

Form for Comments

DS527 CRITERIA FOR USE IN PREPAREDNESS AND RESPONSE FOR A NUCLEAR OR RADIOLOGICAL EMERGENCY (Revision of GSG-2)

COMMENTS				RESOLUTION			
The comments are listed according to their order of appearance in the text							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
5 IND W	General comment	The guide gives detailed account on human safety and emergency worker protection. However, it is suggested that more specific guidelines pertaining to environmental decontamination/ remediation following an emergency may be provided in the document.	Suggested inclusion			X	Although the areas suggested present technical interest, they do not fall under the scope of EPreSC (and GSG-2)
1 UK	General comment	This document is hard to read as it continually refers out to other documents and has lengthy footnotes. For example, Table 5 refers to other Tables, documents and paragraphs, has a lengthy set of footnotes, a column heading and rows that refer to paragraphs.	It is hard to follow the text eg in column heading of Table 5 it refers para II.3 to understand the applicability to different emergency scenarios. On reading para II.3 it is not clear if that is the correct reference		X		It is necessary to show relation to the other documents or paragraphs. It is a mistake that column heading of Table 5 referring to para II.3 and modified.
1 JPN T	General	[Comment] DPP-DS527: Review Committee(s) or Group: EPreSC, RASSC, <u>TRANSSC</u>, WASSC, NSGC	If TRANSSC has been added to the review committees for DS527, DPP-DS527 should be revised so.			X	Although the areas suggested present technical interest, they do not fall under the scope of EPreSC (and GSG-2)
2 JPN T	General	[Comment] DS504 is still under revision for years and no progress. <u>DS504 is cited several times in this draft, but the contents of</u>	The revision of GSR Part7 is under discussion. DS527 can wait after new GSR Part7 is published and			X	DS504 is at Step 9 and will likely be published before DS527. Once DS504 is

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		<u>DS504 have not been agreed. DS504 should be finalized prior to discuss the validity of each quotation from DS504.</u> EPreSC should focus on the ongoing projects before starting new project.	should be revised based on the new GSR Part 7.				<p>finalized and fully approved and endorsed, edits in DS527 will still be possible, if/as necessary.</p> <p>In addition, the current thorough review to inform the revision of GSR Part 7 has not ‘challenged’ any of the key concepts in GSG-2 or DS527. Even if it eventually would, a revision of “GSG-2 (Rev. 1)” would absolutely be possible after the publication of “GSR Part 7 (Rev. 1)”. This would be in line with the decision taken by EPreSC at EPreSC-18 to continue with the revision of GS-G-2.1 / DS504.</p>
2 GER	General		The Safety Guide contains radiological criteria for taking protective actions and other response actions. Dose levels (e.g. the residual effective dose), OILs (e.g. dose rates and activity concentrations),			X	Strictly speaking, only EALs are of use to identify and classify (before notifying) an emergency. More technical information on those two topics (classification and

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			EALs (e.g. increased radiation levels at the site, loss of cooling) and observables and indicators (e.g. radiation symbols and sources) might also be criteria for indicating a possible radiological emergency which may trigger the activation of the emergency management system and emergency reaction. We propose including a chapter or section for those criteria for identifying and notifying a nuclear or radiological emergency (see also Requirement 7 of GSR Part 7).				notification) are available in EPR-NPP-CAP 2024 and EPR-IEComm 2019, respectively.
1 GER	Contents		We propose switching chapter 3 and 4, since the operational criteria for a nuclear or radiological emergency are better suited to chapter 2. In fact, chapter 2 contains explanations and comments concerning operational criteria.			X	Chapter 2 focuses on generic criteria; and Chapter 4 introduces, and elaborates on, EALs and OILs. However, Chapter 3 only builds on generic criteria, therefore it makes sense to keep it after Chapter 2.
1 FAO	1.1 / lines 1 to 4	“Principle 9 of the Fundamental Safety Principles (Ref. [1] para 3.36) states that emergency preparedness and response plans must include criteria that are set in advance. Therefore, general safety requirements call for	This Safety Guide originates from Principle 9 of the Fundamental Safety Principles (FSP). But, GSR Part 7 sits below the FSP and has recommendations stemming from Principle 9, and in turn this Safety	X			

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		governments to ensure that pre-established operational criteria are derived for initiating the different parts of an emergency plan (Ref. [2] Requirement 5, para 4.28(4)). Such criteria help determine when different protective and other response actions should be taken. This Safety Guide gives guidance and recommendations on how to establish these operational criteria.”	Guide sits below GSR Pt 7 as the third tier of the standards. So _the order is Principle 9 of the Fundamental Safety Principles – Requirement 5 of the GSR Pt7 – this newly revised GSG-2				
2 FAO	1.5 / lines 1 and 2.	“This is a revised general safety guide on criteria for use in preparedness and response for a nuclear or radiological emergency (revised General Safety Guide GSG-2) that takes account of new developments, experience gained, and changes made in the relevant publications since 2011.”	Presumably the newly revised document will be published as GSG-2 but with a publication date of 2025 – so it would be confusing to say that “This Safety Guide is a revision of GSG-2 (which it supersedes),...”		X		This revision will be published as ‘GSG-2 (Rev. 1)’, so there should be no confusion. “1.5. This Safety Guide is a revision of GSG-2, which it supersedes. It takes account of new developments, experience gained, and changes made in the relevant publications since 2011.”
1 IRN	1.6/ Line 4	“...including operational intervention levels, emergency actions action levels,...”	Editorial. “Emergency action levels” is correct.	X			
2-1 UK	1.6 & 1.18.	‘emergency action levels’, not ‘emergency actions levels’	Correct grammar.	X			

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2 IRN	1.6/last sentence	“This Safety Guide also addresses relevant requirements 43-45 of GSR Part 3 [3].	This general sentence is included before in this draft. It is suggested to be more specific just like the previous sentence about GSR Part 7.	X			
1 JPN	1.7	This Safety Guide should be used in conjunction with GSR Part 7 [2], with due account to be taken of the <u>guidance</u> and recommendations provided in IAEA Safety Standards Series Nos DS504,	Editorial	X			
1 ISR	1.7	Delete references to DS 504 and to DS 534. Please delete references elsewhere as appropriate.	Those are draft safety guides not yet approved as official documents.			X	Confirmed by NSOC. Drafts will be reviewed again at Step 10 and also just before publication (we always check again at the last minute). Please note that even in the final publication, we can still reference draft safety standards that are in progress - provided the draft has already been sent for MS consultation. These are annotated in the list of references as “(in preparation)”.

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							DS504 has already reached this stage, and in any case will hopefully be published (or close to) at the same time as DS527. DS534 is a little further behind, but we should expect it to at least have reached the “in preparation” stage.
3 IRN	1.7/Line 6	“Arrangements for Public Communication with the Public in Preparedness and Response for a Nuclear...”	Correcting the title.	X			
WNTI-01	1.7	1.7. This Safety Guide should be used in conjunction with GSR Part 7 [2], with due account to be taken of the recommendations provided in IAEA Safety Standards Series Nos DS504, Arrangements for Preparedness and Response for a Nuclear or Radiological Emergency [11], DS534, Protection Strategy for a Nuclear or Radiological Emergency [12], GSG-11, Arrangements for the Termination of a Nuclear or Radiological Emergency [13], GSG-14, Arrangements for Communication with the Public	Typo. No “.” is needed between “... Radiological Emergency [14] and” and “SSG-65, Preparedness and response...”.	X			

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		in Preparedness and Response for a Nuclear or Radiological Emergency [14] and SSG-65, Preparedness and Response for a Nuclear or Radiological Emergency Involving the Transport of Radioactive Material [15].					
4 IRN	1.8/ Last line	“... emergency response plans and procedures...”	In this document, the term “emergency response plans” is used only here. The common term is “emergency plans” with the definition that is provided in IAEA Safety and Security Glossary. It is suggested to change “emergency response plans” with “emergency plans”	X			
2 JPN	1.9	The <u>guidance</u> and recommendations provided in this Safety Guide	Editorial	X			
5 IRN	1.10/ First line	<p>Replace the definition of “reference level” with its definition in ICRP 146 and mention the following as footnote:</p> <p>Third footnote: <i>“A dose criterion used to guide the optimisation process in existing and emergency exposure situation. Generally expressed in terms of individual annual dose (mSv year⁻¹), the value of a</i></p>	<p>It is a suitable occasion to discuss about the definition of “reference level”. In 2007, ICRP 103 was published and introduced “reference level” as a new term with following definition:</p> <p><i>“In emergency or existing controllable exposure situations, this represents the level of dose or risk, above which it is judged</i></p>			X	DS527 does not intend to define “reference level” but builds upon the definition given in higher level standards, namely GSR Part 3 and GSR Part 7. A change in the definition, if any, should take place at the GSR level.

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		<p><i>reference level should be selected considering the appropriate time frame, individual dose distribution of the affected people,, and the tolerability of risk in the circumstances. An objective is to facilitate the identification of people for whom protective efforts should be given priority.”</i></p> <p>○</p>	<p><i>to be inappropriate to plan to allow exposures to occur, and below which optimization of protection should be implemented. The chosen value for a reference level will depend upon the prevailing circumstances of the exposure under consideration.”</i></p> <p>In the abovementioned definition, the level of dose is quite clear but the level of risk causes confusion.</p> <p>ICRP makes the definition of “reference level” clear in ICRP 146 that states: <i>“A dose criterion used to guide the optimisation process in existing and emergency exposure situation. Generally expressed in terms of individual annual dose (mSv year⁻¹), the value of a reference level should be selected considering the appropriate time frame, individual dose distribution of the affected people,, and the tolerability of risk in the circumstances. An objective is to facilitate the identification of people for whom protective efforts should be given priority.”</i></p>				

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			<p>In IAEA Safety and Security Glossary (So in IAEA Safety Standards), “reference level” is defined as:</p> <p><i>“For an emergency exposure situation or an existing exposure situation, <u>the level of dose, risk or activity concentration</u> above which it is not appropriate to plan to allow exposures to occur and below which optimization of protection and safety would continue to be implemented.</i></p> <p><i>The value chosen for a reference level will depend upon the prevailing circumstances for the exposure under consideration.”</i></p> <p>In IAEA definition, “activity concentration” is added. But “reference level” is expressed as dose not activity concentration. It is suggested to change the definition of “reference level” with its definition in ICRP in this draft.</p>				
3 JPN	1.10	The <u>guidance</u> and recommendations in this Safety Guide	Editorial	X			
4 JPN	1.10	to protect <u>the public, workers and emergency workers, helpers emergency workers and the public</u> in the event of a	Clarification		X		“actions to protect workers, emergency workers, helpers and the public in the event of a nuclear or

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		nuclear or radiological emergency.					radiological emergency”
1 IND	Page 2 Para 1.10implementing protective actions and other response actions to protect emergency workers and the public in the event of emergency.	As per footnote 2 on the same page, in the context of this Safety Guide, the term ‘emergency’ is used for conciseness of the document and is intended to mean a nuclear or radiological emergency, unless otherwise specified. The same can be throughout the document.	X			/
1 SAU NSGC	1.11	1.11. This Safety Guide addresses the criteria to support decision making on taking urgent protective actions, precautionary protective actions and other response actions in an emergency. Examples of the operational criteria, operational intervention levels (OILs), emergency action levels (EALs), observables and indicators are provided in this Safety Guide. The method used for the development of operational criteria is described in general terms.	The GSG should follow GSR-7 and GSR-3 terminology	X			

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5 JPN	1.11	Examples of the operational criteria, <u>such as</u> operational intervention levels (OILs),	Clarification		X		“Examples of the operational criteria, including operational intervention levels (OILs), ...”
1 SVN	1.12/line 1	1.12. This Safety Guide addresses the emergency exposure situations in the urgent response phase and not the existing or planned exposure situations during the transition phase. Recommendations on adapting or lifting protective actions and other response actions during the transition phase, including the use of relevant operational criteria, are provided in GSG-11 [13].	Additional emphasis on the phase and the emergency situation it does address would make it clearer.		X		In combination with next comment (FAO): “1.12. This Safety Guide only addresses emergency exposure situations. It addresses neither existing nor planned exposure situations.”
3 FAO	1.12 / line 1	“This Safety Guide address neither existing nor planned exposure situations.” [Alternatively, you could write “This Safety Guide only addresses emergency exposure situations.”]	Grammar: Use the “neither” and “nor” combination in place of “does not” with “either” and “or”. Alternatively, you could make the sentence positive “This Safety Guide only addresses emergency exposure situations.”		X		
25 CAN	1.12	This Safety Guide does not address either existing or planned exposure situations (see [REF] and [REF], respectively).	Provide references for where to find the relevant information for the other exposure situations.			X	To provide relevant information of transition phase is enough, because after the emergency exposure situation, it shifts to

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							existing/planned exposure situation through transition phase.
6 IRN	1.14/ First line	“1.14. This Safety Guide cannot take into account all factors that are site area ³ specific, local, and State specific or specific to a particular type of emergency.”	In this line the used term is “site” but in the footnote, the definition of “site area” is included. It is suggested to revise this sentence and change “site” with “site area”.		X		New phrasing proposed: “1.14. This Safety Guide cannot take into account all factors that are site area specific, local, or State specific”
5 UK	Footnote 3	“ ³ Where ‘Site’, is a geographical area... The terms ‘on-site’ and ‘off-site’ mean within and outside the relevant area, respectively”	Better grammar and improved clarity. The meaning of ‘[2]’, at the end of this footnote, is unclear.		X		New phrasing proposed: “ ³ Site area is defined as “a geographical area that contains [...] a suspected hazard” [16]. The terms ‘on-site’ and ‘off-site’ mean within and outside the boundary of the site area, respectively.”
3 UK	1.14	‘state specific’, not ‘State specific’	Correct grammar	X			/
7 IRN	Third footnote/ Line 4	“...the controlled area around a industrial radiography work source...”	One part of this definition is different from IAEA Safety and Security Glossary. “...the controlled area around industrial radiography work...” is changed with “...the controlled area around a radiography source...”. The changed part does not cover all industrial radiography techniques	X			/

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			and devices. The definition in Glossary is general and correct.				
8 IRN	1.14/ Lines 2 and 3	“In the preparedness stage, the users of this Safety Guide should work with interested parties to adapt the recommendations in the preparedness stage... ”	If writing “in the preparedness stage” at the beginning of the sentence, attracts the attention in a better way.			X	It does not change the message and the current phrasing reads better.
1 IRL	1.14 (page 3)	The users of this Safety Guide Each State should work with interested parties to adapt the recommendations in the preparedness stage, so as to take account of local, social, political, economic, environmental, demographic and other factors.	The added text is to ensure there is one version of the recommendations for a State (there may be multiple users from multiple organizations/facilities, and each could have different adaptations.			X	This paragraph suggests cooperating with stakeholders in the preparedness stage.
2 IND	Page 3 Para 1.15	.....However, the implementation of protective actions and other response actions may not be solely based on radiation protection.....	‘Suitability’ does not convey the intent. Response may or may not be taken based on radiation protection		X		To reinforce the message: “However, the suitability of implementing protective actions and other response actions is not solely based on radiation protection”
2 SAU NSGC	1.15	1.15. The recommendations on the operational criteria presented in this Safety Guide are based solely on considerations of the radiological aspects of an emergency or response to an emergency. However, the suitability of protective actions and other response actions is not	“based on radiation protection” is not clear. Health and environment risks are the basis.			X	Effect on human health and environment is related to both of radiation and non-radiation risks which is mentioned as “various additional factors”.

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		solely based on risks to human health and the environment. Decision makers should also consider various additional factors, including social, economic, environmental and psychological, before making any final decision on actions to be taken in response to an emergency.					
2 IRL	1.15 (page 3)	Decision makers should also consider various additional factors, including social, economic, environmental, security and psychological, before making any final decision on actions to be taken in response to an emergency.	Decision makers should also consider the impact on security of any response actions.	X			/
4 UK	1.15.	‘Decision makers should also consider various additional factors, including health, social, ...’	Actions taken to avert radiological risks can have significant health effects (e.g. stress related cardiovascular issues, particularly in vulnerable groups). This should be expanded throughout the document to make this point more strongly	X			/
6 JPN	1.18	Section 2 provides <u>guidance and recommendations</u>	Clarification	X			/

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7 JPN	1.18	Section 4 provides <u>guidance and recommendations</u>	Clarification	X			/
1 JPN R	Para. 1.18	1.18. Section 2 provides recommendations on the emergency response criteria to be established within a protection strategy for a nuclear or radiological emergency. Section 3 provides recommendations on the guidance values for emergency workers. Section 4 provides recommendations on operational criteria. The three four appendices provide additional recommendations on the use of dosimetric quantities , operational intervention levels, emergency actions levels, and observables and indicators, respectively. <u>The Annex provides additional information on the use of dosimetric quantities.</u>	Editorial.	X			/
1 IDN	Page 3/Line 1 from bottom	... operational intervention levels, emergency <u>actions</u> levels, and observables	No “s”	X			

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2-2 UK	1.6 & 1.18.	‘emergency action levels’, not ‘emergency actions levels’	Correct grammar.	X			
1 KOR	2.1	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSR Part 7 and there is no clear reason for stating it.	X			
3 SAU NSGC	2.1 – 2.2	Delete or replace with references to articles of GSR-7	Direct quotations from upper-level standard. No need to repeat without putting them into a context of the reviewed draft.			X	Quoting of GSR Part 7 aims to provide the basis for addressing aspects related to protection strategy.
2 IDN	Page 4/Line 18	... an effective dose in the range of 20–100 mSv,	Needs “of”	X			/
14 CAN	Para. 2.4.4, footnote 16 (and Para. 2.2, bullet (1)).	Consider including a footnote in para. 2.2 to clarify that deterministic effects are now called tissue reactions, which are defined by the ICRP as: “Injury in populations of normal cells characterised by a threshold dose and an increase in the severity of the reaction as the dose is increased further. Tissue reactions were previously called ‘deterministic effects’. Tissue reactions are modifiable by post irradiation procedures including	Comment added to consider reflecting up to date ICRP terminology and classification.	X			

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		health care and biological response modifiers.” Further, in para. 2.4.4, both early and late deterministic effects (tissue reactions) should be distinguished.					
2 ISR	2.2 (2)	It is recommended to amend as follows: "A reference level ...20-100 mSv, per emergency-acute or annual, that includes.. "	Completeness			X	This is quote from GSR Part 7. A quote must reflect the original/reference text without modifications.
1 IND W	Page No.4; Section 2.2; Point No.2	This reference level shall be used in conjunction with the goals of emergency response...and the specific time frame in which particular goals are to be achieved. “For enhancement of response effectiveness by providing real time data, application of emerging technologies such as Artificial Intelligence, drones, advanced radiation detection systems etc. can be useful for aiding quicker decision-making process during emergencies”.	The highlighted text can be considered for addition as appropriate.			X	This is quote from GSR Part 7. A quote must reflect the original/reference text without modifications.
3 IND	Page 4	A reference level expressed in terms of residual	Some generic criteria such as for food restriction will meet			X	This is quote from GSR Part 7. A quote must reflect the

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	Para 2.2/(2)	dose shall be set, typically as an effective dose not more than 100 mSv,	before 20 mSv. Therefore, the lower bound may be removed. Also, ICRP 146, does not define lower bound of Reference level.				original/reference text without modifications.
4 SAU NSGC	2.2 (2)	Delete "... " in "response ...and"	Editorial comment			X	This is quote from GSR Part 7. There is bracketed writing in the original/reference text.
2 SVN	2.2/line 15	<i>¹²The application solely of the reference level for effective dose would not be sufficient to develop the protection strategy. Consideration needs to be given to the particular goal to be met in the response, the time to allow for actions to be taken effectively, and the appropriate dose quantity to be used to ensure that organ doses will be kept below those at which protective actions and other response actions are justified (see para. 4.28 (1)). For example, actions to avoid or to minimize severe deterministic effects are to be taken urgently when projected doses expected to be received within a short period of time exceed those given in Table II.1 of Appendix II for the RBE weighted absorbed dose to a tissue or organ. In this case, if such doses are received, then prompt and appropriate medical actions are necessary. Moreover, selection of a particular value (to be used for optimization purposes and for retrospective assessment of the effectiveness of actions and strategy taken) within the proposed range of 20–100 mSv acute or annual effective dose would</i>	Footnote No. 12 and its designation from GRS Part 7 is missing – if it is quoted, it should be quoted in full. As it is otherwise in the document, i.e. in paragraph 2.6, line 5.			X	Footnote is omitted as written in the beginning of paragraph 2.2. This was fine as per first review by Safety Standards Specialist, Step 6.

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		depend on the phase of the emergency, the practicality of reducing or preventing exposures, and other factors. In the urgent phase of an emergency, an effective dose of 100 mSv, acute or annual, might be justified as one of the dosimetric bases for implementing and optimizing a protection strategy. In the later phases, such as during the transition, an effective dose of 20 mSv per year may be justified as one of the dosimetric bases for implementing and optimizing a protection strategy to enable the transition to an existing exposure situation to be made.					
4 IND	Page 4 Para 2.2(4)	Once the protection strategy has been developed and approved and a set of national generic criteria has been developed.....	Justification and optimization of protective actions are taken care in the process of development of protection strategy.			X	This is quote from GSR Part 7. A quote must reflect the original/reference text without modifications.
3 SVN	2.2/(4)/line 27	¹³ The operational criteria (i.e. operational intervention levels) need to be derived for a representative person with account taken of those members of the public that are most vulnerable to radiation exposure (i.e. pregnant women and children).	Footnote No. 13 from GRS Part 7 is missing – if it is quoted, it should be quoted in full. As it is later in paragraph 2.6, line 5.			X	Footnote is omitted as written in the beginning of paragraph 2.2. This was fine as per first review by Safety Standards Specialist, Step 6.
1 USA	2.2(4), page 4	Arrangements shall be established in advance to	The paragraph suggests to “revise” operational criteria			X	This is quote from GSR Part 7. A quote must reflect the

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		implement these operational criteria, as appropriate, in the course of a nuclear or radiological emergency, with account taken of the prevailing conditions as they evolve that may require exceeding or adjusting the criteria.”	during an emergency. However, published guidance is not easily nor timely revised to support a response. It is more important to have arrangements in place to risk-inform implementation of the criteria, and provide an understanding of how they can be modified/adjusted based on prevailing conditions, as discussed in paragraph 2.8.				original/reference text without modifications.
9 IRN	2.2/ Bullet (4)/ Line 5	“...other response actions shall be derived from the generic criteria ¹³ .”	Editorial. The superscript number (13) does not refer to any footnote. Please delete it.	X			/
5 SAU NSGC	2.2 (4)	“...actions shall be derived from the generic criteria ¹³ ” This number “13” is either a footnote or a reference. In case it is a footnote, the detail of this footnote is not included at the end of this page. On the other hand, if it is a reference, it should not be superscript [13].	Editorial comment	X			/
2 KOR	2.2	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSR Part 7 and there is no clear reason for stating it.			X	Quoting para 4.28 in GSR Part 7 aims to provide the basis for addressing aspects

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							related to protection strategy (e.g., OILs).
3 KOR	2.3	Recommendations on the concept of the protection strategy for a nuclear or radiological emergency, and the development, justification and optimization of such a strategy are provided in DS534 [12]. As indicated in DS534 [12], establishing a national reference level, generic criteria, and operational criteria are three of the main steps of the step-by-step approach for the development of a protection strategy [12].	DS534 can be used as a reference for further consideration, but it is not approved and published Safety Standards yet, so using the term “recommendations” is not appropriate.		X		Edited as follows: “Guidance on the concept of the protection strategy for a nuclear or radiological emergency, and the development, justification and optimization of such a strategy are provided in DS534 [12]”
5 IND	Page 5 Para 2.3	<u>.....and the development which includes justification and optimization of protective actions in such a strategy are provided in DS534 [12]</u>	As given above.	X			
8 JPN	2.3	<u>Guidance and recommendations</u> Recommendations on the concept of the protection strategy	Clarification		X		To meet another comment from the Republic of Korea, the proposed rephrasing is: “Guidance on the concept of the protection strategy ...”

