

DS457: Preparedness and Response for a Nuclear or Radiological Emergency

COMMENTS BY REVIEWER					RESOLUTION			
Member State/ International Organization	No.	Para/ Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
Canada	1.	Overall notes	<p>This version of the draft is a much better document than the first version. It reads better and has captured the majority of the requirements Member States must put in place in order to have an effective program.</p> <p>The emphasis on harmonization and coordination at all levels of government and the Operator/licensee is especially well addressed.</p> <p>Consideration could be given to more emphasis on the coordination of EP and security ensure there are no gaps especially early on during an event at a nuclear power plant. This has always been an issue, even though Member States have indicated there has been some improvements and progress in this area.</p>		✓			
France	2.	Modify the title of DS457 PREPAREDNESS AND RESPONSE FOR A NUCLEAR or	<p>In all the draft DS457:</p> <p>The goals are presented: first for the response and then for preparedness</p> <p>In all 18 fundamental requirements in section 5, the requirements are specified first for the response and then for preparedness</p> <p>The general title of this DS focuses first for the response and secondly for preparedness</p>	<p>Modify the title of DS457</p> <p>PREPAREDNESS AND RESPONSE FOR A NUCLEAR or RADIOLOGICAL EMERGENCY</p> <p>By</p> <p>RESPONSE AND PREPAREDNESS FOR A NUCLEAR or</p>		✓		<p>Title is kept but goals are presented in the same order as in the title (first preparedness, then response). Considering other comments as well, functional requirements have been revised not to make the division on response and preparedness requirements any more.</p>

		RADIOL OGICAL EMERG ENCY By RESPON SE AND PREPAR EDNESS FOR A NUCLE AR or RADIOL OGICAL EMERG ENCY		RADIOLOGICAL EMERGENCY				
Australia	3.	General		The revised document provides a practical structure that is consistent and straight forward to follow. It maintains tight links to other relevant IAEA and international documents in the area of emergency preparedness and response. It clearly describes and adequately covers the goals of emergency preparedness and response and the generic preparedness and response strategy. The general text is expressed clearly.	✓			
NEA	4.	General	The EGIR recognises that the text in this Requirements-level document is partly requirements and partly guidance without a clear distinction between requirements and guidance. We suggest that the guidance part of the document is moved into a guidance document			✓		The draft text was revised and cleared from guidance level requirements that will be considered during the revision of relevant Safety Guides. Economic consequences are covered under non-radiological consequences of an emergency and

			<p>that is developed in parallel with this one to support its implementation.</p> <p>In developing and implementing emergency management arrangements the state (note that the current text also uses Government), in general, is obliged to consider both the protection of people against radiation induced health hazards and risks, and the economic consequences of emergency preparedness and response. This aspect of the state's objective should be mentioned early in the document, and perhaps more specifically (for example, in paragraph 1.6).</p>				the emergency response and their mitigation if one of the goals of emergency response that is specifically addressed in separate functional requirement.
NEA	5.	General	<p>There needs to be consistency in the use of terms throughout the document. In addition, many terms used in the document should have precise definitions and should be clearly identifiable in the text (e.g. by making them in italics, or bold, or otherwise). Examples of terms that should be used consistently and clearly defined in the Glossary of the document include:</p> <ul style="list-style-type: none"> ○Protection Strategy ○Total dose ○Severe deterministic effects ○“off-the-site”, vs. “off-site” <p>The meaning is not clear or consistent when the document speaks of “international, national, regional, local”. Does regional refer to several neighbouring countries, or to several counties/districts within a country?</p>			✓	The draft was reviewed for consistency in the terminology used. Additionally, thorough review will be done by the Technical Editor.

Japan	6.	Concerning EPD and ICPD	<p>Japan highly welcomes this renewed draft which avoids definition of dimensions of EPD and ICPD, and would stress that this context should be kept into the conclusion. The consistency should be ensured in the subsidiary guidelines to be updated and any other IAEA’s publications.</p> <p>Since emergency planning zones and distances need to be defined explicitly considering timeline (see Table1), EPD and ICPD should be defined as distances where early protective actions shall be taken and where arrangements shall be made to conduct monitoring to identify high contaminated locations. Areas which are identified at the preparedness stage to take urgent protective actions shall be included as part of UPZ.</p> <table><tr><td>zones and distances</td><td>PAZ</td><td>UPZ</td><td>EPD</td><td>ICPD</td></tr><tr><td rowspan="2">timeline</td><td>Precautionary urgent</td><td>Urgent</td><td></td><td></td></tr><tr><td></td><td></td><td>Early</td><td>Early</td></tr></table> <p>Table1. Urgent protective actions need to be taken immediately or within a day from a major release to avoid or minimize deterministic effects, while early protective actions need to be taken within days or weeks from a major release to reduce the risk of stochastic effects.</p>	zones and distances	PAZ	UPZ	EPD	ICPD	timeline	Precautionary urgent	Urgent					Early	Early	✓								
zones and distances	PAZ	UPZ	EPD	ICPD																						
timeline	Precautionary urgent	Urgent																								
			Early	Early																						
Japan	7.	assessments and projections and para. 6.23	<p>Any projections and predictions should be discouraged for decision making in an emergency, since there must be inevitably large uncertainties which come from vulnerable nature of source terms such as release timing, release magnitudes, radionuclide compositions and release height and of weather forecast.</p> <p>The existing IAEA guidelines such as GS-R-2 and other relating guides set forth a definitely fair requirement to take protective actions triggered on a basis of measured conditions on the site and monitoring off the site, NOT of any projections and predictions. Before the Fukushima accidents our EPR system didn’t meet this requirement and heavily relied on the projections and predictions in taking protective actions, and then caused serious destabilization on the critical situation due to lack of recognition that none of predictive methods can be utilized in the emergency. One of most essential lessons for us is that the existing IAEA guides are fully demonstrated and verified by this unprecedented accident in a suggestive way to avoid using the predictive methods in the emergency. In our renewed EPR system, every decision to be made in an emergency must be based on measured conditions without any projections and predictions.</p> <p>From this viewpoint, all of the draft text described as “use of projections provided their limitations are recognized and that they can be used promptly” should be deleted. Our comments are tabled below;</p> <p>Table1</p> <table><tr><td rowspan="2">Requirements</td><td colspan="2">Response</td><td colspan="2">Preparedness</td></tr><tr><td>Comment No.</td><td>Para No.</td><td>Comment No.</td><td>Para No.</td></tr><tr><td>No.5: Identifying, notifying and activating</td><td></td><td></td><td>3</td><td>5.25</td></tr><tr><td>No.7: Taking urgent protective actions and</td><td>4</td><td>5.43</td><td>5</td><td>5.48</td></tr></table>	Requirements	Response		Preparedness		Comment No.	Para No.	Comment No.	Para No.	No.5: Identifying, notifying and activating			3	5.25	No.7: Taking urgent protective actions and	4	5.43	5	5.48	✓			
Requirements	Response		Preparedness																							
	Comment No.	Para No.	Comment No.	Para No.																						
No.5: Identifying, notifying and activating			3	5.25																						
No.7: Taking urgent protective actions and	4	5.43	5	5.48																						

			other response actions			6 10	5.53 5.55					
			No.12: Taking early protective actions and other response actions			11 12 13	5.105 5.106 5.110					
Canada	8.	To be determined	Consider adding information on how the IAEA will coordinate with the accident State with respect to its extended mandate for assessment and prognosis.	Clarification. Given the recent extended mandate of the IAEA for assessment and prognosis, requirements around coordination between the Accident State and IAEA should be included. (see for example 6.13, 6.14)		✓				Para. 5.34 is updated to include sharing of information with the IAEA throughout the emergency. This will support IAEA’s new mandate. Further details will be subject to operational arrangements rather than requirement level document.		
USA	9.		General Comment: This standard and other IAEA documents such as, “Arrangements for Preparedness for a Nuclear or Radiological Emergency No. GS-G-2.1” or “Development of An Extended Framework For Emergency Response Criteria” do not, but should, provide a description of response stages or phases of a nuclear or radiological response as applied to the 5 emergency preparedness categories presented within this document.	State priorities shift during different stages or phases in the aftermath of a nuclear or radiological emergency. Although not a requirement as listed in DS457, it would be useful if this document provided a general discussion or guide to priorities in the early, intermediate and late phases of a response and how the stated functional requirements fit within each. For instance, both requirements 8 & 11 provide for communication to the public but requirement 8 is more relevant to the early phase while requirement 11 is more applicable for intermediate and late phases.		✓			The link between requirements contained in the draft text and each emergency preparedness category is clear in the draft. The Annex provides an overview as well. The functional requirements follow prioritization as mentioned in the comment. First, you need to be able to recognize conditions that may lead to an emergency, then to take the actions to regain control over the situation and to prevent hazardous conditions to develop (mitigatory actions). If this fails, you have to urgently take actions to protect public, workers and emergency workers, so you alert/warn them and provide instructions on what to do, etc... This is logical order of the requirements. However, some of the requirements such as communicating to the public are valid to be applied throughout the emergency. This can be more closely elaborated in Safety Guides when revised.			

