Draft Specific Safety Guide DS524: "Radiation Protection Aspects of Design for Nuclear Power Plants" STEP 11: Second review of the draft safety standard by the RC(s)

Consolidated table of resolution of comments from NUSSC, WASSC, RASSC, EPReSC and NSGC (26 May 2023)

Notes:

- In a few cases the comments posted don't indicate the originating committee, only the organization issuing them
- There are no specific comments associated to WASSC
- Some comments formulated on a previous version of the document are not valid anymore, but were taken into account for this version and resolved

		COMMENTS BY REVIEWER RESOLUTION						
No.	Comment	Para/Line	Proposed new text	Reason	Accepted	Accepted, but modi-	Re-	Reason for modi-
	No.	No.				fied as follows	jected	fication/rejection
1.	Germany	General	Please check the whole text for con-	Consistency	х	Para 2.51, Para 3.19		ALARA IAEA
	RASSC-1	Comment	sistency regarding the terms "as low as	Relevance 2		(Inconsistency intro-		term
			reasonably achievable" and "as low as			duced when wrongly		
			reasonably practicable". Both terms			spelling out the		
			were used throughout the text.			ALARA term)		
2.	Germany	General	Please check the references to other	Editorial	х	2.32 refers now to		All references to
	RASSC-2	Comment	paragraphs throughout the text. It	Relevance 3		para <u>6.9</u> 6.12		the paragraphs of
			seems that some have not been up-			2.53 refers now to		the DS524 and to
			dated (e.g. para 2.53: (see also para.			para <u>2.43</u> 2.30		other IAEA SSs
			2.30 2.45), para 3.30 (see para. 2.19			5.117 refers now to		throughout the
			2.27 of this Safety Guide) etc.)			para- <u>8.27.–8.31</u> 8.26.		draft have been
						- <u>8.27.</u>		checked and up-
						6.21 refers now to		dated.
						para - <u>8.27.–8.31</u>		See also com-
						8.26. 8.27.		ment China
								EPReSC-2

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
3.	Sweden RASSC-1	General	Discharge versus release Both terms are used	Check throughout the docu- ment for consistency.	X			It was checked, both terms are used in the docu- ment depending on the content, in accordance with IAEA Glossary
4.	Sweden RASSC-2	General	<i>"as low as reasonably achievable" and "as low as reasonably practicable".</i> Both terms are used	Check throughout the document for consistency.	X			ALARA IAEA term See Germany RASSC-1 resolu- tion
5.	Germany NUSSC-1	1.7	The purpose of this Safety Guide is to provide recommendations for ensuring radiation protection in: <u>1. T</u> the design of new nuclear power plants, <u>2. D</u> design modifications to operating plants, and <u>3. C</u> ehecking of the adequacy of the design at different stages in the life- time of operating plants (e.g. as part of the comprehensive evaluation of safety or the periodic safety review of the plant).	Bullets could improve the readability here and make the text more user friendly. Relevance 3			X	This form is the result of the edi- torial review: not having numbers
6.	Germany NUSSC-2	1.11	This Safety Guide is intended for use to be used primarily for land based, stationary nuclear power plants with water cooled reactors designed for	Editorial Relevance 3			x	This was checked by editors and recommended to apply "for use"

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			electricity generation or for other heat generating applications (e.g. district heating, desalination).					as it is in other SGs as well
7.	Iraq-2	Introduc- tion	The introduction should be define the overview of the contents of the publica- tion and it shouldn't show the references that is depend in the preparation of this publication	Suggestion			x	The typical con- tent for the intro- duction part of IAEA safety guides identified by a procedure and this docu- ment follows that to keep it short
8.	Iraq-3	Structure	We are suggest that the publication con- tent a section talking about the role of regulatory bodies in applying protec- tion aspects, laws and legislations re- lated to nuclear power plants.	Suggestion			X	There are other safety standards related to the role of regulatory bodies. This doc- ument contains paragraphs in several places, in over all sections with references to the regulatory roles and legisla- tions.
9.	Germany NUSSC-3	1.12	This Safety Guide addresses radiation protection design aspects of the han- dling, treatment and <u>on-site</u> storage of radioactive waste. It does not specifi- cally deal with the safety aspects of waste treatment relating to the form or	This SSG is specific to NPP. If it addresses storage of ra- dioactive waste, it should be limited to on-site storage.		X First change accepted This Safety Guide addresses radiation protection design		

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10.	Germany NUSSC-4	2.2	quality of the waste product with re- gard to its longer-term storage or dis- posal. These aspects are considered in a number of other safety standards, in- cluding GSR Part 5 [7], SSG-40 [11] and IAEA Safety Standards Series No. SSG-41, Predisposal Management of Radioactive Waste from Nuclear Fuel Cycle Facilities [12], <u>SSG-15 (Rev. 1)</u> , <u>Storage of Spent Nuclear Fuel, SSG- 40, Predisposal Management of Radio- active Waste from Nuclear Power Plants and Research Reactors and WS- <u>G-6.1, Storage of Radioactive Waste</u>, [] The following section provides a summary of the most relevant safety requirements and recommendations</u>	Several other important guides for waste treatment should also be listed here. Relevance 1 Providing a short list of the treated topics in this section could help to keep it more		aspects of the han- dling, treatment and <u>on-site</u> storage of ra- dioactive waste. X Changes included but not as a list of items.		Editors recom- mended to keep the original list of references in 1.12 and not to extend this list of SSs, but in Sec- tion 2 and 3 there are paras where these SSs are re- ferred to.
			that underlie the recommendations in this Safety Guide- <u>for the following</u> <u>topics:</u> - <u>Radiation protection in design</u> - <u>Safety in design</u> - <u>Safety assessment in the design</u> - <u>Interfaces between safety and secu- rity and</u> - <u>Radiation protection for emergency</u> <u>response</u>	transparent. Relevance 2		This is reflected in the TOC [] The following section provides a summary of the most relevant safety re- quirements and rec- ommendations that underlie the recom- mendations in this Safety Guide- <u>for the</u> <u>following topics:</u> <u>Radiation protection</u> <u>in design; Safety in</u>		

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows design; Safety assess- ment in the design; Interfaces between safety and security and Radiation protec- tion for emergency	Re- jected	Reason for modi- fication/rejection
11.	Germany NUSSC-5	2.3	In accordance with the <u>safety</u> principles of radiation protection, provisions are required to be made in the design of a nuclear power plant. []	There are no referencable "principles of radiation pro- tection". The according sec- tion in SSR-2/1 (Rev. 1) is referring to the safety princi- ples of SF-1. Relevance 2		responseXIn accordance withthe FundamentalSafety principles, ofradiation protection,provisions for radia-tion protection are re-quired to be made inthe design of a nu-clear power plant.		
12.	Germany NUSSC-6	Headline after 2.12	Safety assessment in the design phase	To be more precise. Relevance 2	Х	Safety assessment in the design phases		
13.	Sweden RASSC-3	2.16 last sec.	<i>Are provided</i> is doubled	Editorial			x	Text was deleted in the technical editorial review. Comments not made on the last version.
14.	Germany NUSSC-7	2.18	Safety assessment of the provisions for radiation protection should be per- formed at different stages, including siting, design, manufacturing, con- struction, assembly, commissioning, operation, maintenance, and	As this Guide is intended for NPP only, it is not necessary to include terms, intended for other types of facilities. Relevance 1		X Safety assessment of the provisions for ra- diation protection should be performed at different stages,		

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No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			decommissioning (or closure) of a nu- clear power plant. []			including siting, de- sign, manufacturing, construction, assem- bly, commissioning, operation, mainte- nance, final shut- down, defueling and decommissioning (closure) of a nuclear power plant.		
15.	Germany RASSC-3	2.19	The safety assessment of the provi- sions	clarification and consistency Relevance 2	x			
16.	Germany RASSC-4	2.21	 2.21 Paragraph 5.71 of SSR-2/1 (Rev. 1) [1] states: 2.22. "It shall be demonstrated that the 	This is a quotation. Please delete the para number. Relevance 3	x			
17.	Germany NUSSC-8	2.21	Paragraph 5.71 of SSR-2/1 (Rev. 1) [1] states: <u>"It shall be demonstrated that</u> the nuclear power plant as designed is capable of complying with authorized limits on discharges with regard to ra- dioactive releases and with the dose limits in all operational states, and is capable of meeting acceptable limits for accident conditions."	The main part of para 2.21 was accidently moved to para 2.22, please restore. Relevance 3	x			
18.	ILO-1	2.23	This paragraph refers to page note "3"; The note is not clear. The paragraph refers to limits for workers but the note refers to off-site. Does it refer to emer- gency workers engaged in off-site ac- tivities? It states "higher off-site	Clarity "Some Member States apply higher off-site doses as ac- ceptance criteria for design basis accidents with a lower		X		The footnote should be deleted as well