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9 JPN	2.3	As indicated in Paragraph 4.28 of GSR Part 7 [2] above, DS534- [12] ,	Clarification It is better to cite the GSR Part 7 of the higher-level document rather than DS534, which is being prepared.		X		Agreed, but DS534 will provide the step-by-step methodology. The suggested rephrasing is as follows: “As indicated in Paragraph 4.28 of GSR Part 7 [2] and DS534 [12], ...”
1 PAK	2.3 and other instances in the document	Reference to draft documents is suggested to be omitted	In consideration of possible changes in the draft document/referred text during finalization of referred documents.			X	As confirmed by NSOC, making reference to other draft safety standards is fine.
2 USA	2.4, page 5	Delete paragraph 2.4 Replace with, “The use of reference levels in an emergency exposure situation is described in GSR Part 3 [3] and ICRP Publications 103 [9] and 146 [add ref]”.	Paragraph 2.4 appears to misapply ICRP guidance. The reference level is not an upper constraint on optimization during emergencies. The idea of an upper constraint comes from ICRP 103 for planned exposure. However, in ICRP 103 the reference level is used to assess residual dose and the effectiveness of protection strategies. The concepts of ICPR 146 should be referenced, as		X		In combination with 5 comments, edited as follows: The use of reference levels in an emergency exposure situation is described in GSR Part 3 [3] and ICRP Publication 103 [9]. As stated in para. 1.24 of GSR Part 3 [3] “The reference level represents the level of dose or the level of risk above which it is judged to be inappropriate to allow

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			well.				exposures to occur and below which the optimization of protection and safety is implemented. The value chosen for the reference level will depend on the prevailing circumstances for the exposures under consideration". The reference level is a tool for optimization of the protection strategy and protective actions: priority is given to those groups for whom the dose exceeds reference levels, and then optimization of protection and safety is applied to exposures below reference levels, as long as interventions are justified (i.e., do more good than harm), radiological and non-radiological factors considered. The reference level is not a limit; it serves a boundary condition in
10 JPN	2.4	The use of reference levels in an emergency exposure situation is described in GSR Part 3 [3] and ICRP Publication 103 [9]. The reference level is a tool for optimization of the protection strategy and protective actions; priority is given to exposures above reference levels, and then optimization of protection is applied to exposures below reference levels, provided actions are justified, i.e., do more good than harm. A stated in para. 1.24 of GSR Part 3 [3] "The reference level represents the level of dose or the level of risk above which it is judged to be inappropriate to allow exposures to occur and below which the optimization of protection and safety is implemented. <u>The value chosen for the reference level will depend on the prevailing circumstances for the exposures under consideration</u> ". <u>The reference level is a tool for</u>	Clarification and accurate expression based upon ICRP Pub.103 and 146, GSR Part 3. A reference level is not a constraint.		X		

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		<u>optimization of the protection strategy and protective actions; all exposures above or below the reference level should be subject to optimization of protection and particular attention should be given to exposures above the reference level.</u> The reference level is not a limit; it represents an upper constraint <u>boundary condition</u> on optimization, and has a role in both emergency preparedness and response.					identifying the range of options for the purposes of optimization and has a role in both emergency preparedness and response.
3 ISR	2.4	Please correct sentence as follows: "As stated in para. 1.24 of GSR Part 3 [3]...."	Editing	X			
2 JPN R	Para 2.4	2.4. The use of reference levels in an emergency exposure situation is described in GSR Part 3 [3] and ICRP Publication 103 [9]. The reference level is a tool for optimization of the protection strategy and protective actions; priority is given to exposures above those <u>groups for whom the dose exceeds</u> reference levels, and then optimization of protection	Clarification and consistency with para. 5.8 of GSR Part 3.	X			

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		<u>and safety</u> is applied to exposures below reference levels, provided actions are justified, i.e., do more good than harm.					
26 CAN	2.4	The reference level is a tool for optimization of the protection strategy and protective actions: priority is given to exposures above reference levels, and then optimization of protection is applied to exposures below reference levels, <u>as long as interventions do more good than harm, radiological and non-radiological factors considered (i.e., they are justified).—provided actions are—justified, i.e., do more good than harm.</u>	Change is for clarity. On first read, it is possible to assume that, because the reference level must be justified, any actions below it are also justified. Revision is intended to avoid confusion on this point.		X		
6 SAU NSGC	2.4	2.4. The use of reference levels in an emergency exposure situation is described in GSR Part 3 [3] and ICRP Publication	No need for direct quotation from GSR-3 already referred.			X	Quoting para 1.24 in GSR Part 3 aims to confirm the consideration of the

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		103 [9]. The reference level is a tool for optimization of the protection strategy and protective actions; high priority is given to exposures above reference levels, and then optimization of protection is applied to exposures below reference levels, provided actions are justified, i.e., do more good than harm. As stated in para. 1.24 of GSR Part 3 [3] “The reference level represents the level of dose or the level of risk above which it is judged to be inappropriate to allow exposures to occur and below which the optimization of protection and safety is implemented”. The reference level is not a limit; it represents an upper constraint on optimization, and has a role in both emergency preparedness and response.					relevant safety requirement.
3 IDN	Page 5/Line 17	...it represents an upper constraint on <u>optimization</u> , and has a role	No comma before and	X			/

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1 FIN	2.5	The reference level is expressed in terms of residual dose, which is the dose expected to be incurred after <u>the effects of implemented</u> protective actions have been terminated <u>taken into account</u> (or after a decision has been taken not to take protective actions).	<p>Residual dose as defined in 2.5 (and Safety Glossary) is not in line with the ICRP's definition nor its usage in the document. has critical difference to ICRP's definition of residual dose. ICRP (Publication 146) defines projected dose as "[t]he dose received or expected to be incurred by an individual from a given source. It can be estimated or measured, taking into account any protective actions that have been applied to the source, pathway, or individual. (...)"</p> <p>As defined in the para 2.5, there appears to be (unintended?) time limitation in that no doses prior to termination of protective actions would be included in residual dose. Thus, for example para 2.6 appears to conflict with the definition in para 2.5 as former speaks of residual</p>		X		<p>The problematic piece of the sentence has been deleted:</p> <p>"2.5. The reference level is expressed in terms of residual dose. For a nuclear or ..."</p> <p>Para. 4.52 of GSG-11, as mentioned in the comment, is used in 2.6 to define "residual dose".</p>

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			<p>dose expressing the accumulated doses from the initiation of emergency, while latter defines residual dose as dose after protective actions are terminated.</p> <p>In practice, the use of the term residual dose in this document and in GSR Part 7 (for example para 43.1 (f)) appears to follow the definition used by ICRP and not the one in para 2.5.</p> <p>Alternatively, the formulation of para 4.52 of GSG-11 or ICRP's definition could be used as basis for the definition.</p>				
4 KOR	2.5	The reference level is expressed in terms of residual dose, which is the dose expected to be incurred after protective actions have been terminated (or after a decision has been taken not to take protective actions). For a nuclear or radiological emergency, a residual dose in	As indicated in para 2.9, the selection of specific numerical values for national reference levels is the responsibility of the government. Direct indication of a specific range of residual dose is not appropriate.	X			

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		<p>the range of 20–100 mSv– effective dose is to be used (see para 1.27 of GSR Part 3 [3].</p> <p>Or</p> <p>The reference level is expressed in terms of residual dose, which is the dose expected to be incurred after protective actions have been terminated (or after a decision has been taken not to take protective actions). For a nuclear or radiological emergency, a residual dose typically in the range of 20–100 mSv effective dose should be used (see para 1.27 of GSR Part 3 [3].</p>					
10 IRN	2.5/ Last line	“For a nuclear or radiological emergency, a residual dose, typically as an effective dose , in the range 20-100 mSv effective dose is to be used.	Please revise the sentence to make it clear.			X	The current wording is commonly used.
11 IRN	2.5	It is suggested to include the definition of the term “residual dose” as it is provided in ICRP 146 in footnote and revise parts such as paragraph 2.5 according to the definition.	ICRP 103 states: “Residual dose The dose expected to be incurred after protective measure(s) have been fully implemented (or a decision has been taken not to implement any protective measures).”		X		The comment is addressed together with the comment/proposal made by Finland (see two rows above).

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			<p>But this definition has been changed somehow. ICRP 146 states:</p> <p>“Residual dose The dose received or expected to be incurred by an individual from a given source. It can be estimated or measured, taking into account any protective actions that have been applied to the source, pathway, or individual. Residual dose applies in an emergency exposure situation or in an existing exposure situation.”</p> <p>But IAEA Safety and Security Glossary (and some of the IAEA Safety Standards) define this term in different way:</p> <p>“residual dose The dose expected to be incurred after protective actions have been terminated (or after a decision has been taken not to take protective actions)”</p> <p>It seems that the definition provided by IAEA Glossary is somehow different from ICRP 103 and 146. The first sentence of paragraph 2.5 is quite in line with IAEA definition. But there is a shift from IAEA definition to the definition of ICRP 146 in quoted paragraph of GSG-11 (para.2.6).</p>				

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			When talking about the application of reference level for optimizing the protective actions, the definition of ICRP 146 has more sense.				
11 JPN	2.5	The reference level is expressed in terms of residual dose, which is the dose expected to be incurred after protective actions have been <u>implemented terminated</u>	Clarification			X	The phrasing has been simplified (see previous comment from Finland). Para. 2.6 defines “residual dose” as in GSG-11.
4 ISR	2.5	Please add closing parenthesis ")" at the end of the paragraph.	Editing	X			
1 CAN	Para 2.6	The concept of “initiation of the emergency” requires additional clarity.	Operators in Canada have interpreted the initiation of the emergency to begin prior to any radiological releases (coinciding with the initiation of the event). However, for technical assessment of dose consequences of a severe nuclear accident, residual dose should be calculated once the release occurs, not once the event is initiated, given different			X	Although the areas suggested present technical interest, as this para is quoted from GSG-11, it does not fall under the scope of GSG-2. In addition, between the initiation of the emergency and the beginning of the release, actions might already be taken to protect workers on site and

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			hold-up periods where no dose is incurred to members of the public. See also related comment 8.				members of the public off site. This has an influence on dose projection / calculation.
7 SAU NSGC	2.6/4	<p>“, if any³³ ³³ For emergency exposure”</p> <hr/> <p>There is another footnote with number 33 on page number 27. (General comment: Footnotes do not follow numbering order at bottom of pages)</p>	Editorial comment			X	This is a footnote of quoted part from GSG-11.
27 CAN	2.6	<p>Suggest not quoting footnote 33; instead, revise the text slightly:</p> <p>For—When calculating residual doses to be used during the response, e.g., to adjust a reference level to better suit circumstances, the total residual dose includes the doses received from all exposure pathways (received dose) and the doses expected to be received in future (projected residual dose), with account taken of the</p>	Improves clarity and adds context for why the reader might want to be able to assess residual dose during the emergency, in terms of the reference level.			X	This is quote from GSG-11. A quote must reflect the original/reference text without modifications.

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		implementation of the protection strategy, if any					
2 PAK	2.6, footnote 33 (page 5)	The text in the foot note may be made part of document as it is explanatory and should be part of main text of the document.	The footnote is quoted in the text is explanatory and suggested to be made part of text.			X	This is a footnote of quoted part from GSG-11.
3 GER	2.6		The footnote 33 needs be at the bottom of the page. See also footnote 30 on page 20.			X	This is a footnote of quoted part from GSG-11.
3 PAK	2.7 (page 5), 2.8 (page 6)	Both statements need harmonization as during emergency phase there will not be sufficient time to compare it with applicable reference levels.	Reference section 2.8, it is mentioned that protection strategy has been implemented should be compared against the applicable reference level whereas in section 2.7 it is mentioned that for an emergency response during the urgent response phase, there is no time for a specific optimization process due to the urgency associated with decision making and implementation of protective actions in an effective manner. Instead, a justified and optimized protection		X		Added at the end of para 2.8: “It should be noted that assessing the doses received my members of the public is not immediate.”

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			strategy for the urgent response phase should be prepared and agreed on at the preparedness stage.				
3 USA	2.7, page 5	Delete, "For an emergency response during the urgent response phase, there is no time for a specific optimization process due to the urgency associated with decision making and implementation of protective actions in an effective manner." Start with, "A justified and optimized protection strategy..."	Optimization is still possible for urgent protective actions. A precautionary approach should not be assumed.		X		It is to encourage relevant parties to discuss each other in the preparedness stage. It is true that optimization is still possible for urgent protective actions, and the beginning is edited as follows: For an emergency response during the urgent response phase, there is little time for a specific optimization process ...
1 SWE	2.8	It may be considered to include a reference on how the described approach in the first sentence of the paragraph has been implemented in practice.	The described approach in the first sentence of the paragraph has been proposed by ICRP since 2007. Since then, there have been several opportunities to follow the recommended approach. In particular references to how incurred doses have influenced and changed decisions on urgent and early			X	Although the areas suggested present technical interest, they do not fall under the scope of this revision. In addition, it would constitute a good suggestion for an Annex in DS534.

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			protective action would be welcomed as it is far from obvious how this would work in practice when incurred doses are unknown or estimated with great uncertainties.				
4 SVN	2.8/line 1	During the early response phase in emergency response, the doses incurred by individuals after the protection strategy has been implemented should be compared against the applicable reference level, providing an opportunity to assess the effectiveness of the protection strategy and the need for adjustments to address prevailing circumstances.	Additional clarification (added information) of the phase of the response, when adjustment of the reference level is possible (since in the urgent phase it is not and also because dose reconstructions, which would be the main basis for these adjustments will take time).		X		<p>This addition (in red) would implicitly rule out the possibility to update/change the implementation of protective actions during the urgent response phase based on dose projections, for instance if the release situation worsens.</p> <p>A sentence was added at the end of 2.8 to reflect that it takes time to assess doses received by members of the public – in line with the comment from</p>

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							Ireland two rows below.
5 ISR	2.8	It is recommended to delete as follows: "which will normally mean those groups..."	Clarity	X			/
28 CAN	2.8	During the emergency response, the doses incurred by individuals after the protection strategy has been implemented should be compared against the reference level, providing an opportunity to assess the effectiveness of the protection strategy and the need for adjustments to address prevailing circumstances. With this adjustment of the reference level , further protective actions can be determined and implemented so that they (taking into account the resources available) focus on those groups and/or individuals who would benefit most from such actions, which will normally mean those groups and/or	<p>These sentences relate to two different concepts and should be separated into different paragraphs.</p> <p>1) Assessment of the protection strategy against the reference level, and adjustment to the protection strategy if needed.</p> <p>2) Adjustment of the reference level.</p> <p>This change also makes the first part of the text consistent with IAEA Publication EPR-NPP Protection Strategies (where it appears to be taken from) and which does not refer to</p>		X		A sentence was added as follows: "2.8. During the emergency response, the doses incurred by individuals after the protection strategy has been implemented should be compared against the applicable reference level, providing an opportunity to assess the effectiveness of the protection strategy and the need for adjustments to address prevailing circumstances. Adjustments might be taken in terms of the implementation of protective

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		<p>individuals whose residual doses exceed the reference level.</p> <p>During the transition phase, once the protection strategy has been optimized to below the reference level for the emergency exposure situation for all groups and/or individuals, it may be appropriate to adjust the reference level. As the emergency evolves, different reference levels may be applied at different times and in different areas.</p>	<p>adjustment of the reference level.</p> <p>Additional guidance on how and when to adjust the reference level would be useful.</p>				<p>actions under an unchanged reference level or in terms of the reference level. With the adjustment of the reference level ...”</p> <p>The second remark on the transition phase explicitly is out of scope of DS527.</p>
3 IRL	2.8 (page 6)	There is a need to note that it can take some time to assess the doses received by members of the public’.	The text refers to the doses incurred by individuals and sometimes notes that there is an opportunity to assess the effectiveness of the protection strategy and make adjustments to address prevailing circumstances. However, members of the public are unlikely to have dosimetry badges and so dose		X		<p>Added at the end of 2.8:</p> <p>“It should be noted that assessing the doses received by members of the public is not immediate.”</p>

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			reconstructions will take time.				
3 JPN R	Para. 2.9	2.9 The selection of These specific numerical values for national reference levels is the responsibility of the government, the regulatory body or another relevant authority <u>are established or approved by the government, the regulatory body or another relevant authority</u> (see para. 1.24 of GSR Part 3 [3]).	Clarification and consistency with para. 1.24 of GSR Part 3	X			/
12 IRN	2.9/ First line	“2.9. The selection or approval of specific numerical values for national reference levels is the ...”	According to the para. 1.24 of GSR Part 3, reference levels are established or approved by the government, the regulatory body or another relevant authority. So it is suggested to add “or approval” to the first sentence in line with GSR Part 3.		X		Edited using suggestion made by Japan in the row above.
13 IRN	2.10/ Bullet (a)/Second line	“(a) ...International Commission on Radiological Protection (ICRP) [9] [10], and IAEA safety standards...”	Add ICRP 146 as a reference too. It provides useful recommendations about selecting reference levels.		X		[9, 10]
4 JPN R	Para. 2.10 (a)	2.10. In selecting a national reference level, the following should be considered: (a) International recommendations and	Editorial and consistency with para. 1.5 of DS527.	X			/

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		findings, notably the recommendations of the International Commission on Radiological Protection (ICRP) [9, 10], and IAEA safety standards (specifically GSR Part 3 [3] and GSG-11 [13]).					
12 JPN	2.10	(a) International recommendations and findings, notably the recommendations of the International Commission on Radiological Protection (ICRP) [9], and IAEA safety standards (specifically GSR Part 3 [3] and <u>GSR Part 7 [2]-GSG-11 [13]</u>).	Clarification	X			/
5 KOR	2.10. (a)	International recommendations and findings, notably the recommendations of the International Commission on Radiological Protection (ICRP) [9], and IAEA safety standards (specifically GSR Part 3 [3] and GSG-11 [13]).	There is no clear necessity to highlight ICRP and IAEA publications in the body text.			X	This reinstates the message conveyed at the end of para. 1.5.
8 SAU NSGC	2.10 (b)	(b) Scientific evidence of harm from ionizing radiation ⁴ , such as the levels at which no discernible increase in the	Reference to UNSCEAR Report, as a whole is not sufficient because it is a very voluminous document with very voluminous Appendices.			X	This does not mean the specific paragraph of the document, but the

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		incidence of radiation induced cancers is expected (see paras. XX of [17]). This may help in prioritizing actions and applying a graded approach to protect affected populations before optimization can be considered.	The Sections/paragraphs of this Report should be at least referred here or in the footnote.				entire body of work by UNSCEAR.
3 CAN	Para. 2.10 (b)	<p>“Scientific evidence of harm from ionizing radiation⁴, such as the levels at which a no discernible increase in the incidence of radiation-induced cancers can be attributed to radiation exposure is expected [17].”</p> <p>Or more plainly stated: “Scientific evidence of harm from ionizing radiation⁴, for which epidemiological evidence has demonstrated an increased radiation-induced cancer risk, even at low and moderate doses [17].”</p>	Given the information provided in comment 2, there is a discernable increase in radiation-induced cancer risk. However, the increase may not be able to be attributed to radiation in low powered studies.			X	It does not change the message and the current phrasing reads better.
6 ISR	2.10 (b)	Footnote 4: it is recommended to add reference to a more recent	Completeness	X			

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		UNSCEAR report "Sources, Effects and Risks of Ionizing Radiation: United Nations Scientific Committee on the Effects of Atomic Radiation 2020/2021 Report to the General Assembly, with Scientific Annexes, Volume III – Scientific Annex C"					
2 CAN	Para 2.10, footnote 4	<p>The footnote could be clarified with more recent publications.</p> <p>“Current epidemiological data show that radiation induced cancers (the excess number of cancer cases above background cancer cases) could be statistically detected in large populations exposed at doses above 100 mSv delivered at high and low dose rates. These data are based on epidemiological studies of well defined populations (e.g. the survivors of the atomic bombings in Japan, and patients undergoing</p>	<p>First, there are numerous studies that demonstrate statistical excess cancer at doses below 100 mSv delivered as acute exposure, notably the EPI-CT (Bosch de Basea Gomez, et al, 2023) and Oxford Study (Wakeford and Doll, 1997).</p> <p>Second, there are numerous studies that demonstrate statistical excess at doses below 100mSv delivered at low doses rates, notably the INWORKS suite of studies</p>			X	<p>UNSCEAR is working on the topic of low dose and low dose rates and link to cancer risk but the report is not yet available; it will be published in 2025 (?)</p> <p>ICRP too is currently reviewing the scientific evidence relevant to the assessment of solid cancer radiation risk at low dose and low dose rates and is drafting a document, which has not been published yet.</p>

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		radiological medical procedures, nuclear workers). Epidemiological studies have also not demonstrated statistically significant excess cancer such effects in individuals exposed at low doses (less than 100 mSv) delivered over a period of many years [17].”	(Richardson et al, 2024; 2023; 2018; 2015, etc).				In addition, regarding the INWORKS reference and adding nuclear workers, this literature is still being debated. It is suggested not incorporating it.
13 JPN	2.10	(c) Results of the hazard assessment (see Requirement 4 of GSR Part 7 [2]) which identify <u>hazards and assess potential consequences</u> potential exposures from an emergency and therefore help in determining the range of residual doses that might be achieved by implementing the protection strategy.	Clarification and accurate expression	X			/
6 KOR	2.10. (d)	Uncertainties in the assessment of potential exposures, for example, so as to ensure a sufficient margin in the chosen value for the national reference level.	This is subsidiary concept to (c).			X	It is suggested to keep it as a separate item to highlight the need to consider uncertainties, which usually constitute

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							something difficult to deal with.
14 JPN	2.10	(d) Uncertainties in the assessment of <u>potential consequences from an emergency-potential exposures</u> ,	Clarification and accurate expression	X			/
7 KOR	2.10. (e)	The effectiveness of identified protective actions to reduce potential exposures. Or The availability of options for reducing exposures below the reference level .	The reference level should be determined and confirmed after identification of protective actions via hazard assessment. Therefore, the potential exposure and the overall effectiveness of protective actions should be considered to determine reference levels. Proposed text in the draft guide can be interpreted as reference level is set first, and effectiveness of protective actions is considered later.			X	According to paragraph 1.24 of GSR Part 3, reference levels are used for optimization of protection and safety in emergency exposure situations. It means the reference level is set first, and then protective actions are considered accordingly.
6 IND	Page 7 Para 2.10(e)&(f)	Both can be combined as they are the process of optimization of dose below the reference level	Suggestion			X	(e) and (f) convey slightly different messages: (e) highlights the need to take actions to decrease exposure below the reference level; (f)

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							emphasizes that exposures below the reference level is not necessarily enough; if more can be done to further decrease exposure, it should be.
8 KOR	2.10. (f)	The practicability of further reducing or preventing exposures.	This is repetition to (c) and (e).			X	See previous row.
9 KOR	2.10. (g)	Consistency between the national criteria (generic and operational) for implementing specific protective actions and the national reference level.	It is unclear that how reference levels can be consistent with generic or operational criteria when considering para 2.16 of DS527 addressing the point that the objective of reference levels and these criteria are different.			X	(g) rephrased as follows: “(g) Consistency between the national reference level selected and subsequent national criteria (generic and operational) for implementing specific protective actions (see Figure 1).”
14 IRN	2.10/ bullet (h)/ Last line	Yes: “...reference levels at different phases of the emergency times and in different areas.” No:	In this bullet, “at different times” is not so clear. Does it mean “at different emergency phases”? If yes, please change “at different times” with “at different phases of			X	The use of “at different times” includes “at different phases”.