Austria	10.	General	•GSR Part 7 is more operational and practical compared with GS-R-2. The requirements are better structured and more clear.		✓			
Pakistan	11.	General	The DS457 does not address requirement about civil liability/ compensation issues. These should be added or referred in the document	Arrangements related to civil liability/ compensation issues need to be addressed or referred.	✓			Para. 4.6 was added to address this issue.
UK	12.	General	We note that in the revised draft document all 24 “requirements” are stated to apply to Government. While we appreciate that Member States of IAEA are represented through their Governments, we are not sure that making Government responsible for every requirement is useful, and it is neither what the current GS-R-2 does nor what other recent Safety Requirements do. We do not understand why the document has introduced this change.			✓		The overall responsibility for an EPR would be on the Government. The Government will delegate this to appropriate organizations in relevant legislation, e.g. to operator for on-site EPR, to regulatory body will give the authority to regulate on-site arrangements set by the operator, to other organization(s) those for off-site arrangements which is clear throughout the text. Namely, although the overarching requirements are formulated as Government responsibility, the associated requirements are assigned to specific organization when possible. Please note that in many cases for certain arrangements many will contribute and be responsible for different aspects. However, clarification of different roles and responsibilities and provision of authority is required to be assigned and designated early at the preparedness stage.
USA	13.	All	The document should clearly state who the target audience(s) is/are. If the document is meant to be for a technical audience, then there should be more technical discussion. If the document is meant for decision makers, then it should be clarified at what level the decisions should be made. An	A more tailored document will be a more readable document and a more usable document.	✓			Paras. 1.11 and 1.12 in the Introduction section explain to whom the requirements are intended.

			executive summary would be desirable in helping the reader understand the document's purpose and objective as well as in identifying the target audience.					
UK	14.	General	The revised document is even more prescriptive with respect to emergency preparedness than is the current GS-R-2, and also much more prescriptive than the draft Euratom BSS (the main points being covered in Articles 18, 70, 97, 98 and Annexes I & IX). There could be some merit in the IAEA setting out the essential requirements for emergency preparedness by identifying the goals to be achieved so as to permit the Member States some flexibility in deciding how best to meet those goals. However, it is recognised that some degree of prescription would aid international harmonisation which is a desirable aim for emergency preparedness and response.		✓			The draft text was revised and cleared from guidance level requirements that will be considered during the revision of relevant Safety Guides.
UK	15.	General	We consider that there are some important areas where the approach within DS457 may not be consistent with that covered by the amendments proposed to other IAEA documents, for example DS462. DS462 requires Member States to practically eliminate significant releases of radioactivity by design for future nuclear power plants and to ensure that offsite countermeasures "limited in area and time" are sufficient to protect people and the environment. There is no obvious sign within DS457 how this requirement influences the approach to emergency planning.			✓		Specific safety standards dealing with safety of NPP (under revision within DS462) address design targets and measures to be taken to prevent accidents to happen that are beyond design basis and beyond design extension conditions or if such happen, to ensure limited off-site consequences. The EPR requirements are not limited to these considerations and go beyond asking for arrangements in EPR to be in place even for accidents that are beyond the design. This is consistent with 5 th level of defense in depth that requires for off-site EPR.

Ireland	16.	N/A	<p>The draft text DS457 entitled "Preparedness and Response for a Nuclear or Radiological Emergency" is a welcome revision of IAEA Safety Standards Series No. GS-R-2. The layout of the document as a set of 24 requirements clarifies emergency preparedness and response requirements and whose responsibility it is to implement them. The role of the regulatory body is also much clearer now.</p> <p>Other welcome additions to this revised text include:</p> <ul style="list-style-type: none"> • the appropriate level of emergency response must now be consistent with the results of the hazard assessment (ref. 5.28) • The inclusion of an emergency at an unforeseen locations and the likelihood of encountering a dangerous source that is not under control (ref. 5.35, 5.37 and 5.38) • Facilities must be capable of responding to emergencies not considered in the design phase (ref. 5.53) • Requirement 9 (protecting emergency workers and helpers in an emergency) contains a lot of new material e.g. registering and providing information to emergency workers not designated as such prior to the emergency, minimizing doses to emergency workers. This is welcome for the protection of workers. • An explanation (footnote 9) of the actions to mitigate the consequences of a nuclear or radiological emergency such as the discharge of radioactive material to 	General comments	✓				
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			the environment is a useful addition.					
Spain	17.	General		The document reflects several times (starting in paragraph 1.5 and going through 5.12 and others) the key message that national general arrangements to deal with whatever emergency play a significant role also in nuclear or radiological emergencies. In our view this key message should be even reinforced all throughout the document as a clear “lesson learned” in the last years: most agents will be basically “common”, while only some others (very relevant indeed) might be specific depending of the type of risks involved. And this is, of course, even more important in the preparedness phase.	✓			
USA	18.	All	An editor should ensure the completeness and correctness of both the references and the glossary.	Correct and consistent word and reference use is critical for the usability and consistency of the document.	✓			
ENISS	19.	General	The document is not easy to read, in particular are not explained well the relationship between emergency preparedness categories and the emergency classes. The tasks and roles of the various subjects which have to intervene in the preparedness and response for a			✓		Considering other comments as well, functional requirements have been revised not to make response/preparedness division anymore and to be easier to read. Emergency preparedness categories are used as a basis for a graded approach in establishing the

			planning and implementation of emergency are not well distinguished.					emergency arrangements. Emergency classes are used for prompt initiation of appropriate protective actions and other response actions. The descriptions of each class starts with category to which it is associated.
UK	20.	General	<p>We suggest that the document needs to take more account of the importance of preventing psychologically induced health effects. One of the most important lessons from studies of the serious accidents at Three Mile Island, Chernobyl and Fukushima has been that the major cause of health detriment has been from anxiety and stress linked to the accident. Since production of the existing GS-R-2 guidance, this finding has become increasingly well-documented in the scientific literature. Although there is some acknowledgement of this through the references to “non-radiological” consequences, we think this experience from past accidents should be reflected more strongly in the IAEA’s requirements, with additional guidance in Safety Guides or Reports covering for example:</p> <ul style="list-style-type: none"> •The indirect and potentially long term adverse health impacts that can be caused by an unnecessarily cautious or precipitate reaction that causes more harm than good. Examples include deaths during rushed evacuations that actually achieve only modest dose saving; radiation “stigma” among certain groups; and long term anxiety among people whose exposures were negligible. 		✓			Psychological consequences are covered under non-radiological consequences of an emergency and the emergency response. Their mitigation if one of the goals of emergency response that is specifically addressed in separate functional requirement. In addition, inappropriate actions on the part of the public etc. are also covered.