			COMMENTS BY REVIEWER		RESOLUTION			
No.	Comment No.	Para/Line No.	Proposed new text doses" but it is not clear what doses it	Reason frequency of occurrence."	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
19.	Germany NUSSC-9	2.24	compares against. In accordance with Requirement 20 of SSR-2/1 (Rev. 1) [1], design extension conditions maycould be analysed using best estimate assumptions. []	(in question) We should stick to the word- ing used in SSR-2/1 (Rev. 1). Relevance 1	x			Copy from SSR 2/1 Footnote 13
20.	Iran INRA NNSG-1	2.27	"Furthermore, para. 1.37 of GSR Part 3 [2] states that Security infra- structure and safety infrastructure need to be developed, as far as pos- sible, in a well-coordinated manner. <u>All the organization involved need</u> to be made aware of the commonal- ities and differences between safety and security so as to be able to fac- tor both into development plans. <u>The synergies between safety and</u> security have to be developed so that safety and security complement and enhance one another."	This Para. has been modi- fied in order to robust se- curity culture in safety document.	x	X SGs provide only recommendations and should not repeat the requirement stated in the para- graph above Therefore, organi- zations involved in the design should be made aware of the commonalities and differences be- tween safety and security so as to be able to factor both in the design, de- veloping synergies between safety and security.		

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No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
21.	Iran INRA NNSG- 2	2.29	provide recommendations on the interfaces of nuclear security with <u>nuclear</u> safety <u>for radioactive mate-</u> <u>rial, associated facilities and associ-</u> <u>ated activities.</u>	This Para. has been modi- fied based on Paragraph 3.27 of IAEA Nuclear Se- curity Series No. 14.	x			
22.	Germany NUSSC- 10	2.32	2.32.2.25-The radiation protection pro- visions in the design should also in- clude measures to address simultaneous design extension condi- tions at multiple nuclear power plant units (see para. 6.12).	This para should be inserted directly after para 2.24. Relevance 3		X To refer to para. 6.9 in the brackets <i>In para 2.33 last sen-</i> <i>tence:</i> Recommendations related to the design of radiation protec- tion provisions and monitoring systems for emergency re- sponse are provided in Section <u>6 and</u> 8 of this Safety Guide.		Rejecting the re- ordering of the para. This is about measures, capac- ity of equipment using at the same time for different units See also com- ment Germany RASSC-2
23.	Sweden RASSC-4	2.32 first sec	<i>Radioactive</i> discharge limits – Delete radioactive.	To be consistent throughout the document			X	It depends on the content, the guide has both in accordance with IAEA Glossary Comment not made on the last version of the document.

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No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
24.	China EPReSC- 2	2.32		A clearer demonstration about this requirement should be added. What kind of protection provisions un- der emergency response for simultaneous design exten- sion conditions should be considered? And to what ex- tent? And also, para 6.12 seams not so much reverent with 2.32.		X 6.12 changed to para <u>6.9.</u>		See also com- ment Germany RASSC-2 See comment 12 from Germany
25.	Egypt ENRRA NUSSC-1	2.37 <u>2.38</u>	The authorized dose limits established in GSR Part3 for workers in controlled area, please can established the dose limits for workers in supervised area as well.	Because this paragraph cov- ered the authorized dose limits and dose constraints for workers		X 2.37 first sentence: The design of the nu- clear power plant is required to ensure that <u>authorized</u> dose limits 2.38. Consistent with GSR Part 3 [2], em- ployers, registrants and licensees shall ensure that workers exposed to radiation from sources within a practice that are not required by or di- rectly related to their work (in their		Modified para for 2.38.

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows designated controlled areas or supervised areas) have the same level of protection against such expo- sure as members of the public. See for further recommenda- tions on the applica- tion of dose con- straints (para.3.28- 3.33) and dose limits (para. 3.34-3.48) of	Re- jected	Reason for modi- fication/rejection
26.	Iraq-4	2.37. Line 1	Dose constraints	This draft notes, the Dose limits for occupational expo- sure and public exposure are established by the govern- ment or the regulatory body. Although some bodies do not impose radiological stand- ards.	X	<u>GSG-7 [10].</u>		In accordance with IAEA SSs MSs' (GSR Part 3 Requirement 12, Regulatory Body is responsi- ble establish radi- ological stand- ards.
27.	Iraq-5	2.39. Line 4	Discharge limit			X The <u>authorized an-</u> <u>nual</u> dose constraints for members of the public apply to the representative person of the population, which is an		Editorial Plural, the limits are applied to different radionu- clides

No. Para/Line No. Proposed new text Reason Accepted Accepted, but modi- fied as follows Re- jected Reason fication No. No. No. Individual receiving a dose that is repre- Individual receiving a dose that is repre- Individual receiving a dose that is repre-	
28. Germany NUSSC- 11 Headline after 2.39 Application of the optimization prin- ciple Insert a listing of the treated to pics in this section to make is more comprehensible. x 11 L40 The following section provides a summary of the most relevant safety requirements and recommendations for the application of the optimization prin- ciple radioactive waste - Design targets for operational states - Design targets for operational states - Design targets for operational states Insert a listing of the treated to pics in this section to make is more comprehensible. x 7 Insert a listing of the treated to pics in this section to make is more comprehensible. x 10 L40 The following section provides a summary of the most relevant safety requirements and recommendations for the application of the optimization principle for the following topics: - Minimization of radioactive waste - Design targets for operational states - Design targets for operational states Relevance 2 X	Reason for modi- fication/rejection

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment	Para/Line	Proposed new text	Reason	Accepted	Accepted, but modi-	Re-	Reason for modi-
29.	USA NSGC-1	Page 18, Section 2.41 (a)	(a) Radiation exposure should be taken into account early in the pro- tective measures design process as a means to reduce future costs and ex- penditures for construction, opera- tion and decommissioning at a later date. reduced by means of radiation protection measures, such that fur- ther expenditure on design, con- struction, operation and decommis- sioning would not be warranted by the associated reduction in radiation exposure."	Statement is difficult to un- derstand as written. In line with later discussion, believe the intent is to say that radiation exposure should be taken into account early in design so as to opti- mize and to reduce "costs/detriment" later on. Also, the sentence is not clear whether or not protec- tive measures should or		Accepted, but model fied as follows of radioactive waste; Design targets for op- erational states; De- sign targets for acci- dents; Design targets for decommissioning X Radiation exposure should be taken into account early in the protective measures design process and should be reduced	jected	Wording is in the existing NS-G- 1.13.
30.	China EPReSC- 1	2.42	In general, the optimization of radia- tion protection implies a choice from a set of protective measures, including design options such as shielding avoid-	should not be taken beyond what is commensurate with an associated reduction in exposure. Yet clarity is pro- vided later on page 95, Sec- tion A.3, which may be helpful to reference here. Prevention impurities which is easily activated from enter- ing the pipeline, is also im- portant path for reducing		X The first part of the proposed text is cov- ered by the para		
			ance of materials which can be easily	source, Containment of		ered by the para.		

			COMMENTS BY REVIEWER			RESOLUT	ION	
No.	Comment No.	Para/Line No.	Proposed new text activated, minimization of surfaces which can be easily contaminated, re- moval of radionuclides from coolants, removal or minimization of radionu- clides which can be easily activated from coolants, strengthening and main- taining radionuclides containment of system filtering of air in working areas, remote operation and tooling to mini- mize radiation exposure time.	Reason barriers is useful to prevent radionuclides migration	Accepted	Accepted, but modi- fied as follows Proposed modifica- tion: including design options such as shielding, <u>maintain-</u> ing integrity of sys- tems containing radi- oactive materials, avoidance of materi- als which can be eas- ily activated, minimi- zation of surfaces which can be easily contaminated, re- moval of radionu-	Re- jected	Reason for modi- fication/rejection
31.	ILO-2	3.42 2.42	The sentence in line 6 with "Feasible options" needs an editorial correc- tion; Should the phrase "criteria appro- priate values for their comparison should be determined," be changed to "appropriate criteria for their compari- son should be determined,"?	clarity	X	clides from coolants,		Correct para's number is 2.42 " <u>appropriate</u> cri- teria for their comparison should be deter- mined,"
32.	Germany NUSSC- 12	2.44	The optimization process should in- clude not only consideration of the protection of the public but also con- sideration of the protection of workers and all the safety features <u>items im-</u> <u>portant to safety</u> of the <u>plantfacility or</u> <u>activity, such as those related to the</u>	As "safety features" is used for items important for DEC, the more general term "items important to safety" could be more suitable.		x The optimization process should in- clude not only con- sideration of the pro- tection of the public but also		