COMMENTS The comments are listed according to their order of appearance in the text				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		“... reference levels at different phases of the emergency , at different times, and in different areas.”–	the emergency”. If no, please add “at different phases of the emergency”				
7 ISR	2.10 (h)	"Recognition ...the application of different national reference level at different times and in different areas "	Applying a higher reference level in different areas in a country might be difficult to justify			X	For example, the emergency response might be terminated in an area but not in another, hence the use of different reference levels in both areas.
7 IND	Page 7 Para 2.10 (h)	.....Residual doses are expected to decrease as the pre-planned protective actions and other response actions are implemented and.....	To convey the intent with better clarity.	X			
10 KOR	2.10. (i)	The level at which the reference level for existing exposure situations are set, to allow for a smooth transition from one exposure situation to another.	This is subsidiary to (h).			X	The purpose is to highlight the need for a reference level to be set up for the transition to an existing exposure situation.
8 IND	Page 7 Para 2.10 (i)	The reference level for existing exposure situation, to allow for a smooth transition from emergency exposure situation	Better clarity			X	Comment unclear
4 IDN	Page 7/Line 10	... exposure situations <u>is</u> set,		X			

COMMENTS				RESOLUTION			
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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
4 CAN	Para 2.10	Add k) the nature of the emergency (overall hazard assessment)	Another consideration for national reference level could be the probability of combined emergencies, as in case of a severe (non-radiological) emergency happening at the same time as rad emergency, as protective actions could put public at risk form the non-radiological emergency.			X	The reference level is a radiation protection concept, so it applies to nuclear or radiological emergencies – not to other conventional emergencies. However, the combination of hazards is indeed to be taken into account, as part of the hazard assessment. Therefore, this comment should be addressed by the modified 2.10 (c).
11 KOR	2.11	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSR Part 7 and there is no clear reason for stating it.	X			Part before the quote has been edited and expanded.
15 IRN	2.12/ Last line	“in indicative of the possible radiation induced radiological health hazard effects. ”	Not so agree with the term “radiation induced health hazard”. According to IAEA Safety and Security Glossary, hazard is the potential for harm or other detriment.	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			When talking about the harm and detriment, the term “radiation induced health effects” is suggested. When talking about the hazards, suggest using the term “radiological health hazards” according to GSR Part 7.				
15 JPN	2.12, footnote 5	In the planning stage, the <u>projected dose</u> hypothetical dose that	Clarification and accurate expression			X	Footnote deleted as per comments below from Saudia Arabia and Canada.
9 SAU NSGC	2.12 - Footnote 5	Delete footnote or change it according to the IAEA Glossary.	(IAEA Glossary): The residual dose is the dose expected to be incurred after protective actions have been terminated (or after a decision has been taken not to take protective actions). The projected dose is the dose that would be expected to be received if planned protective actions were not taken.	X			
29 CAN	2.12, Footnote 5	Delete	Footnote 5 appears to be splitting hairs unnecessarily. In the planning stage, all doses	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			are projected, whether they account for dose reductions due to protective actions or not. It is difficult to see the value of defining “projected dose after interventions” as “received” for planning purposes.				
16 JPN	2.12, footnote 6	For details see Annex Appendix I.	Editorial	X			
5 CAN	Para 2.13	‘..generically justified and optimized generic criteria.’	Define what is “generically justified”	X			
				‘generically’ has been deleted			
16 IRN	2.13/ Last bullet	“(d) For doses for use as a target dose for the transition...”	Comparing with GSR Part 7, “a target dose” is changed with “a target”. Not agree because make the sentence, somehow, unclear.	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
10 SAU NSGC	2.13 (d)	(d) For doses for use as a target for the transition to an existing exposure situation (See paras. XX of GSG-11 and paras YY of GSG-2 for details).	In contrast to previous bullet points ((a) – (c)) no reference to correspondent Article of GSR-7 is provided. It is more convenient to convert 2.13 (d) into separate paragraph and make a reference to correspondent Articles of GSR-7 Appendix II and Articles of GSG-2 and GSG-11.	X			
11 SAU NSGC	2.14	2.14. The selection of the reference level and the generic criteria in accordance with the requirements established in GSR Part 7 [2] for nuclear accident with radioactive release outside the industrial site is illustrated in Fig. 1.	Generic criteria for food and drinking water are mentioned on Figure 1. In case of the radiological or nuclear accident without radioactive fallout outside the industrial site these criteria are not in use.			X	Some generic criteria are expressed in terms of projected doses, therefore are in use before an actual release off-site takes place. In addition, in the complete absence (actual or projected) of release off site, there is no need for public protective actions, but generic criteria established still apply.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
12 KOR	2.14	The illustration should be more generalised.	The para states that the illustration is in accordance with the requirements in GSR Part 7 but the illustration includes specific numerical values and subcategories for GC (e.g. 20-100 mSv, GC examples in blue boxes ,etc)		X		<p>Everything on Fig. 1 is mentioned in GSR Part 7; however, part of it is present in Appendixes (not in the body text of GSR Part 7).</p> <p>The sentence before Fig. 1 has been edited as follows: “2.14. The selection of the reference level and the generic criteria in accordance GSR Part 7 [2] is illustrated in Fig. 1”</p>
4 PAK	Figure 1 (page 8)	Suggested to correct/adjust Figure 1	Figure 1, not clear. Three levels of residual doses are mentioned however in color coding, name of one-color coding (red) has not been mentioned. Also, reference level range is from 20-100 mSv however in figure reference level of 1mSv is also mentioned.			X	<p>20-100 mSv is the range suggested for reference level in an emergency exposure situation. Values above 100 mSv would still fall under an emergency exposure situation but would reflect a failure of the protection strategy.</p> <p>As per GSR Part 3, the range suggested for</p>

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							reference level in an existing exposure situation is 1-20 mSv.
30 CAN	2.14 FIG. 1.	(GC_E/10) (GC_E/10) (GC_E/100) (GC_E/5)	The formulae provided in Figure 1 for calculating various generic criteria on the basis of the generic criteria for early protective actions (GC _E) works if the values for GC _E recommended by IAEA (100 mSv) is selected by the Member State. However, this is not a requirement as States may select their own criteria in consideration of the recommendations. If a Member State selects a lower GC _E value these same formulae may not necessarily be applied. For example, if a Member State selects a GC _E of 50 mSv, the generic criteria for food and other commodities traded			X	Correct, but that's why Fig. 1 is entitled '... in accordance with GSR Part 7'.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			internationally should likely not be set at 50/100 = 0.5 mSv.				
2 SWE	FIG. 1	Please consider to remove “reduce the risk of stochastic effects” from GC:s at the bottom row. Please also consider to include an explanation for “***” in the figure.	This is implicit, as indicated in GC _U and GC _E in the green square. Furthermore, the reference to “***” is not included in the figure.		X		“***” was deleted
5 SVN	2.14/Fig.1	Generic Criteria ** **Levels for the projected dose, or the dose that has been received, at which protective actions and other response actions are to be taken.	Explanation to ** is missing in the red bordered square. Definition from the GSR Part 7 would be applicable. Larger Figure would also be easier to read.		X		“***” was deleted
17 JPN	2.14, FIG. 1.	** should be deleted	no footnote	X			
9 IND	Page 8 Fig. 1	Generic Criteria** generic criteria severe deterministic to be described.	** in not described.		X		“***” was deleted
3 JPN T	P.8 FIG. 1.	A note for “***” (on Generic Criteria in a red box) is missing.	Editorial.		X		“***” was deleted
12 SAU NSGC	FIG.1	Generic Criteria **	Editorial comment	X			

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		Either add the reference for “**” in this figure or “**” can be deleted.					
6 UK	Fig. 1	Include text for footnote **	No footnote stating what ** refers to		X		“**” was deleted
6 CAN	Fig. 1	“Generic Criteria** for protective actions and other response actions to avoid or minimize severe deterministic effects”. The footnote “**” should be added.	The footnote ** is missing.		X		“**” was deleted
5 GER	FIG. 1		There is no explanation for “**”.		X		“**” was deleted
4 IRL	2.14 (page 8)	FIG 1 – should appear on a separate page in Landscape orientation (instead of Portrait).	Currently FIG 1 is too condensed, and it makes it difficult to read/	X			
7 UK	Page 9	ICRP now recommends the use of the terminology ‘Tissue Reactions’, instead of ‘Deterministic Effects’.	There should be something in the main text or a footnote to this effect. Mentioned on pg 17 in a footnote but should be mentioned earlier	X			(Note: the IAEA definition of ‘deterministic effects’ includes: “Deterministic effects are also referred to as ‘harmful tissue reactions”)
6 GER	Before 2.15		We suggest inserting subheadings for the generic criteria presented in 2.13 a) to d) or integrating paras. 2.15 to 2.31 in 2.13 a) to d).	X			(Order of paragraphs are changed as follows: GENERIC CRITERIA FOR A NUCLEAR

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							<p>OR RADIOLOGICAL EMERGENCY Para 2.11, 12, 13, 14, FIG1, and 2.17</p> <p>GENERIC CRITERIA THAT AIM TO AVOID OR MINIMIZE SEVERE DETERMINISTIC EFFECTS Para 2.15, 18, 19, 20, Table 1, and 2.21</p> <p>GENERIC CRITERIA FOR PROTECTIVE ACTIONS AND OTHER RESPONSE ACTIONS TO REDUCE THE RISK OF STOCHASTIC EFFECTS Para 2.16, 22, 23, 28, and Table 2</p> <p>Generic criteria, for food, milk and drinking water and other commodities Para 2.24</p> <p>Generic criteria for vehicles, equipment and other items Para 2.25</p>

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							Generic criteria for food and other commodities traded internationally Para 2.29, 30, 31, and Table 3 Generic criteria for enabling the transition to an existing exposure situation Para 2.26 and 27)
17 IRN	2.15/ Second line	“...can result in deterministic health effects in an...”	The term “deterministic health effect” is used in UNSCEAR 2012 just 2 times. Like IAEA Standards, mostly, “deterministic effect” has been used. It is suggested to change “deterministic health effect” with “deterministic effect” in order to search the term easier.	X			
1 AUS	2.15 and 2.16	change “based on Ref. [17]” to “based on Source, Effects and Risks of Ionizing Radiation [17]”	Saves the reader having to check the source material			X	This is in line with the IAEA rules for publishing.
13 KOR	2.16	The generic criteria that aim to reduce the risk of stochastic effects, and the upper bound of the range of reference level are associated with doses that, based on Ref. [17],	An example set of reference levels provided in GSR part 7 have the upper bound of 100 mSv. That being said, each member state’s upper bound of reference levels can be at, above or below the doses based on Ref. [17].			X	The first sentence in 2.16 is a general statement, which does not contain numerical values. Even if numerical values were explicitly given in 2.16, the principle that each Member State can decide on its own

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							national numerical values would remain. The sentence as it is is not much about the numerical values in use; but about highlighting that the basis for (i) the GC to reduce the risk of stochastic effects (obviously) and (ii) the upper bound of the RL range is the increased risk of stochastic effects.
18 IRN	2.16/ Line 4	“...exposure through epidemiological analysis studies and data ,...”	Changing “epidemiological analysis” with “epidemiological studies and data” that is more common. Please consider UNSCEAR 2012 too.	X			
5 IRL	2.16 (page 9)	Please update the text to incorporate the missing cross reference.	There is a missing cross reference (error in the text)	X			
4 IND W	Page No.9: Section 2.16	The phrase “see para. Error! Reference source not found ” appears	The drafting error could be corrected either by linking or reference the correct paragraph to bring the clarity.	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
8 ISR	2.16	Problem with reference.	Editing	X			
4 USA	2.16, page 9	(Fix Para Reference)	Error Message in paragraph "reference source not found."	X			
13 SAU NSGC	2.16	(see para. Error! Reference source not found.), whereas the reference level	Editorial comment	X			
5 USA	2.16, page 9	Delete, ", whereas the reference level is used as an upper constraint on optimization of the protection strategy and protective actions (see para. 2.4)	Consistent with the comment on paragraph 2.4, reference levels are not constraints on optimization.		X		Rephrased as Japan's suggestion (row below).
18 JPN	2.16	whereas the reference level <u>serves as a boundary condition in identifying the range of options for the purposes of optimization</u> is used as an upper constraint on optimization of the protection strategy and protective actions	Clarification and accurate expression. A reference level is not a constraint.	X			
19 JPN	2.16	Footnote 8 should be deleted.	At this stage, it is not better to cite the lower-level document.	X			
5 IDN	Page 9/Line 23	(see <u>Table II.1</u> of GSR Part 7 [2]),	Small "t" applies to the same cases	X			
10 IND	Page 9 Para 2.18	If the projected doses exceed the generic criteria for	To avoid duplicity and for better clarity	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		protective actions and other response actions, then to avoid or minimize severe deterministic effects (see table II.1 of GSR Part 7 [2]), urgent protective actions (precautionary urgent protective actions) and other response actions should be initiated on the basis of prevailing conditions either before or shortly after a release of radioactive material or an exposure.					
8 UK	2.18	Precautionary urgent actions	Stating “urgent protective actions (precautionary urgent protective actions)” is repetition - would just be better to state precautionary urgent protective actions		X		Slightly rephrased for better clarity and highlight the nuance in terminology.
20 JPN	2.18	to avoid or to minimize severe deterministic effects [16].	If necessary, refer to GSR Part 7 [2].	X			
14 KOR	2.18	If the projected doses exceed the generic criteria for protective actions and other response actions to avoid or minimize severe deterministic effects (see table II.1 of GSR Part 7 [2]), urgent protective actions	Although prevention of severe deterministic effects is one of the key objectives of implementing precautionary actions, but it cannot guarantee “no severe deterministic effects	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		(precautionary urgent protective actions) and other response actions should be initiated before or shortly after a release of radioactive material or an exposure, on the basis of prevailing conditions, to avoid or to minimize severe deterministic effects [16]. Taking precautionary urgent protective actions effectively ensures that no severe deterministic effects will be observed in any individual. severe deterministic effects will be reasonably minimised or prevented.	will be observed in any individual”.				
2-1 IND W	Page No.9; Section 2.19 & Page No.53; Section 1.72	The document provides recommendations on radiological hazards. However, detailed integration with possible non-radiological hazards such as chemical spills, fires, physical trauma etc. can be provided in section 2.19 as non-radiological hazards can compound radiation exposure. Hence few sentences may be included in the document.	For clarity			X	As written in para 1.15, the operational criteria presented in this document is based on the considerations of radiation protection. The necessity to consider non-radiological effect is also written in para 1.15.
15 KOR	2.20	It is recommended to indicate the table is taken out from the appendix of GSR Part 7, not in	This may confuse member states that GSR Part 7 and the revision of GSG-2			X	It is not confusing as the reference is written clearly.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		the main body text and this is an example of applying relevant requirement and recommendations of IAEA Safety Standards.	provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.				
21 JPN	2.20, Table 1	Table 1 should be reproduced in the same format as Table II.1 of GSR Part 7.	Putting the tables for external and internal exposure together in parallel gives the wrong impression that there is a link between internal and external exposure on the same row.	X			
11 IND	Page 10 Table 1	The following should be suitably included in the Table 1 If the dose is projected: — Take precautionary urgent protective actions immediately (even under difficult conditions) to keep doses below the generic criteria; — Provide public information and warnings; — Carry out urgent decontamination.	This table is mainly taken from Table II.2 GSR part 7. So, this should include all the content of that table for GSR part 7 and including all footnotes and actions like medical treatment	X			(Table 1 is modified to a quote from GSR Part 7)

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		<p>If dose has been received</p> <ul style="list-style-type: none"> — Perform immediate medical examination, medical consultation and indicated medical treatment; — Carry out contamination control; — Carry out immediate decorporation (if applicable); — Conduct registration for longer term medical follow-up; — Provide comprehensive psychological counselling. 					
3 AUS NSGC	2.20c	<p><i>There is a high probability of severe deterministic effects at 1 Gy. Therefore, a dose of >0.1 Gy is used as the generic criterion for doses to the fetus received within a short period of time: (i) in the hazard assessment, to identify facilities and activities, on-site areas, off-site areas and locations for which a nuclear or radiological emergency could warrant precautionary urgent protective actions to avoid or to minimize severe deterministic effects; (ii) for identifying situations in which exposure is dangerous to health; and (iii) for making arrangements for applying</i></p>	<p>I think the value should be 0.1 Gy given it's a reference to the generic criterion for doses.</p>			X	Referred to GSR Part 7.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		<i>decisions on urgent protective actions and other response actions to be taken off the site to avoid or to minimize the occurrence of severe deterministic effects (e.g. establishing a precautionary action zone).</i>					
7 CAN	Table 1, footnote c	<p>Add citation UNSCEAR 2012 (2015) to this statement.</p> <p>“At 0.1 Gy there would be only a very small probability of severe deterministic effects to the fetus and only during certain periods post-conception (e.g. between 8 and 15 weeks of in utero development), and only if the dose is received at high dose rates.”</p>	<p>Although this statement about 0.1 Gy is accurate, it seems contradictory to use 1 Gy as the generic criteria for doses to the fetus received within a short period of time.</p> <p>The criteria for doses to the fetus should be below 1 Gy given the high probability (40% increase, see ICRP Publication 90) of severe intellectual disability (i.e., severe mental retardation).</p> <p>Further, at gestation weeks 16-25 weeks, acute doses as low as 0.2 mGy,</p>			X	Referred to GSR Part 7.

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			there is an increased risk of brain damage (WHO Fact Sheet Ionizing Radiation, Health Effects and Protective Measures).				
19 IRN	2.20/ Footnote e of Table 1	“(skin structure at a depth of 40 mg/cm² or (0.4 mm) below the surface)	In parenthesis, “cm” should be “cm ² ” (square cm).	X			
8 CAN	Table 1, footnote e	The text “(skin structures at a depth of 40 mg/cm (or 0.4 mm)” should be changed to “(skin structures at a depth of 40 mg/cm ² (or 0.4 mm)”	Incorrect use of units.	X			
14 SAU NSGC	2.20 Table 1.	($\Delta = 30 \text{ d}$) ----- “ d ” this outside the bracket ($\Delta = 30 \text{ d}$)	Editorial comment			X	Referred to GSR Part 7.
9 UK	Table 1	Footnote g - ‘Radionuclides with $Z \geq 90$ compared with $Z \leq 89$ have different biokinetic processes, hence different dynamics of dose formation in red marrow due to internal exposure. Therefore, radionuclides have been divided into two groups to avoid the over-conservatism in evaluating the risk of the health effect concerned.’	The text as it stands doesn’t make sense, this is the relevant footnote text from the IAEA ‘Dangerous quantities of radioactive material (D-values)’, 2006, publication. Although further consideration of the justification for this simple grouping of radionuclides, in and of itself, is probably			X	Referred to GSR Part 7.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			warranted (e.g. in the context of Po-210 vs depleted uranium).				
20 IRN	2.21/ Two first lines	“2.21. The generic criteria in Table 1 are given separately for acute external exposure and for acute internal exposure due to intakes of radioactive material and for external exposure .”	Considering the table and the second sentence, it is suggested to mention external exposure first. Also add the term “acute” according to the table.			X	It does not change the message and the current phrasing reads better.
15 SAU NSGC	2.21	... However, the thresholds in terms of intake range over three orders of magnitude were observed [19]...	Grammar mistake			X	The sentence is deleted.
16 SAU NSGC	2.21	... Therefore, in the case of inhalation or ingestion of radioactive material, the 30 day committed RBE weighted absorbed dose is used to specify the threshold for the possible onset of severe deterministic effects in the organ concerned [XX] .	Literature reference shall be provided to prove this statement.			X	The sentence is deleted.
21 IRN	2.21/ Lines 5 and 7	“... activity intake activity ...”	According to the IAEA Safety and Security Glossary, one of the definitions of the term “intake” is: “the activity of a radionuclide taken into the body. For emphasis, it is more common to use the term “activity intake” (Please consider ICRP 103 and 130). Please change “intake activity” with “activity intake”.	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
22 IRN	2.21/ Line 5	“...the radiation emitted and the biokinetics and the metabolism of the...”	Not so agree with using the term “metabolism” only. It is only part of a process that threshold depends on. As an example, please consider paragraphs (89) and (95) of ICRP 134.	X			
5 JPN R	Para. 2.21	2.21. The generic criteria in Table 1 are given separately for internal exposure due to intakes of radioactive material and for external exposure. For external exposure, the threshold for the development of deterministic effects depends on the dose, the dose rate and the RBE of the tissue/organ and radiation. For internal exposure, the threshold depends on many factors, such as intake activity, half-life, route of intake, the radiation emitted and the metabolism of the radionuclide. In order to take all of these factors into account, the threshold for the development of specific deterministic effects following intake is best established in terms of intake activity [19]. However, the thresholds in terms of intake range over three orders of magnitude [19]. Establishing threshold values in terms of the 30 day committed RBE weighted dose relative to the intake thresholds leads to a decrease in the range of threshold values from three	<p>Clarification and consistency with GSR Part 3.</p> <p>The table on page 417 of GSR Part 3 provides tissue- or organ-specific and radiation-specific values of RBE for the development of selected deterministic effects.</p> <p>In GSG-2, these RBE values were provided in Table 6. However, the current draft of DS527 does not include any information regarding RBE values.</p>	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		orders of magnitude (for the intake) down to a factor of three (for the dose). Therefore, in the case of inhalation or ingestion of radioactive material, the 30 day committed RBE weighted absorbed dose is used to specify the threshold for the possible onset of severe deterministic effects in the organ concerned. <u>GSR Part 3 [3] provides the values of RBE for the development of severe deterministic effects.</u>					
12 IND	Page 10 Para 2.21such as intake activity, effective half-life, route of intake, the type of radiation emitted, the metabolism of the radionuclide and the target organ for the radionuclide.	Better clarity		X		With other comment, modified as follows: such as activity intake, half-life, route of intake, the radiation emitted and the biokinetics and the metabolism of the radionuclide. The idea of “effective half-life” is included in “the metabolism”, that of “target organ” is in “the biokinetics”. “The radiation emitted” means not only the type but other characteristics, such as

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							energy and chemical form.
7 GER	2.21	<p>“Establishing threshold values in terms of the 30 day committed RBE weighted dose relative to the intake thresholds leads to a decrease in the range of threshold values from three orders of magnitude (for the intake) down to a factor of three (for the dose). Therefore, in the case of inhalation or ingestion of radioactive material, the 30 day committed RBE weighted absorbed dose is used to specify the threshold for the possible onset of severe deterministic effects in the organ concerned.”</p>	<p>This para is not clear. Please rephrase it to make it more comprehensible.</p>		X		<p>Modified as follows (from two sentence before):</p> <p>In order to take all of these factors into account, in the case of inhalation or ingestion of radioactive material, the 30 day committed RBE weighted absorbed dose is used to specify the threshold for the possible onset of severe deterministic effects in the organ concerned. Establishing threshold values in terms of the 30 day committed RBE weighted dose relative to the intake thresholds leads to a decrease in the range of threshold values depended on the characteristics of the</p>

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							radionuclide from three orders of magnitude (for the intake) down to a factor of three (for the dose)[19].
13 IND	Page 11 Para 2.22	.....Taking effective urgent and early protective actions ensures that there is no increase in the incidence of cancers above background which could be attributed to radiation exposure of the affected population.	Better clarity	X			
23 IRN	2.22/ Lines 3 and 4	“...taking into consideration the rate at which radiation doses are incurred radiation dose rates,..”	It is suggested revising “taking into consideration the rate at which radiation doses are incurred” to make it clear.	X			
24 IRN	2.22/ Line 6	“,,as far as reasonably possible practicable. ”	Considering GSR Part 7, change “possible” with “practicable”.	X			
9 CAN	2.22	“Taking effective urgent and early protective actions ensures that minimal or no increase in the incidence of cancers that could be attributed to radiation exposure will be observed in a population.”	The original statement seems to assume that all persons will be evacuated and get no dose, hence no increased incidence of cancer. However, should the impacted population not evacuate, and shelter instead, they may receive doses between 20 and 100 mSv (the reference level),	X			

COMMENTS				RESOLUTION			
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Comment No.	Para/Line No.	Proposed new text	Reason				
			which could lead to an increased risk of radiation-induced cancer-albeit a small increased risk.				
25 IRN	2.22/ Last sentence	“Taking effective urgent and early protective actions ensures that no increase in the incidence of cancers that could be attributed to radiation exposure will be observed in a population reducing the risk of stochastic effects. ”	One of the goals of emergency response is: “to reduce the risk of stochastic effects” (para.3.2 of GSR Part 7) This sentence is not in line with the abovementioned sentence. It is suggested to revise it.		X		With other comment, modified as follows: Taking effective urgent and early protective actions ensures that minimal or no increase in the incidence of cancers that could be attributed to radiation exposure will be observed in a population.
16 KOR	2.22	If the projected doses exceed the generic criteria for protective actions and other response actions to reduce the risk of stochastic effects (see table II.2 of GSR Part 7 [2]), urgent protective actions or early protective actions should be implemented, taking into consideration the rate at which radiation doses are incurred, together with other response actions, to reduce the risk of stochastic effects and mitigate	Although reduction of risk of stochastic effects is one of the key objectives of implementing urgent protective actions, but it cannot guarantee “no increase in the incidence of cancers”.		X		With other comment, modified as follows: Taking effective urgent and early protective actions ensures that minimal or no increase in the incidence of cancers that could be attributed to radiation exposure will be observed in a population.

COMMENTS				RESOLUTION			
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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		non-radiological consequences as far as reasonably possible. Taking effective urgent and early protective actions ensures that no increase in the incidence of cancers that could be attributed to radiation exposure will be observed in a population. suppression of increase in the incidence of cancers that could be attributed to radiation exposure.					
6 USA	2.22, page 11	Restrictions on food, milk and drinking water using these generic criteria are to be applied before sampling and analysis of food, milk and drinking water are carried out. Such restrictions apply as long as replacements of food, milk and drinking water or other alternatives are available to ensure they would not result in severe malnutrition, dehydration or other severe health impacts.	Adding this statement to paragraph 2.22 would clarify how the generic criteria in Table II.2 of GSR Part 7 is used for restrictions of food, milk, and drinking water. This statement is footnote “g” of Table II.2 of GSR Part 7.	X			
3 SWE	2.22	It may be considered to include guidance on how inferred risks should be taken	Guidance on how to take inferred risks into account in decision making		X		Introducing new, or modifying existing, numerical values for

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		<p>into account when selecting reference levels.</p> <p>It may also be considered to rephrase the last sentence as a goal rather than a statement.</p> <p>Please also consider if 1 Gy RBE-weighted dose to lens of the eye needs to be revised.</p>	<p>during nuclear and radiological emergencies would be valuable as this probably the main difficulty for radiation protection during nuclear and radiological emergencies.</p> <p>Also, given prevailing circumstances, it may be that despite effective urgent and early protective actions being implemented, higher doses are unavoidable.</p> <p>The criterion for the RBE-weighted dose to the lens of the eye may be revised in light of the current threshold 0.5 Gy as recommended by ICRP (e.g. ICRP 118).</p>				<p>generic criteria is out of scope of DS527.</p> <p>However, the last sentence of para. 2.22 has been rephrased as suggested: “Taking effective urgent and early protective actions aims at ensuring that ...”</p>
14 IND	Page 11 Para 2.23	If the received doses are assessed to exceed the generic criteria for protective actions and other response actions to reduce the risk of stochastic effects (see table II.2 of GSR Part 7 [2]), individuals should be registered, and should be provided with health screening based on the equivalent doses to specific radiosensitive organs (as the basis for	Expected time if provided will be helpful in establishing the arrangement	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		longer term medical follow-up) and counselling to allow informed decisions to be made in individual circumstances. It does not provide time line by which it should be done.					
4 SWE	2.23	Please note that IARC/WHO recommends a “thyroid monitoring programme” for thyroid doses in the range 100-500 mGy, not 50 mSv equivalent dose. Please also consider to align the language with IARC/WHO as they do not recommend “thyroid screening”.	Please refer to Thyroid Health Monitoring After Nuclear Accidents, International Agency for Research on Cancer, Tec. Publ. 46 (2018).			X	Although the area suggested presents technical interest, this does not fall under the scope of DS527. Numerical values of generic criteria in DS527 come from GSR Part 7.
17 KOR	2.24	An example set of generic criteria, for food, milk and drinking water and other commodities to reduce the risk of stochastic effects have been established, in terms of projected dose, in table II.3 of GSR Part 7 [2]. The values were chosen as 1/10 of the values of the generic criteria given in table II.2 of GSR Part 7 [2] for early protective actions and other response actions. This is to	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		For the beginning part, it is modified as “The suggested values of generic criteria...” The second point is accepted.