			<ul style="list-style-type: none"> •The importance of providing a balanced understanding of radioactivity and radiation risk among health professionals and others who may be called upon to provide advice in areas potentially affected (and areas unaffected) so that the risk is seen in proportion to other risks. This should be based on a programme of engagement well in advance of any possible accident. 					
Slovenia	21.		<p>Since in the EPR area are we have quite some excellent guidance documents (e.g. EPR Method and others...) one should make a table, in which guidance documents one can find how to implement a specific requirement and it would not be something wrong, if there were no guidance for some requirements. On the contrary, this would be a clear hint how to improve guidance documents and a good check how good the existing guidance documents are as regards the new standard.</p>				✓	<p>This cannot be part of requirements level document but such representation can be useful to be considered in outreach materials. Please note that IAEA website provides an overview of IAEA Safety Standards in EPR and EPR related guidance and tools grouped upon specific topic.</p>
Ireland	22.	N/A	<p>GS-R-2 has been updated to take into account latest ICRP recommendations but there is no reference to these either in the body of the document or in the References section.</p>	Clarity and traceability	✓			<p>Proper references were made where relevant.</p>
France	23.	General	<p>The text does not reflect the protection strategy developed by ICRP (especially presented in ICRP-103 and ICRP 109) for emergency situations. The actual document focuses more on operational criteria (App 2).</p>	<p>The document should be more in line with the existing international documents.</p>	✓			<p>Protection strategy is elaborated in details under new overarching Requirements 5.</p>

NEA	24.	General	<p>The document does not fully reflect the new recommendations of the ICRP (Publications 103 and 109) that focus emergency exposure situations (including emergency management) on the development of a protection strategy using the optimisation principle and reference levels. The objective of the ICRP protection strategy is to optimise radiological protection considering all exposure pathways, and using annual residual dose as the main tool to assess the results of optimisation processes. The document as written focuses rather on the use of operational criteria in Appendix 2, using target dose as the main tool to assess whether or not a particular countermeasure should be implemented.</p> <p>The ICRP focus on managing residual dose from all sources should be reflected as a goal of the protection strategy, and any tables in appendix should be within this framework.</p>		✓			Protection strategy is elaborated in details under new overarching Requirements 5.
Ireland	25.	N/A	<p>The approach to preparedness and response is based on the assessment of hazards both on-site, off-site and, where relevant, beyond the State's borders. There is no distinction made between nuclear and non-nuclear countries and all of the requirements apply to both . There is an Annex after the References section which indicates which paragraphs are applicable to each category (I to V). This Annex is not clear and is not referenced anywhere in the document.</p>	Clarity	✓			Emergency preparedness categories are based on the source inventory associated with facilities and activities. So, to simplify (ref. GS-G-2.1, EPR-Method), States with NPP falls under category 1, other State with research reactors may be in category 2. States that are using radioactive material in medicine and industry will fall under category 3. Category 4 applies for all States, while category 5 is applicable for States with territories in emergency planning zones and distances around e.g. NPP located in neighboring State. The Annex is referenced in the Introduction

								Section and clarifies applicability of paragraphs per category.
Ireland	26.	N/A	In a number of locations in the document there are references to "inappropriate actions taken by members of the public and by others" e.g. ref 4.9(i), 5.92 and 5.120. The definition of "inappropriate actions" is subjective. What is intended here? There is some explanation in 5.124. Should this be in the definitions?	Clarity		✓		Clarification on inappropriate actions is being made in footnote associated with paragraph 5.71 of the draft text.
Sweden	27.	General	<p>Relevance and usefulness / Scope and completeness:: Sweden recognizes the large amount of work done to realize the present draft report. The report addresses most, if not all relevant EPR (emergency preparedness and response) issues.</p> <p>Some text could be seen as more proper for a guide than for the recommendations. This is a general remark not necessarily supported in detail by remarks below. It should focus on what should be done – not how it should be done.</p> <p>The IAEA is urged to revise the draft and to integrate the latest ICRP-philosophy regarding emergency exposure situations – it will otherwise not be consistent with modern EPR strategy and national recommendations used by many countries, and the requirements will lose in relevance and usefulness.</p> <p>Sweden welcomes that the</p>			✓		<p>The draft text was revised and cleared from guidance level requirements that will be considered during the revision of relevant Safety Guides.</p> <p>Considering other comments as well, functional requirements have been revised not to make response/preparedness division anymore and to be easier to read.</p> <p>Protection strategy is elaborated in details under new overarching Requirements 5 explaining how different criteria and reference levels fit within the strategy.</p>

			experience from the TEPCO Fukushima Daiichi accident is fully addressed.				
Sweden	28.		Add reference to GSR Part 3 at relevant places!	Reference to IARA GSR Part 3 is missing in the text. The International BSS, GSR Part 3 has a section relevant for emergency exposure situations	✓		References to GSR Part 3 were reviewed and added where relevant (e.g. in para. 1.8 of the Introduction section).
Sweden	29.		If requirements are copied from other requirement documents they should not normally be changed	Some requirements from GSR Part 3 are copied to this draft requirement but they are changed.	✓		Reviewed. All the requirements that are drawing from other safety standards publications are properly referenced. Some changes are made to broaden the scope considering that other safety standards have more narrow scope (focusing just on NPP, or EPR for facilities and activities only).
Sweden	30.		The meaning of <i>a protection strategy</i> should be clarified and the use should be consistent throughout the document.	This is missing and the protection strategy is a central part of ICRP's recommendations.	✓		Elaborated under new overarching Requirement 5 and consistently used throughout the draft text.
Sweden	31.		Consider removing some references to the Guides [3] and [4] from the draft report They are for instance found at: <ul style="list-style-type: none"> • page 1 lines 18-19, • page 10, line 16, • page 12, line 26, and • page 53, line 5. 	At places reference is made to IAEA Guides which " <i>elaborate the Safety requirements established in this document</i> ". This is not acceptable practice - it gives the impression that content and scope of the safety requirements are already decided	✓		
NEA	32.	General	References in the document to IAEA Safety Guides are, in general, worded such that the guidance information is raised to the level of a requirement. In that the requirements provide the "what" and the guides provide the "how", there is little need even to reference		✓		

			the guides in requirements level documents. These references should be deleted, or at least modified so as to be “possible approaches” rather than, as in the text currently, the approach to be followed. It should be noted that GSR Part 3 (Interim) has only one reference to a Safety Guide, No. RS-G-1.9 on Categorization of Radioactive Sources.					
ICAO	33.		No any comment		✓			
Afghanistan	34.		No comment		✓			
France	35.	Preface	“These Safety Requirements are binding on the IAEA Secretariat in relation to its own operations and on States in relation to operations assisted by the IAEA.”	No need to appear in a safety standard so deletion is suggested. Could appear in each organization management system manual...			✓	Wording agreed by international organizations to be cosponsors of the publication.
France	36.	Preface	“These Safety Requirements are also to be applied by Sponsoring Organizations in accordance with their respective mandates and the Joint Radiation Emergency Management Plan of the International Organizations (EPR — Joint Plan). Other international organizations irrespective of whether they are members of the IACRNE are encouraged to consider these Safety Requirements in their own emergency management arrangements.”	No need to appear in a safety standard so deletion is suggested. Could appear in each organization management system manual...			✓	Wording agreed by international organizations to be cosponsors of the publication.

Sweden	37.	Preface 5 th section	<i>The IAEA, relevant international organization and Member States reviewed the IAEA Safety Requirements GS-R-2 based on... and considering the new ICRP recommendations 103 and 109.</i>	Add reference to ICRP 103 and 109 in order to complete and establish the basis for the review.	✓			
NEA	38.	Preface	The preface is different from other requirement level documents of the IAEA (GSR Part 1, 3 and also previous GS-R-2). There is a need for a short, but more explicit description of the document development process.		✓			
NEA	39.	Preface Parag 1	Organizations responsible for emergency management (including those responsible for the management of conventional emergencies) <u>recognize</u> that preparedness in advance of an emergency can substantially improve the emergency response. <u>Clear lines of responsibility and authority are important features of preparedness and integration among the different bodies.*</u>	To clarify the meaning of this important introductory paragraph		✓ Organizations responsible for emergency management (including those responsible for the management of conventional emergencies) recognize that good preparedness in advance of an emergency can substantially improve the emergency response. Moreover, one of the most important features of the preparedness is integration of arrangements among the different bodies involved, ensuring clear lines of responsibility and authority.		For consistency.
NEA	40.	Preface Parag 5	The IAEA, relevant international organizations and Member States reviewed the IAEA Safety Requirements publication No. GS-R-2 based on lessons identified in exercises, in response to <u>incidents and the Fukushima accident</u> that	To correctly reflect the input taken into account		✓ The IAEA, relevant international organizations and Member States reviewed the IAEA Safety Requirements publication		For consistency.