			COMMENTS BY REVIEWER		RESOLUTION			
No.	Comment No.	Para/Line No.	Proposed new text on-site management of radioactive waste.	Reason "facility or activity" can be deleted as this SSG is spe- cific for NPP. Relevance 1	Accepted	Accepted, but modi- fied as follows consideration of the protection of workers and all the safety fea- tures-items important to safety of the plant facility or activity, such as including those related to the on-site management	Re- jected	Reason for modi- fication/rejection
33.	Germany NUSSC- 13	2.45	Other safety guides providing recom- mendations to meet the requirements of GSR Part 3 [2] for protection of the public and the environment include the following: []	This para seems to be unre- lated to "optimization of protection and safety". Per- haps it should be moved to new 1.13. Relevance 1		of radioactive waste. X Other safety guides providing recommen- dations to meet the requirements of GSR Part 3 [2] for-protec- tion of the public and the environment the optimization of radia- tion protection and safety include the fol- lowing: []		
34.	Egypt ENRRA NUSSC-2	2.45	Add this sentence After the end of the operating life of the plant, and after the removal of all nuclear fuel, substantial amounts of ra- dioactive material will remain on the site. Consideration is given to the choice of materials which will have low residual radioactivity on the time- scale important for decommissioning,	Because the optimization of radiation protection and safety start from operation to decommissioning (release from regulatory body)			X	This proposed very important radiation protec- tion aspects for decommissioning are already ad- dressed suffi- ciently in Section 7 dedicated for

			COMMENTS BY REVIEWER		RESOLUTION			
No.	Comment	Para/Line	Proposed new text	Reason	Accepted	Accepted, but modi-	Re-	Reason for modi-
	No.	No.	L		1	fied as follows	jected	fication/rejection
			and to the need for convenient access				5	radiation protec-
			for dismantling. These features serve					tion design as-
			to enable decommissioning to be ac-					pects for decom-
			complished with as low as reasonably					missioning:
			achievable exposures to staff.					The choice of ma-
								terials is ad-
								dressed in para
								7.23 (c): "For ma-
								terials that may
								be exposed to
								neutron radiation
								or materials in
								contact with reac-
								tor coolant, use of
								materials that are
								resistant to acti-
								vation, that are
								resistant to degra-
								dation by chemi-
								cals and that have
								sufficient wear
								resistance to min-
								imize the spread
								of activated col-
								The need for con
								venient access for
								dismantling is ad
								dressed in para
								7.7 "[] The de-
								sign of the layout
								should take into

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment	Para/Line	Proposed new text	Reason	Accepted	Accepted, but modi-	Re-	Reason for modi- fication/rejection
25	Cormony	2.46	Specific recommendations related to	Some with this nero. It does		v		account the need to optimize the exposure of site personnel during decommission- ing. This can be achieved by providing enough space for cutting and segmenting operations."
	NUSSC- 14	2.40	the design measures for protection of workers are provided in Sections 5 and 6 of this Safety Guide.	not relate to "optimization of protection and safety". Per- haps it should be moved to new 2.40. Relevance 1		A Specific recommen- dations related to the design measures for protection of workers and <u>for optimization</u> <u>of radiation protec-</u> <u>tion</u> are provided in Sections 5 and 6 of this Safety Guide.		in Sections 5 and 6 of this Safety Guide on optimi- zation
36.	Germany NUSSC- 15	2.47	Radioactive waste arising during oper- ation and decommissioning areis re- quired to be minimized. Requirement 8 of GSR Part 5 [7] states that "All radi- oactive waste shall be identified and controlled. Radioactive waste arisings shall be kept to the minimum practica- ble." Requirement 12 of SSR-2/1 (Rev.1) [1] states that "Special consid- eration shall be given at the design stage of a nuclear power plant to the	Clarification Relevance 2	X	in the design are pro- vided in Section 5 and Section 7 of this Safety Guide.		

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			incorporation of features to facilitate radioactive waste management and the future decommissioning and disman- tling of the plant." Recommendations on how to meet these requirements <u>at</u> <u>the design stage</u> are provided in Sec- tion 5 and Section 7 of this Safety Guide.					
37.	China EPReSC- 3	2.47	Radioactive waste arising during oper- ation, emergency and decommissioning are required to be minimized.	"Requirement 15: Managing radioactive waste in an emer- gency" of GSR Part 7 states that "The government shall ensure that radioactive waste is managed safely and effec- tively in a nuclear or radio- logical emergency".			x	This para is about the mini- mization of the radioactive waste arising during operation and de- commissioning. The newly pro- posed referred re- quirement is not about minimiza- tion and emer- gency.
38.	Germany NUSSC- 16	2.50	Sections 5–7 of this Safety Guide pro- vide recommendations for the design of radiation protection related measures. In many cases these recom- mendations are related to technological []	This para does not relate to "minimization of radioactive waste". It should be reposi- tioned. Perhaps after 2.52. Relevance 1		X To move the title De- sign targets for op- erational states be- fore 2.50		
39.	Germany NUSSC- 17	2.51 Line 5	[] The design targets should be set at an appropriate fraction of the dose lim- its. []	The term "appropriate frac- tion" is quite vague. Maybe one could give an example or order of magnitude at this point.		X For better explana- tion, the footnote was moved after this sen- tence.		Providing quanti- tative values for appropriate de- sign targets is not

			COMMENTS BY REVIEWER			RESOLUT	ΓΙΟΝ	
No.	Comment No.	Para/Line No.	Proposed new text	Reason Relevance 2	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection object of this
								safety guide
40.	USA NRC-1	2.51, 3.19,	Please replace the term "as low as rea- sonably practical" with "as low as rea- sonably achievable."	The correct terminology is with "as low as reasonably achievable." Editorial change consistent with IAEA glossary	x			See also general comments reso- lutions (In the previous version it was ALARA) Editors changed to "as low as rea- sonably practi- cal"
41.	China EPReSC- 4	2.53		About severe accidents, whether there is a clear ac- ceptance criteria, should be addressed and discussed in this guide, maybe from the aspect of probability, critical nuclide release magnitude, or radiation doses			x	It is covered by this para, further recommendation is in para. 6.22 The document is not intended to provide more de- tails on probabil- ity, critical nu- clide release magnitude, or ra- diation doses.
42.	Germany NUSSC- 18	2.56	Appropriate design targets for decom- missioning facilities and for processes based on dose constraints should be derived, taking into account Require- ment 1 of GSR Part 6 [8], which states that []	This para is the main state- ment of the section and should be moved up higher (new 2.54). Relevance 2		X 2.55 and 2.56 order change		To have firs the more important recommendation

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
43.	Germany NUSSC- 19	2.57	The relevant dose limits for the expo- sure of workers and for the exposure of members of the public are required to be applied during decommissioning in accordance with Requirement 11 of GSR Part 3 [2]. In addition, para 2.1 of GSR Part 6 [8] states that "Radiation protection of persons who are exposed as a result of decommissioning actions shall be optimized with due regard to the relevant dose constraints."	This para is related to the "optimization principle" and should be moved there. Relevance 2			x	To keep it here as it is more rele- vant to decom- missioning
44.	China EPReSC- 5	3.1	the reactor coolant and moderator sys- tem, volume control and, reactor water clean-up systems ,and auxiliary sys- tems which carry coolant;	Some auxiliary systems, such as boron recycling sys- tem, residual heat removal system, also should be taken into account.		X the reactor cool- ant <u>and associated</u> <u>systems such as mod-</u> erator system, vol- ume control and, re- actor water clean-up and RHR systems		
45.	Germany NUSSC- 20	3.4	The source term for a release of radio- active material to the environment should be evaluated for operational states and accident conditions as rec- ommended in paras 2.16–2.19 of SSG- 2 (Rev. 1) [24], to demonstrate that the design ensures that national require- ments for radiation protection are met. In Annex I, sources of radiation and source terms in different plant states and their minimization are described.	A reference to the Annex is suitable here. Relevance 2		X <u>In Annex I, sources</u> <u>of radiation and</u> <u>source terms in dif-</u> <u>ferent plant are de-</u> <u>scribed as examples.</u>		

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
46.	Germany NUSSC- 21	New 3.5		In this section "sources of radiation in NPP" there are paras on operational states and accident conditions. An- other para should refer to sources that dominate de- commissioning doses and waste volumes. Relevance 1		X To add decommis- sioning to the end of 3.1. The main sources of radiation during the decommissioning of a plant are contami- nated materials from areas that have been in contact with radio- active substances (mainly residues on surfaces and inside of tanks and pipelines) as well as materials close to the core that have been activated (affecting the entire respective material volume). These con- taminated materials should be described individually in the ra- diological characteri- zation of the decom- missioning plan as recommended in SSG-47 [56].		
47.	China EPReSC- 6	3.18	Such changes might include the power level, the materials that are used for the primary circuit, the type of fuel, the	During the nuclear power plant technology upgrade process, the shield is also be	X	shielding		