COMMENTS				RESOLUTION			
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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		ensure that the dose via all exposure pathways, including ingestion, will generally not exceed the generic criteria given for early protective actions and other response actions.	Application of GC cannot guarantee “the dose will not exceed the generic criteria”.				
7 USA	2.24, page 11	These criteria for taking actions on food, milk and drinking water are applied once the sampling and analysis of food, milk and drinking water is carried out. This would also provide a basis for discontinuing restrictions imposed on food, milk and drinking water as a precaution on the basis of the generic criteria in Table II.2.	Adding this statement to paragraph 2.24 would clarify how the generic criteria in Table II.3 of GSR Part 7 is used for restrictions of food, milk, and drinking water. This statement is footnote “c” of Table II.3 of GSR Part 7.		X		Rephrased as follows: “The application of these criteria for taking actions on food, milk and drinking water is supported by the sampling and analysis of food, milk and drinking water. This sampling and analysis would also provide a basis for discontinuing restrictions imposed on food, milk and drinking water”
5 SWE	2.24	It may be considered to include a reference to when this criterion has been used in practice.	It is relatively easy to avoid eating contaminated food and it is not obvious why 10 mSv annual effective is considered to be appropriate. Furthermore, it is unclear where this criterion should apply, is in the area where other urgent and early protective actions have been, or may be,			X	The factor 1/10 was an ‘arbitrary’ choice to ensure conservatism. In addition, such generic criteria (regardless of the numerical values) should be applied everywhere they are expected to be exceeded nationally (as numerical values might be different in

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			<p>implemented or is it the whole country given that food may well be produced in one area and consumed in another area.</p> <p>If a reference to when this criterion has been used in practice cannot be found, it may be considered to open up a discussion on what an appropriate criterion may be.</p>				other States), including for trading goods.
4 FAO	2.24 / lines 4 to 6	2.24. Generic criteria for food, drinking water and other commodities have been established in terms of projected dose to reduce the risk of stochastic effects. When implementing restrictions on food and water as a precautionary measure before food and water sampling is carried out, Table II.2 of GSR Part 7 [2] gives 100 mSv in the first year or, for the full period of in utero development of the fetus as generic criteria. However, once the sampling and analysis of food and drinking water is carried out the generic criteria are reduced to 10 mSv in the first year and for the full period of in utero development of the fetus (Table II.3 of GSR Part 7).	<p>Footnote g of Table II.2 of GSR Part 7 states that restrictions on food, milk and drinking water using the 100 mSv generic criteria are to be applied before sampling and analysis of food, milk and drinking water are carried out.</p> <p>Footnote c of Table II.3 of GSR Part 7 states that the generic criteria [10 mSv] for taking actions on food, milk and drinking water are applied once the sampling and analysis of food, milk and drinking water is carried out.</p>			X	Table II.2 of GSR Part7 provides the generic criteria for doses from not only food, milk, and drinking water, but from all of the sources. Table II.3 provides that from only ingestion of food, milk, and drinking water and from the use of other commodities.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
8 USA	2.25, page 11	Restrict non-essential use. Use essential vehicles, equipment and other items from an affected area until replacements are available.	Adding this statement to paragraph 2.25 would clarify how the generic criteria in Table II.4 of GSR Part 7 is used.		X		Modified as follows: If restrictions of using vehicles, equipment and other items are necessary, they are applied for non-essential use. For essential use, such restrictions are applied as long as replacements are available.
18 KOR	2.25	An example set of generic criteria for vehicles, equipment and other items to reduce the risk of stochastic effects are established, in terms of projected dose, in table II.4 of GSR Part 7 [2]. The values were chosen as 1/10 of the values of the generic criteria given in table II.2 of GSR Part 7 [2] for early protective actions and other response actions. This is to ensure that the dose via all exposure pathways, including the use of such vehicles, equipment and other items, will not generally exceed the generic criteria given for early protective	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies. Application of GC cannot guarantee “the dose will not exceed the generic criteria”.		X		For the beginning part, it is not confusing because “generic criteria for vehicles, equipment and other items” is written explicitly. The second point is accepted.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		actions and other response actions.					
19 KOR	2.26	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSR Part 7 and there is no clear reason for stating it.			X	This paragraph provides the basis of the coordination of criteria for transition phase and termination of an emergency.
17 SAU NSGC	2.26	Put this article under revised document context to avoid direct quotation.	The article represents clean quotation from GSR-7.			X	This paragraph provides the basis of the coordination of criteria for transition phase and termination of an emergency.
20 KOR	2.27	An example set of the generic criteria for enabling the transition to an existing exposure situation are established as 1/5 of the values of the generic criteria given in table II.2 of GSR Part 7 [2] for early protective actions and other response actions, considering the lower bound of an example set of the reference level for emergency exposure situations which is also consistent with an example set of the reference level for existing exposure situations (see paras 1.26 and 1.27 of GSR Part 3 [3]).	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		The beginning of the paragraph is modified as “The suggested values of generic criteria for...”. The lower bound of reference level, and the dose consistent with that for existing exposure situation is 20 mSv, and the latter half of this paragraph is remained.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
31 CAN	2.27	The generic criteria for enabling the transition to an existing exposure situation are established as 1/5 of the values of the generic criteria given in table II.2 of GSR Part 7 [2] for early protective actions and other response actions; considering the lower bound of the reference level for emergency exposure situations which is also consistent with the reference level for existing exposure situations (see paras. 1.26 and 1.27 of GSR Part 3 [3]).	Where these criteria really established by dividing the GC_E by 5? I would think that the generic criteria for transition should be 20 mSv on the basis of the reference levels for these exposure situations, regardless of the generic criteria for early protective actions and other response actions. I do not think we want to suggest that a Member State who selects a GC_E of 50 mSv should set a generic criteria for transition of 10 mSv.			X	Correct, but that's why the sentence says '...as 1/5 of the values of the generic criteria given in table II.2 of GSR Part 7...'. The same phrase is in Para II.15 of GSR Part 7.
21 KOR	2.28	It is recommended to indicate the table is taken out from the appendix of GSR Part 7, not in the main body text and this is an example of applying relevant requirement and recommendations of IAEA Safety Standards.	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in			X	It is already written as "2.28 the generic criteria from appendix II of GSR Part 7...and actions ...are reproduced in Table 2 on this Safety Guide."

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			addition to establishment methodologies.				
15 IND	Page 12 Table 2	Table 2 should include all the content of generic criteria of GSR part 7	This table is mainly reproduction of Appendix II of GSR part 7. So, this should include all the related content of that table for GSR part 7 and including all footnotes.			X	Table 2 provides generic criteria and the basis for taking of GSR Part 7 and does not include the examples of each action. It contains all generic criteria except for international trade, and relevant footnotes.
@ SWE	TABLE 2	Please consider to clarify how foot note e to TABLE II.2 in GSR Part 7 should be interpreted.	It would be helpful if this foot note could be discussed further in this standard.			X	The content of this table is focused on generic criteria itself and is not included examples of each action.
16 IND	Page 12 Table 2	In the last column of Table 2, '20 mSv in the first year' is written in the last column 'action to enable a transition to an existing exposure situation' Clarity may be provided w.r.t 'first year'. Is this from start of emergency or from termination of emergency	This should be in line with foot note 43 on page 72 of GSR part 7 in section II.16 Actions taken (see para. 4.29) to reach the generic criteria in para. II.15 need to be justified and optimized in accordance with Requirement 5. However, it may not be feasible to reach these criteria for enabling the transition to an existing exposure situation. If it is			X	The start of "first year" is the start of the transition phase and should be decided by responsible organization.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			not feasible or justified to reach these generic criteria, the transition may still be possible as long as the protective actions and other response actions given in Table II.2 are not exceeded.				
17 IND	Page 12 Table General	If General emergency or dose due to emergency exists for two years and more, then the criteria for second year and onward is not mentioned for relocation and termination and calling people relocated.	For example if the first year effective dose is 80 mSv and second year dose is 40 mSv, whether relocation should be done or not as criteria for 100 mSv is for first year only.			X	Based solely on radiation protection, no action is to be taken. The important thing is that optimized protective actions are taken appropriately.
10 CAN	Table 2	Text should be added, either in the main body of the text or as a foot note to the table, clarifying the start of the “first 7 days”, e.g., whether it is after the declaration of an emergency, or at the beginning of a release. <u>Proposed new text</u> : first 7 days for the start of a release.	Some accident sequences may result in a delayed release (e.g., of 24 – 48 hours after the initiation of the accident) in which case it is not clear what the period of time over which the dose should be calculated.			X	The start of the “first 7 days” should be decided by responsible organization to take optimized protective actions appropriately. For response, it can depend on the situations, such as weather and geographical conditions.
10 UK	Table 2	Examples of urgent and early protective actions	Examples or additional text would be helpful to explain to the reader the difference between the two			X	The content of this table is focused on generic criteria itself and is not included examples of each action.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
6 SWE	TABLE 2	<p>Please consider to clarify why radiation doses received during the release should be considered when making decisions on relocation.</p> <p>Please also clarify how the criterion should be interpreted in practice.</p>	<p>Please refer to comment 1.</p> <p>Does e.g. the criterion imply that an area that was successfully evacuated before a release is clear for return if the projected dose is below 100 mSv during the first year?</p>			X	<p>As stated in para 4.28(2) of GSR Part 7," A reference level expressed in terms of residual dose shall be set... that includes dose contributions via all exposure pathways", it is clear that radiation doses received during the release should be considered.</p> <p>For response, it depends on the situation and should not be decided with assumption.</p>
26 IRN	2.28/ Table 2/ First row, fifth column	<p>Please add" "-Equipment and Other items"</p>	<p>"Equipment and Other Items" should be added. In footnote a of this table, other items has been included but sometimes users using tables without considering the footnotes.</p>		X		<p>To be consistent with GSR Part 7, modified this cell as follows:</p> <p>Restrictions on</p> <ul style="list-style-type: none"> - Food, milk and drinking water and other commodities - Vehicles, Equipment and other items
7 SWE	TABLE 2	<p>Please consider to change from "20 mSv in first year" to "20 mSv in one year" in the last column.</p>	<p>One of the prerequisites to decide on the transition is that it is possible to set a reference level of 20 mSv</p>		X		<p>To be consistent with GSR Part 7, modified as "20 mSv per year".</p>

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			effective annual dose or lower.				
27 IRN	2.28/Table 2/ Footnote a	“The doses from ingestion of food, milk and drinking water or use of other commodities, vehicles, equipment and other items are considered. “	“milk and drinking water” and “Equipment” should be added.	X			
8 SWE	TABLE 2	Please clarify that only inhalation should be considered, not ingestion in foot note b.	Food restrictions, not ITB, should be used to protect the public from intake of radioactive iodine.			X	There is no such description here.
22 KOR	2.29	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSR Part 7 and there is no clear reason for stating it.			X	This paragraph provides the basis of the generic criteria for international trade.
23 KOR	2.30	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSR Part 7 and there is no clear reason for stating it.			X	This paragraph provides the basis of the generic criteria for international trade.
18 SAU NSGC	2.30	With regard to food traded internationally, para. II.12 of GSR Part 7 [2] states {citation–omitted} :	It is unclear what is “citation omitted”? Misprint assumed.			X	The original document has a citation number of reference by the Joint FAO/WHO Codex Alimentarius Commission.
32 CAN	2.30	“These generic criteria, and generic criteria for other commodities traded internationally that could contain radionuclides following a nuclear or radiological emergency, are	I recognize this is a direct citation from GSR Part 7 and likely cannot be corrected, but again I think we need to be cautious not to encourage Member States to calculate these			X	This is quote from GSR Part 7. A quote must reflect the original/reference text without modifications.

COMMENTS				RESOLUTION			
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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		established at 1/100 of the generic criteria given in Table H.2 [of GSR Part 7] for early protective actions and other response actions based on a reference level of 1 mSv...	values based on their selected GC _E , which may not be 100 mSv. The Codex states that they have used an intervention exemption of 1 mSv in accordance with the most recent recommendations of the ICRP.				
24 KOR	2.31	It is recommended to indicate the table is taken out from the appendix of GSR Part 7, not in the main body text and this is an example of applying relevant requirement and recommendations of IAEA Safety Standards.	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.			X	It is not confusing as the reference is written clearly.
8 GER	FIG. 2		We suggest giving corresponding examples (including units) for the criteria listed here.		X		Examples of generic criteria are written in previous paragraphs, and of observables are in this paragraph. For Examples of OILs and EALs, modified as follows: ...Operational criteria used in an emergency

COMMENTS				RESOLUTION			
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							include operational intervention levels (OILs. For details see Appendix I), emergency action levels (EALs. For details see Appendix II), observables (e.g. increased dose rates, package damage) and indicators (e.g. labels, placards, UN marking) on the site (DS504 Invalid source specified.)....
25 KOR	2.33	Remove the paragraph	The paragraph only repeats para. 2.18.	X			
28 IRN	2.33/ line 6	“,,, urgent protective action actions are required...”	Considering the verb of the sentence, “action” should be in plural form.			X	This paragraph is removed.
26 KOR	2.34	The risk associated with a radioactive release or an exposure that could result in severe deterministic effects is the basis for the operational criteria for decision makers to take urgent protective actions under any circumstances to protect the public, emergency workers and helpers by keeping doses below those approaching the generic criteria set out in	Generic criteria are not safety margin but triggering criteria for implementing protective actions. Protective action will be implemented if the projected dose exceeds GC, and implementation of protective actions does not guarantee dose received will be lower than the GC but guarantees doses will be reasonably reduced.		X		Deleted “in Table 1” and noted as “suggestions of numerical values for general criteria are provided in Table 1” at the bottom of this page.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		Table 1. doses resulting in severe deterministic effects					
6 JPN R	Para 2.34	2.34 The risk associated with a radioactive release or an exposure that could result in severe deterministic effects is the basis for the operational criteria for decision makers to take urgent protective actions under any circumstances to protect the public, emergency workers and helpers <u>in an emergency</u> by keeping doses below those approaching the generic criteria set out in Table 1.	Editorial and consistency with GSR Part 7. The phrase “helpers in an emergency” is used in GSR Part 7.	X			
27 KOR	2.35	The generic criteria in Table 1 should be used as the dosimetric criteria [4] to assist in determining the EALs ¹⁰ (see para. 4.28(4) of GSR Part 7 [2]). They should also be used to help determine the size of the precautionary action zone ¹¹ (PAZ) around facilities in EPC I (see para. 5.38 (a) (i) of GSR Part 7 [2]).	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		Deleted “in Table 1” and noted as “suggestions of numerical values for general criteria are provided in Table 1” at the bottom of this page.
19 SAU NSGC	2.35	2.35. The generic criteria in Table 1 should be used as the dosimetric criteria [4] to assist in	EAL definition			X	The meaning is already included in the definition of EAL.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		predetermining the EALs ¹⁰ (see para. 4.28(4) of GSR Part 7 [2]). They should also be used to help predetermine the size of the precautionary action zone ¹¹ (PAZ) around facilities in EPC I (see para. 5.38 (a) (i) of GSR Part 7 [2]).	A specific, predetermined criterion for observable conditions used to detect, recognize and determine the emergency class.				
18 IND	Page 15	In case of extreme external event there are possibility of two units or two station getting affected concurrently. Clarity and guidance for EAL in such case should be provided.	For better clarity			X	It depends on the situation and location.
28 KOR	2.36	The generic criteria in Table 1 are used in defining radioactive sources that are considered dangerous [11] [18]. The indicators of the presence of dangerous sources and the observable conditions at the site of emergencies occurring in relation to activities and acts in EPC IV are the operational criteria used in implementing urgent protective actions to avoid or to minimize severe deterministic effects.	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		Deleted “in Table 1” and noted as “suggestions of numerical values for general criteria are provided in Table 1” at the bottom of this page.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
9 USA	2.37, page 15	Consider deleting paragraph 2.37.	This paragraph does not appear to add value since Section 3 provides detailed guidance for emergency workers.			X	This paragraph provides one of the suggestions to use of the generic criteria to avoid or minimize severe deterministic effects.
29 KOR	2.37	The generic criteria in Table 1 should be taken into account in determining the guidance values for restricting the exposure of emergency workers (see Section 3).	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		Deleted “in Table 1” and noted as “suggestions of numerical values for general criteria are provided in Table 1” at the bottom of this page.
2 FIN	2.38	The projected dose is the basis for operational criteria for decision makers to take actions that meet the following three objectives: (a) To prevent severe deterministic effects by keeping the doses below the generic criteria <u>for protective actions and other response actions to avoid or minimize severe deterministic effects. in Table 1 at which urgent protective actions are</u>	As this paragraph refers to national decision makers, the criteria to be considered would be the national generic criteria. Based on the process referred in para 2.2 (3), some of these values may differ from the values presented in the referred tables. Thus, it would be more appropriate to refer to the criteria with their name		X		(a)Deleted “in Table 1” and noted as “suggestions of numerical values for general criteria are provided in Table 1” at the bottom of this page. (b)Deleted “in Table 2” and noted as “suggestions of numerical values for general criteria are provided in Table 2” at

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		warranted under any circumstances; (b) To take effective protective actions and other response actions to reasonably reduce the risk of stochastic effects by keeping the doses below the generic criteria <u>for emergency response actions taken to reduce the risk of stochastic effects in Table 2;</u> (c) To ensure the safety of emergency workers in the tasks being undertaken through the use of the guidance values <u>for restricting exposure of emergency workers in Table 4</u> (see Section 3).	instead of referring to the tables.				the bottom of this page. (c) Deleted “in Table 4” and noted as “suggestions of numerical values for general criteria are provided in Table 4” at the bottom of this page.
30 KOR	2.38. (a)	To prevent or to minimize severe deterministic effects by keeping the doses below the generic criteria in Table 1 at which urgent protective actions are warranted under any circumstances;	The objective of implementing protective actions regarding severe deterministic effects should not be limited to prevention of those.		X		Referring to GSR Part 7, modified as follows: To avoid or minimize severe deterministic effects...
31 KOR	2.38. (b)	To take effective protective actions and other response actions to reasonably reduce the risk of stochastic effects by keeping the doses below the generic criteria in Table 2; doses	Generic criteria are not safety margin but triggering criteria for implementing protective actions. Protective action will be implemented if the		X		Deleted “in Table 2” and noted as “suggestions of numerical values for general criteria are provided in Table 2” at

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		resulting in increase in the incidence of cancers;	projected dose exceeds GC, and implementation of protective actions does not guarantee dose received will be lower than the GC but guarantees doses will be reasonably reduced.				the bottom of this page.
32 KOR	2.38. (c)	To ensure the safety of emergency workers in the tasks being undertaken through the use of the guidance values in Table 4 (see Section 3).	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		Deleted “in Table 4” and noted as “suggestions of numerical values for general criteria are provided in Table 4” at the bottom of this page.
33 KOR	2.39	The potential for projected doses to exceed the generic criteria given in Tables 1 and 2 in a nuclear or radiological emergency should be taken into account in determining OILs ¹² at the preparedness stage.	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		Deleted “in Table 1 and 2” and noted as “suggestions of numerical values for general criteria are provided in Table 1” and “suggestions of numerical values for general criteria are provided in Table 2” at the bottom of the page.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
33 CAN	2.39	The potential for projected doses to exceed the generic criteria given in Tables 1 and 2 in a nuclear or radiological emergency should be taken into account in determining OILs ¹² at the preparedness phase (see EPR-NPP OILs).	Should refer to EPR-NPP OILs which has a detailed methodology for deriving the OILs from the generic criteria.		X		Modified with reference number: ...at the preparedness phase (See [5]).
3 FIN	2.41	The dose that has been received is the basis for operational criteria to support the following actions: (a) To provide medical care, as necessary, when the dose received exceeds the generic criteria <u>for actions to avoid or minimize severe deterministic effects in Table 1;</u> (b) To consider the need for medical follow-up for early detection and effective treatment of radiation induced cancers if the dose received exceeds the generic criteria <u>for actions to reduce the risk of stochastic effects in Table 2;</u> (c) To provide counselling to those exposed, including pregnant women, so that they can	As with comment 2		X		Deleted “in Table 1” and noted as “suggestions of numerical values for general criteria are provided in Table 1” at the bottom of the previous page. Deleted “in Table 2” and noted as “suggestions of numerical values for general criteria are provided in Table 2” at the bottom of this page. Also deleted “in” of (c).

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		make informed decisions concerning the further course of their treatment if the dose received exceeds the generic criteria in <u>for actions to avoid or minimize severe deterministic effects or actions to reduce the risk of stochastic effects</u> Tables 1 and 2; (d) To provide a basis for placing the health hazard in perspective when communicating with affected individuals.					
34 KOR	2.41. (a)	To provide medical care, as necessary, when the dose received exceeds the generic criteria in Table 1;	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		With another comment, modified as follows: (a) To provide medical care, as necessary, when the dose received exceeds the generic criteria for actions to avoid or minimize severe deterministic effects;
35 KOR	2.41. (b)	To consider the need for medical follow-up for early detection and effective treatment of radiation induced cancers if the dose	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and		X		With another comment, modified as follows: (b) To consider the need for medical

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		received exceeds the generic criteria in Table 2 ;	recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.				follow-up for early detection and effective treatment of radiation induced cancers if the dose received exceeds the generic criteria for actions to reduce the risk of stochastic effects;
36 KOR	2.41. (c)	To provide counselling to those exposed, including pregnant women, so that they can make informed decisions concerning the further course of their treatment if the dose received exceeds the generic criteria in Tables 1 and 2 ;	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		With another comment, modified as follows: (c) To provide counselling to those exposed, including pregnant women, so that they can make informed decisions concerning the further course of their treatment if the dose received exceeds the generic criteria for actions to avoid or minimize severe deterministic effects or actions to reduce the risk of stochastic effects
12 CAN	Para 2.41, ©	Add “potentially pregnant” as well.	Should it just be pregnant or those potentially pregnant as well. Those			X	In GSR Part 7 and Part 3, there is no requirement related to consider the person who might be a

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			going through fertility treatments or trying to conceive may not know they are pregnant yet.				pregnant, otherwise she is a worker or a patient.
34 CAN	2.4.2	Long term medical follow-up ⁴⁴ of exposed persons should start early during the response and continue for an extended period of time. There are different reasons to perform long term health monitoring of the persons affected, such as to provide advanced medical care, to reduce their concern with regard to their health status and to advance scientific knowledge. The reason for follow-up studies has to be carefully explained to those involved.	<p>The text from footnote 14 should be moved into the main text. It provides important and useful information regarding long term follow-up.</p> <p>Also would be useful to clarify the difference in terminology between “long term medical follow-up” and “long term health monitoring”, both of which are used here.</p>		X		Moving the footnote to the main text is inappropriate because the footnote is not on the operational criteria in an emergency. “Health monitoring” is modified as “medical follow-up” considering of GSR Part 7.
13 CAN	Para. 2.43	Consider also referencing the Nuclear Energy Agency’s (NEA’s)) forthcoming document, <i>Practical guidance for mental health and psychosocial support in radiological and nuclear</i>	The new (and imminently forthcoming) NEA publication (supporting the 2020 WHO <i>Framework for Mental Health and Psychosocial Support in Radiological</i>			X	It is impossible to refer unpublished documents.

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		<p><i>emergencies, drawing attention to the importance of mental health and psychosocial support (MHPS) consequence inclusion in medical registries:</i></p> <p>“Medical records made during an emergency (especially on the site) should be focused on clinical symptoms and other observations, without including assumptions of causal association with radiation exposure¹⁵. Medical records should also consider surveillance for mental health and psychosocial consequences of both workers and members of the public (NEA publication, forthcoming)”.</p>	<p><i>and Nuclear Emergencies)</i> states that medical registries should include surveillance for MHPS consequences of both workers and members of the public.</p>				
35 CAN	2.4. 3	Medical records made during an emergency	The text from footnote 15 should be moved into the			X	Moving the footnote to the main text is inappropriate because

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		(especially on the site) should be focused on clinical symptoms and other observations, without including assumptions of causal association with radiation exposure. ¹⁵ Such assumptions might lead to anxiety and unjustified medical examination. Determining the cause of the symptoms requires analysis by experts.	main text. It provides important and useful information regarding the collection of medical records.				the footnote is not on the operational criteria in an emergency.
14-2 CAN	Para 2.4.4, footnote 16 (and Para. 2.2, bullet (1)).	Consider including a footnote in para. 2.2 to clarify that deterministic effects are now called tissue reactions, which are defined by the ICRP as: “Injury in populations of normal cells characterised by a threshold dose and an increase in the severity of the reaction as the dose is increased further. Tissue reactions were previously called ‘deterministic effects’. Tissue reactions are	Comment added to consider reflecting up to date ICRP terminology and classification.	X			(Note: the IAEA definition of ‘deterministic effects’ includes: “Deterministic effects are also referred to as ‘harmful tissue reactions’”. The sentence is about late deterministic effect.)

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		<p>modifiable by post irradiation procedures including health care and biological response modifiers.”</p> <p>Further, in para. 2.4.4, both early and late deterministic effects (tissue reactions) should be distinguished.</p>					
20 SAU NSGC	2.43 – 2.44	No literature references are provided for requirements written for records and long-term medical follow-up.	At least literature references need to be provided for more details. Current text is not substantiated because of its shortness.			X	Some references are provided in footnotes.
7 JPN R	Section 3	3. GUIDANCE VALUES FOR RESTRICTING THE EXPOSURE OF EMERGENCY WORKERS <u>AND HELPERS IN AN EMERGENCY</u>	<p>Editorial and consistency with GSR Part 7.</p> <p>The phrase “helpers in an emergency” is used in GSR Part 7.</p>	X			
37 KOR	3.1	The above actions would likely be carried out while there is still a lack of information about the radiological situation in which the action is to be performed, and the uncertainties are large. Because of the urgency associated with those actions and	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and			X	This paragraph provides the contents of from paragraph 5.54 to 5.56 of GSR Part 7, and it is the basis of this section.