			occurred since its publication in 2002, <u>and considering the new ICRP recommendations (publications 103 and 109)</u> . The revised IAEA Safety Requirements publication No.GS-R-2 is hereby published as General Safety Requirements Part 7 in the IAEA Safety Standards Series.*			No. GS-R-2 based on lessons identified in exercises and in response to emergencies that occurred since its publication in 2002 (including the accident at the TEPCO's Fukushima Daiichi Nuclear Power Plant in 2011) and with consideration of the latest recommendations of the International Commission on Radiological Protection (ICRP).		
NEA	41.	Preface Parag 8	These Safety Requirements are also to be applied by Sponsoring Organizations in accordance with their respective mandates and the <u>current version of the</u> Joint Radiation Emergency Management Plan of the International Organizations (EPR - Joint Plan).	To ensure that the latest revision is used.			✓	For correctness, the reference to the Joint Plan at this point was removed.
Ireland	42.	1.1	This sentence is confusing and is not easy to understand	Clarity	✓			
USA	43.	1.1, Lines 3-4	Clarify this sentence by editing the word redundancy and fixing the language used	This sentence is unclear and confusing.	✓			
USA	44.	Pg 1, sect 1.1, lines 3-4	Revise text especially line 4 "...Objective and Safety Principle s of Fundamental Safety Principles the IAEA Safety Fundamentals [1].".	The current text makes no sense. Translation error?	✓			
NEA	45.	1.1 Line 3-5	This publication in the IAEA Safety Standards Series applies the <u>safety objectives</u> and <u>principles</u> of the IAEA Safety Fundamentals [1].	To remove redundancy		✓ This publication in the IAEA Safety Standards Series is governed by the fundamental safety objective and safety		For consistency.

						principles stated in the IAEA Safety Fundamentals [1].		
Interpol	46.	1.1/3 and 4		This is very confusing in its context and structure, so I rather suspect that it hasn't been transcribed correctly from its source document.	✓			
Germany	47.	1.1	“This publication in the IAEA Safety Standards Series applies the Fundamental Safety Objective and Safety Principles of Fundamental Safety Principles <u>established in</u> the IAEA Safety Fundamentals [1].”	Clarification.		✓ This publication in the IAEA Safety Standards Series is governed by the fundamental safety objective and safety principles stated in the IAEA Safety Fundamentals [1].		
France	48.	1.2	Merge 1.2 and 1.1	Same topic (SF-1)		✓ 1.1. This publication in the IAEA Safety Standards Series is governed by the fundamental safety objective and safety principles stated in the IAEA Safety Fundamentals [1]. Particularly, this publication addresses Principle 9 of the fundamental safety principles concerned with ensuring that arrangements are made for preparedness and response for a nuclear or radiological emergency [1].		For consistency. Para. 1.2 addresses Nuclear Security Fundamentals.

Germany	49.	1.2, Line 5	“This publication addresses the Principle 9 of the F Fundamental s Safety p Principles, Principle 9 , concerned with ensuring that arrangements are made for preparedness and response for a nuclear or radiological emergency [1].”	Wording.	✓			
Canada	50.	1.2/6	Consider the following edit: “...ensuring that arrangements are made for preparedness, and response and recovery ... ”	Is recovery phase in or out of scope for this document? If it is in scope the following comment applies. Regarding “arrangements are made for preparedness and response”, why not include “recovery” as well? Suggest addition of requirements for recovery phase.			✓	Transition is covered as part of emergency preparedness and response. Long term recovery in an existing exposure situation is out of the scope of this safety requirements publication.
Sweden	51.	Introduction 1.3 Lines 15-18	<i>The present Safety requirements publication is a revised and updated version of Safety Requirements Series No. GS-R-2 to take into account of the ICRP recommendations ICRP 103 and 109 and developments and experience gained since 2002...</i>	Add reference to ICRP 103 and 109 in order to complete and establish the basis for the review.		✓ The present Safety Requirements publication is a revised and updated version of Safety Requirements publication No. GS-R-2 to take account of developments and experience gained since 2002 with due consideration, but not limited to, the experience gained in the response to the accident at the TEPCO’s Fukushima Daiichi Nuclear Power Plant and the latest recommendations of the International Commission on Radiological Protection (ICRP) [3].		For consistency and as relevant. [3] - ICRP Publication 103.

Germany	52.	1.3, Line 15	“The present Safety Requirements publication is a revised and updated version of the IAEA Safety Requirements Standards Series No. GS-R-2 ...”	Wording.			✓	Terminology consistently used in the Safety Standards Series.
NEA	53.	1.3 Line 15-20	The present Safety Requirements publication is a revised and updated version of Safety Requirements Series No. GS-R-2 totake account of developments and experience gained since 2002, of new ICRP recommendations (Publications 103 and 109). and with due consideration, but not limited to, the experience gained in the response to the accident at the TEPCO’s Fukushima Daiichi Nuclear Power Plant. The publications [3] and [4] provide guidances as to approaches that may be considered for the implementation of these requirements.	Include new ICRP recommendations, ICRP Rep103, 109, 111 Both documents are guides. Reference to Guides in a Requirement level document needs to be very cautious.		✓ The present Safety Requirements publication is a revised and updated version of Safety Requirements publication No. GS-R-2 to take account of developments and experience gained since 2002 with due consideration, but not limited to, the experience gained in the response to the accident at the TEPCO’s Fukushima Daiichi Nuclear Power Plant and the latest recommendations of the International Commission on Radiological Protection (ICRP) [3].		For consistency and as relevant. [3] - ICRP Publication 103.
France	54.	1.4	All other Safety Requirements publications in the IAEA Safety Standards Series reference and are consistent with these requirements in relation to emergency preparedness and response.	Superfluous (and maybe optimistic)			✓	Correct – with regard to EPR all IAEA Safety Standards should be consistent with Safety Requirements publication in EPR.
NEA	55.	1.4 Line 24	other Safety Requirements publications in the IAEA Safety Standards Series refer to and	To clarify meaning	✓			
France	56.	1.5	Therefore, in order to be effective, the response to a nuclear or radiological emergency must be well coordinated and emergency arrangements to respond to a nuclear or radiological must be	Initial wording is addressing coordination within an nuc/rad emergency, not coordination between nuc/rad emergency and			✓	Both aspects covered – coordinated response to a nuclear and radiological emergency and coordination and integration of arrangements with those for response to conventional

			appropriately integrated...	other types of emergencies				emergencies and for nuclear security events.
NEA	57.	1.5 Line 2	coordinated; and nuclear or radiological emergency arrangements must be appropriately integrated	to be consistent throughout the document			✓	‘emergency arrangements’ is defined term.
France	58.	1.6	Locate 1.6 before 1.3	More logical order as end of 1.2 is dealing with various causes of emergencies, including security event.			✓	Order kept – note also 1.8 and 1.15.
France	59.	1.6	Consider removing the footnote 2	It is just an example, which should not be present in a high level text	✓			
NEA	60.	1.6	<u>Safety and security measures shall be designed and implemented in an optimized integrated manner as they have in common the aim to protect human life, health and the environment.</u> ¹	There is a need to note that optimisation is a key objective of both safety and security measures. Consider moving this footnote to a guide, as it is simply an example			✓	Quote from the IAEA Safety Fundamentals and could not be rephrased.
India	61.	2/foot note/2nd line	An example is the operating organization's contingency plan that includes measures to respond to thefts and acts of sabotage at a nuclear & radiation facility. The contingency plan for the nuclear & radiation facility needs to be compatible with the emergency arrangements developed by the operating organization for the same facility [6].	This document deals with both nuclear and radiation facility			✓	Considering other comments as well the footnote was removed but additional sentence, with broader context, is added in the same paragraph: This emphasizes the importance of effective coordination between safety and security measures in relation to response to a nuclear or radiological emergency.
Sweden	62.	Introduction 1.7 Lines 7-10	This publication is of relevance also provides guidance for (1) preparedness and response for a nuclear and radiological emergency...	Provide guidance is not proper in connection with IAEA Safety requirements.			✓	Correct in relation to inter-agency coordination mechanism. Actions/arrangements of individual organizations draw from their given mandate. However, please note that