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			burnup, the extent of load following, the reactor coolant chemistry, the shield, the extent to which the reactor may operate with failed fuel and the extent to which on-load access to the containment is planned for	changed, and the radiation field of zones will be changed with the new shield scheme.				
48.	Iran INRA NNSG-3	3.20 (4)	The number of staff for each task should be based only on the opera- tional <u>and security</u> requirements and should not be artificially in- creased, for example to comply with the individual dose con- straints.	This Para. has been modi- fied in order to meet secu- rity considerations.	х			
49.	Germany RASSC-5	3.21		In the former version of this draft (para 3.21) as well as in NS-G-1.13 (para 3.19) was Table 1 integrated (ref- erenced), which showed an example of the practical im- plementation of the strategy for the design process. Why was that deleted? Please clarify. Relevance 2	x	The Table 1 was re- stored from the previ- ous version Stepp 8 of DS524 To add a new para before 3.21 Table I is giving an example of the prac- tical implementation of a strategy for the design process. In this strategy the de- sign is divided into four steps represent- ing an increasing level of detail in the studies. The main pa- rameters to be con- sidered for each step		The table I was brought back from the previous version of DS524 No abbreviations are in the Table 1

			COMMENTS BY REVIEWER			RESOLUT	RESOLUTION ccepted, but modi- fied as follows Re- jected Reason for modi- fication/rejection e the individual and llective dose tar- ts, the studies to be rformed, the zon- Reason for modi- fication/rejection			
) T	G	D /I:		D	1		D			
No.	Comment	Para/Line	Proposed new text	Reason	Accepted	Accepted, but modi-	Re-	Reason for modi-		
	No.	No.				fied as follows	jected	fication/rejection		
						are the individual and				
						collective dose tar-				
						gets, the studies to be				
						performed, the zon-				
						ing, the contact dose				
						rates and the exposed				
						work volume. In step				
						<u>1, for example, an</u>				
						average dose con-				
						straint will be set as				
						well as a collective				
						dose target, including				
						a margin. The opti-				
						mization studies will				
						result in a list of ad-				
						vantages and draw-				
						backs of options. No				
						zoning will be per-				
						formed or contact				
						dose rate calculations				
						made and the ex-				
						posed work volume				
						will be estimated.				
						with account taken of				
						different options (the				
						work is performed by				
						workers or by ro-				
						hots)				
50	China	3.24(a)(iv)	Control the direction of air current	In most cases ventilation is	x	Control the direction				
50.	EPReSC-	J.27(a)(1V)	with radionuclides improvement of	designed from low-concen-	Λ	of air flow with radi-				
	7		filtered ventilation especially in pres	tration space to high_concen		onuclides				
	/		surized beauty water reactors	tration space to high-collecti-		onucinues,				
			surized neavy water reactors.	uation space.						

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
						tered ventilation,		
51.	China EPReSC- 8	3.24(b)(vii)	Isolation of sources and important pas- sages	The practice has shown that it is an important contribu- tion to the collected dose that workers receive irradia- tion from unexpected sources near passages, such as fluviograph in contain- ment.	x	Isolation of sources and important pas- sages		
52.	USA NSGC-2	Page 32, Section 3.27	Recommend adding a reference to GSG-9 [26] at the end of this section.	Recommend reference to where the user can find more information on how and how often pathways can be moni- tored (remote/automatic sys- tems or human sampling/ob- servation).	x	Paras 3.20 and 3.21 of GSG-9 [26]		
53.	Sweden RASSC-5	3.28A	<i>In order to</i> demonstrate that the environment also is protected against effects of radionuclides, the environmental assessment should cover that. (See para 3.29.)	The environment has to be included in the EA otherwise it is not complete.			X	The recom- mended content (demonstrate that the environment also is protected against effects of radionuclides, the environmen- tal assessment should cover that) is included in para 2.29

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
54.	Germany NUSSC- 22	3.30	The design of radiation protection measures for operational states and de- commissioning should take into ac- count the robustness of the engineered safety features and operational feature- sitems important to safety, and also fire protection and emergency prepar- edness measures in accordance with the Requirement <u>1</u> 8 of SSR-2/1 (Rev. 1) [1] (see para. 2.19 of this Safety Guide).[]	Again "items important to safety" is more suitable, as it is also used in SSR 2/1 (Rev. 1). Also Req. 8 of SSR 2/1 (Rev. 1) is about the inter- face between safety and se- curity, thus the reference should be to Req. 18. Relevance 1		X The design of radia- tion protection measures for opera- tional states and de- commissioning should take into ac- count the robustness of the engineered safety features items important to safety and operational fea- tures (e.g equipment storage and access and contamination control), and also fire protection and emer- gency preparedness measures in accord- ance with the appli- eable Requirement 18 of SSR 2/1 (Rev. 1) [1] (see para. 2.19 of this Safety Guide).[]		
55.	Iraq-1	Title Before 3.30	Radiation Protection and Security Aspects of Design for Nuclear Power Plants	Because the writer men- tioned in many times to secu- rity aspect and there is a rela- tionship between safety and security			x	The draft con- tains such a title before para. 3.30. Design for radia- tion protection with integration of safety,

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
								emergency pre- paredness and security measures
56.	UAE FANR-1	3.33/4-5	The emergency plan and all emergency arrangements should be completed <u>and</u> <u>in place</u> before the commencement of fuel loading.	The emergency plan (on- site) may be completed but not implemented.	Х			Late comment (26-05-2023
57.	Germany RASSC-6	Para be- tween 3.40 and 3.41		Missing numbering of the paragraph. Relevance 3		X		Editorial Text without para number as intro- ductory text Checked by edi- tors
58.	Japan NUSSC-1	3.40.	Surfaces should be specified in the de- sign and preconditioned before and/or during initial startup in order to produce a protective layer and to ensure appro- priate, passivated surfaces in all sys- tems-, <u>so that the The</u> -protective layer will reduce the subsequent release of corrosion products into the coolant when the plant is at power and hence will reduce the deposition of radioac- tive material (see para. 5.19 of IAEA Safety Standards Series No. <u>SSG-13</u> , Chemistry Programme for Water Cooled Nuclear Power Plants [48]).	Connecting the two sen- tences will clarify the rela- tionship of the intention be- tween them. SSG-13 is being revised as DS525, so the latest infor- mation should be introduced after the revision of SSG-13 accordingly.		X <u>Therefore, the The</u> protective layer will reduce the subse- quent release of cor- rosion		
59.	Germany NUSSC- 23	3.40	<u>3.41</u> Section 5 of this Safety Guide provides recommendations for	The para after 3.40 should have a number as well. Relevance 3		x		To be checked by editors

			COMMENTS BY REVIEWER		RESOLUTION			
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			radiation protection design aspects for nuclear power plant operation.					
60.	Japan NUSSC-2	Between 3.40-3.41	Design considerations for operation <u>3.41</u> Section 5 of this Safety Guide pro- vides recommendations for radiation protection design aspects for nuclear power plant operation.	Missing para number.		X		To be checked by editors
61.	Iran INRA NNSG-4	3.44	The design of fuel pools and fuel transfer channels should include provisions for shielding and easy decontamination, particularly if this is necessary for inspection or maintenance of fuel transfer equip- ment. Design of filtering and clean- ing systems should take into ac- count the need to ensure that occu- pational doses are optimized during maintenance. <u>Besides, security re-</u> <u>quirements should be taken into ac-</u> <u>count in this regard.</u>	This Para. has been modi- fied in order to meet secu- rity requirements regard- ing vital and inner areas.			X	It is implicit that security require- ments must be met and not just should be met. This is not a practical recom- mendation in a safety guide ded- icated to safety in design, not to se- curity. For this purpose the statement on security at the beginning of the guide, section 2, are sufficient.
62.	Iran INRA NNSG-5	3.47	Where possible, <u>without compro-</u> <u>mising nuclear safety and security</u> , flanged connections should be pro- vided on liquid systems for quick disconnection and easy access for clean-up; it should be noted,	This Para. has been modi- fied because safety and security requirements shall not be affected just for the sake of easing the maintenance.	x			

