire or maintain a plant employee.	Could also be a part-time employee	Yes			
30.	4.9/1	Personnel external to the <u>operating</u> organization...	Proposal to add/ clarity	Yes			
31.	5.1	'Management for safety' is the term used for the measures required to ensure that an acceptable level of safety is maintained throughout the lifetime of a nuclear power plant, including decommissioning. The	Consistency with GSR Part 2 para. 3.2. "Managers at all levels in the	Yes			

		management for safety should include those arrangements made by the operating organization that are needed to promote a strong safety culture and to achieve and maintain good improve safety performance. It is the management's responsibility to recognize the safety significance of the organization's activities.	organization, taking into account their duties, shall ensure that their leadership includes: (a) Setting goals for safety that are consistent with the organization's policy for safety, actively seeking information on safety performance within their area of responsibility and demonstrating commitment to improving safety performance; ...				
32.	5.3/3	..., competences, activities and <u>attitudes</u> that are needed to ensure safety...	Proposal to add word	Yes			
33.	5.7.A/1	The safety policy should be...	More specific wording	Yes			
34.	5.18	The operating organization should provide a means for independent safety oversight. The principal objective is to ensure that, in those matters that are important to safety, safety accountability is supported by arrangements that are independent of the pressures of plant operation. The safety oversight should be independent of plant operation and should be conducted on regular intervals to verify that plant management accounts for changes in national and international safety standards, operating practices, technology and effects of plant modifications, Ref. Periodic Safety Review of Operational Nuclear Power Plants, Safety Standards Series No. SSG-25 [15]. The reports resulting from this activity should be formal and should be provided directly to the senior management of the operating	Please clarify the role of independent oversight. What is the role of independent oversight in PSR? Generally, PSR is an own project/process performed every 10 years. The safety oversight should be independent of plant operation and should be conducted on regular intervals to verify that plant management	Yes	Deleted reference to SSG-25. Independent oversight is clarified in Annex part 8.		

		organization. Particular attention should be paid to the feedback from experience.	accounts for changes in national and international safety standards, operating practices, technology and effects of plant modifications, Ref. Periodic Safety Review of Operational Nuclear Power Plants, Safety Standards Series No. SSG-25 [15].				
35.	6.2	<p>The areas to be covered by various management processes and/or programmes in accordance with SSR2/2 Revision 1 overarching requirement, for the safe operation of plant should include, but are not limited to, the following: — Staffing;</p> <ul style="list-style-type: none"> — training and qualification; — commissioning — plant operations; — maintenance; — work management; — outage management; — foreign material exclusion; — in-service inspection; — surveillance; — equipment qualification; — fuel management; — chemistry; — safety analysis and review; — nuclear security; — radiation protection; — non-radiation safety; — waste management and environmental monitoring; — emergency preparedness and response; — severe accident management; — internal and external hazards; — quality management; 	<p>Please add. or. The processes and programmes may refer to the same thing.</p> <p>Accident management is missing, in line with SSG-54 use accident management.</p> <p>The list should be structures in the order of SSR-2/2 Revision 1 or FSAR or some other relevant document such as GSR Part 2. At the moment this is just a mixture of topics.</p>	Yes			

		<ul style="list-style-type: none"> — human factors; — feedback of operational experience; — plant modifications; — plant configuration control; — document control and records; — management of ageing and LTO — decommissioning. 					
36.	6.11/6	... anticipated changes in <u>headcount</u> , job assignments for...	Proposal to change			Yes	Staffing is from Requirement 4, SSR-2/2 Revision 1.
37.	6.11./8		<p>Question concerning the text: meaning of attrition?</p> <p>Answer: the process of reducing something's strength or effectiveness through sustained attack or pressure</p>	N/A		N/A	
38.	6.13/2		<p>Question concerning the text: how the term “nuclear programme” is defined?</p> <p>Answer: Meaning is broader, not only operation. The term nuclear programme is interpreted as a national programme.</p>	N/A		N/A	
39.	6.50.D	Additional guidance on the physical protection <u>nuclear security</u> of nuclear power plants and nuclear materials can be found in IAEA Nuclear Security Series publications, especially in the Nuclear Security Recommendations on Physical Protection of Nuclear Material and Nuclear Facilities (INFCIRC/225/Revision 5), IAEA Nuclear Security Series No. 13 [16A] and Physical	Please replace physical protection with <u>nuclear security</u> . Please consider focusing references to matters concerning organization and personnel such as trustworthiness, insider issues etc.	Yes			