								for those who are cosponsors to the publication, the requirements are binding. Wording is agreed among relevant international organizations.
NEA	63.	1.7	This publication also provides guide_for_(1) preparedness and response for a nuclear or radiological emergency for the relevant international organizations; and (2) the inter-agency coordination performed through the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE).	If “This publication...” At the beginning of this paragraph refers to this safety requirements document, then the statement “provides guidance for...” Is inappropriate. Requirements level document provide requirements, not guidance.		✓ This publication also provides guidance for (1) preparedness and response for a nuclear and radiological emergency of the relevant international organizations and (2) the inter-agency coordination performed through the Inter-Agency Committee on Radiological and Nuclear Emergencies (IACRNE).		For consistency.
Ireland	64.	1.8	It is now assumed that States have an infrastructure in place for regulating the safety of facilities and activities that could pose radiation risks. A reference to the BSS would be useful here.	Clarity	✓			
NEA	65.	1.8	It is assumed that States applying these requirements have in place an infrastructure for the purpose of regulating the safety of facilities and activities that could pose radiation risks. This includes laws and regulations governing their safe operation; and an independent regulatory body with responsibilities for establishing rules for safe operation and for enforcing them. In this context, the IAEA has issued a General Safety Requirements publication on the governmental, legal and regulatory framework for safety_[5]_[14]. In addition, it is assumed that States applying these requirements have in	The revised BSS (GSR Part 3) should be mentioned in this paragraph as an important part of any radiological protection framework.	✓			

			place an infrastructure for the purpose of regulating the nuclear security of nuclear material and other radioactive material, associated facilities and associated activities, as well as nuclear security measures for nuclear material and other radioactive material out of regulatory control. In this context, IAEA Nuclear Security Series [6-8] provide recommendations.					
Canada	66.	1.9/23 and definitions Pg #66 line 11.	<p>Suggest some version of the following:</p> <p>Radiological emergency:</p> <p>A radiological emergency is an emergency in which there is, or is perceived to be, a hazard due to radiation exposure from a source. As sources of radiation are used in various fields, including industry, medicine and research, radiological emergencies may occur anywhere.</p> <p>From: http://www-ns.iaea.org/tech-areas/emergency/iec/frg/what-is-a-rad-emergency.asp</p> <p>Nuclear emergency:</p> <p>A nuclear emergency is an emergency in which there is, or is perceived to be, a hazard due to radiation exposure and/or release from a nuclear facility.</p>	Consider providing more detailed definitions clarifying the difference between “nuclear emergency” and “radiological emergency”			✓	The term ‘nuclear and radiological emergency’ is defined and agreed term contained in Safety Glossary and other publications within Safety Standards Series.
NEA	67.	1.9	response for a nuclear or radiological emergency. The implementation of these requirements is intended to mitigate the consequences of a nuclear or radiological emergency and to support the resumption of social and economic activity under post-accident circumstances.	To be fully complete in terms of the goals of emergency preparedness and response			✓	For consistency. Covered under goals of emergency response and therefore it is part of emergency preparedness and response arrangements.

France	68.	1.9 1.10	<p>Merge 1.9 and 1.10 as follows: “1.9. The present publication establishes the requirements for an adequate level of preparedness and response for a nuclear or radiological emergency. Their implementation is intended to : - mitigate the consequences of a nuclear or radiological emergency_ <u>should it occur</u> :- 1.10. The fulfilment of these requirements will also contribute to the harmonization of arrangements for preparedness and response for a nuclear or radiological emergency worldwide as such an emergency may be a transnational.</p>	Both 1.9 and 1.10 state the objectives of this publication. (1.11 state who should use this publication)		✓ 1.9. The present publication establishes the requirements for an adequate level of preparedness and response for a nuclear or radiological emergency. The implementation of these requirements is intended to mitigate the consequences of a nuclear or radiological emergency should such an emergency arise despite all the efforts made to prevent it. 1.10. The fulfilment of these requirements will also contribute to the harmonization of arrangements for preparedness and response for a nuclear or radiological emergency worldwide.		For consistency.
Canada	69.	1.9	<p>Consider providing a definition for “mitigate” as used in this context.</p> <p>Suggest something similar to the following: Mitigate in this particular case is meant to be interpreted as follow-up response actions to reduce or minimize the impacts and consequences of a nuclear or radiological emergency.</p>	<p>There is a need to clarify the word “mitigate” Certain countries have different interpretation of the word “mitigation”.</p> <p>In Canada, the "mitigation" aspect as part of the "preventive" pillar early emergency pillar to place emphasis on efforts required early on in the process to avoid</p>			✓	Within this context, mitigate is used as commonly used word. However, mitigatory action as used under functional requirements is defined term.

				<p>accidents from happening in the first place. Other countries use the word "mitigation" as part of reducing the consequences of an accident once it has taken place.</p> <p>In Canada the practice is to the consequences of an accident once it has taken place as part of our standard "response" but we do not refer to it as "mitigation".</p>				
Canada	70.	1.10, lines 62-27	<p>“The fulfilment of these requirements will also...and response for a transnational nuclear or radiological emergency worldwide. “as such an emergency may be a transnational.</p>	Poor wording		✓ The fulfilment of these requirements will also contribute to the harmonization of arrangements for preparedness and response for a nuclear or radiological emergency worldwide.		For consistency and considering other comments as well.
NEA	71.	1.10	The fulfilment...arrangements for preparedness and response for a nuclear or radiological emergency worldwide.	To make the sentence more clear	✓			
Interpol	72.	1.10, line 27	Emergency may be transnational or emergency may be transnational one			✓ The fulfilment of these requirements will also contribute to the harmonization of arrangements for preparedness and response for a nuclear or radiological emergency worldwide.		Revised for consistency and considering other comments as well.

France	73.	1.12	Delete 1.12	1.11 is enough			✓	Important paragraph describing the scope of the publication.
NEA	74.	1.12	The requirements <u>are applicable on-site and off-site for</u> all those facilities and activities with the potential for causing radiation exposure <u>of personnel or public or</u> , environmental contamination or public concern warranting protective actions and other response actions in a nuclear	To be fully clear as to what is included			✓	Covered by 1.11 and 1.12.
Sweden	75.	1.12 Page 3, line 3	Delete the words... <u>or public concern...</u>	There is no need to include <i>...or public concern...</i> since it is the potential for radiation exposure and environmental contamination which is the cause for concern.			✓	Perceived emergencies are also covered. Please note the definition of ‘emergency’ and ‘nuclear or radiological emergency’.
Canada	76.	1.12(d)	Text states: “whereby parties request the IAEA to provide for the application of the requirement.” Suggest an example be provided.	Clarify this statement. Does this also include legislative interpretation between States? Perhaps it may be a sensible idea to include an example.		✓ Deleted.		Application of the requirements in the Safety Standards Series will be explained within the standard text to be added at the beginning of the publication.
Sweden	77.	1.13 Page 3, line 14-15 Page 3, line 28 Page 3, line 33 ...and possibly elsewhere?	Change.... <i>protective actions and other response actions...</i> to <i>response actions</i> ?	In DEFINITIONS, <i>response action</i> (page 75) is defined as: <i>An action to be taken in response to a nuclear or radiological emergency</i> and it is stated that <i>...response actions comprise protective actions and other response actions.</i>	✓			To be considered during the editing process and consistently used throughout the draft text.