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		<p>their importance, detailed planning of the work of emergency workers might not be possible, and the human and equipment resources might not be fully in place¹⁹. Therefore, doses to emergency workers exceeding an effective dose of 50 mSv established dose limits for planned exposure situations can be justified to ensure the net benefit of the overall response efforts (see para. 5.56 of GSR Part 7 [2]). Paragraph 5.56 of GSR Part 7 [2] requires that national guidance values are established for restricting the exposures of emergency workers performing such tasks, with account taken of the guidance values given in appendix I of GSR Part 7 [2].</p>	<p>operational criteria in addition to establishment methodologies.</p> <p>In addition, the later part of the paragraph is only repetition to GSR Part 7.</p>				
1 ILO	3.1	<p>Para 3.1: the text misinterprets the GSR Part 7 text. The exception given in 5.55 of GSR Part 7 refers only to the doses received and not the application of the other requirements. I</p>		X			

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		<p>suggest that 3.1 is split into two parts:</p> <p>a) Paragraph 5.54 of GSR Part 7 [2] requires that the relevant requirements for occupational exposure in planned exposure situations established in GSR Part 3 [3] are applied, on the basis of a graded approach, for emergency workers¹⁸.</p> <p>b) Paragraph 5.55 of GSR Part 7 [2] requires that the operating organization and response organizations shall ensure that no emergency worker is subject to an exposure in an emergency that could give rise to an effective dose in excess of 50 mSv other than: and follow with the rest of the text from 3.1</p>					
29 IRN	3.1/ Footnote 18/ Line 4	"...may or may not be designated as such in advance to of an emergency."	The correct phrase is 'in advance of'. 'In advance to' is not a standard English phrase.	X			

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36 CAN	3.1 Footnote 18	...Emergency workers not designated as such in advance of an emergency are not necessarily workers prior to the emergency [16].	I know this is a direct citation from GSR Part 3, but the phrasing of the sentence is not clear.			X	Correct, it is out of scope of DS527.
38 KOR	3.2	Table I.1 of GSR Part 7 [2] establishes provides an example of guidance values for restricting exposure of emergency workers, and is reproduced with additional guidance in Table 4 of this Safety Guide. Dose restrictions to be applied for helpers in an emergency ²⁰ are also given in Table 4.	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in addition to establishment methodologies.		X		“Guidance” value is not requirement, and modified as “Table I.1 of GSR Part 7 [2] provides guidance values for...”
9 JPN R	Para. 3.2	3.2. Table I.1 of GSR Part 7 [2] establishes guidance values for restricting exposure of emergency workers, and is reproduced with additional guidance in Table 4 of this Safety Guide. Dose restrictions to be applied for helpers in an emergency ²⁰ are provided in para. 5.57 of GSR Part 7 [2] and also given in Table 4.	Clarification. Table 4 of DS527 provides guidance on dose restrictions for emergency workers and helpers in an emergency. The upper half of Table 4 is reproduced from Table I.1 of GSR Part 7, while the lower half of Table 4 is newly added. The relevant paragraph (i.e., para. 5.57 of GSR Part 7) associated to the guidance values for helpers in an emergency should be referenced in this paragraph.	X			
39 KOR	3.3	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSG-7 and	X			

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			there is no clear reason for stating it.				
30 IRN	3.3/ First line	“Paragraph 4.19 4.20 of IAEA Safety...”	It is paragraph 4.20.			X	The paragraph is deleted.
2 ILO	3.3	Para 4.19 should be 4.20.				X	
21 SAU NSGC	3.4 -3.7	Delete or modify	The paragraphs are direct quotation of GSG-11. They can be replaced by a reference or re-drafted to put it under the reviewed document context.			X	These paragraphs provide the basis of Table 4.
40 KOR	3.4	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSG-11 and there is no clear reason for stating it.			X	This paragraph clarifies radiation protection of emergency worker in transition phase.
8 JPN R	TABLE 4 (P19)	(Title) DOSE RESTRICTIONS FOR EMERGENCY WORKERS AND HELPERS <u>IN AN EMERGENCY</u> (in Table) Helpers in an emergency	Editorial and consistency with GSR Part 7. The phrase “helpers in an emergency” is used in GSR Part 7.	X			
19 IND	Pg 19 Table 4. Dose Restrictions for Emergency Workers	Other activities, such as: Remedial actions including decontamination on the site ‘and off the site’ is proposed to be dropped.	The off-site emergency workers may not be occupational workers and the applicability of Dose limits for occupational exposure in planned exposure situations established in Schedule III of GSR part -3 may be reviewed.			X	Paragraph 5.54 of GAR Part 7 states “In a nuclear or radiological emergency, the relevant requirements for occupational exposure in planned exposure situations

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	and Helpers		<p>Guidance for off-site emergency workers like police personnel, medial staff, specialized disaster response force, plant security workers, etc. needs to be explicitly included.</p> <p>As per the guide such workers fall under Category II emergency workers. But the corresponding guidance level are not indicated</p> <p>The guidance should take cognizance of the category (cat 1, 2 3) for emergency workers and graded guidance values to be provided.</p>				established in GSR Part 3 [8] shall be applied, on the basis of a graded approach, for emergency workers...”.
31 IRN	3.4/ Table 4/ Last column of the first three rows for Emergency workers	In three rows, change “table I.4” with “ table 1 ”. “ AD_T, Table 1.1 ”	In the first three rows (last column), it is referred to table I.4. It should be table 1 (in this draft). Table 4 is copied from EPR-Protection Strategy that Table I.4 is generic criteria to avoid or to minimize severe deterministic effects.	X			

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32 IRN	3.4/ Table 4/ Last column of the first row for Emergency workers (Lifesaving actions)	"<1/2 AD _T , Table 1-4 ^e "	It is not correct. For lifesaving actions, AD _T should be two times lower than the generic criteria in Table 1.	X			
4 JPN T	P.19 TABLE 4 Line 8	Public transportation network	IAEA terminology	X			
22 SAU NSGC	Table 4	Dose to helpers should be changed from ≤ 50 mSv to <u>≤ 20 mSv</u> of effective dose	There is not significant evidence to establish guidance values for the exposure to members of the public (helpers) higher than occupational dose limit. Helpers are NOT supposed to be engaged in life-saving operations, prevention of deterministic health effects or avoidance of large collective dose. Fukushima experience of parents engaged in the decontamination of school yards and workers of conventional waste incinerators does not show any need of 50 mSv guidance levels.			X	It is stated in paragraph 5.57 pf GSR Part 7.
11 CAN	Table 4	It is proposed to add a footnote to Table 4 stating that the doses in the table apply	The period of time during which the Guidance values apply is not clear.	X			Added the footnote on "TABLE 4" as "the doses in this table are not applicable during

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		during an emergency exposure situation, and no longer apply during the transition phase.					the transition phase [13].”
9 GER	Table 4, footnote a	the effective dose and the RBE (relative biological effectiveness) weighted absorbed...	RBE is already explained in 2.2 (1).	X			
41 KOR	3.5	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSR Part 7 and there is no clear reason for stating it.			X	It provides the basis of dose restrictions for workers and helpers in Table 4.
10 USA	3.5, page 20	Clarify or provide example of “Emergency workers not designated as such in advance” versus “Helpers” during an incident.	Using this terminology, “Emergency workers not designated as such in advance” without reference or definition is confusing.			X	The description cannot be modified as this is quote from GSR Part 7. According to IAEA Glossary, “emergency worker” is defined as “A person having specified duties as a worker in response to an emergency”, and “helper in an emergency” is “Member of the public who willingly and voluntarily helps in the response to a nuclear or radiological emergency.”
42 KOR	3.6	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSR Part 7 and there is no clear reason for stating it.			X	The paragraph concerns the range of tasks that pregnant or who might be pregnant can undertake in an

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							emergency, and additional information of Table 4.
1 AUS NSGC	3.6	“..who are aware that they are pregnant or who might <i>reasonably expect</i> to be pregnant”	Any female from onset puberty (approx. 12 yrs old) to complete menopause (up to 60 yrs old) “might” be pregnant. Let’s be more prescriptive. “Reasonably expect” puts the onus back on the individual to self-identify as actively trying to get pregnant or in a situation where pregnancy might reasonably be deemed probable (eg unprotected sex within a described timeframe).		X		The text highlighted is a quote from GSR Part 7, which wording cannot be altered in this draft. Nevertheless, the following sentence was added after the quote, “This includes female workers who might reasonably expect to be pregnant.”
15 CAN	Para 3.6	States: “who are aware that they are pregnant or who might be pregnant need to be”. Any cis gendered women could be someone “who might be pregnant” suggest changing these wordings. As well in this context, “any women who might be pregnant need to be...excluded from taking actions that”, would this then be implying that any women could be excluded from actions or managers/directors	For Clarification		X		Please see response to previous comment from Australia. As per the second part of the comment, not “any” woman would be excluded from the response based on this recommendation. This recommendation applies to women who are confirmed to be pregnant or who might reasonably expect to be pregnant.

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		could excluded them on this rationale.					
16 CAN	Para 3.6	Should it just be “all female workers” should be informed of the risk? They may not know they are pregnant but all should be informed of the risk.	For Clarification		X		The following sentence was added: “In the preparedness phase, all female staffs designated as emergency workers should be offered to be informed on the risks associated with radiological exposure during pregnancy.”
43 KOR	3.7	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSG-7 and there is no clear reason for stating it.			X	This paragraph is basis of categorization of TABLE 4.
10 GER	3.7 (a)	deterministic effects and actions to avert a large collective dose... They are	Concerning “...”, is something missing?			X	Correct, some parts of the paragraph are omitted.
11 GER	3.7 (a)	They are likely to be operating personnel at the facility or undertaking the activity, but they may also be personnel from the emergency services.	editorial			X	This is quote from GSG-7. A quote must reflect the original/reference text without modifications.
44 KOR	3.7	Emergency workers in Category 1 are required to be designated as such at the preparedness stage and Category 2 emergency workers are not the first choice for taking lifesaving actions (see para. 5.57 of GSR Part 7 [2]).	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference		X		Referred to TABLE 4, modified as “a dose exceeding limits for occupational exposure in planned exposure situations established in Schedule III of GSR Part 3 [3]”.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		Category 3 emergency workers should carry out those actions in which they will not receive a dose of more than 50 mSv. exceeding established dose limits for planned exposure situations.	levels, generic criteria and operational criteria in addition to establishment methodologies.				
9 SWE	3.7	<p>Please consider to align the paragraph with requirement 5.57 in GSR Part 7.</p> <p>Also please clarify how workers that do not have a clearly defined role in an emergency or take action in response to the emergency, but whose work assignments need to continue to protect vital societal functions and critical infrastructure, should be treated.</p>	<p>The text below the bullets points is not in line with 5.57 in GSR Part 7 with the regards to taking life-saving actions.</p> <p>Examples of such workers can be domestic services personnel who may not be able to follow recommended protective actions for the public, e.g. sheltering or rescue services acting on emergencies not related to the nuclear or radiological emergency who may have to operate in evacuated areas or in areas where sheltering is recommended for the public.</p>			X	The paragraph is consistent with para 5.57 of GSR Part 7. Not only workers of operating organization, but those of response organization can be emergency workers. They may not be designated in advance.
20 IND	Pg 21 Para 3.7 last paraCategory 3 emergency workers should carry out those actions in which they	The basis of 50 mSv criteria may be provided. If the basis for 50 mSv is the limit		X		With another comment, modified as "a dose exceeding

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		will not receive a dose of more than 50 mSv	used for workers in planned exposure, then the value may differ from country to country.				limits for occupational exposure in planned exposure situations established in Schedule III of GSR Part 3 [3]".
17 CAN	Para 3.7	It would be useful to have some more details on emergency workers on the categories of emergency workers. Would they be able to help in all 3 categories of emergency workers (both on- and off-site) as long as they don't exceed 50mSv?	For Clarification	X			
10 JPN R	Para 3.8	Emergency workers and helpers <u>in an emergency</u> are required to be given medical attention appropriate for the dose they may have received (see para. 5.59 and Appendix II of GSR Part 7 [2]). The doses received and information concerning the consequent health risks are required to be communicated to such workers and helpers <u>in an emergency</u> (see para. 5.61 of GSR Part 7 [2]).	Editorial and consistency with GSR Part 7. The phrase "helpers in an emergency" is used in GSR Part 7.	X			

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33 IRN	3.8/ Line 2	“...the dose they may have received or at their request. ”	Considering para.5.59 of GSR Part 7, it is suggested to add “or at their request”. It is an important point.	X			
34 IRN	3.8/ Last sentence	“...concerning the any consequent health risks are...”	It is suggested to change “the consequent health risks” with “any consequent health risks” as para. 5.61 of GSR Part 7. Because with “the”, it comes to the mind that there shall be consequence for any received doses.		X		Referring to GSR Part 7, modified as “information on any consequent health risks.”
12 GER	Chapter 4		The paras 4.1 to 4.12 should be put in the order given in 4.1 (1. OILs, 2. EALs, 3. O&I). Subheadings may help to improve the overview of this chapter.		X		Subheadings were added, however following this order: EALs, observables and indicators, and OILs. The phrasing in 4.1 has also been edited to match this order.
45 KOR	4.1	Operational criteria used in an emergency should include OILs, EALs, observables and indicators on the site (see para.2.32).	To reduce confusion of member states regarding recommendations in the Safety Standard.	X			
46 KOR	4.2	EALs are specific criteria for observable or measurable abnormal conditions at a facility (in EPC I, II or III), which are used to detect and recognize an emergency and determine the emergency class. These criteria are required to be pre-established (see para. 4.28 (4) of	DS504 can be used as a reference for further consideration, but it is not approved and published Safety Standards yet, it needs to be removed or GSG-2.1 should be referenced.			X	As confirmed by NSOC (and mentioned in response to previous comments in this table), this is fine to refer to draft Safety Standards.

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		GSR Part 7 [2]), and should then be implemented as recommended in DS504 [11]. Appendix III to this Safety Guide provides recommendations on the development and use of EALs and the conditions to be considered in the development of EALs for the classification of emergencies at a light water reactor (LWR) nuclear power plant ²¹ .					
23 SAU NSGC	4.2/4	Remove/change the reference to DS504.	Reference to not-approved draft document is not valid.			X	
37 CAN	4.2	Appendix III to this Safety Guide provides recommendations on the development and use of EALs...	Appendix II has information on development of EALs, Appendix III has information on indicators and observables.	X			
22 JPN	4.2	Appendix II of III to this Safety Guide provides recommendations on the development and use of EALs and	Editorial	X			

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35 IRN	4.2/ Line 4	“Appendix III to of...”	“Appendix to” usually is used when it is published as a separate part. Usually “Appendix of” is used when the appendix is a part of the whole document.	X			
18 CAN	Footnote 21	Consider adding PHWR with SMRs as not being considered/applicable to discussion	For Clarification			X	It is clearly written as “light water reactor”.
47 KOR	4.4	DS504 [11] provides recommendations on the radius of the inner cordoned off area in which urgent protective actions should initially be taken on the basis of the indicators and observables identified by responders upon their arrival at the site. The size of the cordoned off area may be expanded on the basis of the relevant monitoring results and OILs (see Appendix II of this Safety Guide). Reference [21] provides a list of observables and indicators that can be used by responders to identify a dangerous source, together with the actions to be taken to protect responders and the public. Those observables and indicators are reproduced in	Initiating the paragraph by stating DS504 provides relevant recommendations on the radius of the inner cordoned off area does not seem necessary.			X	The reference to DS504 serves as to highlight that an inner cordoned off area should be established based on observables. The sentence that follows completes the message by stating that the size of this area should be expanded on the basis of monitoring, as applicable.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		Appendix IV of this Safety Guide. Ref. [18] provides guidance on the activity of a radionuclide that, if not controlled, should be considered to constitute a dangerous source.					
24 SAU NSGC	4.4/1	Remove/change the reference to DS504.	Reference to not-approved draft document is not valid.			X	As confirmed by NSOC, making reference to other draft safety standards is fine.
23 JPN	4.4	The size of the cordoned off area may be expanded on the basis of the relevant monitoring results and OILs (see Appendix I of this Safety Guide).	Editorial	X			
38 CAN	4.4	The size of the cordoned off area may be expanded on the basis of the relevant monitoring results and OILs (see Appendix I of this Safety Guide)...Those observables and indicators are reproduced in Appendix I of this Safety Guide...	Appendix I has information on OILs and Appendix III on observables and indicators.		X		“The size of the cordoned off area may be expanded on the basis of the relevant monitoring results and OILs (see Appendix I of this Safety Guide)...Those observables and indicators are reproduced in Appendix III of this Safety Guide...” (see comment from Japan in row below)

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24 JPN	4.4	Those observables and indicators are reproduced in Appendix III IV of this Safety Guide.	Editorial	X			
2 AUS	4.4	Again, reference the document title instead of just its position in the list of referenced documents	Saves the reader having to check the source material			X	This is as per the IAEA rules for drafting and publishing
5 FAO	4.5/line 1	OILs are operational criteria intended to facilitate the prompt implementation of...	Typo:Delete the 2nd are: "OILs are operational criteria are intended to facilitate the ..."	X			
6 SVN	4.5/line 1	OILs are as operational criteria are intended to facilitate the prompt implementation of protective actions and other response actions on the basis of radiation monitoring or analysis results that are readily available during a nuclear or radiological emergency.	Minor grammar correction.			X	See comment from FAO in row above.
36 IRN	4.5/ First line	"OILs are as operational criteria are intended..."	Revising the beginning of this line.			X	
37 IRN	4.5/ Line 4	"...the appropriate protective action actions and other response..."	As talking about OILs as plural form, maybe more than one protective action is required. So it is suggested to change "action" with "actions"	X			
38 IRN	4.5/ Last sentence	"... invoked taken without further assessment."	Not so agree with using the verb "invoke". The definition of "invoke action" is somehow different from "take action".	X			
25 JPN	4.5	The appropriate protective <u>actions</u> and other response	Protective actions without considering safe		X		Ensuring that protective actions can

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		actions should be promptly invoked without further assessment, <u>taking into account that any actions should be taken safely and effectively.</u>	and effective could affect adverse effects other than radiological effects.				<p>be taken safely and effectively requires some sort of assessment, therefore “without further assessment” is suggested being removed.</p> <p>New phrasing proposed as follows: “If the OILs are exceeded, the appropriate protective actions and other response actions should be promptly taken , unless it is assessed that they might cause more harm than good.”</p>
48 KOR	4.5	OILs are operational criteria are intended to facilitate the prompt implementation of protective actions and other response actions on the basis of radiation monitoring or analysis results that are readily available during a nuclear or radiological emergency. If the OILs are exceeded, the appropriate protective action and other response actions should be	Editorial suggestion to be more consistent with common terminology throughout other EPR Safety Standards.	X			

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		promptly invoked taken without further assessment.					
5 JPN T	P.22 4.5	<p>OILs are operational criteria are intended to facilitate the prompt implementation of protective actions and other response actions on the basis of radiation monitoring or analysis results that are readily available during a nuclear or radiological emergency. If the OILs are exceeded, the appropriate protective action and other response actions should be promptly invoked without further assessment^{21bis}.</p> <p><u>21bis In transport of radioactive material dose rates around package may exceed the criteria of OIL1 or OIL2 even in routine conditions. Any protective actions or response actions should be careful as mentioned in para. 2.41 of SSG-65[15] “OILs can only be used in conjunction with observables and indicators to initiate an emergency response. Exceeding an OIL should not be used as the sole basis for initiating an emergency response.”</u></p>	<p>At the maximum dose rates at the surface and 2m from the surface of conveyance are required to be less than 2 mSv/h and 0.1 mSv/h respectively even under routine conditions of transport. Therefore, usual dose rates around packages may be beyond the OIL1 or OIL2. The exposures of workers or public around the packages are controlled appropriately by the radiation protection (SSG-86).</p> <p>SSG-65 provides appropriate guide about the OIL during transport, and it should be added as a note.</p>		X		<p>Slightly rephrased as follows: “²² During the transport of radioactive material, dose rates measurements around a package might exceed the numerical values for OIL1 or OIL2, even in routine conditions. As mentioned in para. 2.41 of SSG-65[15] “OILs can only be used in conjunction with observables and indicators to initiate an emergency response. Exceeding an OIL should not be used as the sole basis for initiating an emergency response.”</p>
WNTI-02	4.5	4.5. OILs are operational criteria are intended to facilitate the prompt implementation of protective actions and other response actions on the basis of radiation monitoring or analysis	Dose rates at the surface of a package are designed to be less than 2 mSv/h. Packages may exceed OIL1 (1 mSv/h.) or OIL2 (0.1 mSv/h.) under			X	

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		<p>results that are readily available during a nuclear or radiological emergency. If the OILs are exceeded, the appropriate protective action and other response actions should be promptly invoked without further assessment^{21bis}.</p> <p><u>^{21bis} In transport Any protective actions or response actions should not be taken based on OILs only as mentioned in para. 2.41 of SSG-65[15] “OILs can only be used in conjunction with observables and indicators to initiate an emergency response. Exceeding an OIL should not be used as the sole basis for initiating an emergency response.”</u></p>	<p>usual transport. Therefore, protective action or response actions should not be based on OIL only.</p> <p>SSG-65 provides some guide about the OIL during transport, and it should be added as a note.</p>				
26 JPN	4.6-1	<p><u>Paragraph 4.28(4) of GSR Part 7 [2] requires that arrangements be established to revise the default OILs in the course of an emergency, with account taken of the prevailing conditions as they evolve. A methodology and processes for</u></p>	<p>The recommendation on revision of the default OILs for a nuclear or radiological emergency should be made as described in the current version, GSG-2.</p>		X		<p>Slightly rephrased as follows: “4.7. Paragraph 4.28(4) of GSR Part 7 [2] requires that “arrangements shall be established to revise the default OILs in the</p>

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		<u>the recalculation of the OIL values in the course of an emergency to address the prevailing conditions should be an integral part of the protection strategies.</u>	I.71 and I.72 might be useful.				course of an emergency, with account taken of the prevailing conditions as they evolve”. A methodology and processes for the recalculation of OIL values during the emergency response phase to address the prevailing conditions should be an integral part of the protection strategies.”
27 JPN	4.6-2	<u>In revising the default OILs during an emergency, it should be ensured that the situation is well understood and that there are compelling reasons for the revision. The public and other interested parties should be informed of the reasons for any change in the OILs applied in an actual emergency.</u>	the same as above		X		Slightly rephrased as follows: “4.6.4.8. In revising default OIL values during an emergency, it should be ensured that the situation is well understood and that there are compelling reasons for the revision. The public and other interested parties should be informed of the reasons for any change in the OILs applied in an actual emergency.”

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
49 KOR	4.7	Remove of incorporate the paragraph into para. 4.5.	This paragraph is subsidiary to para. 4.5. If establishment of OILs for other response actions including long term medical follow-up and treatment, it can be considered to address these points within para. 4.5.		X		Moved to 4.5 with the footnote, but slightly rephrased to account for Canada's comment: "The set of the pre-established set of OILs should include OILs for determining whether an individual should be referred for detailed dose assessment to determine if long term medical follow-up and treatment are warranted ²³ "
28 JPN	4.7	<u>Emergencies have occurred for which no criteria for long term medical follow-up and treatment had been pre-established. Criteria established after the occurrence of emergencies were often set unduly low as the level of doses received or were not set on the basis of radiation dose criteria at all. This led to the designation of groups for follow-up for which it would have been impossible, because of the inherent limitations of epidemiological studies, to</u>	Clarification. Footnote 22 should be moved to the main text, otherwise, 'therefore' in the original text would not make sense.		X		4.7 modified as per the comment made by the Republic of Korea (row above) and the comment made by Canada (row below).