		Protection of Nuclear Material and Nuclear Facilities (Implementation of INFCIRC/225/Revision 5), IAEA Nuclear Security Series No. 27-G [32] Computer Security at Nuclear Facilities IAEA Nuclear Security Series No. 17 [33].	These issues are described in Security series documents.				
40.		SEVERE ACCIDENT MANAGEMENT	Delete severe. Accident management as in SSG-54.	Yes			
41.	6.54.B-6.54.E	Aline with SSG-54		Yes			
42.		HUMAN FACTORS	Proposal to change, instead of HUMAN PERFORMANCE AND HUMAN ERROR PREVENTION			Yes	Because it is relevant to more safety guides.
43.	6.74/6		Question concerning the text: meaning of abbreviation SSC? Answer: <i>Structures, systems and components</i>				
44.	9. Nuclear Safety Committee Page 59	... Nuclear safety committees are comprised of executives, senior managers, and consultants with <u>extensive experience from nuclear or other industry critical for safety.</u>	Proposal to add, since experience outside nuclear industry can be valuable.	Yes	Added nuclear or other industry.		

COMMENTS BY REVIEWER				RESOLUTION			
Guide: NS-G-2.4 Reviewer: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) (with comments of RSK and GRS) Country & Organization: Germany				Page 18 Date: 30/04/2019			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for rejection
1.	2.10	In addition, an organizational structure should ensure the following:	Our suggestion is to delete this sentence. It is	Yes			

		<p>— That technical services and expertise, including those required for emergency situations, are provided. The extent to which these are provided from inside or outside the organization is a matter of management policy;</p> <p>— That the personnel involved in the review of safety related activities are independent from cost and schedule considerations.</p>	<p>correct, but meets also several of the bullet points above, in para 2.9. where it is not added. The possibility to rely on outside companies or experts is in general laid down in 2.11ff. Thus, this sentence is here not necessary.</p>				
2.	3.4	<p>Management of the operating organization should ensure that its organization is well structured, with clear lines of authority and communication and well defined responsibilities, and that its safety policy is established, understood and observed by all involved. However, ¶The assignment of tasks among organizations should not reduce or divide the prime responsibility for safety, which lies with the management of the operating organization. As a result, the operating organization remains in a supervisory position for delegated tasks.</p>	<p>The logic of the two different requirements in 3.4 is not clear. The first part belongs to 3.5 and the second part should form an own para.</p>			Yes	This is out of the scope of the DPP.
3.	3.5	<p><u>Management of the operating organization should ensure that its organization is well structured, with clear lines of authority and communication and well-defined responsibilities, and that its safety policy is established, understood and observed by all involved.</u> To ensure that there is a clear understanding of responsibilities and relationships between organizational units and between personnel within the operating organization, detailed job specifications should be defined. In particular, these relationships should be clearly defined for all activities having a direct or indirect bearing on safety.</p>	<p>See comment 2 Add first part of old 3.4 and add 3.5 into the same para.</p>			Yes	This is out of the scope of the DPP.

4.	3.19 Line 18	— adequate arrangements for response to all kinds of <u>normal operation, anticipated operational occurrences, design basis and accidents, and design extension conditions</u> have been made and appropriate actions have been taken to provide for protection of the health and safety of the site personnel and the public, and for protection of the environment.	In the last bullet of 3.19 some completion seems to be necessary. See also IAEA Glossary “plant states”.	Yes	But as: — adequate arrangements for response to all kinds of normal operation, anticipated operational occurrences, design basis and accidents and design extension conditions have		
5.	4.4	The operating organization should develop and implement a procedure for reporting incidents and abnormal events of significance to safety to the regulatory body in accordance with established criteria <u>in compliance with the reporting criteria, time frames and processes required by the regulatory body...</u>	Requirement is not adequately phrased. The need, format and reporting procedure for event reporting should be established by the regulatory body and not by the operating organization.	Yes			
6.	4.5	Contractor personnel may be used to perform tasks that <u>e.g.</u> are of a specialized or temporary nature...	Put in “e.g.” because there is a lot of constant personnel in a power plant from other organizations (e.g. security personnel). There might be simple financial reasons to hire contractors. There is only some “key personnel” that is difficult to hire, but even these may be in future (and have been in the past) hired. See also 4.10 where two typical examples are given.	Yes	Phrase “for example” used.		
7.	6.22	Notwithstanding the contractual arrangements for the supply of a new plant, the operating organization should ensure that a	Based on experience, the definition of exact roles and responsibilities	Yes			