NEA	78.	1.13	The requirements apply to the off-site jurisdictions that may need to take protective	Need to merge this to 1.12, to include the concept of incidents in other state			✓	Kept separate for consistency as para 1.1. associates with facilities, activities and sources.
France	79.	1.13	Delete 1.13	1.11 is enough (see also suggested modification to add a paragraph before 1.14)			✓	Kept separate for consistency as para 1.1. associates with facilities, activities and sources.
France	80.	Before 1.14	Add a new paragraph: “1.## The requirements address emergency preparedness and response both in the State where the nuclear or radiological emergency initiated and other States which might be affected by this emergency or might help in responding to this emergency”.				✓	Covered by para. 1.13 and 1.14.
Canada	81.	1.13/14	Determine whether the terms “organizations” and “jurisdictions” used in Sections 1.12 and 1.13 are meant to be interchangeable or not. If not clarify their meaning, especially for section 1.13.	<p>“Off-site jurisdictions” versus “off-site organizations”.</p> <p>1.12 uses “organizations” while 1.13 uses “jurisdictions.</p> <p>If these terms are meant to be inter-changeable it is suggested that one or the other be consistently applied or their meaning clarified.</p>			✓	Jurisdiction is commonly used term to refer to areas where different authorities and organizations may need to establish and maintain emergency arrangements although not sources are used within their territory or no facility is located.
NEA	82.	1.14		Suggest deletion because these aspects are captured in para 1.15	✓			
France	83.	1.15	to preparedness and response for a nuclear or radiological emergency arising from a nuclear security event that necessitates protective actions and other response actions to be taken for protection of members of the public, workers, emergency workers, helpers and		✓			

			patients. in accordance with Appendices I and II					
NEA	84.	1.15	<p>The requirements apply for <u>safety</u> preparedness and response <u>to any</u> nuclear or radiological emergency, <u>which include those triggered by nuclear security events</u>, . <u>Preparedness and response guidance specific to nuclear security events</u> is provided in Refs [6-8]. <u>Such response measures include</u> activities related to instruments alarms, information alerts, management of a crime scene, nuclear forensics and related actions that would be taken in relation to <u>a nuclear security event</u>. However, the requirements <u>in this document</u> provide for a coordinated and integrated approach to <u>human life, health and the environment</u>.</p>	<p>To clearly specify that security events may require safety response, which is the aspect covered in this document</p> <p>To be more clear and specifically refer to THIS requirement, not the others on security</p> <p>To be consistent with R1.</p>			✓	For consistency in the terminology used with Safety Standards and Nuclear Security Series.
USA	85.	Pg 3, sect 1.15, lines 22-23	First sentence under item 1.15 states that the requirements apply for a nuclear security event, while the second sentence seems to contradict this and state that the requirements do not cover nuclear security events. Please clarify.	Clarity.		✓		The first sentence states that the requirements apply for EPR including emergencies triggered by nuclear security event. The response measures to a nuclear security event that will not result in emergency are covered in referenced Nuclear Security Series. However, even in the case the nuclear security event triggers emergency, some response measures that are security specific (forensics, investigation, etc.) are not covered by these requirements but with referenced Nuclear Security Series – therefore, need for coordination and integration between these measures is emphasized throughout the

								requirements.
Cuba	86.	Page 3/Line 29	public, workers, emergency workers, helpers and patients	There are requirements and guidance for helpers through the whole document	✓			
France	87.	1.16	Last sentence of the para should emphasize the development of a general protection strategy.	To be aligned with ICRP approaches.		✓		Protection strategy is elaborated in details under new overarching Requirements 5.
NEA	88.	1.16	agreed generic criteria for consideration when developing a protection strategy or strategies for a nuclear or radiological emergency are provided in Appendix II.	This needs to be clarified. For an overall protection strategy, these are not independently valid. This needs to be expressed. Need a definition of Protection Strategy referred to early in the document so that its use here is clear. Take this from ICRP 103 and 109. This may be achieved by a separate appendix. Be clear with definitions: “overall protection strategy”, “protection strategy”, “protection strategies”, etc. it is suggested to only use “protection strategy”		✓		Clarified under the new overarching Requirements 5 on protection strategy and in Appendix II.
Germany	89.	1.16, Line 11	“... are provided in Appendix II. The Annex presents a table in which the requirements applicable for each emergency preparedness category are listed. ”	For completeness. The Annex is not referenced elsewhere in the document.	✓			
Cuba	90.	Page 3/Line 34 and Page 4/Line 1	Section 4 establishes the general requirements that shall be met in order to implement effective emergency arrangements and defines the emergency preparedness	Full implementation of the general requirements can take time. In the meantime, some arrangements should		✓		Correct comment. This approach is already reflected in the existing EPR guidance (EPR-Method 2003). However, this publication provides comprehensive requirements for an

			...	exist or be under development and interim response capabilities should be available in case of an abnormal situation occurs				adequate level of EPR.
France	91.	Title 2	“2. INTERPRETATION, RESOLUTION OF CONFLICTS AND ENTRY INTO 1 FORCE”	Superfluous 2.1 to 2.8 can fit in the “1. INTRODUCTION”			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).
USA	92.	Pg 5 Line 4		Verification is needed on whether these are new definitions, or are simply replicated from the IAEA glossary	✓			Currently are all marked to clarify this. To be reviewed again during the editorial review.
France	93.	2.1	Terms used in this publication have the meanings given <u>in the IAEA Safety Glossary unless as specific definition is set</u> under Definitions.	Default definitions are those established in the IAEA safety glossary.			✓	Please see Definitions where this is clarified.
France	94.	2.2	Transfer 2.2 at the end of 1.7	Deals with IAEA and other international organization.			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).
France	95.	2.4	Delete 2.4	It is obvious. Furthermore, putting such paragraph is highlighting insufficient review is preparing this standard.....			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).
NEA	96.	2.4	requirements, the government shall determine which	The ultimate responsibility for such decisions rests with government			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).
ENISS	97.	Article 2.4	In cases of conflict between the requirements of this standard and other applicable requirements, the government or the regulatory body, as appropriate, shall determine which requirements are to be enforced. <u>This conflict shall be relayed to IAEA (in order to take into consideration this element in</u>	This could help to remove the potentiality of some conflicts in the future.			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).

			<u>further revisions of the concerned documents).</u>					
France	98.	2.6	Delete 2.6	No need in the standard to allows delay in its application. Such paragraph could appear in the IAEA management system...			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).
France	99.	2.7	Delete 2.7	No need to delay the implementation of this standard. Why forbidding a sooner entry into force?			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).
France	100.	2.8	Delete 2.8	It is obvious that a State decides when a regulation comes into force. It is up to the State to decide whether or not adopting directly this standard or transposing it in its regulatory system.			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).
Finland	101.	2.8		This is quite strong; perhaps a "letter of intent" to follow the content of this document could be a better solution. Putting in force the content of this document i.e. updating relevant national documents/emergency plans may take a longer time than one year....			✓	Standard text also published in other Safety Standards (e.g. GSR Part 3).
NEA	102.	General, Section 3-5	Section 3 of the document presents the goals of emergency management and response. The EGIR feels that Section 3 should be expanded to be a general presentation of the goals, the management system, and the protection strategy. This section would serve not as a requirement,			✓		The current structure presents the views of all Member States and international organization being involved in draft text development since the very beginning; therefore, to the extent possible, this structure is kept. Please note that it follows current requirements publication