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		detect any increase in the <u>incidence of cancers, owing to the relatively small number of cases of radiation induced cancer to be expected.</u> OILs should therefore be established for determining whether an individual should be considered for long term medical follow-up and treatment.					
39 CAN	4.7	OILs should therefore be established for determining whether an individual should be considered referred for detailed dose assessment to determine if long term medical follow-up and treatment is warranted. ²²	OILs are calculated based on a large number of assumptions and are used for rapid decision making in an emergency response. It is my understanding that an individuals actual exposure and consultation with a medical professional should be used to assess whether they should be considered for long term medical follow-up and treatment. The only OIL that is written in such a way that it might immediately justify	X			

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			medical follow-up is OIL8y (thyroid monitoring). Or if this is meant to refer to the OILs from the IAEA EPR Contamination document, this should be referenced explicitly.				
10 SWE	4.7	Please consider to rephrase.	It seems as if considerations for long term medical follow up should primarily be based on organ doses and not OILs. OILs may be used during monitoring to identify persons that need a dose assessment. The foot note also describes the root of the problem as a lack of dose criteria, not a lack of OILs.	X			
50 KOR	4.8	The example set of OILs to which can be used in nuclear emergencies involving a significant release of radioactive material from an LWR or its spent fuel, as well as in radiological emergencies, and the example methodology followed in their derivation are provided in Refs [5, 7].	This may confuse member states that GSR Part 7 and the revision of GSG-2 provide specific numerical requirements and recommendations for selecting relevant reference levels, generic criteria and operational criteria in		X		Rephrased as follows: "4.8.4.9. Suggestions of OILs for use in nuclear emergencies involving a significant release of radioactive material from an LWR or its spent fuel, as well as in radiological emergencies, and the methodology

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			<p>addition to establishment methodologies.</p> <p>This may confuse member states that the revision of GSG-2 recommends a specific methodology for calculating OILs.</p>				suggested for their derivation are provided in Refs [5, 7]”
3 AUS	4.8	The OILs to be used in nuclear emergencies involving a significant release of radioactive material from an LWR a reactor or its spent fuel, as well as in radiological emergencies, and the methodology followed in their derivation are provided in Refs [5, 7].	Should that say light water reactor, or should “LWR” be removed? Would OILs not be applicable for monitoring results following a CANDU emergency?			X	<p>The scope of EPR-NPP-OILs (2017) mentions emergencies at LWR and its spent fuel pools.</p> <p>First steps to calculate OILs is to identify relevant source terms. The accident kinetics and isotopic composition of the release are technology dependent.</p>
11 SWE	4.9	Please consider to rephrase.	It seems as if decisions on the decorporation of radionuclides from internally contaminated individuals should primarily be supported by dose assessments and not OILs. OILs are useful as a practical tool, but it is reasonably the underlying dose criterion			X	<p>From EPR-Internal Contamination (2018):</p> <p>p. 14: “Reasonable decorporation actions to minimize the risk of radiation induced cancer in any organ or tissue due to the intake of radioactive material</p>

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			that is important for decision making.				<p>should be undertaken in accordance with the appropriate operational intervention level (OIL):</p> <p>p. 15: “The amount of radioactive material incorporated by an individual can be measured through the retention of radionuclides in some organs or tissues and the excretion rates characteristic of internal exposures (using biokinetic models). This relationship is the basis for the use of OILs for decorporation. Thus, OILs may be calculated and established for decorporation treatment by internal dose assessment through in vivo bioassays (retention in the whole body, BRt; retention in the lung, LRt; retention in the</p>

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							thyroid, TRt) and by in vitro bioassays (daily urinary excretion, UEx; daily faecal excretion, FEx)”
51 KOR	4.9	OILs should also be used to support decision making on the decorporation of radionuclides from internally contaminated individuals. The example methodology for calculating OILs for in vivo and in vitro bioassay is provided in Ref. [8].	This may confuse member states that the revision of GSG-2 recommends a specific methodology for calculating OILs.		X		Rephrased as follows” “The suggested methodology for calculating OILs ...”
52 KOR	4.10	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSG-11 and there is no clear reason for stating it.	X			
12 SWE	4.10	Please consider to rephrase.	It seems as if decisions on lifting or adapting protective actions as well as implementation of activities enabling transition should be based on dose criteria and not OILs. OILs are a tool that is used in the practical implementation of the decisions.		X		A quote from an existing publication cannot be rephrased. However, this paragraph and the following have been simplified.
9 ISR	4.10 (a)	The sentence in the paragraph is not clear. It is recommended to change as follows:	Clarity		X		A quote from an existing publication cannot be rephrased.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		"Decision making on lifting or adapting protective actions, including the determination of protective actions to be lifted or adapted, when they may need to be lifted or adapted and to whom the decision may apply; "					However, this paragraph and the
53 KOR	4.11	Remove the paragraph or clarify the reason for the citation.	The paragraph only repeats the body text of GSG-11 and there is no clear reason for stating it.	X			
39 IRN	4.11/ Quoted paragraph/ Line 6	"... for whom the protective actions many may need to be lifted or adapted."	There is a mistake in GSG-11 in the quoted paragraph. It is suggested to write the correct form in this draft. Please change "many need" with "may need"			X	The paragraph was simplified and quotes removed, as per other comments made.
6 IDN	Page 23/Line 16	...the protective actions <u>may</u> need to be lifted or adapted.				X	
25 SAU NSGC	4.10-4.11	Delete or modify	The paragraphs are direct quotation of GSG-11. They can be replaced by a reference or re-drafted to put it under the reviewed document context.	X			
7 SVN	4.10, 4.11, 4.12	Are paragraphs 4.10, 4.11 and 4.12 relevant for the urgent phase of the emergency?	GSG-11 is out of scope for the urgent response phase, since it deals with the transition phase – redefine the scope at the beginning and give more detail	X			

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			on the relevance of the adaptation or lifting of protective actions, based on GSG-11.				
26 SAU NSGC	4.12	No suggestions	The reference to articles of GSG-11 are given. Why is the same not done for abundant direct quotations of other documents?	X			
21 IND	Page 24 Appendix I.1	In this appendix, examples of OILs, based on radioactive contamination ²³ , for determining the protective actions and other response actions during a nuclear or radiological emergency are provided.	Better clarity		X		Rephrased for better clarity as follows: “I.1. In this appendix, examples of OILs for use to help determine protective actions and other response actions in responding to a nuclear or radiological emergency that results in contamination are provided. Considerations in the derivation and revision of OILs, and recommendations on their use in different groups of emergency scenario, and plain language explanations of them are provided.”

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
10 ISR	I.1	Footnote 23 should be superscript	Editing	X			
40 IRN	APPENDIX I/ I.1/ Second line	“...in contamination ²³ contamination ²³ are provided.”	“23” should be superscript.	X			
27 SAU NSGC	I.1/2	contamination ²³	Typo. Superscript.	X			
13 GER	I.1	In this appendix, examples of OILs for use in responding to a nuclear or radiological emergency that results in contamination ²³ ²³ are provided.	Number should be a superscript.	X			
11 UK	Pg 24	The text in footnote 24 is important and is lost in a footnote in the Appendix and should be included in the main text		X	Moved as body text to section 4.		
40 CAN	I.1 Footnote 24, 25	OILs for dose rates or air concentrations in a plume resulting from an ongoing release are not provided because of example criteria are intended to be very general and practical. They are not included because (a): in many cases the significant release will be over by the time results of environmental measurements are available; (b) it is difficult to take and	The text from footnotes 24 and 25 should be moved into the main text. They provide important and useful information regarding why OILs for certain exposure pathways are not considered. This could be added as a new paragraph after the list of OILs that are included in this guidance.	X			

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		analyse air concentrations in a sample in a timely manner; (c) there is a great variation in time and location of the plume concentrations at any location during a release; and (d) OILs of these types are highly dependent on the nature of the release, which makes it very difficult to develop OILs that apply to the full range of possible releases. During the period of significant release, therefore, protective actions (e.g., evacuation or sheltering, to a pre-determined distance) are best taken on the basis of observable criteria. Operating organizations of facilities at which there could be emergencies that result in airborne releases of long duration should develop EALs and possibly facility specific OILs for measurements taken in a plume, for possible airborne releases from the facilities. Examples of OILs for					

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		dose rates in a release from a light water reactor resulting from core melt are provided in Ref. [31]. Additionally , OILs for air concentrations arising from resuspension are not provided because doses from resuspension have been considered in the deposition OILs.					
11 JPN R	Para. I.1 (a)	(a) OIL1 is a set level of a measurable quantity (ambient dose equivalent rate or count rate) representing ground contamination calling for urgent protective actions (e.g. evacuation) and other response actions to keep the effective dose to representative person any person living in a contaminated area and the equivalent dose to the fetus below the generic criteria for urgent protective actions provided in Table 2.	Clarification.			X	Assumptions taken for the calculation of OIL values consider the representative person, indeed. However, this is because the choice of the representative person is considered conservative that the results can be applied to all members of the public.
12 JPN R	Para. I.1 (b)	(b) OIL2 is a set level of a measurable quantity representing ground contamination calling for early protective actions (e.g.	Clarification.			X	

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		relocation) and other response actions to keep the effective dose to <u>representative person</u> any person living in a contaminated area and the equivalent dose to the fetus below the generic criteria for early protective actions provided in Table 2.					
13 JPN R		(c) OIL3 is a set level of a measurable quantity representing ground contamination calling for immediate restrictions on the consumption of local produce, milk from animals grazing in the area and rainwater collected for drinking that might have been contaminated to keep the effective dose to <u>representative person</u> any person consuming those and the equivalent dose to the fetus below the generic criteria for taking response actions to reduce the risk of stochastic effects due to the ingestion of food, milk or drinking water provided in Table 2.	Clarification.			X	
7 FAO	Footnote 26 on page 24		Here we are talking about food in production (or found) <u>in the</u>	X			

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			locality of the accident, so, by “local produce” we mean food produce in the vicinity of the accident that could already be, or soon become contaminated (either directly Or indirectly). Therefore, OIL3 gives a very early indication of where food production in this locality needs to be restricted to prevent contaminated food from entering into the food supply. This is in contrast to the “ Locavore ” and their understanding of “Local Produce” or “Local Food” as being food that is produced within a short distance of where it is consumed.				
6 FAO	Appendix 1 I.1 c) line 2	OIL3 is a set level of a measurable quantity representing ground contamination calling for immediate restrictions on the consumption of local produce ²⁶ , including milk from animals grazing in the area and rainwater collected for drinking that might have been contaminated ²⁷ to keep the effective dose to any person consuming those and the equivalent dose to the fetus below the generic criteria for taking response actions to reduce the risk of stochastic effects due to the ingestion of food or drinking water provided in Table 2. ²⁶ Foodstuffs that are grown or collected in areas near the accident. For	milk from animals grazing in the area is also local produce.	X			

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		example, vegetables, wild fungi, berries, fruits, etc. downwind of airborne fallout.					
41 CAN	I.1 Footnote 27	When OIL3 is exceeded, the response actions warranted in a general emergency in the Ingestion and Commodities Planning Distance (ICPD) , if not already implemented based on the declaration of emergency, should be implemented regardless of the distance from the facility. Therefore As such , the distribution of commodities that may have been contaminated should also be restricted until they have been assessed.	The footnote is describing extending the ICPD based on OIL3, this should be stated explicitly to make the link to commodities in the second sentence more clear. Additionally the text from this footnote should be moved to the main text. It provides important and useful information.		X		Text from footnote moved to main text, but without mention of the ICPD. Emergency planning zones and Emergency Planning Distances (including ICPD) are to be set in the preparedness phase. However, OILs are to be used in the early response phase. Therefore this is not here about expanding the size of the ICPD, but more about conveying the message that OIL3 might be exceeded locally in 'unforeseen' locations, for instance at routine border controls (which are not necessarily located within the ICPD).
42 CAN	I.1 d)	Contamination levels exceeding OIL4 warrant medical screening, and if the presence of radioiodine is	Move the part of the sentence that mentions ITB to a separate sentence to clarify the distinction	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		<p>suspected, — taking — iodine thyroid blocking (ITB) agents (if not already taken) because the received dose by the contaminated person (and, where appropriate the fetus) might exceed the generic criteria for medical actions provided in Table 2.</p> <p>If the presence of radioiodine is suspected, taking iodine thyroid blocking (ITB) agents (if not already taken) to reduce further uptake of radioiodine</p>	<p>between medical screening because OIL4 indicates a person might exceed the generic criteria for medical actions, and separately that ITB should be administered if radioiodine is suspected to further reduce the uptake of radioiodine.</p>				
8 FAO	Appendix 1 I.1 e) lines 2	(e) “the consideration of restrictions to prevent their consumption so as to keep the effective dose to”	<p>It is difficult to set and enforce restrictions on the consumption of food - legally why would anyone wish to sanction the unfortunate person who has eaten the contaminated food? Why would you punish the consumer for eating some thing that is deemed not safe? In practice restrictions are placed on activities like access to the location and/or the harvesting, hunting/collecting, transportation and movement out of the area, storing, gifting or sale of foodstuffs. It is these types of activities that are restricted in order to stop contaminated food</p>	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			from entering into the supply chain and being eaten by consumers. Therefore, it should be “restrictions to prevent their consumption” NOT “restrictions on their consumption”.				
14 JPN R	Para. I.1 (e)	(e) OIL5 and OIL6 are set levels of concentrations in food, milk or drinking water that warrant the consideration of restrictions on their consumption so as to keep the effective dose to representative person any person consuming those and the equivalent dose to the fetus below the generic criteria for taking response actions to reduce the risk of stochastic effects due to ingestion of food, milk or drinking water provided in Table 2.	Clarification.			X	Assumptions taken for the calculation of OIL values consider the representative person, indeed. However, this is because the choice of the representative person is considered conservative that the results can be applied to all members of the public.
9 FAO	Appendix 1 I.1 f) line 2 to 3	Cs-137, in food, milk or drinking water that warrant the consideration of restrictions to prevent their consumption in the case of a release of radioactive material from an LWR or its spent	Same reason as #8 above – restrictions are actually placed on activities that ultimately prevent the food from being eaten. Restrictions on the act of consuming contaminated food are difficult to enforce.	X			
41 IRN	APPENDIX I/ I.1/ Bullet	“...during an emergency occurring at an a LWR or its spent fuel nuclear- emergency is preferable	Editorial.	X			

COMMENTS The comments are listed according to their order of appearance in the text				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
	(f)/ Footnote 28/ First line						
15 JPN R	Para. I.1 (f)	(f) OIL7 ²⁸ are set levels of activity concentrations of the marker radionuclides ²⁹ , I-131 and Cs-137, in food, milk or drinking water that warrant the consideration of restrictions on their consumption in the case of a release of radioactive material from an LWR or its spent fuel ³⁰ . OIL7 is used to keep the effective dose to <u>representative person</u> any person and the equivalent dose to the fetus below the generic criteria for taking response actions to reduce the risk of stochastic effects due to the ingestion of food, milk or drinking water provided in Table 2.	Clarification.			X	Assumptions taken for the calculation of OIL values consider the representative person, indeed. However, this is because the choice of the representative person is considered conservative that the results can be applied to all members of the public.
19 CAN	Appendix I, Section I.1, bullet g, footnote 31	Consider the following references as they are somewhat convincing about the impacts of taking KI pills following 24 hours of exposure, but not conclusively so:	While the following footnote references the World Health Organization's Iodine thyroid blocking: Guidelines [see reference 30], the WHO Guidelines do not provide any			X	Suggested footnote is too detail for here. Besides, the message is the same.

COMMENTS				RESOLUTION			
The comments are listed according to their order of appearance in the text							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		<ul style="list-style-type: none"> • Verger et al, 2001. THYROID 11(4): 353-360. Mary Ann Liebert, Inc. • Hanscheid et al, 2011. J Clin Endocrinol Metab, 96(11):3511–3516 • Kopp, 2023. THYROID 33(3): 273-275. Mary Ann Liebert, Inc. DOI: 10.1089/thy.2023.0068 • VAGENAKIS et al, 1973. The Journal of Clinical Investigation Volume 52, pages 528-532 • Moka et al, 2002. European Journal of Nuclear Medicine Vol. 29, Supplement 2, pages S486-S491. <p>While these papers are focused on medical patients, there is the following paper that seems to contradict this information when considering fall-out: Zanzonico et al, 2000. Health Physics: The Radiation</p>	<p>references as to how the biological half-life of radioactive iodine could be prolonged by taking stable iodine 24 hours after exposure.</p>				

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		<p>Safety Journal 78(6):p 660-667.</p> <p>“It is still reasonable to administer ITB up to eight hours after the estimated onset of exposure. Commencing ITB later than 24 hours following the exposure might do more harm than benefit (by prolonging the biological half-life of radioactive iodine that has already accumulated in the thyroid) [30, ADD RELEVANT REFERENCES]”</p>					
20 CAN	Appendix I, Section I.1, bullet g, footnote 32	<p>Consider making this assumption more conservative to represent the third trimester.</p> <p>“The equivalent dose to the parent’s thyroid is assumed to be approximately equal to the equivalent dose to the fetal thyroid, although the equivalent dose could vary greatly dependent on stage of</p>	The paper cited (Likhtarov et al, 2011) does not infer the quote in the draft publication. The paper states: “In Table 10 the ratios of thyroid doses received by children and thyroid doses received by their mothers are shown. As is clear from the table the child's thyroid doses are less than 1% of	X			

COMMENTS				RESOLUTION			
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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		pregnancy at the time of exposure [35]”.	mothers' doses if the stage of pregnancy at the time of the accident was less than 60 days. This ratio increases rapidly as the stage of pregnancy ATA increases. The thyroid doses of subjects who were exposed in utero during the last trimester of pregnancy are significantly greater than the thyroid doses of their mothers.”				
16 JPN R	Para. I.1 (h)	(h) OILC is a set level of a measurable quantity representing surface contamination on commodities other than food, milk and drinking water that warrant the consideration of restrictions on their use so as to keep the effective dose to representative person any person using those and the equivalent dose to the fetus below the generic criteria for taking response actions to reduce the risk of stochastic effects due to use of such commodities provided in Table 2.	Clarification.			X	Assumptions taken for the calculation of OIL values consider the representative person, indeed. However, this is because the choice of the representative person is considered conservative that the results can be applied to all members of the public.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
17 JPN R	Para. I.1 (i)	(i) OILV is a set level of measurable quantity representing the contamination on the surfaces of vehicles (interior surfaces are also to be monitored for vehicles), equipment and items from an area affected by a nuclear or radiological emergency that warrants the consideration of restrictions on their use so as to keep the effective dose to <u>representative person</u> any person using those and the equivalent dose to the fetus below the generic criteria for taking response actions to reduce the risk of stochastic effects due to use of such vehicles, equipment and items provided in Table 2.	Clarification.			X	Assumptions taken for the calculation of OIL values consider the representative person, indeed. However, this is because the choice of the representative person is considered conservative that the results can be applied to all members of the public.
43 CAN	I.1 (i)	OILv is a set level of measurable quantity representing the contamination on the surfaces of vehicles..., equipment and items from an affected area...to keep the effective dose to any person using those...below the generic	Need to clarify if OILv is meant to apply to vehicles, equipment and items used by members of the public or if it meant to apply to vehicles, equipment and items used by emergency workers in the emergency response.	X			A mention to the use by members of the public was added.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		criteria for taking response actions and to reduce the risk of stochastic effects...	It would be beneficial to provide examples of when this OIL would be used, or how it could have been used in past responses to nuclear emergencies, in order to clarify it's purpose. If it is intended for items used by emergency workers, then the consequences for exceeding the OIL could include the development of procedures or addition of PPE to reduce exposures until replacements can be found.				
42 IRN	APPENDIX I/ I.1/ Bullet (j)/ Second line	"...drinking water and , and surface contamination on..."	Editorial	X			
18 JPN R	Para.I.1 (j)	(j) OIL _{IntTrd} is a set level of measurable quantity representing contamination in food, milk and drinking water and, and surface contamination on other commodities that warrant the consideration of restrictions on	Clarification.			X	Assumptions taken for the calculation of OIL values consider the representative person, indeed. However, this is because the choice of the representative person is considered

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		their trade so as to keep the effective dose to representative person any person using those and the equivalent dose to the fetus below the generic criteria for taking restrictions on the international trade of foodstuff and other commodities provided in Table 3.					conservative that the results can be applied to all members of the public.
8 SVN	Appendix I./I.2	medical follow-up. The controlling organ dose to the fetus for intake of iodine is the thyroid [33]. The equivalent dose to the parent's thyroid is assumed to be approximately equal to the equivalent dose to the fetal thyroid [35]	The footnote mark in the text and in the footnote itself is missing, therefore, it is not clear to which sentence this footnote belongs to.	X			
4 FIN	I.2.(a)	The relevant generic criteria: The generic criteria from which the OILs are to be derived should be selected from the <u>appropriate national</u> generic criteria given in Tables 1–3 .	As with comment 2. Especially here national generic criteria should be referred a basis for derivation to be in line with GSR Part 7 para 4.28 (4).		X		Rephrased as follows: “The relevant generic criteria: The generic criteria from which the OILs are to be derived should be selected from the appropriate national generic criteria. Numerical values for generic criteria are suggested in Tables 1–3.”
14 GER	I.2 e)	The behaviour physical, chemical and biological properties of radionuclides affecting the radiation exposure of the individuals:	Clarification	X			

COMMENTS				RESOLUTION			
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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
43 IRN	APPENDIX I/ I.2/ Bullet (e)/ Line 4	“... or transfer from the ground to milk or food, or inadvertent ingestion , that could have a ...”	It seems that “inadvertent ingestion” cannot be considered as the behavior of radionuclides affecting the radiation exposure of the individuals. Suggested to delete it from this bullet.	X			
44 IRN	APPENDIX I/ I.2/ Bullet (f)/ Line 1 As general comment	“The dose coefficients conversion factors...”	General comment: In this draft, “dose conversion factors” has been replaced with “dose coefficients”, without any notification, that causes confusion. “dose coefficient” is dose per unit intake. Suggested to change “dose coefficient” with “dose conversion factor” in this draft or at least write a notification.			X	Comment was made by RASSC members at the RASSC meeting in June 2024 that, as per ICRP’s terminology, ‘dose conversion factor’ is no longer used and has been replaced by ‘dose coefficient’
11 ISR	I.2 (f)	It is recommended to add a reference to ICRP dose coefficients.	Completeness			X	Until further notice, drafts continue to refer to dose coefficients already published in IAEA Safety Standards.
11 FAO	Heading bottom of page 27	USE OF OPERATIONAL INTERVENTION LEVELS AND RELATED OPERATIONAL CRITERIA IN A NUCLEAR OR RADIOLOGICAL EMERGENCY	This is to facilitate the inclusion of Codex Guideline Levels in Table 5 and in the discussion that follows (see #12, #13 and #14 below). The Codex Guideline Levels are not OILS. GSR Part 7 para II.13 refers to them as “operational criteria” and the international food standards have a very specific definition for a Codex Guideline Level, something very specific to food controls.	X			

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The comments are listed according to their order of appearance in the text							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
45 IRN	APPE NDIX I/ I.4/ Second line	“...nuclear or radiological emergency described in para. H.3 I.3 are given...”	Editorial. It should be para.I.3.	X			
15 GER	I.4	The OILs to be used to initiate protective actions and other response actions in the three types of nuclear or radiological emergency described in para. H.3 I.3 are given in Table 5. See also Table 5 column 5	Editorial	X			
46 IRN	APPENDIX I/ I.4/ Title of table 5	“TABLE 5. OPERATIONAL INTERVENTION LEVELS TO INITIATE SPECIFIC PROTECTIVE ACTIONS AND OTHER RESPONSE ACTIONS IN IN NUCLEAR AND RADIOLOGICAL EMERGENCIES	Editorial.	X			
5-1 PAK	I.4 (Table 5) Page 28 & foot note 35 and 36 Page 33	Suggested timeframe for the implementation of protective actions may be mentioned in Table 1 under heading “protective actions to be initiated”. Concept of OILs needs to be harmonized.	I. 4 (Table 1), section “protective actions to be initiated”, In footnote 35 and 36, timeframe for the implementation of protective actions is presented. Further as per footnote, a protective action at 2 times of OIL1 is suggested which is contradictory to list of OILs provided in Table 5.			X	Timeframe is written in referring paragraphs.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
10 FAO	Appendix 1 I.4 f) Table 5 heading	OPERATIONAL INTERVENTION LEVELS TO INITIATE SPECIFIC PROTECTIVE ACTIONS AND OTHER RESPONSE ACTIONS IN NUCLEAR AND RADIOLOGICAL EMERGENCIES	Typo “IN IN”	X			
12 FAO	Heading Table 5	TABLE 5. OPERATIONAL INTERVENTION LEVELS AND RELATED OPERATIONAL CRITERIA TO INITIATE SPECIFIC PROTECTIVE ACTIONS AND OTHER RESPONSE ACTIONS IN IN NUCLEAR AND RADIOLOGICAL EMERGENCIES	See comment #11 above.	X			
47 IRN	APPENDIX I/ I.4/ Table 5/ First row (last column) of the table in pages 28-31	“Applicability in terms of the three types of emergency scenario described in para. I.3 I.3.”	Editorial. It should be para.I.3.	X			
44 CAN	Table 5	OIL1 - 2000 cps Beta count rate at 2 cm from the ground or surface [REF] - 50 cps Alpha count rate at 0.5 cm from the ground or surface [REF] OIL2	Provide the references for the alpha/beta count rate OILs for OIL1 – OIL4 or otherwise explain how they have been derived.	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		<ul style="list-style-type: none"> - 200 cps Beta count rate at 2 cm from the ground or surface [REF] - 10 cps Alpha count rate at 0.5 cm from the ground or surface [REF] OIL3 <ul style="list-style-type: none"> - 20 cps Beta count rate at 2 cm from the ground or surface [REF] - 2 cps Alpha count rate at 0.5 cm from the ground or surface [REF] OIL4 50 cps Alpha count rate at 0.5 cm from the body [REF]					
28 SAU NSGC	App. I Table 5.	100 μSv/h 100 μSv/h <hr/> “ μSv/h & “ No need to be underlined	Editorial comment	X			
22 IND	Page 29 Table 5	Evacuation/ Relocation is suggested for Protective actions to be initiated for OIL 2 Evacuation should be deleted. If evacuation is suggested for on-site, then same should be written explicitly (in footnote).	To be in line with GSR part 7	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
13 FAO	Appendix 1 Table 5, page 31, heading of first column and second column.	<p>“Operational Criteria” [heading of the 1st column]</p> <p>“Default OIL value and operational criteria” [heading of the 2nd column]</p>	<p>Delete OIL and replace with Operational Criteria because this first column will include the Codex Guideline Levels (which are not OILS)</p> <p>Add “and operational criteria” to the heading of the 2nd column.</p>			X	It is correct that OIL _{IntTrdF} is determined with reference to Codex Guideline Level, but this table provides OIL values for nuclear emergency.
14 FAO	Appendix 1 Table 5, page 31, penultimate row (the row giving “OIL _{IntTrdF} The ‘guideline levels’ given in Ref. [26]”_	<p>Row entry related to MONITORING OF FOOD TRADED INTERNATIONALLY;</p> <p>In column 1 replace “OIL_{IntTrd}” with the text “International trade”</p> <p>In column 2 replace “OIL_{IntTrdF}” The ‘guideline levels’ given in Ref. [26]” 2 with the text “Codex Guideline Level (GL) for radionuclides [26]”</p> <p>In column 3 replace “MONITORING OF FOOD TRADED INTERNATIONALLY Radionuclide specific activity concentrations in food, milk and drinking water samples” with the text “Food commodities moving in international trade.”</p> <p>In column 4 replace</p>	<p>The Codex Alimentarius Commission values in reference [26] are not OILS. According to the Codex General Standard For Contaminants And Toxins In Food and Feed CXS 193-1995, the Codex Guideline Level (GL) is the maximum level of a substance in a food or feed commodity which is recommended by the Codex Alimentarius Commission to be acceptable for commodities moving in international trade. When the GL is exceeded, governments should decide whether and under what circumstances the food should be distributed within their territory or jurisdiction (footnote 1 on p3 of the standard). Only the contaminants: radionuclides, acrylonitrile and vinylchloride monomer are defined in terms of a Codex Guideline Level (GL). In contrast, all other contaminants</p>		X		<p>The second column is modified to clarify that OIL_{IntTrdF} is determined with reference to Codex Guideline Level. The third column is also modified with referred to proposed text. The forth column is not modified since the message is included in paragraph I.14.</p>