			COMMENTS BY REVIEWER			RESOLUT	ION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			however, that flanges may increase the risk of leakages of active fluid. Electrical quick disconnects should be used in design to minimize maintenance time.					
63.	Egypt ENRRA NUSSC-3	Before 3.48	Can add in general sentence under title "Design considerations for start-up and shutdown" stated that: For shield calculations radiation levels at various points in the reactor space shall be assessed during reactor plant operation at 100% capacity as well as during reactor plant outages for spe- cific preventative maintenance	For more clarification		X To add this proposed text to para 3.43 <u>Shield calculations</u> for radiation levels at various locations should be assessed during reactor plant operation at full power as well as dur- ing reactor plant out- ages for specific pre- ventative mainte- nance.		
64.	Iran-1	General/ 3.48	 Design consideration for statues which in the reactor may enforced to transfer to a long time shut down must be set. The design should ena- ble to create a controlled situation that prevent from release of pollu- tions effluents to the environment. Referring to these point maybe use- ful to be considered by the designer and the operating organization It sounds that there is more design con- siderations for start-up and shut down which have not been mentioned. Only 			X <u>To delete</u> <u>as a result of refu- elling</u> To add at the end <u>Recommendations on</u> <u>design considerations</u> <u>for cleaning and</u> <u>avoiding corrosion</u> <u>products for start-up</u> <u>and shut down are</u>		

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			the release of corrosion products into the coolant as a result of refuelling has been mentioned.			provided in the Safety Guide SSG-56		
65.	ILO-3	3.54	Text should refer to paras 3.52 and 3.53 and not to 3.53 and 3.54.	Accuracy	х			To be checked After renumber- ing, 3.53 and 3.54. are correct para numbers
66.	Germany RASSC-7	Para be- tween 3.58 and 3.59		The para after 3.58 is num- bered with 2.60. Please check the numbering. Relevance 3	х			3.60 now
67.	Germany NUSSC- 24	3.58/2.60	2.60.3.59 Throughout the lifetime of the nuclear power plant, the operating organization is responsible for the ade- quate maintenance of documentation to facilitate future decommissioning (see para. 3.6(h) of SSR-2/1 (Rev. 1) [1]). Paragraph 4.8 of SSR-2/1 (Rev. 1) [1] states: []	Wrong number Relevance 2	x			3.60. now
68.	Japan NUSSC-3	Between 3.58-3.59	 2.60. Throughout the lifetime of the nuclear power plant, the operating organization is responsible for the adequate maintenance of documentation to facilitate future decommissioning (see para. 3.6(h) of SSR-2/1 (Rev. 1) [1]). Paragraph 4.8 of SSR-2/1 (Rev. 1) [1] states: "The design shall be such as to ensure that the generation of radioactive waste and discharges are kept to the minimum practicable in terms of both activity and 	Missing place.	x			To check with editors

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			volume, by means of appropriate design measures and operational and decom- missioning practices."					
69.	China EPReSC- 9	4.8	Depending upon the design, several components within the reactor vessel are regularly removed and become sources in locations outside the vessel. These include the fuel elements, con- trol rods, neutron sources, separated combustible poison, in-core instrumen- tation and the internals of the reactor.	A separated combustible poi- son rod is also a radiation source irradiated in the core.		x <u>burnable poison</u> <u>rod</u>		
70.	Germany RASSC-8	4.16 line 5	will be 60Co and 137Cs. Cobalt-60 60Co arises	Please use only one spelling for nuclides and check the whole text for consistency. Relevance 3	х			To be checked by editors
71.	Germany NUSSC- 25	4.21 a-c	[] (a) Carbon 14 ¹⁴ C, ³ H and ⁸⁵ Kr, because the best practica- ble means available for their removal by waste treatment systems are not efficient and because their half-lives are long; (b) Argon 41 ⁴¹ Ar is an important con- tributor even though its half-life is short, because it is released in large volumes of air (e.g. in venting of the containment during operation for some pressurized water reactors); (c) Xenon 133 ¹³³ Xe is a weak gamma emitter but it may be of importance when the reactor has been	Please use a uniform nota- tion of the isotopes. Relevance 2	X			To be checked by editors At the beginning of the sentence Carbon-14 In the middle of the text <u>¹⁴C</u> ,

			COMMENTS BY REVIEWER			RESOLUT	TON	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			operating with a significant number of defects in the fuel cladding; []					
72.	Germany NUSSC- 26	5.15 Line 5	[] Systems provided to protect work- ers from undue exposures s-may re- quire classification in accordance with IAEA Safety Standards Series No.SSG-30, Safety Classification of Structures, Systems and Components in Nuclear Power Plants [57].	Туро Relevance 3	х			
73.	USA NSGC-3	Page 45, Section 5.15	Systems provided to protect workers from undue exposures s may require	Editorial.	х			
74.	ILO-4	5.15	In line 5 delete the extra "s".	Editorial	х			
75.	Iran INRA NNSG-6	5.15	Systems provided to protect work- ers from undue exposures s may re- quire classification in accordance with IAEA Safety Standards Series No.SSG-30, Safety Classification of Structures, Systems and Compo- nents in Nuclear Power Plants [57].	Mistyping, redundant "s".	X	Already captured		
76.	China EPReSC- 10	5.19	Add "(o) During the transfer of high- level radiation sources, the control of local areas should not affect other sim- ultaneous operations."	During the transfer of high- level radiation sources, the control of local areas is a use- ful radiation protection measure for maintenance personnel	x	To reformulate (o) <u>Control of local</u> <u>areas during transfer</u> <u>of high-level radia-</u> <u>tion sources so as not</u> <u>to affect other simul-</u> <u>taneous operations.</u>		
77.	ILO-5	5.36	Add the use of decontaminable paints for wall surfaces in addition to the smooth surfaces; although 5.78 also covers this.	Technical	Х			To add decontaminable paints for wall surfaces

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
78.	USA NSGC-4	Page 49, Section 5.39, first line on page 49	"thick biological shielding should be considered"	Introduction of this modifier (biological) could add un- necessary confusion. Also, the citing NSS document does not use the term "bio- logical" and only the word "shielding" by itself.			X	More applicable in many MSs therefore it is useful to keep
79.	China EPReSC- 11	5.48	decontamination, radiation-resistant), and space, installation and weight limi- tations.	Radiation-resistant should be considered for shield materi- als at certain locations. In- stallation is an important fac- tor for shielding design.	x			
80.	USA NSGC-5	Page 50, Section 5.49	Effects that should be taken into ac- count are those due to the interactions of neutron and gamma rays with the shielding cladding (e.g. the burnup of radionuclides that have a high neutron absorption cross-section, radiolysis and embrittlement)," OR Effects that should be taken into ac- count are those due to the interactions of neutron and gamma rays with the shielding (e.g. the burnup decay of ra- dionuclides that have a high neutron absorption cross-section, radiolysis and embrittlement),"	Unclear statement. Shielding does not typically consist of radionuclides that would "burn up." That term usually refers to materials that fis- sion. If there are activation products within the shield, then they would "decay" ra- ther than "burn up." Is it possible that the statement is referring to cladding (con- taminated with uranium) ra- ther than shielding?		x (e.g. the burnup of radionuclides the de- pletion of materials that have a high neu- tron absorption cross- section, radiolysis and embrittlement)		This part of the Section 5 is about the shield- ing

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
81.	Japan NUSSC-4	5.51.	Neutron transport calculations related to containment should be undertaken to eliminate leakage of neutron radiation (e.g. sky and ground shine duct stream- ing paths from penetration).	It is the streaming paths such as duct penetrations that are considered for neutron leak- age, not sky/groundshine, which is a scattering phe- nomenon in the external space.	х			
82.	Japan NUSSC-5	5.58.	Where reactor coolant is used for shielding purposes (e.g. for sufficient water coverage of spent fuel in spent fuel pools) and assumptions are made about the shielding effect of the reactor coolant on occupational exposure, there should be automatic sensors and con- trols for ensuring that the levels of the liquid stay within permitted ranges.	The water volume of SFP is large enough. So, Nuclear Power Plants commonly con- trol the water level of SFP not automatically but manu- ally.			x	It is recom- mended to have automatic sen- sors. Where coolant is used for shield- ing purposes (e.g. for sufficient wa- ter coverage of spent fuel in spent fuel pools) and assumptions are made about the shielding ef- fect of the reactor coolant on occu- pational expo- sure, there should be automatic sen- sors and controls for ensuring that the levels of the liquid stay within permitted ranges.