			<p>but as a framework for the requirements in Sections 4, 5 and 6. For this, the EGIR feels that Section 3 should be titled: Emergency Management System: Scope, Strategies and Goals, and should include:</p> <ul style="list-style-type: none"> • Clear reference to the new ICRP recommendations on emergency management (ICRP Publications 103 and 109), and to other relevant International standards and recommendations, in particular IAEA requirement level documents (e.g. GSR-Part 1, GSR-Part 3) • Discussion and definition of the ICRP overall concepts of Protection Strategy and Optimisation • Discussion of the need for stakeholder involvement • As the document lists several requirements on governments, the text needs, perhaps in the expanded Section 3, a discussion of how such requirements are to be implemented at the national level. • Discussion of post-accident medical care, including dose reconstruction and long-term follow-up. <p>In addition to the proposed expansion of the content of Section 3, the EGIR suggests that the document should be restructured, to avoid the high amount of redundancy in the text, and to give the document a more rational flow.</p>				<p>structure as requested by Member States. Considering other comments as well, functional requirements have been revised not to make response/preparedness division anymore so to simplify the document structure and to avoid repetitions.</p> <p>Appropriate references were already made, still they were reviewed. Appropriate references are added to ICRP publication No. 103 as well as to GSR Part 3 in the Introduction section where relevant. Protection strategy was elaborated in details under new overarching Requirements 5.</p> <p>The functional requirements follow logical entirety as mentioned in the comment. First, you need to be able to recognize conditions that may lead to an emergency, then to take the actions to regain control over the situation and to prevent hazardous conditions to develop (mitigatory actions). If this fails, you have to urgently take actions to protect public, workers and emergency workers, so you alert/warn them and provide instructions on what to do, etc.</p> <p>However, please note that some of requirements such as communicating to the public are valid to be applied throughout the emergency.</p> <p>The overall responsibility for an EPR would be on the Government. The Government will delegate this to appropriate organizations in relevant legislation, e.g. to operator for on-site EPR, to regulatory body will give the authority to regulate on-site arrangements set by the</p>
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			<p>It is proposed that, following Section 3, the document should be structured as follows:</p> <ul style="list-style-type: none"> ○ Section 4: Requirements for the emergency management system, including hazards assessment requirements; ○ Section 5: Requirements for preparedness, including infrastructure requirements; ○ Section 6: Requirements for response; and ○ Section 7: Requirements for a quality management system and sustainability. <p>Examples of how this could be achieved by simply moving existing text are given in the Specific Comments provided as an attachment to these General Comments.</p> <p>In addition to the above-suggested restructuring, it is suggested that the document could be improved by having a more logical, step-by-step sequence in each section. For example, the results of the hazard assessment are presented before the elements of the hazard assessment are listed (i.e. 4.16 should be the final statement of the hazard assessment description).</p> <p>The current Chapter 5, on Functional Requirements, is divided into response and preparedness, resulting in significant redundancy. If the above suggestion to restructure the sections is not accepted, it is suggested that, preparedness should be presented first throughout the document, and that the section should be refocused to present preparedness first, and to have only limited requirements, that</p>				<p>operator, to other organization(s) those for off-site arrangements which is clear throughout the text. Namely, although the overarching requirements are formulated as Government responsibility, the associated requirements are assigned to specific organization when possible. Please note that in many cases for certain arrangements many will contribute and be responsible for different aspects. However, clarification of different roles and responsibilities and provision of authority is required to be assigned and designated early at the preparedness stage. Please note that more details on this could not be part of requirements level document; however, more details on different responsibilities at national level can be found in the Safety Guide GS-G-2.1.</p>
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			are not redundant, for response.					
NEA	103.	Section 3	<p>3. GOALS, STRATEGIES AND THE EMERGENCY MANAGEMENT SYSTEM</p> <p>GOALS OF EMERGENCY RESPONSE</p> <p>In a nuclear or radiological emergency, the goals of emergency response are:</p> <p>To prevent or mitigate on-site and off-site consequences, <u>which may include;</u> <u>To avoid occurrence of deterministic effects or should they occur, to minimize the severity of consequences and the number of individuals affected.</u></p> <p>To reduce the <u>present and future</u> risk of stochastic effects;</p> <p>To prevent, to the extent practicable, the occurrence of non-radiological consequences;</p> <p>To protect, to the extent practicable, property and the environment; and</p> <p>To prepare, to the extent practicable, for the resumption of social and economic activity <u>in the post-accident circumstances.</u></p> <p>operating organization and local, regional, national levels and, where appropriate international-* levels</p>	<p>Add section on the goals of other aspects in this chapter:</p> <ul style="list-style-type: none">- Management System- Strategy- EM goals- Response Goals- Transition <p>The title of Chapter 3 should match the order in which sections are listed</p> <p>This document should be focused on overall goals, not just practical goals. Add a new sub-point to 3.1, “fulfil international obligations”</p> <p>Because sub-list will not be exhaustive</p> <p>Be consistent, use “deterministic” or “non-stochastic”</p> <p>To be more precise and more in line with ICRP</p> <p>To be consistent with GSR P3</p> <p>Make c, d, e and f and h sub-bullets of (b), because these are all mitigation actions</p>		<p>✓</p> <p>(a) To regain control of the situation and to mitigate potential consequences;</p> <p>(b) To save lives;</p> <p>(c) To avoid or minimize severe deterministic effects;</p> <p>(d) To render first aid, to provide critical medical treatment and to manage the treatment of radiation injuries;</p> <p>(e) To reduce the risk of stochastic effects;</p> <p>(f) To keep the public informed and to maintain public trust;</p> <p>(g) To mitigate, to the extent practicable, the non-radiological consequences;</p> <p>(h) To protect, to the extent practicable, property and the environment;</p> <p>(i) To prepare, to the extent practicable, for the resumption of normal social and economic activity.</p>		<p>Please note response to comment number 102. The goals of emergency response were revised taking into account other comments as well.</p>

				<p>Move up to a sub-b point</p> <p>Post-accident will not be “normal”, so don’t claim this</p> <p>Put this as paragraph 3.2, a separate item, because it is not an item considered in emergency response</p>				
Spain	104.	Point 3.- Goals of emergency Preparedness and Response		Point 3.1.- Even though it could be assumed to be already considered within point “i” (To prepare, to the extent practicable, for the resumption of normal social and economic activities), we do consider necessary to mention explicitly “the safe management of the radioactive waste” as an additional “goal”. The experience of most (if not all) accidents in the past strongly supports this comment.			✓	As such, safe management is not a goal but the protection of the public and the environment to be afforded with the safe waste management. Considering the importance of this topic in EPR, specific functional requirement (Requirement 15) addresses the issue.
France	105.	3	Consider put the para on preparedness first.	Consistency and to put the text in a step-by-step presentation	✓			
Indonesia	106.	Page 6, Chapter 3	Goals of Emergency Preparedness should come first followed by Goals of Emergency Response	To be consistent with the title of the Chapter.	✓			
Sweden	107.	3.1 Page 6, line 4 and line 18	Delete <i>practical!</i>	In Safety Requirements, the objectives of EPR do not merit qualifiers to weaken or strengthen them – they should be clear as stated.	✓			

FAO	108.	3.1/4	In a nuclear or radiological emergency, the overall objective is to protect people and the environment from harm, and the practical goals of emergency response are:	The overall goal of emergency response must be to protect people and the environment including food and agriculture with points (a) to (i) being the practical goals to achieve this aim.		✓		Considering other comments as well, practical is removed.
Interpol	109.	3.1	The first bullet point (a) must be 'the saving of life', with the other none following as (b-j).	However, the most important goal, in fact the primary purpose has been missed off of the list		✓		'To save lives' is listed in goals.
France	110.	3.1 bullet list	<p>"3.1. In a nuclear or radiological emergency, the practical goals of emergency response are:</p> <p>(a) To regain control of the situation;</p> <p>(b) To prevent or mitigate on-site and off-site consequences, <u>including</u></p> <p>┆</p> <ul style="list-style-type: none"> - (e) To avoid or minimize severe deterministic effects; - (d) To render first aid, to provide critical medical treatment and to manage the treatment of radiation injuries; - (e) To reduce the risk of stochastic effects; - (f) To prevent, to the extent practicable, the occurrence of non-radiological consequences; - (h) To protect, to the extent practicable, property and the environment; and <p>(g) To keep the public informed;</p> <p>(h) To protect, to the extent practicable, property and the environment; and</p> <p>(i) To prepare, to the extent practicable, for the resumption of</p>	Reformat the bullet list as some bullets (c to f and h) are specific types of on/off-site consequences		<p>✓</p> <p>(a) To regain control of the situation and to mitigate potential consequences;</p> <p>(b) To save lives;</p> <p>(c) To avoid or minimize severe deterministic effects;</p> <p>(d) To render first aid, to provide critical medical treatment and to manage the treatment of radiation injuries;</p> <p>(e) To reduce the risk of stochastic effects;</p> <p>(f) To keep the public informed and to maintain public trust;</p> <p>(g) To mitigate, to the extent practicable, the non-radiological consequences;</p> <p>(h) To protect, to the extent practicable, property and the environment;</p> <p>(i) To prepare, to the extent practicable, for the resumption of normal</p>		Revised considering other comments as well.