		<p>comprehensive commissioning programme is established and implemented to demonstrate that the plant has been constructed as specified and may be operated in a safe manner. Details of the establishment and implementation of the commissioning programme are given in Ref. Commissioning for Nuclear Power Plants Specific Safety Guide IAEA Safety Standards Series No. SSG-28 [10].</p> <p><u>The roles and responsibilities - in particular regarding responsibility for plant operation while performing commissioning tests - between commissioning organization and the operating organization should be clearly defined for the commissioning phase with consideration of GSR part 2 and subsequent IAEA guides [8, 8A,8B].</u></p>	<p>regarding plant safety between commissioning organization and operation organization – in particular in case of turn key contracts – is of high importance.</p>				
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COMMENTS BY REVIEWER				RESOLUTION			
Guide: NS-G-2.4		Reviewer: Mohammad Zare		Page 21		RESOLUTION	
Country & Organization: Iran / INRA		Date: 13/05/2019					
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for rejection
1.	4.4: “The operating organization should develop and implement a procedure for reporting incidents and abnormal	“The operating organization should develop and implement a procedure for reporting events ...”	According to Requirement 2 of SSR-2/2 Revision 1 “The operating organization shall develop and implement a procedure for reporting events to the regulatory body ...” why has the word “event” been limited in the draft?	Yes			

events ...”						
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COMMENTS BY REVIEWER				RESOLUTION			
Guide: NS-G-2.4 Reviewer: _____ Country & Organization: Japan / NRA				Page 22 Date: 09/05/2019			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for rejection
1.	2.2	Since these activities affect safety, the operating organization, in accordance with its licensing obligations, shall is required to establish a policy for adherence to safety...	“shall” statement should not be used. Unless the sentence is quoted completely from Requirement publication.	Yes			
2.	3.18.A	A review of the organization and management system should be periodically performed to confirm that the policies and objectives are implemented in a safe, efficient and effective manner and the processes are adequate to ensure the safe operation of the plant. More information can be found in Refs. [1] and [8].	Refs. [1] as SSR-2/2 Revision 1 and [8] as GSR Part 2 are requirement publication and does not provide any recommended practice on review of management system.	Yes	Words “More information can be...” was replaced by “Requirements can be...”		
3.	4.1	The operational safety of a nuclear power plant is subject to surveillance oversight by a regulatory body that is independent of the operating organization.	To keep a consistency with GSR Part 1 (Rev. 1) para. 4.23. It states that “the regulatory body shall carry out <u>oversight</u> of facilities and activities”.	Yes			
4.	5.6	Ref.[1] requires that a clear safety policy shall be developed established and implemented by the operating organization and implemented made aware of by all site personnel and relevant operating organization personnel.	To keep a consistency with description of SSR-2/2 Revision 1. Requirement 5 “The operating organization shall <u>establish and implement</u> operational policies that give safety the highest priority.”	Yes			

			Paragraph 4.2. "All personnel in the organization shall <u>be made aware of the safety policy and ...</u> "				
5.	5.7	Ref.[1] requires that this policy shall give plant safety the utmost priority, overriding, if necessary , the demands of production and project schedules.	"if necessary" is against description of SSR-2/2 Revision 1.	Yes			
6.	5.8	Ref.[1] requires that To be effective, the safety policy requires the endorsement and active support of senior management, who shall also be involved in disseminating shall communicate the provision of the safety policy throughout the organization. All personnel in the organization shall understand the policy and be made aware of the safety policy and of their function in responsibilities for ensuring safety, as required by Ref.[1].	To keep a consistency with description of SSR-2/2 Revision 1 para. 4.2.			Yes	Original text is quotation from SSR-2/2 Revision 1.
7.	5.18.A	Some experts from outside the utility operating organization , who are highly experienced in nuclear plant operations, should be involved in the Nuclear Safety Committees.	Correction	Yes	But it is 5.18.F.		
8.	5.18.F	The operating organization should establish Nuclear Safety Committees on the plant level and the corporate level <u>to meet Requirement 9 of Ref. [1]</u> .	To provide of the reason why Nuclear Safety Committees should be established.			Yes	Requirement 9 is not describing Nuclear Safety Committees.
9.	6.70	Before commissioning of the modification affected plant personnel should be trained appropriately and all relevant design and operational documents and computer software shall should be revised and updated.	Correction	Yes			
10.	6.79	The operating organization should ensure the availability of adequate resources (including funds, people staff , equipment and time) to properly	Better wording	Yes			