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		<p>“Restrictions on foodstuff intended for international trade and associated response actions (see paras I.14 and I.16 for 1st grp) (see paras I.30 and I.16 for 3rd grp) with the text “When a GL is exceeded, governments should decide whether and under what circumstances the food should be distributed within their territory or jurisdiction.”</p>	<p>and toxins are given a Codex Maximum Level (ML), which is defined as the maximum concentration of that substance recommended by the Codex Alimentarius Commission to be legally permitted in that commodity. The IAEA General Safety Requirements, when discussing the Codex GLs in broad terms generally refer to them as “generic criteria” not OILs, see for example II.12 and II.13 on page 70 of GSR Part 7. In addition, the IAEA General Safety Requirements GSR Part 7, Appendix 2 para II.13 specifically directs the reader to see para 5.23 of GSR Part 3 which highlights that the regulatory body or other relevant authority shall consider the Codex Guideline Levels for radionuclides in food traded internationally that could contain radioactive substances as a result of a nuclear or radiological emergency. These operational criteria (i.e. the Codex Guideline Levels) and their method of calculation as published by the Joint FAO/WHO Codex Alimentarius Commission [ref 26] should be taken into consideration, BUT the GLs are not OILS.</p>				

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
6 JPN T	P.32 TABLE 5 Footnote f	f If a person has handled a source with a dose rate equal to or exceeding 100 μ Sv/h at 1 m, he or she has to undergo a medical examination and evaluation; any pregnant women who have handled such a source has to receive immediate medical evaluation and dose assessment. This external dose rate criterion applies only to sealed dangerous sources and does not need to be revised in an emergency. <u>In case of a transport package, an increase with a dose rate should be considered as a dose rate up to 100 μSv/h at 1 m from the surface of package is allowed by the transport regulations.</u>	See JPN-05. Consideration to a dose level of transport package should be added.			X	As written in paragraph I.1, OIL2 is a set level of a measurable quantity representing ground contamination, and not related to surface contamination of transport package.
23 IND	Page-32 Foot note 'g'	The approximate initial the radius of the inner cordoned area (safety perimeter) in the radiological emergencies in group 3 is determined on the basis of	Editorial and clarity	X			
4 AUS	I.6.a in the OILs section (page 33)	“Registration, skin and thyroid monitoring (by using OIL4 and OIL8) should be provided for the evacuees.” change to “Registration, skin monitoring and thyroid monitoring	This phrasing makes it sound as though skin should be provided to evacuees, not skin monitoring.	X			
29 JPN	Appendix I I.6.(a)	Within the first day after the <u>obtaining the results beginning of the exposure:</u>	The measurement of the beginning of the exposure is impossible.		X		Added a reference of EPR-NPP-OILs and footnote as “The use of radiation monitoring data from monitoring stations might help in determining the

COMMENTS The comments are listed according to their order of appearance in the text				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							beginning of the exposure.”
48 IRN	APPENDIX I/ I.6/ (a)/ Last bullet/ Third line	“They should be instructed to shower and change clothing if it can be done safely (e.g. they should not change or shower in cold temperatures) as soon as possible (e.g. enough clean water is available or weather is not cold for showering).”	Using the term “safely” and the sentence in the parenthesis can cause confusion especially for those that do not know the reason for it. The way that this subject is explained in GSG-2 is preferable.		X		In brackets, added “should not shower without clean water”.
24 IND	Page-33 Para I.6 (b)	Within weeks after the exposure:	Editorial		X		Modified as “within weeks after the beginning of the exposure”.
49 IRN	APPENDIX I/ I.6/ (b)/ First line	“(b) Within weeks after the beginning of the exposure:”	Missing a word	X			
30 JPN	Appendix I I.6.(b)	Within weeks after the <u>obtaining the results</u> of the exposure: Original text: “the of the exposure” <- TYPO	Same as above.		X		Added a reference of EPR-NPP-OILs and footnote as “The use of radiation monitoring data from monitoring stations might help in determining the beginning of the exposure.”
31 JPN	Appendix I I.7.	(a) <u>Within one month after the obtaining the results:</u> — (a) The individuals... — (b) The dose... — (c) The response actions...	The implementation of protective action should be simplified.			X	Sub-item of paragraphs are itemised as (a), (b)..

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		35 Areas with dose rates within a factor of two of the OIL1 value should be identified and relocated within the first days. Areas where dose rate is greater than OIL2 should be identified and relocated within one month.					
45 CAN	I.7	<p>Within weeks³⁵ after the start of the significant release...</p> <p>35 Areas with the highest dose rates within a factor of two of the OIL1 value should be identified and prioritized for relocation within the first days. Areas where dose rate is greater than OIL2 should be identified and relocated within one month.</p>	The footnote as currently written implies what is essentially a new OIL value of 500 µSv/h for higher priority relocation than the OIL2 value within the first 10 days of 100 µSv/h. If this is required, it should be explicitly stated and included as an OIL. If not, a sentence about prioritizing the areas with highest ambient gamma dose rate should be sufficient.		X		<p>Modified footnote 35 as follows:</p> <p>Relocation should be implemented as soon as possible after radiation monitoring data available. Relocation should be prioritized from areas with higher dose rates.</p>
5-2 PAK	I.4 (Table 5) Page 28 &	Suggested timeframe for the implementation of protective actions may be mentioned in Table 1 under heading “protective actions to be	I. 4 (Table 1), section “protective actions to be initiated”, In footnote 35 and 36, timeframe for the implementation of		X		

COMMENTS				RESOLUTION			
The comments are listed according to their order of appearance in the text							
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
	foot note 35 and 36 Page 33	initiated”. Concept of OILs needs to be harmonized.	protective actions is presented. Further as per footnote, a protective action at 2 times of OIL1 is suggested which is contradictory to list of OILs provided in Table 5.				
15 FAO	Appendix 1 I.8 a)	(a) The areas where food and water is affected should be identified and delineated. Immediately after the identification of the area, the following should be implemented:	It is necessary to identify and delineate the area(s) where food (and water) is affected so that an emergency order can specify the food(s) and area(s) and give precautionary advice to consumers and/or list the restrictions necessary to prevent affected food from entering the food supply.	X			
32 JPN	Appendix I I.8.(b)	(b) Within weeks after <u>obtaining the results</u> the beginning of the exposure:	The measurement of the beginning of the exposure is impossible.		X		Added a reference of EPR-NPP-OILs and footnote as “The use of radiation monitoring data from monitoring stations might help in determining the beginning of the exposure.”
33 JPN	Appendix I I.9.	Skin contamination monitoring should be implemented within the first few days after the <u>significant release</u> start of the exposure.	Same as above.		X		Added a reference of EPR-NPP-OILs and footnote as “The use of radiation monitoring data from monitoring stations might help in determining the

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							beginning of the exposure.”
50 IRN	APPENDIX I/ I.9/ First paragraph/ Fourth line	“...for the individual individuals if their monitoring results...”	“individual” should be in plural form.	X			
9 SVN	Appendix I., I.9. (a)/line 7	– Appropriate decontamination, restrictions to prevent any additional inadvertent ingestion and medical screening should be provided;	According to EPR-NPP-PPA 2013, used as a reference [4] in this GSG-2 revision, in chapter 5.6 <i>Decontamination of individuals</i> , paragraph 1, levels of radioactive material on the skin that exceed OIL4 may indicate that the person has inadvertently ingested or inhaled enough radioactive material to result in doses warranting a medical follow-up. Therefore it is recommended to prevent any further inadvertent ingestion.		X		Modified as “Appropriate decontamination to prevent any additional inadvertent ingestion and medical screening should be provided;”
51 IRN	APPENDIX I/ I.9/ (a)/ Third bullet/ Second line General comment	“...and only within the first days after reactor shutdown following the release of radioactive material)...”	In this draft, when talking about response actions, the term “reactor shutdown” is used several times which is not so clear. Something that is important in making decision on taking response actions is the time of start of release. For example this bullet states individuals should be instructed to take iodine blocking agents within the first days after reactor	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			shutdown. The terms that have been used in GSG-2, GS-G-2.1 and GSR Part 7, such as “release of radioactive material” are quite clear.				
34 JPN	Appendix I I.9.(b)	(c) Within weeks after <u>obtaining the results</u> the beginning of the exposure:	Same as above.		X		Added a reference of EPR-NPP-OILs and footnote as “The use of radiation monitoring data from monitoring stations might help in determining the beginning of the exposure.”
35 JPN	Appendix I I.10.	Within weeks of the <u>significant release</u> start of the exposure, the activity concentrations of both marker radionuclides I-131 and Cs-137 in food, milk or drinking water samples should be analysed If the activity concentrations of the marker radionuclides exceed OIL7.5. <u>The following actions should be taken:</u>	Same as above.		X		Added a reference of EPR-NPP-OILs and footnote as “The use of radiation monitoring data from monitoring stations might help in determining the beginning of the exposure.”
16 FAO	Appendix 1 I.10 a)	(a) Within days after obtaining the results: – Food producers, suppliers and businesses should be informed of any food restrictions. – The public should be provided with instructions to stop consumption,	Add this new first bullet point because the restriction will apply to food producers and food traders as well as to the public.			X	Food producers and food traders are included in public.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		distribution and sale of the affected food, milk or drinking water (if these actions can be implemented safely). If the restricted food, milk or drinking water are essential, they should be replaced with alternative supplies.					
6 PAK	I.11 (a) Page 35	The text is suggested to be modified to include circumstance for which administration of ITB is suggested once it is identified that OIL for ITB is exceeded (screening for OIL 8 is suggested to be conducted in first week)	I. 11, it is mentioned that thyroid monitoring should be performed within weeks and if OIL8 is exceeded ITB needs to be considered to reduce further update. For those individuals where OIL8 is exceeded, may not be suggested to evacuated from areas/restriction on consumption of further intake? The reason for administration of ITB after identification of thyroid gland situation seems not justified.	X			Added as follows: If the presence of radioiodine is suspected, the individuals should be instructed to take iodine thyroid blocking agents (if not already took) to reduce further uptake of radioiodine;
11 USA	I-11. (a), page 35		Text suggests taking Iodine thyroid blocking agent following monitoring within the first week. This agent may not be useful a week following initial uptake.	X			Added as follows: If the presence of radioiodine is suspected, the individuals should be instructed to take iodine thyroid blocking agents (if not

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							already took) to reduce further uptake of radioiodine;
36 JPN	Appendix I I.11. (b)	(d) Within weeks after <u>obtaining the results</u> the beginning of the exposure:	Same as above.		X		Added a reference of EPR-NPP-OILs and footnote as “The use of radiation monitoring data from monitoring stations might help in determining the beginning of the exposure.”
5 AUS	I.12. a in the OILs section (page 35)	The public should be provided with instructions to stop the use, distribution and sale of the affected commodities, or to decontaminate them with instructions on how to do such. If the restricted commodities are essential, they should be replaced with alternative supplies	Is it possible the public could be instructed to decontaminate restricted commodities? Or is it only possible that distribution and sale be stopped?			X	It is not advisable for members of the public carry out decontamination themselves. It may lead to inhalation of dust, inadvertent ingestion of dirt and disperse of contamination.
52 IRN	APPENDIX I/ I.20/ First line	“If an the intake of radioiodine...”	Suggested to change “an intake” with “the intake” like para. I-27. Maybe it is not once.	X			
29 SAU NSGC	I.22/2	Remove/change the reference to DS534.	Reference to not-approved draft document is not valid.			X	As confirmed by NSOC, making reference to other draft safety standards is fine.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
7 JPN T	P.37 I.23	I.23. Within hours after the detection of emergency conditions or the arrival of the first responders at the site, the area that has been cordoned off (inner cordoned off area) should be adjusted based on the monitoring results and OIL2 ^{37bis} . <u>37bis In transport emergency arrangements for preparedness and response established in advance should be considered instead of OIL2.</u>	See JPN-05. In transport the radiation level around the package may be beyond OIL2 (0.1mSv/h) even in the routine conditions and the emergency arrangements for preparedness and response shall be established in advance according to para. 304 of SSR-6 Rev.1 (Transport Regulations)[28].			X	OIL2 is applicable not only for events of NPPs, but member states can establish for other events according to the situations. Operational intervention levels for radiological emergencies, EPR-RAD OILs is under development by IAEA.
46 CAN	I.23 I.24 I.25	...should be adjusted based on the monitoring results and OIL2 (alpha/beta monitoring results). Same comment applies to OIL3 and OIL4 gamma.	Change assumes that this is paragraph is only referring to the alpha/beta cps OIL2 values as this is for a radiological event and the OIL2 gamma value is derived for a nuclear event with a complex radionuclide mixture. Unless it has been confirmed that the same OIL2 gamma value has also been determined to be broadly applicable to a radiological event.			X	Operational intervention levels for radiological emergencies, EPR-RAD OILs is under development by IAEA.

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17 FAO	I.26. a)	(a) Within days after obtaining the results: – Food producers, suppliers and businesses should be informed of any food restrictions.	Add this new bulleted point for the same reason as #16 above.			X	Food producers and food traders are included in public.
18 FAO	I.30, lines 1 to 4	Monitoring of traded commodities may include food moving in international trade. The regulatory body or other relevant authority shall consider the Codex Guideline Level (GL) [26]. The GL is the maximum level of a substance in a food commodity which is recommended by the Codex Alimentarius Commission to be acceptable for commodities moving in international trade. When the GL is exceeded, governments should decide whether and under what circumstances the food should be distributed within their territory or jurisdiction (see also para. I.16)	Replace the para with this text because food moving in international trade may pass through several countries and it isn't mandatory for a country in the middle of the shipping chain to monitor shipments destined for a third country. Hence "monitoring <u>may</u> include....." Also, the IAEA General Safety Requirements and the Codex Alimentarius Standard [Ref. 26] say that the regulatory body or other relevant authority shall consider the Codex GL and the codex standard says that when the GL is exceeded, governments should decide whether and under what circumstances the food should be distributed within their territory or jurisdiction.	X			
10 SVN	I.32./line 2	I.32. OIL5 and OIL6 given in Tables 6 and 7 (see also Table 8) apply to radionuclides in food, milk and water destined intended for human consumption (they are not applicable for dried food or concentrated food).	Suggestion for better wording.	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
19 FAO	I.32/lines 2 to 3	milk and water destined for human consumption (they are applicable to food as produced, i.e. becquerels per kilogram fresh weight and not dried food nor concentrated food). The health effects of radiation exposure (the generic criteria for taking	I think the activity concentration levels are per kilogram fresh weight i.e. not applicable to dried or concentrated foods. Although there are foods (like nuts) that are produced and eaten dried, the fresh weight of the edible portion is roughly equivalent to the dried weight.	X			“Becquerels per kilogram” is written as “Bq/kg”.
47 CAN	I.32	<p>OIL5 and OIL6...apply to radionuclides in food and water destined for human consumption (they are not applicable for dried food intended to be rehydrated or concentration food intended to be diluted, until it has been prepared for consumption).</p> <p>OR</p> <p>OIL5 and OIL6...apply to radionuclides in food and water destined for human consumption (they are not applicable for foods that will be dried food or concentrated food, which will effectively</p>	Clarify the intent of the exception for dried and concentrated foods provided in brackets. Currently, it can be interpreted in different ways.		X		<p>Modified as follows:</p> <p>OIL5 and OIL6 given in Tables 6 and 7 (see also Table 8) apply to radionuclides in food, milk and water intended for human consumption (they are applicable food as produced, i.e. Bq/kg fresh weight and not dried food nor or concentrated food).</p>

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		increase the activity concentration).																	
16 GER	I.34	Potassium-40 is commonly found in food and water. It does not accumulate in the body but is maintained at a constant level independent of intake. The contribution of ⁴⁰ K...	Please use either "Potassium-40" or " ⁴⁰ K"; this applies to all radionuclides that might be mentioned in the document	X			Standardized to " ⁴⁰ K".												
17 GER	FIG. 3 and Table 6		Both Fig. and Table 6 represent the process of assessing radionuclide concentrations in food, milk and water. Fig. 3 and Table 6 might be summarized in one single figure (containing OIL values of Table 6).			X	OIL5 values of Table 6 are suggested ones, but OIL values are determined by each member state.												
8 JPN T	P.41 TABLE 7	Some concentrations of OIL6 are changed from GSG-2 and the reason of the changes should be explained. e.g. <table border="0" style="margin-left: 40px;"> <tr> <td></td> <td>OIL6(Bq/kg)</td> <td>GSG-2(Bq/kg)</td> </tr> <tr> <td>H-3</td> <td>1E+5</td> <td>2E+5</td> </tr> <tr> <td>Co-60</td> <td>1E+3</td> <td>8E+2</td> </tr> <tr> <td>Sr-90</td> <td>3E+1</td> <td>2E+2</td> </tr> </table>		OIL6(Bq/kg)	GSG-2(Bq/kg)	H-3	1E+5	2E+5	Co-60	1E+3	8E+2	Sr-90	3E+1	2E+2	The technical basis should be clarified. To avoid such discrepancy, delete TABLE 7 and refer TABLE 10 of GSG-2.			X	OIL6 values are recalculated for consistency with EPR-NPP OILs and EPR-RAD OILs. For example, a one-year-old individual was taken as the 'representative individual' for the calculation in GSG-2, however, the 'representative person' showing traits of different age groups and the fetus of a pregnant parent were considered when calculating the new
	OIL6(Bq/kg)	GSG-2(Bq/kg)																	
H-3	1E+5	2E+5																	
Co-60	1E+3	8E+2																	
Sr-90	3E+1	2E+2																	

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							values. Besides, consumption rate of food, milk and drinking water for infants was also changed.
12 UK	Pg 41	The ordering of the radionuclides in Table 7 is strange – would expect Fe-59 to go to Co-57 on same page but instead it goes to I-131. If looking for I-131 would expect to follow I-129 on page 43 but you have to go back to page 41	Need to have consistency with ordering of radionuclides with other IAEA documents eg GSR Part 3	X			
20 FAO	Table 7 on page 42, entry for Po-210	Add a table footnote for Po-210, 2 Bq/kg. The footnote needs to say that Po-210 is naturally present in enhanced levels in some foods (e.g. a median natural level of 40 Bq/kg in some seafoods) [reference]. {and the reference is to IAEA Safety Reports Series No. 114}	See Table 24 on page 94 of INTERNATIONAL ATOMIC ENERGY AGENCY, Exposure due to Radionuclides in Food Other than During a Nuclear or Radiological Emergency. Part 1: Technical Material, Safety Reports Series No. 114 , IAEA, Vienna (2023)]	X			
7 PAK	I.36 Page 45 I.38 Page 47	The level of OIL _v and OIL _{IntTrd,C} may be mentioned in terms of operational units to be used during an emergency situation.	A single value or a range of values of OILs to be consider for decision making on use of vehicles and international trade above which restrictions are suggested to be imposed.		X		A footnote was added for OIL _v and OIL _{IntTrd,C} to mention their units. However, providing numerical values for those OILs would likely be

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							covered in a new EPR Series document.
3 IND W	Page No.48; Section 1.42	The document gives a reference about public communication from Paragraph 2.19 of GSG-14. However, it may include the benefit of real time public communication using modern communication platforms during emergencies as real-time communication platforms would enhance public awareness and compliance with safety measures.	Suggested inclusion		X		Although the areas suggested present technical interest, they do not fall under the scope of GSG-2.
21 FAO	I.42 / and I.43	I.42. Using plain language to communicate with the public and others avoids confusion and facilitates the quick and clear dissemination of information. See for example, international guidance on arrangements for public communication in preparedness and response for a nuclear or radiological emergency in GSG-14 [14]: Paragraph 2.19 of GSG-14 [14] states “One function of public communication in a nuclear or radiological emergency is to convey technical information in suitable language for a general audience. Such information should be clear and	This additional text gives the reader an introduction to why “plain language” is important and also helps the reader by giving the name of the subject of GSG-14 (don’t assume that they immediately know what area GSG-14 covers). Formatting suggestion - make Para I.43 a second indented sub-paragraph, under the newly worded paragraph I-42. In which case para I.44 would need to be renumbered to I-43 etc. etc..		X		The first sentence of proposed text was added to paragraph I.41.

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		comprehensible (i.e. in ‘plain language’). Essential information might otherwise not be understood, committed to memory or recalled, especially during an emergency (i.e. in which it has been shown that stress and anxiety can affect comprehension).” Paragraph 2.22 of GSG-14 [14] states “The use of scientific and technical terms,.....etc.....”					
22 FAO	I.44 / line 1 to 5	When creating plain language explanations for the default Operational Intervention Levels (OILs), it should be assumed that people, including vulnerable groups like children and pregnant individuals, will receive protection that meets international standards. This applies in an emergency exposure situation if they:	Members of the public are not “living in normal conditions” it is for a nuclear emergency – which is far from normal.		X		Referred to GSG-11, modifies as “...members of the public living normally, including those who are more vulnerable to radiation exposure, such as children and pregnant persons,...” and added footnote of “Carrying out normal activities, such as children playing on the ground and people working outside.”
23 FAO	I.45 / lines 1 to 3.	The plain language explanations below can be used to communicate with the public. These explanations are for people who need to follow certain protective actions and other response actions based on the use of OILs.	Short, succinct, and clear.	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
24 FAO	I.46 to I.70	Give references to where the plain language text is already published in IAEA safety guides.	It is not clear if these plain language explanations are newly written for this Safety Guide or if they are being quoted from extant IAEA safety guides (and are therefore already accepted in IAEA standards).			X	There are no references that needs to be provided here. From I.46 to I.56, they are the revision from II.29 to II.38 of GSG-2 published in 2011. From I.57 to I.70, the explanations are newly written.
37 JPN	Appendix I I.47.	...Those living in the area have to relocate within a week and ...	Consistency with other paragraphs which are explained without timeline.	X			
30 SAU NSGC	I.47/3	Modify whole sentence	Draft compilation error.			X	There is no error.
6 AUS	OIL plain language explanations, specifically OIL3 (page 50)	The consumption of local produce (e.g. vegetables), milk from grazing animals, and rain water from local sources may need to be stopped until they have been declared safe	In the OIL plain language explanations, OIL3 specifies that rainwater shouldn't be consumed, but doesn't mention local water from other sources (example: a reservoir). OILs 5,6, & 7 use the word 'water' broadly without specifying only rainwater. Should OIL3 apply to more types of local drinking water?		X		Water from local sources is included in "local produce", but water not contaminated soon (e.g. groundwater) may be excluded. See also footnote 30. Modified as follows for consistency with I.1 (c): The consumption of local produce (e.g. vegetables), including milk from grazing

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							animals, and rainwater collected for drinking may need to be stopped until they have been declared safe.
48 CAN	I.51	<p>OIL4 plain language explanation</p> <p>If above OIL4, individuals will be registered, their monitoring results will be recorded and they may be contacted for additional medical screening if required.</p>	<p>The current explanation provides a lot of information about decontamination and self-decontamination. It does not mention anything about medical screening and follow-up.</p> <p>Proposed text is modified from the plain language explanation of OIL8.</p>		X		Proposed text is added the beginning of the paragraph. Other sentences are remained because they are important things to be understood by members of the public.
2 AUS NSGC	I.53	<p>“This does not mean that the food, milk or water is not safe to consume. The food, milk or water will be analysed further to make the final decision on their restriction.</p> <p><i>Await further details before consuming. However, if restriction of consumption is likely to result in severe malnutrition or dehydration due to the lack of replacement food, milk or water, then these items may be consumed</i></p>	Without the clarifying sentences, advice on how to proceed is unclear.	X			

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		<i>for a short time until replacements are available or additional analysis confirms restriction is no longer necessary.”</i>					
23 CAN	Appendix I, Section I.53	The two first sentences of paragraph I.53 should be changed to: “The screening levels in locally produced food, milk and water have been exceeded. This does not mean that the The food, milk or water is should not safe to be consumed until additional analyses confirm they are safe ”.	The current text suggests that food, milk or water exceeding OIL6 could be consumed, which is not in alignment with Fig. 3. The paragraph does not provide guidance on what should be done with the food, milk, or water when screening levels have been exceeded.		X		Modified as follows: The screening levels in locally produced food, milk and water have been exceeded. This does not mean that the food, milk or water is not safe to consume. The food, milk or water will be analysed further to make the final decision on their restriction. Await further details before consuming. However, if restriction of consumption is likely to result in severe malnutrition or dehydration due to the lack of replacement food, milk or water, then these items may be consumed for a short time until replacements are available or additional analysis confirms

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							restriction is no longer necessary.
11 SVN	I.56./line 2	I.56. The recommended actions consider the most vulnerable members of the public (e.g. infants, children and pregnant persons), and it is assumed that all of the food, milk and water is contaminated.	Children are part of vulnerable group, as stated also in I.54., I.57. ... consistency should be followed throughout the document.		X		Referred to GSR Part 7, standardized to “most vulnerable members of the public (i.e. pregnant women and children)”.
31 SAU NSGC	I.63 and I.64	Modify whole paragraph	Draft compilation error.			X	There is no error.
7 AUS	I.64 OILc plain language explanation	I.64. Above OILC: [Insert the list of non-food commodities of concern] have been monitored. Their use, distribution and sale have to be restricted, or the commodities must otherwise be decontaminated.	Again, could the commodities not be decontaminated?			X	It is not advisable for members of the public carry out decontamination themselves. It may lead to inhalation of dust, inadvertent ingestion of dirt and disperse of contamination.
25 FAO	Heading after I.67	Operational Intervention Levels and related operational criteria for international trade	Where the IAEA General Safety Requirements broadly refer to these Codex GLs they are termed “operational criteria”, see #14 above. Also, the use of a new OIL named OIL _{IntTrdF} for food commodities in international trade can only confuse things and would be counter to plain language. The Codex Guideline Levels are not OILs they are			X	OIL _{IntTrdF} is determined with reference to Codex Guideline Level, but this section provides the explanation of OIL values for nuclear emergency, not Codex Guideline Level.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			Codex Guideline Levels. The paragraphs under this heading are referring to the Codex GLs therefore refer to these as “operational criteria” and where necessary call these Codex GLs by the specially designated nomenclature given in the international food standards of the Codex Alimentarius Commission. In international food standards they are Guideline Levels as explained in #14.				
49 CAN	1.67	<p>OILv plain language explanation</p> <p>Above OILv: Certain vehicles, equipment and items have been monitored and their use has to be restricted, provided that restriction does not interfere with the response to the emergency. If so, they can be used for a short time until replacements are available.</p>	Again, it would be useful to clarify who this OIL applies to. If it is the public then the text is okay, although may benefit from an example of what equipment the public might need to use and why. If it is emergency workers, then their potential exposure while using the equipment would need to be calculated based on the measured contamination level, the use cases, and the exposure pathways			X	OIL applies to all people.