			COMMENTS BY REVIEWER			RESOLUT	TION	
No. 83.	Comment No. Japan NUSSC-6	Para/Line No. 5.60.	Proposed new text Consideration should be given to incor- porating filters and demineralizers within concrete cells (to ensure that they are not accessible), together with shielded transport containers to enable relatively high dose rates to accrue on the filters, and thus minimize radioac- tive waste and worker dose.	Reason Clarification for "together with shielded transport con- tainers to enable relatively high dose rates". Refering to the transport con- tainers here needs to be clar- ified since this guide is for the design of Nuclear Power Plants.	Accepted	Accepted, but modi- fied as follows X together with shielded transport containers <u>inside the</u> <u>plant</u> to enable rela- tively high dose rates to accrue on the fil- ters, and thus mini- mize radioactive waste and worker	Re- jected	Reason for modi- fication/rejection
84.	USA NSGC-6	Page 54, Section 5.79 and Page 79, Section 7.38.	Recommend combining last two sen- tences in each of these Sections: "Systems should be provided for de- contamination ing of such both kinds of pool surfaces before they dry out, Systems should also be provided for decontamination, before they dry out, of as well as such systems for fuel transport flasks and components that have to be removed from the pools for repair."	Clarity.	X			
85.	Iran INRA NNSG-7	5.59 5.92	5.92. Facilities are required to be provided for the safe and secure storage of radioactive waste that arises at the plant (see para. 6.59 of SSR2/1 (Rev. 1) [1]), with account taken of its form (solid, liquid, gas or a mixture), its radionuclide con- tent and the extent to which it has	This Para. has been modi- fied in order to meet secu- rity requirements.	Х	X 1st change accepted. In the 2nd it is not necessary to repeat safe or secure . Facilities are re- quired to be pro- vided for the safe		

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text been processed. The safe and secure	Reason	Accepted	Accepted, but modi- fied as follows and secure storage	Re- jected	Reason for modi- fication/rejection
			storage of waste will depend in part on the design, construction, opera- tion and maintenance of the facility concerned. The design of facilities should be such that the radioactive waste can be received, handled, stored and retrieved without causing undue occupational or public expo- sure or environmental effects. Fur- ther recommendations are provided in paras 6.73– 6.83 of SSG-40 [11] and paras 4.199–4.232 of SSG-62 [31].			of radioactive waste that arises at the plant (see para. 6.59 of SSR2/1 (Rev. 1) [1]), with account taken of its form (solid, liquid, gas or a mixture), its radionuclide content and the ex- tent to which it has been processed. The safe-storage of waste will depend in part on the de- sign, construction, operation and maintenance of the facility concerned. The design of facil- ities should be such that the radioactive waste can be re- ceived, handled, stored and retrieved without causing un- due occupational or public exposure or environmental		

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment	Para/Line	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re-	Reason for modi-
	110.	110.				effects. Further rec- ommendations are provided in paras 6.73– 6.83 of SSG- 40 [11] and paras 4.199–4.232 of SSG-62 [31].	Jeeleu	
86.	Sweden RASSC-6	5.93 5.104	Move the last sentence to before the section about C-14 and tritium: <i>In addition, when radioactive discharges are very low, the monitoring process used may have a strong influence on the interpretation of the operating experience.</i> In the case of some radionuclides, such as ¹⁴ C and ³ H, Include: <i>However, novel designs and new techniques should be considered in order to limit the production of</i> ¹⁴ C and	The sentence is valid for all radionuclides not only for C- 14 and tritium. In the design phase, it might be possible to implement new technologies or designs		X		See resolution of Egypt-5 com- ment on 5.104
			$^{3}H.$	in order to reduce/limit/mini- mize the production of car- bon-14 and tritium.				
87.	Egypt ENRRA NUSSC-4	5.94	Can add the following function: -providing the equipment for handling operations: installation into the corre- sponding storage cell and removal of the packages from the storage building -Providing for fire protection system We add under the title of "Storage of grant fuel and redisactive master at a	Requirements for the per- formed functions and main- taining safe storage			X	Bullet (f) is cov- ering `providing the equipment for handling opera- tions: installation into the corre- sponding storage

			COMMENTS BY REVIEWER			RESOLUT	TION	e- Reason for modi- fication/rejection of the packages from the storage building` Para 5.100 co- vers: -Providing for fire protection system The para 5.92 and the para 2.26 where we re- ferred GSR Part 5 cover the pro- posed text: The storage of ra- dioactive waste must ensure that		
No.	Comment	Para/Line	Proposed new text	Reason	Accepted	Accepted, but modi-	Re-	Reason for modi-		
	No.	No.			•	fied as follows	jected	fication/rejection		
			nuclear power plant" general sen- tence The storage of radioactive waste must ensure that both human health and the environment will be protected, both now and in the future, without imposing undue burdens on future generations					of the packages from the storage building` Para 5.100 co- vers: -Providing for fire protection system The para 5.92 and the para 2.26 where we re- ferred GSR Part 5 cover the pro- posed text: The storage of ra- dioactive waste must ensure that both human health and the en- vironment will be protected, both now and in the fu- ture, without im- posing undue burdens on future generations		
88.	Egypt ENRRA NUSSC-5	5.104	The doc stated that "Whenever possi- ble, the discharge limits may be set on the basis of operating experience" The paragraph can contain the follow- ing sentence	To clarify that the operator may not modify or improve anything in the facility with- out referring to the regula- tory authority		X 5.104. The design is required to demon- strate that authorized limits for discharges will not be exceeded				

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			This improvement shall be accepted from the regulatory body and shall re- flected in the safety analysis report			(see para. 5.71 of SSR-2/1 (Rev. 1) [1]). This is com- monly done by speci- fying discharge limits for the most signifi- cant radionuclides, as described in para. 2.39 of this Safety Guide. Whenever possible, the dis- charge limits may be set on the basis of op- erating experi- ence. Any modifica- tions to discharge limits are required to be accepted by the regulatory body and should be reflected in the safety analysis re- port. When radioac- tive discharges are very low, the moni- toring process used may have a strong in- fluence on the inter- pretation of the oper- ating experience. A careful analysis should be made of the operating		

			COMMENTS BY REVIEWER		RESOLUTION Accepted Accepted, but modi-fied as follows Re-jected Reason for modi-fication/rejection experience so as to take into account possible differences possible differences possible differences			
No.	Comment	Para/Line No	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
						experience so as to take into account possible differences in the design of simi- lar units, such as in the types of alloys in contact with the pri- mary coolant. Such differences are likely to influence the na- ture and activity of the discharges. In the case of some radio- nuclides, such as ¹⁴ C and ³ H, practicable techniques for their removal are not read- ily available. <u>Novel designs and new</u> <u>techniques should be</u> <u>considered in order to</u> <u>limit the production</u> <u>of ¹⁴C and ³H.</u> In making use of op- erating experience in setting discharge lim- its for these radionu- clides, account should be taken of the variations in pro- duction rates for		

			COMMENTS BY REVIEWER			RESOLUT	ΓΙΟΝ	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
						designs.		
89.	Iran-3	Gen- eral/5.110, 7.29	Design recommendation for a suitable and reliable audible " <i>alarm setting</i> " of all of the portable dose rate meters, air samplers, monitoring devices and per- sonnel and surface contamination must be mentioned. Since these limits are es- tablished by the regulatory bodies of the MS, the relation of this setting to the limits should be clearly mentioned. It can be a fraction of the authorized dose limits, release and dose constraints for site personnel and the public.				x	This is not a de- sign aspect of a NPP. The para 2.37 covers the regulatory limits
90.	USA NRC-2	5.118(j)	This reads: A store for radiation sources.	Please revise as: A secure storage location for radiation sources.	х			To modify <u>A secure storage</u> <u>location for radi-</u> <u>ation sources.</u>
91.	Germany RASSC-9	5.119 (m)	Personal radiation dosimeters for mon- itoring individuals' external exposure;	Please add for clarification. Relevance 2	х			To add <u>Personal radia-</u> <u>tion dosimeters</u> <u>for monitoring</u> <u>individuals' ex-</u> <u>ternal exposure</u> ;
92.	Egypt ENRRA NUSSC-6	6.6	Can add the design shall demonstrate the calcu- lation of dose rate in NPP rooms and on the NPP site in different accident modes.	Because to achieve the Pro- tection of site personnel un- der accident conditions, the design shall demonstrate the calculation of dose rate in NPP rooms and site			x	It has been cov- ered by the paras 6.6. and 6.8.