COMMENTS BY REVIEWER

Guide: NS-G-2.4

Reviewer:

Country & Organization: UK - ONR

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Date: 18/04/2019

RESOLUTION

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for rejection
1.	2.7	Add extra text to say that the organisational plan should consider future decommissioning requirements	Especially as plants get close to the end of generation lives, the organisational plan should consider future decommissioning requirements.			Yes	Decommissioning preparation is described in several paragraphs e.g. 5.1, 6.2, 6.6, 6.25, 6.70, 6.75, 6.78, 6.79, 6.80. Paragraph 6.79 is describing organizational aspects. There is also subtitle Preparation for decommissioning. Further guidance on decommissioning can be found in Ref. Decommissioning of Nuclear Power Plants and Research Reactors, Safety Standards Series No. WS-G-2.1 [25].
2.	4.10	Add to the list: shutdown, refuelling, and decommissioning operations	These are all operations that will occur during the life of the plant that are likely to require contractors to deliver key functions.			Yes	4.10 are only examples, Refuelling is covered by maintenance, decommissioning is not part of this safety guide, only preparation for decommissioning.

3.	5.11 (a)	Additional paragraph. "The safety policy should be disseminated to contract and seconded staff."	This is particularly relevant to those in long-term contract positions, and those who act as independent members of committees, etc.	Yes	Paragraph 5.6 modified as follow: The safety policy should be communicated to external support organizations including contractors.		
4.	5.17/5.18	Extra text, referencing SSG-25, relevant safety factors and the need for periodic reviews of safety to consider the operating organisation.	The need for a periodic review of safety as part of the operating organisation's arrangements is discussed. However, there is no discussion on the need for a periodic review of safety to consider safety management. In SSG-25, Safety Factors 10-12 cover: Organization, the management system and safety culture; Procedures; and Human Factors.			Yes	<p>It is described in paragraphs 6.49 and 6.50.</p> <p>Paragraph 6.50: The scope and periodicity of a periodic safety review should either be specified by the regulatory body or be developed by the operating organization and agreed upon with the regulatory body. Additional guidance on periodic safety reviews can be found in Ref.[15]-SSG-25.</p> <p>6.57.E Periodic safety reviews shall include review of</p>

							the human factors to verify that the human factors within the operating organization correspond to accepted good practices and support safety. More information can be found in Ref.[15].
5.	5.20	Add additional reference if available.	No guidance is given on safety performance indicators. Is there a suitable reference here that can be pointed to? There is TECDOC 1141 but it is recognised safety guides do not routinely reference TECDOCs. Is there any other IAEA reference that could add value?			Yes	There is not additional IAEA reference.
6.	6.57	Additional point. "Colour blindness and other physical limitations in staff should be given due consideration".	Some staff may be able to marginally assess red and green in normal situations, but not in emergency situations.			Yes	It is described in NS-G-2.8. 3.12. Medical fitness requirements should be specified and satisfied, in particular for those positions that are safety related or for those persons who could be subject to occupational radiation exposure.

COMMENTS BY REVIEWER

Guide: NS-G-2.4

Reviewer: Ahmed Nawaz

Country & Organization: Pakistan/PAEC/C-3-CNPGS

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Date: 26/06/2019

Deadline: 31/05/2019

RESOLUTION

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for rejection
1.	5.18.F Last sentence	Some experts from outside the utility, who are highly experienced in nuclear plant operations, should be involved in the Nuclear Safety Committees <u>where feasible</u> .	The requirement of involving experts in safety committee should not be mandatory			Yes	Experts from outside the operating organization are important for Nuclear Safety Committees. They will provide independent view of plant, or operating organization performance. Experts from Research organizations, universities or retiree experts can serve as experts from outside the operating organization.
2.	5.18.F Last sentence	Experts from outside the utility, who are highly experienced in nuclear plant operations, should be involved in the Corporate Nuclear Safety Committee.	It is not feasible to include other utility expert in the plant level committee.			Yes	Experts from outside the operating organization are important for Nuclear Safety Committees. They will provide independent view of plant, or operating

							organization performance. Experts from Research organizations, universities or retiree experts can serve as experts from outside the operating organization.
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