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			(and possible PPE for the working to prevent exposures).				
26 FAO	I.68	I.68. “Codex Guideline Levels: Internationally traded food is below the guideline levels in global food standards. For general consumer protection from radiation, food is considered safe if the levels of radioactive substances do not go beyond recommended levels.	For both I.68 and I.69 see also #13 and #14 above. The Codex food standard says the following: “Application: As far as generic radiological protection of food consumers is concerned, when radionuclide levels in food do not exceed the corresponding guideline levels, the food should be considered as safe for human consumption. When the guideline levels are exceeded, national governments shall decide whether and under what circumstances the food should be distributed within their territory or jurisdiction. National governments may wish to adopt different values for internal use within their own territories where the assumptions concerning food distribution that have been made to derive the guideline levels may not apply, e.g. in the case of widespread radioactive contamination.....”			X	OIL _{IntTrdF} is determined with reference to Codex Guideline Level, but these paragraphs provide explanation of OIL values for nuclear emergency, not Codex Guideline Level.
27 FAO	I.69	I.68. Codex Guideline Levels: Food is above the global guideline levels for radioactivity in internationally traded food. If the amount exceeds this level, it is up to individual governments to decide if and how the food can be sold or used in their country.				X	

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
32 SAU NSGC	I.69/2	Modify whole sentence	Draft compilation error.			X	There is no error.
28 FAO	I.70 lines 1 to 2	I.70. The analysis for OILIntTrd for non-food commodities considers the most vulnerable members of the public (e.g. children and pregnant persons). When analysing internationally traded food, the focus includes both food for infants and food for everyone else.	The Codex General Standard for Contaminants and Toxins in Food And Feed CXS 193-1995 gives Guideline Levels for infant food and non-infant food.			X	OILIntTrdF is determined with reference to Codex Guideline Level, but these paragraphs provide explanation of OIL values for nuclear emergency, not Codex Guideline Level. Proposed message is included in “most vulnerable members of the public” as written in para 4.13 (b).
12 USA	I.71, page 53	Operational criteria (such as OILs) should be changed during an emergency if there is clear evidence that the revised criteria will do more good than harm, considering both radiological and non-radiological consequences, and when the situation is clearly understood (e.g exposure situation including public behavior and mixture of radionuclides present are well characterized). The means and authority for exceeding or	Consistent with comment on paragraph 2.2(4), during an emergency, guidance is need on the means and authority for exceeding or modifying operational criteria. This does not always involve a permanent change to operational criteria, but more likely a temporary deviation, recognizing the flexibility built into the criteria.		X		Added second sentence of proposal at the end of paragraph I.72.

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		modifying operational criteria during an emergency should be identified during the preparedness stage.					
2-2 IND W	Page No.9; Section 2.19 & Page No.53; Section 1.72	The document provides recommendations on radiological hazards. However, detailed integration with possible non-radiological hazards such as chemical spills, fires, physical trauma etc. can be provided in section 2.19 as non-radiological hazards can compound radiation exposure. Hence few sentences may be included in the document.	For clarity			X	As written in para 1.15, the operational criteria presented in this document is based on the considerations of radiation protection. The necessity to consider non-radiological effect is also written in para 1.15.
39 JPN	Appendix I I.72.	Operational criteria (such as OILs) should only be changed during an emergency if there is clear evidence that the revised criteria will <u>be justified (i.e. to do more good than harm)</u> , considering both...	Clarification: The scope of the monitoring by the operating organization should be clarified to be consistency with the next paragraph. Please also see the para 4.29 of GSR Part 7 as an example of 'do more good than harm'.	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
12 SVN	Table 9./ Communicating the changes to the OILs to decision makers and public information officers	<ul style="list-style-type: none"> Have preparations been made for communicating the basis of the changes to the OILs and the associated response actions to decision makers and the public? Have preparations been made for communicating the basis of the changes to the OILs to international experts? 	International community would in such cases also be asked by the public and media for their opinion, so they need to be pre-informed on the basis for the changes of OILs to prevent skepticism of decision makers and the public.		X		<p>As it is not limited to international experts, the sentence is modified as follows:</p> <ul style="list-style-type: none"> Have preparations been made for communicating the basis of the changes to the OILs and the associated response actions to decision makers, the public and other stakeholders?
40 JPN	Appendix I Table 9	<p>Changes during the emergency</p> <ul style="list-style-type: none"> Is there enough evidence that justifies changing the default OIL value? 	<p>Clarification:</p> <p>Duplication of I.72 of Appendix I. The description should be consolidated into this description.</p>	X			
38 JPN	Appendix I Table 9 Footnote b	The radionuclide mixes resulting from beyond design <u>basis</u> accidents are to be considered.	Clarification.	X			
8 PAK	Appendix II Page 56	Use of EALs for other facilities in EPC-I, II and III is suggested to be mentioned.	Guidance on EALs for light water reactors is provided in general context. Guidelines for other			X	This time, appendix II is only about LWRs.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			facilities in EPC I, II and III is missing.				
33 SAU NSGC	II.5, II.7, II.9, II.11	Delete or modify	The paragraphs are direct quotation of GSR-7. They can be replaced by a reference or re-drafted to put it under the reviewed document context.		X		Para. II.11 is deleted. Para. II.5, II.7 and II.9 are explanation on emergency situations mentioned in para. II.2.
25 IND	Page 57 Para II.5	II.5 “Site area emergency at facilities in category I or II for an emergency that warrants taking protective actions and other response actions on the site and in the vicinity of the site. Upon declaration of this emergency class, actions shall promptly be taken: (i) to mitigate the consequences of the emergency on the site and to protect people on the site; (ii) to increase the readiness to take protective actions and other response actions off the site if this becomes necessary on the basis of observable conditions, reliable assessments and/or results of monitoring; and (iii) to conduct off-site monitoring, sampling and analysis.”	For better clarity			X	It is quote from GSR Part 7 and only readiness in off-site is described here. It needs to be paid attention that SSR-1 is requirement for nuclear installation but this paragraph quoted from GAR Part 7 is for all types of nuclear and radiological emergency.

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		<p>Clarity on “vicinity of the site” should be provided. As per SSR-1, it can be up to 5 km from reactor.</p> <p>Also, the point (ii) contradicts as it only says about the increasing readiness in off site.</p>					
9 JPN T	P.58 II.8	<p>(a) A fuel handling emergency including the dropping of a <u>spent fuel assembly transport container</u>⁴²;</p> <p>⁴² The dropping of a <u>spent fuel assembly transport container</u> and a fuel handling accident are <u>may be</u> considered facility emergencies because they are not expected to give rise to doses that warrant protective actions off the site.</p> <p>(b)</p>	Drop of a spent fuel assembly during handling may lead a facility emergency, but transport packages containing fissile material are designed to withstand severe accident conditions including 9m drop by Transport Regulations [28] and it seems unlikely that such drop leads to a facility emergency.		X		<p>Modified as follows:</p> <p>(c) A fuel handling emergency including the dropping of a <u>fuel assembly</u>⁴²;</p> <p>⁴² The dropping of a <u>fuel assembly</u> and a fuel handling accident <u>may be</u> considered facility emergencies because they are not expected to give rise to doses that warrant protective actions off the site.</p>
WNTI-03	II.8	(d) A fuel handling emergency including the dropping of a <u>fuel assembly transport container</u> ⁴² ;	Drop of a fuel assembly during handling in the site (pool etc.) may lead a facility emergency, but a transport container containing fuel assemblies	X			

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		⁴² The dropping of a fuel <u>assembly transport container</u> and a fuel handling accident are <u>may be</u> considered facility emergencies because they are not expected to give rise to doses that warrant protective actions off the site.	are designed to withstand severe accident conditions including 9m drop by Transport Regulations [28] and it's very unlikely that the drop of such packages lead the emergency.				
10 JPN T	P.58 II.8 (g)	(g) ..., including workers in <u>on-site</u> transport or handling activities, ...	To clarify that workers in off-site transport are out of the scope of this paragraph.	X			
13 SVN	Appendix II/II.10./line 4	Such a classification system provides the on-site personnel with the greatest opportunity to mitigate the consequences of the event and off-site responders with the greatest opportunity to prepare to and to take effective protective actions for the public.	Considering the site area emergency classification it is also an opportunity to promptly in timely prepare to take protective actions if needed.	X			
14 SVN	Appendix II/II.15./line 2	II.15. When possible, symptom based EALs should be used because they make the classification process more timely and less subject to error.* * It is important to consider that symptom EALs, such as those based on instrument readings, are potentially vulnerable to malicious	We propose a note is added to be aware, that symptom based EALs such instrument readings are vulnerable to malicious acts (especially from cyber security aspect) and that only if they are not compromised, then these readings enable a timely and more accurate response. This			X	Proposed sentence may prevent people from taking safer measures in events.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		acts, especially from a cybersecurity perspective. Therefore, symptom based EALs should only be relied upon if it is confirmed that they have not been compromised. When secure, these readings enable a more timely and accurate response.	note is applicable in two cases, II.15 and II.17.				
15 SVN	Appendix II/II.17/(c) line 3	(c) The performance of the instruments in an emergency should also be considered in developing the EALs. Not all instruments are qualified for reliable operation in harsh accident conditions.* * It is important to consider that symptom EALs, such as those based on instrument readings, are potentially vulnerable to malicious acts, especially from a cybersecurity perspective. Therefore, symptom based EALs should only be relied upon if it is confirmed that they have not been compromised. When secure, these readings enable a more timely and accurate response.	We propose a note is added to be aware, that symptom based EALs such instrument readings are vulnerable to malicious acts (especially from cyber security aspect) and that only if they are not compromised, then these readings enable a timely and more accurate response. This note is applicable in two cases, II.15 and II.17.			X	
21 CAN	II.18	“The main objectives of accident management are to stop the accident, to prevent the escalation of an event to a	One of the main objectives of accident management is stop the accident from progressing.		X		Modified as follows: The main objectives of accident management are to stop the accident

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		severe accident, to mitigate the consequences of a severe accident once it has happened and to achieve a long term safe stable state.”					from progressing, to prevent the escalation of an event to a severe accident,
22 CAN	II.19	“Severe accident management guidelines are developed to deal with a severe accident and are used primarily by the operating organization’s technical support centre or emergency centre to advise the main control room operators on mitigatory actions and provide information to off-site emergency response organizations on the implementation of protective actions.”	To provide clarity in terms of information to the operator and the offsite response organizations.		X		As it does not need to limit the content of information provided to off-site, the sentence is modified as follows: Severe accident management guidelines are developed to deal with a severe accident and are used primarily by the operating organization’s technical support centre or emergency centre to advise the main control room operators on mitigatory actions and provide information to off-site emergency response organizations.
41 JPN	Appendix II II.20	Any <u>plant</u> conditions (i.e. <u>specific instrument readings</u>) that would warrant the use of emergency operating procedures	Clarification: EOP is the symptom based operating procedure.			X	SSG-70 mentions “Event based or symptom based emergency operating procedures are

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		should be classified as constituting an emergency and should trigger a predetermined emergency response at the site.					required to be developed, as appropriate...”
16 SVN	Appendix II/II.20/line 4	Once conditions of actual or imminent core damage exist, a transition from the emergency operating procedures to severe accident management guidelines and extensive damage mitigation guidelines should be implemented.	Based on the severity of the event (beyond design basis scenario), the Extensive Damage Mitigation Guidelines (EDMGs) should also be applied. For example, EDMGs as strategies and guidance aimed at maintaining or restoring core cooling, containment, and spent fuel pool cooling capabilities in situations involving the loss of large areas of the plant due to explosions or fire (NRS measures following 9-11) and EDMGs used in events with loss of command and control at the NPP.			X	Although EDMGs are discussed some conferences and workshops of IAEA, it is not appeared in safety standards or guidance.
17 SVN	Appendix II II.21/line 1	II.21. The emergency operating procedures, and severe accident management guidelines and extensive damage mitigation guidelines should be integrated into the operating organization’s emergency plan and should be coordinated with the plan to ensure	Based on the severity of the event (beyond design basis scenario), the Extensive Damage Mitigation Guidelines (EDMGs) should also be applied. For example, EDMGs as strategies and guidance aimed at maintaining or			X	

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		a consistent and coordinated response to severe accident conditions.	restoring core cooling, containment, and spent fuel pool cooling capabilities in situations involving the loss of large areas of the plant due to explosions or fire (NRS measures following 9-11) and EDMGs used in events with loss of command and control at the NPP. These conditions should be considered in the II.23 as well.				
42 JPN	Appendix II II.23	(e) Spent fuel pool events: Abnormal spent fuel conditions (<u>e.g. the water level of the pool</u>).	Clarification.	X			
43 JPN	Appendix II II.23. Footnote 45	Elevated core exit temperature is a direct symptom of core cooling degradation for <u>pressurized water reactors</u> .	Clarification.	X			
11 JPN T	P.63 – APPENDIX III	[Comment, no text proposed] APPENDIX III should concentrate to facility aspects, and new APPENDIX IV for transport emergency should be drafted.	It is more user friendly to separate facility emergency and transport emergency.			X	This time, appendix III is edited on category IV.

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
12 JPN T	P.63 Para. I.1 L.4 -	<u>III.1.</u> ...These arrangements should allow the following actions to be taken, as appropriate, by the operator of the source, <u>or the consignor, the carrier or consignee of the consignment</u> , or, if the operator, <u>etc.</u> is in such condition (e.g. unconscious) that unable to act, the first responders arriving first on the site:	In radioactive material transport, arrangements may be made also by the consignor or the carrier of the consignment.		X		Paragraph number is modified. This is quoted from DS504, and proposed text should be suggested another opportunity.
18 GER	I.1.	III.1 Paragraph 3.18 of DS504... <u>III.2</u> In relation to acts...	Please adjust the number of the paragraph. Also please add paragraphs for the following passages of text.		X		Refrain of Para. III.1 is eliminated.
35 SAU NSGC	Appendix III – wrong numeration of paragraph	Remove/change the multiple references to DS504	Reference to not-approved draft document is not valid.			X	As confirmed by NSOC, making reference to other draft safety standards is fine.
13 JPN T	P.63 Para. I.1 L.7 -	(a) Prompt recognition of the nature and severity of the event based on predefined indicators (e.g. labels, placards, UN marking) or observables (e.g. increased dose rates, <u>package surface temperatures</u> , package damage)”. “These arrangements should allow the first responders arriving first on	A package surface temperature is one of observables. See para. 2.41 of SSG-65.			X	This is quoted from DS504, and proposed text should be suggested another opportunity.
14 JPN T	P.63 Para. I.1 L.10 -	In relation to acts such as theft or loss of a dangerous source, para. 3.20 of DS504 [11] states: “These arrangements should allow the first responders arriving first on	Delete, as duplication of the previous text.	X			


COMMENTS				RESOLUTION			
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Comment No.	Para/Line No.	Proposed new text	Reason				
		the site or the medical doctors receiving patients with acute radiation symptoms to: (a) Promptly recognize the nature and severity of the event based on the predefined indicators (e.g. radioactivity signs) or observables (e.g. increased dose rates)."					
15 JPN T	P.63 L.18	This Appendix provides guidance on and examples of observables of hazardous conditions and indicators of the presence of a dangerous source at the site of an emergency occurring in acts and activities in EPC IV. Examples of indicators of the presence of a dangerous source are given in Table 10 and are illustrated in Figs 5. 7. The transport package markings and the associated levels of hazard are reproduced in Table 11 (based on For transport, refer to IAEA Safety Standards Series No. SSR-6 (Rev. 1), Regulations for the Safe Transport of Radioactive Material [28] and SSG-65 [15], or their latest edition when applicable)	TRANSSC recommends not to reproduce provisions, tables or figures in the IAEA Transport Regulations in other IAEA Safety Standards, instead just state "refer the latest edition of IAEA Transport Regulations". As IAEA Transport Regulations are often revised, and reproduce often cause mistakes and errors.		X		As an example of figure 6 is shown for users of this guidance, the text is modified as follows: ...Examples of indicators of the presence of a dangerous source are given in Table 10 and are illustrated in Figs 5 and 6 (For transport, refer to IAEA Safety Standards Series No. SSR-6 (Rev. 1), Regulations for the Safe Transport of Radioactive Material [28] and SSG-65 [15], or their latest edition when applicable).
19 GER	III.1 and Table 10	This Appendix provides guidance on and examples of	Basically, this appendix only provides examples of			X	This time, appendix III only shows the limited

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		observables of hazardous conditions and indicators of the presence of a dangerous source at the site of an emergency occurring in acts and activities in EPC IV	<p>indicators such as radiation symbols and certain devices/sources.</p> <p>We propose adding examples of other observables and indications, e.g.:</p> <ul style="list-style-type: none"> - Indications of an explosive or fire device with a radioactive load - Assessment of a competent person in radiation protection or other emergency response authority on the existence of a radiological hazard - Measured neutron radiation - Indications of unexpected radioactive contamination of the environment or objects <p>Incorporations of radionuclides, deterministic effects or clinical symptoms of radiation sickness or injuries caused by radiation of individuals with an unclear cause</p>				information. If member states provide related information and examples, it will be help to improve this guidance.

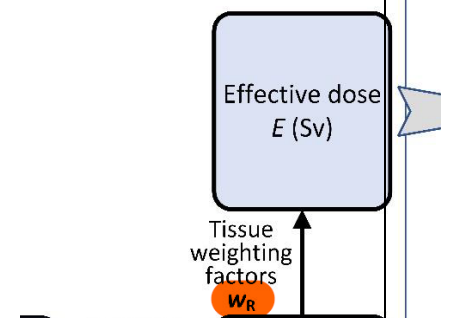
COMMENTS The comments are listed according to their order of appearance in the text				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
26 IND	Page 63 Table-10	A heavy container (i.e. indicating the presence of a large quantity of shielding) bearing a radiation symbol ^a or a radiation warning symbol on a device housing the radiation source.	Suggestion			X	The message is the same and the draft is enough.
27 IND	Page 63 Table-10	Measured radiation dose rate exceeding 0.1 mSv/h at a distance of 1 metre from the damaged package may also indicate presence of a dangerous source. The above may also be included.	Suggestion			X	Table 10 provides examples of indicators of the presence of a dangerous source, but not incidents and events.
16 JPN T	P.63-64 TABLE 10	Indicators of a dangerous source Radiation symbols in an area or on a building, vehicle, or package (see Fig. 5) A heavy container (i.e. indicating the presence of a large quantity of shielding) bearing a radiation symbol ^a <u>Transport package (for labels, placards and UN numbers, refer to [28])</u> <u>Vehicle (for placards and UN numbers, refer to [28])</u>	See JPN-12. Add “Transport package” with reference to the Transport Regulations. For vehicle, the Transport Regulations should be referred.		X		Written separately for vehicle and package, and modified as follows: Transport package with labels, placards, and UN numbers [28] Vehicle with placards and UN numbers [28]

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		Item with labels and placards in Figs 5 and 6— Item with transport UN numbers or markings in Table 11—					
WNTI-04	Table 11 Second column Third row	TRANSPORT PACKAGE MARKINGS (based on SSR-6 (Rev. 1) [28]) Type IP-1, Type IP-2, <u>Type IP-3</u> Low Specific Activity (LSA) Material, Surface Contaminated Object (SCO)	Consistency with IAEA Transport Regulations SSR-6 (Rev.1) [23], paras 531 to 537 related to “Marking”.			X	Table 11 is eliminated.
WNTI-05	TABLE 11	TRANSPORT PACKAGE MARKINGS (based on SSR-6 (Rev. 1) [28]) “UN2915, 3327, 3332, 3333/Type A” should be moved to “Possibly dangerous if material is inhaled or ingested” from “Possibly dangerous if the package is damaged” as well as IP packages	Potential hazards of Type A package is limited because the maximum activities of contents are limited to A1/A2 values as mentioned in para. I-18 of SSG-65. The radiological consequence is limited in case of all contents are released in emergency.			X	Table 11 is eliminated.
17 JPN T		Delete TABLE11, FIG.6 and FIG.7.	See JPN-12.		X		

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			Reproduce from IAEA Transport Regulations often causes errors, e.g., (1) – (5) below. To state reference to the latest IAEA Transport Regulations is recommended.				Table 11 and Figure 7 are deleted. Figure 6 is modified to show one of the examples of symbol to users of this guidance.
(1)	P.63 TABLE 10 L.6	Item with transport UN numbers or markings in Table 11					
(2)	P.64 TABLE 11 Line 2 Column 1	2908, 2909, 2910, 2911, <u>3507</u>					
(3)	P.64 TABLE 11 Line 3 Column 2	<u>TYPE IP-1, TYPE IP-2, TYPE IP-3</u> Type IP 1, Type IP 2, Low Specific Activity (LSA) Material, Surface Contaminated Object (SCO)					
(4)	P.64 TABLE 11 Line 5 Column 1,2,3	Add Line 5 as: <u>2919, 3331</u> <u>None</u> <u>Possibly dangerous if material is inhaled or ingested</u>					
(5)	P.64 TABLE 11 Line 6 Column 1,2,3	Add Line 5 as: <u>2977, 2978</u> <u>None</u> <u>Corrosive</u>					
18 JPN T	P.64 FIG.5	Delete the triangular marking:	This marking is not used in transport.			X	This symbol was launched in 2007 to

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			Is it used in radioactive source facilities?				warn public about radiation dangers.
19 JPN T	P.66 TABLE 12	Technical basis for the size of safety perimeter (30m, 100m, 300m, 400m 1000m radius) should be given. Or, delete TABLE 12 and just state to refer DS504 in which above technical basis is expected to be given.	These values need to be justified. Such justification helps user to establish their own safety perimeters.			X	Table 12 is reproduced from DS504, and raised point should be confirmed another opportunity.
WNTI-06	TABLE 12	<p style="text-align: center;">SUGGESTED RADIUS OF THE INNER CORDONED OFF AREA (SAFETY PERIMETER) FOR A RADIOLOGICAL EMERGENCY^a (reproduced from DS504 [11])</p> <p>This table should be deleted.</p>	<p>Technical basis for each specific distance should be provided, but the distances will depend on the accidents situations, inventory, damages and so on.</p> <p>The same table of DS504 is still under discussions for a few years and this table should be</p>			X	

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			consistent after the contents of DS504 are agreed.				
20 JPN T	P.66 TABLE 12	OIL2 in Table 5 ^b <u>^b Not applicable to transport emergency.</u>	It does not seem proper to apply OIL 2 values to transport emergency.			X	OIL2 is applicable not only for events of NPPs, but member states can establish according to the situations. Operational intervention levels for radiological emergencies, EPR-RAD OILs is under development by IAEA.
53 IRN	References [14]	“INTERNATIONAL ATOMIC ENERGY AGENCY, Arrangements for Public Communication with the Public in Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GSG-14, Vienna: IAEA, 2020.	Correcting the title.	X			
29 FAO	Reference 26 p69	[26] CODEX ALIMENTARIUS COMMISSION, Codex General Standard for Contaminants and Toxins in Food and Feed, CXS 193-1995, Radionuclides Codex Alimentarius Commission, Rome (2023)	The Codex GSCTFF has been revised several times since GSG-2011 (though not the radionuclide part). The format has changed, and the shortened reference is now CXS 193-1995. The part “Radionuclides” can be found from page 68 in the 2023 revision.	X			

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34 SAU NSGC	FIG A-1 Page 72	<p>Dose quantities</p>  <p>This W_R should be change to W_T</p>	Editorial comment	X			
24 CAN	A-3	<p>Table 6 (Tissue specific and radiation specific values of RBE for the development of selected severe deterministic effects) from the 2011 edition of GSG-2 should be included in the Annex.</p> <p>The definition of AD_T refers to ICRP Publication 92 in relation to $RBE_{R,T}$. The text should provide guidance on default values of $RBE_{R,T}$ to use for emergency exposure situations.</p>	ICRP 92 provides, among other things, a review of the current knowledge on RBE values for various end points and types of radiation. A set of recommended values for $RBE_{R,T}$ to use for the purpose of implementing GSG-2 would be valuable.			X	The table for RBE value is shown in GSR Part 3, which is amended to be referred in paragraph 2.21 of DS527.