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
93.	China EPReSC- 12	6.7 line12	"For this purpose, plant operating in- structions for accident management ac- tions and emergency response actions should be developed."		x			response
94.	China EPReSC- 13	6.9		In the design of habitability system of emergency facility (such as emergency manage- ment centre, main control room), when considering simultaneous design exten- sion accidents, the habitabil- ity (radiological) analysis re- sult would be unacceptable. It is recommended that in the design, only single unit accident be considered, and for simultaneous accidents, habitability duration should be analyzed.			X	Design extension conditions, in- cluding those with core dam- age, are within the design basis of the plant. For such conditions, radioactive re- leases are kept within acceptable limits. Those conditions and more severe ones are consid- ered in the design for habitability of the locations mentioned.
95.	Germany NUSSC- 27	6.10 Line 2	[] Arrangements are required <u>to</u> be made for taking all practicable measures to provide protection for emergency workers for the range of ra- diological conditions in combination with other potentially hazardous condi- tions in which they may have to per- form response functions (see para. 5.52 of GSR Part 7 [9]). []	Туро Relevance 3	Х			

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
96.	Canada EPRESC- 1	6.10	The paragraph references the arrange- ments in GSR Part 7, para 5.52, how- ever, the bullets included in the para- graph are not fully aligned with the GSR part 7 text. The GSR Part 7 text should be used when referencing these arrangements in 6.10.	Alignment and consistency with GSR part 7.		X To delete the refer- ence that was in- cluded		
97.	USA NSGC-7	Page 66, Section 6.10	"Arrangements are required to be made for taking"	Editorial.	x			
98.	Germany RASSC- 10	6.11 line 7	Part 7 [9]16 and equipment that is required for	The number 16 was a foot- note ("In the event of an emergency, radiation dose limits for normal operation may be exceeded. Use should then be made of dose levels given in para. 4.15 of GSG-7 [10] and other condi- tions as established in para. 4.14. of GSG-7 [10] for in- terventions in emergen- cies."). Please add the foot- note again. Relevance 2		x To call back the foot- note that was deleted from the previous version 8 of DS524 (Footnote 17) In the event of an emer- gency, radiation dose limits for normal op- eration may be ex- ceeded. Use should then be made of dose levels given in para. 4.15 of GSG-7 [10] and other conditions as established in Sec- tion 4. para. 4.14. of GSG-7 [10] for inter- ventions in emergen- cies.		

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
99.	Egypt ENRRA NUSSC-7	6.13	Modify the sentence "Such areas may include the reactor building, the fuel storage area" to be "Such areas include for example the reactor building,"	Because these areas are the main areas for which air- borne radioactive contami- nation shall be calculated		X Provision should also be made to minimize the airborne radioac- tive contamination in areas to which access will be required to ensure the safety of the plant personnel or the site personnel <u>Such such as</u> the re- actor building,		
100.	Egypt ENRRA NUSSC-8	6.16 <u>6.13</u>	Add this sentence to Requirements for control room habitability systems for operators in MCR and ECR (emergency control room) ensure the conditions for operators to control the power unit and keep it in a safe state under the extreme conditions on the site and emergency conditions, in- cluding severe accidents. In case of higher activity of plenum air in MCR and ECR the plenum air is purified by means of aerosol and iodine filters. In case the activity of plenum air is above the set level, the autonomous life sup- port system for MCR and ECR person- nel is actuated	Because it is one of the most important functions for which the habitability of the control room was designed, which is ensuring the condi- tions for operators under ex- treme conditions		x To add <u>Further</u> recommenda- tions (See in Section 4 dedicated paras in SG SSG-62)		The comments are addressed in para 6.13. No plenum is comming from outside, The ven- tilation system is required to en- sure the habita- bility of control rooms (is work- ing in recircula- tion mode and the air is fil- tered.)

			COMMENTS BY REVIEWER			RESOLUT	TON	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
101.	Canada EPRESC- 2	6.19	Arrangements should be made in advance to ensure that relevant information related to the protection of the workers is recorded and retained for use during accident conditions, in evaluations conducted afterwards, and for the long term health monitoring and follow-up of emergency workers who may potentially be affected (see paras 5.52, 5.59, 5.67 of GSR Part 7).	Clarity – add reference to the relevant sub-require- ments from GSR Part 7	X			To add (see paras 5.52, 5.59, 5.67 of GSR Part 7).
102.	China EPReSC- 14	6.23		Since the impact of liquid release under Fukushima ac- cident, whether liquid re- lease under accident condi- tions should be specifically assessment in the design? Or analyzed in the safety analy- sis report? It would be better that this guide can provide some opinion or guidance of operability on how to ana- lyze and assess the liquid re- lease risk under accidents and how to prevent such conditions.			x	Out of scope of the document
103.	Germany NUSSC- 28	6.24 Line 10	[] Design targets are usually set so that no banning of food is restrictions on the consumption of food, milk and drinking water are necessary, at least for design basis accidents; and thus, in such situations, the consumption of	This criterion is usually combined with milk and drinking water as stated in GSR Part 7. Relevance 2	X			To bring back the text deleted by editors

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text food <u>, milk and drinking water</u> that has been produced within the potentially affected area is used as an input to the dose calculation for the representative	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
104.	USA NSGC-8	Page 69, Section 6.24	person. "the kinetic attributes of the re- lease"	Editorial; word missing.	x			
105.	China EPReSC- 15	6.27		more information about the mentioned "probabilistic dispersion code" should be provided here.		X To modify the last sentence by this pro- posed text: In addition <u>, a com-</u> <u>puter code that pro-</u> <u>vides probabilistic ra-</u> <u>dioactive material</u> <u>dispersion in the en-</u> <u>vironment</u> may be used to evaluate the risk to representative persons.		
106.	ILO-6	6.28	The item l (lamda) 'Providing means of controlling access to radiologically controlled areas' may not be relevant to public protection; Should it be de- leted?	Accuracy	x			To delete <u>'Providing means</u> of controlling ac- cess to radiologi- cally controlled areas'
107.	Canada EPRESC- 3	6.30	In an emergency, arrangements should be made to ensure that relevant infor- mation related to the protection of the public is recorded and retained for use	Clarity – add reference to the relevant sub-require- ments from GSR Part 7	х			

			COMMENTS BY REVIEWER			RESOLUT	FION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
			during the emergency, in evaluations conducted following the emergency and for the long term health monitor- ing and follow-up of members of the public who may potentially be affected (see paras 4.31 and Requirement 12 of GSR Part 7).					
108.	China EPReSC- 16	7.24	"Pipelines containing radioactive flu- ids should not be located near clean piping, only if the radioactive pipelines should be treated firstly."	The change is more rigor- ous.			x	The proposed text is not rele- vant to the design phase for decom- missioning
109.	Germany RASSC- 11	7.30	(n) Personal radiation dosimeters for monitoring individuals' external expo- sure;	Please add the bullet point. Relevance 1	Х			
110.	Japan NUSSC-7	7.30. (a)	 The following equipment should be provided, and should be available before the decommissioning of the nuclear power plant begins: (a) Protective clothing (e.g. coveralls, extra coveralls, helmets, eye protection, puncture resistant gloves, puncture resistant safety shoes, boots, shoe covers); 	The blanket in (a) shows ex- amples.	X			
111.	Canada EPRESC- 4	7.35	to ensure that any releases of liquid radioactive effluents from decommis- sioning activities to the environment will remain within the limits for	Clarity – discharge limits during decommissioning may be different than those established for the	x			

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text operational states established for de-	Reason operational state. Consistent	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
112.	Germany RASSC- 12	7.35 last line	environment will remain within the authorized limits for discharges estab- lished for decommissioning opera- tional states.	Effluents from decommis- sioning activities should be within the authorized limits for discharges established for decommissioning not for operational states (see also para 7.37). Relevance 1	X			See also Canada EPRESC-4
113.	Egypt ENRRA NUSSC-9	Ventilation during de- commis- sioning Before 7.42.	Add to the part of ventilation during decommissioning this sentence define whether there is need for new buildings, structures, and facilities for which it will be necessary to design ventilation systems.	Because it is possible during the decommissioning of the need to build new facilities equipped with the appropri- ate ventilation system			X	The para covers the recommenda- tion of providing the ventilation function for de- commissioning for the modifica- tions as well. The recommended text is too de- tailed for this para.
114.	USA NRC-3	7.54(d)	This reads "Allowing for retrieval of waste for transport off the site." I think this should include packaging the waste for proper transport.	Revise to read "Allowing for retrieval and packaging of ra- dioactive waste for proper transport off the site."	x			- Francisco - Fran
115.	Japan NUSSC-8	7.59.	Where appropriate, equipment should be provided with suitable interlocks or physical limitations to prevent danger- ous or incompatible operations during decommissioning. Such interlocks or	To address what would be moved clearly.		X movement <u>s</u> (e.g. the movement of waste <u>and all the</u> <u>movements of site</u>		the movement of waste that gives rise to high dose rates into an area occupied by site

			COMMENTS BY REVIEWER			RESOLUT	TION	
No.	Comment No.	Para/Line No.	Proposed new text limitations should prevent undesirable movement <u>of stored waste</u> (e.g. the movement of waste that gives rise to high dose rates into an area occupied by site personnel).	Reason	Accepted	Accepted, but modi- fied as follows personnel in the high radiation areas that gives rise to high dose rates into an area occupied by site	Re- jected	Reason for modi- fication/rejection personnel <u>vice</u> <u>versa</u>
116.	Germany RASSC- 13	7.68	Discharges of radionuclides to the at- mosphere are required to be below the authorized limits on discharges and to reduced as low as reasonably achieva- ble (see Requirement 79 and para. 6.61 of SSR-2/1 (Rev. 1) [1]).	Please add that the dis- charges must be below the authorized limits as this is an essential part of protecting the public. Relevance 1	x	personnel)		Discharges of ra- dionuclides to the atmosphere are required to be be- low the author- ized limits on discharges and to reduced as low as reasonably achievable (To delete (see para. 6.61 of SSR-2/1 (Rev. 1) [1])
117.	China EPReSC- 17	8.2	"Elements of the radiation monitoring programmes should include at least the monitoring of the following, as appro- priate: (a)Area monitoring systems within the plant (b)Process system monitoring systems within the plant (c)Individual monitoring including ex- ternal and internal exposures of work- ers;	Some Process monitoring systems such as N-16 moni- tor on the secondary side of the SG, is very import for ra- diation protection		X To add at the end (f)Process system monitoring systems within the plant		

			COMMENTS BY REVIEWER			RESOLUT	ION	
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
118.	Iran-2	Gen- eral/8.11	In the selection of radiation monitoring devices (potable or fixed), the connec- tivity of the equipment through the ex- ternal ports to a computer or a data log- ger for data transferring, and also the user friendly features of the device should be considered.		x	New bullet before (n) <u>the connectivity of</u> <u>the equipment for</u> <u>data transfer;</u>		
119.	Canada EPRESC- 5	8.20	Add the following to the list of loca- tions: Main Control Room and Supplemen- tary Control Room	For Health and Safety rea- sons, the Control rooms should have fixed radiation detection monitors installed in them as part of the design process	x			See also com- ment ILO-7
120.	ILO-7	8.20	The locations list should include the building that houses the systems con- nected to the primary circuit such as the CVCS and RHRS. I think the term auxiliary building is used later in the text for this building.	Accuracy	X	To add a new bullet <u>i.a.</u> Before (i) <u>Buildings that are</u> <u>housing systems con-</u> <u>nected to the reactor</u> <u>coolant system</u> (j) Main Control Room and Supple- mentary Control Room		See also com- ment Canada EPRESC-5
121.	ILO-8	8.27	Item b) the vent header of radioactive waste tanks does not normally dis- charge directly to the atmosphere but through the ventilation exhaust system; it belongs better in the process moni- toring.	Accuracy	X	Equipment is re- quired to be provided to monitor <u>and record</u> all discharges Monitoring of <u>the</u> <u>discharges from</u> the following systems		

	COMMENTS BY REVIEWER				RESOLUTION			
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows should be provided where applicable:	Re- jected	Reason for modi- fication/rejection
122.	ILO-9	8.27	Item d) systems that feed liquid efflu- ent into the radioactive waste treatment should be monitored for process opera- tion (process monitoring) but not really for discharges; the liquid discharge line should be monitored for dis- charges.	Accuracy	X			Version before editorial change To revert
123.	Germany RASSC- 14	I-77 last line	and the underpressure of the build- ing relative to the atmosphere cannot be restored by the ventilation system or by the natural draught of the stack.	Please complete the sen- tence. Relevance 1	X			and the under- pressure of the building relative to the atmosphere cannot be re- stored by the ventilation sys- tem or by the nat- ural draught of the stack.
124.	Egypt ENRRA NUSSC- 10	Annex I	Add to Annex I The important contribution to the pub- lic exposure dose by ³ H and ¹⁴ C during DBC2 and different accident mods	Need the document to dis- cuss the necessary to con- sider tritium and carbon-14, which are present in releases into the atmospheric air			X	It is addressed in the document: In Para 4.21 and in Annex I: I-21 is referring to tritium and I- 59 to ¹⁴ C, and I- 102
125.	USA NRC-4	Annex I-16	Please remove the "is" from "as low as reasonably achievable."	The correct terminology does not use "is." It should read "as low as reasonably achiev- able."	x			

	COMMENTS BY REVIEWER				RESOLUTION			
No. 126.	Comment No. China EPReSC- 18	Para/Line No. I-59	Proposed new text "Carbon-14 is produced in light water reactors and heavy water reactors by (n, α) reactions with the 17O present in the oxide fuel and moderator, by (n, p) reactions with the 14N present in im- purities in the fuel and by ternary fis- sion."	Reason The contribution of ternary fission to C-14 production is minimal because it is almost impossible for C-14 to pass through the fuel cladding.	Accepted	Accepted, but modi- fied as follows	Re- jected x	Reason for modi- fication/rejection The contribution of ternary fission may be small, but the integrity of the cladding is not ensured
127.	China EPReSC- 19	NEW I-X	Corrosion products in the reactor cool- ant I-154. the affection of abrasion in the primary system should be controlled and reduced. I-155. Oxidizing operation may be done to reduce radiation level of pri- mary system before maintain after shutdown.	Some nuclear power plant designs focus on the contri- bution of erosion to corro- sion products. Usually, the main mainte- nance is after that the reactor is shut down, so reduced amount of corrosion activa- tion products in the coolant system before cold shut- down.		Instead of the new I- 155 the Para I-18 proposed to be ex- tended: I–18. In water cooled reactors, corrosion products are removed by treating the water with ion exchange resins to remove sol- uble species and by the installation of particulate filters. The capacity of such filters and resins needs to be adequate to cope with the en- hanced release of corrosion products	X	Suggested para- graph I-154 is covered by para- graph I-12. I–12. Corrosion products con- tained in the coolant are acti- vated as a result of temporary deposition in the core and during the normal pas- sage of the cool- ant through the core. They are deposited in other parts of the primary circuit. This source needs to be mini- mized by the fol- lowing means: (a) Reducing the corrosion and

	COMMENTS BY REVIEWER					RESOLUTION			
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows ('crud bursts'), in- cluding where initi- ated by hydrogen peroxide injection, and fission products ('spiking') that oc- curs during the start- up and cooldown stages	Re- jected	Reason for modi- fication/rejection erosion rate by the proper selec- tion of materials and the control of the coolant chemistry	
128.	Egypt ENRRA NUSSC- 11	Annex II	Can add duration time of workers in the controlled area for each zone at TABLE II–1.	Because the characteristic dose rate for zone is deter- mined based on the time re- quired for workers to spend in the radiation zone throughout the year and an- nual dose limit for person- nel.		stages.	X	This ANNEX II provides only EXAMPLE OF RADIATION ZONING THAT MAY BE USED FOR DESIGN PURPOSES. There are recom- mendations in the main body	
	Expert Meeting Review-1	2.53.	To change the number of referenced para. in 2 nd sentence.			2.53. In general, the higher the frequency of the accident condi- tions, the lower the specified design tar- get should be (see also the earlier para. 2.430 of this safety guide).		See comment Germany RASSC-2	

	COMMENTS BY REVIEWER				RESOLUTION			
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
	Expert Meeting Review-2	3.20	The general <u>criteria requirements</u> for the plant design should be developed and documented. These <u>criteria re-</u> <u>quirements</u> should include the princi- ples on which the layout of the plant will be based and restrictions on the use of specific materials in the design of the plant. (6) The proposed procedure is shown in the schematic flow chart of the fac- tors that determine individual and col- lective doses in Fig. 3.		x			MSs' comments on Step 8a Original wording of NS-G-1.13. Better to use "re- quirements for the plant design" then "criteria". (6) first sentence of NS-G-1.13 is necessary before sentence to keep the logic of 3.20 (6): "This proce- dure should be repeated at each significant stage of the design, and the level of detail should increase as the design is developed."
	Expert Meeting Review-3	3.26	To change the number of referenced para. 3.26 The design targets for annual in- dividual doses to members of the pub- lic, mentioned in para. 2.39 2.51, should already be set in the site evalua- tion at the start of the design process.					See comment Germany RASSC-2

	COMMENTS BY REVIEWER				RESOLUTION			
No.	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modi- fied as follows	Re- jected	Reason for modi- fication/rejection
	Expert Meeting Review-4	5.103	5.103 The GSG-8 [25] was included at the end on the first sentence.					See comment Germany RASSC-2
	Expert Meeting Review-5	5.117	Different types of measurement should be provided to monitor radionuclides released via the stack (see paras $8.276-$ 8.310).					See comment Germany RASSC-2
	Expert Meeting Review-6	6.21	In addition, site boundary monitors should be properly placed to allow for the monitoring of the spread of radio- active plumes, based on topographical and meteorological data (see paras $8.2\overline{16}-8.3\underline{10}$).					See comment Germany RASSC-2