			normal social and economic activity.			social and economic activity.		
Sweden	111.	3.1 Page 6, (c) line 7	<p><i>(c) To avoid or minimize severe deterministic effects.</i></p> <p>SE insists on the formulation:</p> <p><i>(c) To prevent the occurrence of tissue reactions (deterministic effects) in workers and the public</i></p>	Notwithstanding that severe effects might occur the objective should still be to prevent them. This generally agreed “standard” should not be lowered. The ICRP reference levels are in the interval 20 – 100 mSv (where severe tissue reactions do not occur).			✓	Term is already consistently used throughout the Safety Standards.
Sweden	112.	3.1 Page 6, (e) line 10	<p><i>(e) To reduce the risk of stochastic effects.</i></p> <p>SE prefers: <i>To reduce (or prevent, to the extent practicable,) the occurrence of stochastic effects</i></p>	The use of the word <i>risk</i> is confusing in this case since we address both the (probability) <i>risk</i> of receiving exposure and the risk of developing a stochastic effect if exposure is received (several types of risks involved).			✓	Term is already consistently used throughout the Safety Standards.
Canada	113.	3.1 (f)	Suggest to replace “prevent” with “..avoid or minimize The occurrence of non-radiological consequences”	Prevention is not the only goal. So is minimizing		✓		‘mitigate’ is used for consistency throughout the draft text.
Sweden	114.	3.1 Page 6, (f) Line 11	Delete (f).	The IAEA glossary explains that (e.g. at the concept <i>Protection and Safety</i>) non-radiation related aspects of safety are not included. Is then (f) needed?			✓	Non-radiological consequences are adverse psychological, social and economic consequences of an emergency or the emergency response. Any non-radiation aspects are not covered.
Finland	115.	3.1 (g)		I would put this above the point (f) as this is one of the most important tools to prevent non-radiological consequences	✓			

Canada	116.	3.1 (g)	Consider addition of the text in bold: To keep the public informed and maintain public confidence	It is not enough to simply inform the public. A specific goal is to maintain public confidence. If different governments are taking different actions in response to the same event, even if the public is informed, confidence will be undermined.	✓			‘Trust’ is used instead of ‘confidence’.
Canada	117.	3.1 (h)	Add: “ To protect, to the extent practicable, the public, emergency personnel , property and the environment; and”	While all previous goals apply to the public and emergency workers it is never stated explicitly. See also 5.25			✓	Above mentioned goals are related to the protection of public and emergency workers.
Sweden	118.	3.1 (i) Page 6, line 14	<i>(i) To prepare, to the extent practicable, for the resumption of normal social and economic activity.</i> SE suggests changing to <i>(i)To prepare, to the extent practicable, for the transition from an emergency to an existing exposure situation</i>	GSR Part 3 addresses the <u>transition from an emergency exposure situation to an existing exposure situation</u> but this is not always a “normal situation”. The opportunity should be taken to rephrase the objective in GS-R-2.			✓	Relates to the transition itself and actions taken to enable moving to existing exposure situation but it is broader to cover other type of situations. Clear perspective is given under Requirement 18 on terminating the emergency.
ILO	119.	6 – 16	Change ‘adequate is capability’ to ‘adequate capability is’		✓			
Interpol	120.	3.2, line 16	The goal of emergency preparedness is to ensure an adequate capability is in place		✓			
Libya	121.	3.2/16	that an adequate capability is		✓			

Germany	122.	3.2, Lines 16 and 21	“The goal of emergency preparedness is to ensure that an adequate is capability is in place ... for the following infrastructure elements: ... and overall <u>integrated</u> management system including a quality management programme.”	1.) Wording. 2.) Consistency with the terminology used in the Draft Safety Requirements DS456 “Leadership and Management for Safety” (revision of GS-R-3, future GSR Part 2). See Requirement 3, Paras 1.5 and 4.1 of DS456 (version dated 13 July 2013).	✓			
NEA	123.	3.2		International Coordination could be mentioned		✓		Covered under ‘coordination’ and Requirement 3.
Ireland	124.	3.2	The start of the first line needs to be reworded "The goal of emergency preparedness is to ensure an adequate capability is in place at the operating organization and at local, regional, national and, where appropriate, international levels..."	Editorial	✓			
Ethiopia	125.	3.2/16	The goal of emergency preparedness is to insure an adequate capability is in place at the.	grammatical orders	✓			
USA	126.	Pg 6, sect 3.2 line 16	Change to read “The goal of emergency preparedness is to ensure an adequate is capability is in place at the ...”	Editorial.	✓			
Indonesia	127.	3.2	-adequate (is) capability is in place	- this may be a minor grammar mistake	✓			
FAO	128.	3.2 / 16	Adequate is capability is in place	typo	✓			

Canada	129.	3.2/16	Suggest the following edit: “The goal of emergency preparedness is to ensure an adequate is capability is in place at the...”	Minor typo.	✓			
Sweden	130.	3.2 Page 6, Line 16	Change the sentence to read...: ... <i>is to ensure that an adequate is capability is in place...</i>	Editorial	✓			
Sweden	131.	3.2 Page 6, Line 17	...where appropriate, coordination at international levels for effectively...	...emphasizing the coordination...			✓	Not only for coordination; but for whole set of elements listed in the second part of the paragraph and depending on the context. E.g. 1-at international level, among international organizations, the coordination is maintained through IACRNE. Joint Plan (existence of plan) clarifies role and responsibilities of all organizations members of the IACRNE and coordination arrangements etc.; exercises are carried out and procedures, tools and equipment developed by each organization to be able to fulfil its functions. 2-the EPR arrangements at international level for a NPP state whose emergency planning zones are covering areas in neighboring state are more than just ensuring coordinating but other arrangements that ensure mutual support in developing the whole set of elements (plans, procedures, tools, facilities, training, exercises etc.).
Indonesia	132.	3.2/16	The goal of emergency preparedness is to ensure an adequate capability in place ...	Grammatical error	✓			

Czech	133.	3.2/1	<i>I am not capable to propose new text</i>	The goal of emergency preparedness is to ensure an adequate is capability in place at the.... The sentence does not give sense – from the bold part it si not clear. It should be corrected		✓ The goal of emergency preparedness is to ensure that an adequate capability is in place...		
Ethiopia	134.	3.2/18	For effectively meeting the practical goals of emergency response	right proposition	✓			
Ethiopia	135.	3.2/20	Responsibilities; organization and staff; coordination; plans; procedures and tools;	punctuations and conjunctions right place	✓			
Czech	136.	3.2/21,22	facilities; training, drills and exercises; and overall management system including a quality management programme.	overall – superfluous and unrealistic definition of management system on page 71, line 19 already states that the quality management system is included	✓			
NEA	137.	Section 4	GENERAL REQUIREMENTS	It should be noted that the protection strategy is the key element of the emergency preparedness and response actions by government, regulators and operators. This needs to be made clear in this section. Note that it is expected that both of these comments can be addressed by previous comment about defining the protection strategy early Suggest removing reference in this section to operating		✓		Protection strategy was elaborated in details under new overarching Requirements 5 under the General Requirements. Operating organizations have important role in EPR and therefore, they should be references along with all others having roles and responsibilities in EPR. The responsibilities mentioned to be added are already covered under Requirements for Infrastructure. More generally, responsibilities of the operating organization are given under Requirement 2.

				<p>organisations. If left, then additional requirements specifically for operating organisations would be needed.</p> <p>Member states may make such requirements suggestions as they desire, to cover operator responsibilities of such areas as:</p> <ul style="list-style-type: none"> - On-site emergency plan - Plant data for off-site emergency response 				
Australia	138.	Section 4.1 (and in other parts of the document)		<p>Section 4.1 (and in other parts of the document) state that the purpose of emergency response is to protect human life, health and the environment.</p> <p>There is no clear definition of the term environment in the text or glossary. How is wildlife treated during an emergency situation?</p>				<p>The term is defined in GSR Part 3 and will be included in the next edition of the IAEA Safety Glossary. The protection of environment for the purpose of emergency response relates to keeping the public protected and it is not specifically addressed. Further discussion may be considered for addition in safety guides when revised.</p>
NEA	139.	4.1	to meet the goals established in section 3 .	To simplify this sentence			✓	For consistency with GSR Part 3.
NEA	140.	Req. 1	Emergency management system	<p>There is a need to mention ICRP recommendations and overall protection strategy and management of residual dose.</p>		✓		<p>Addressed under separate general requirement (Requirement 5).</p>

Canada	141.	4/3	Consider the following edit: The government highest level of government for the State shall ensure...	Somebody must be accountable for the State and this should reflect all the way down to the facility. Suggest “government” be defined for the whole document as the highest level of government for the State.			✓	That is the Government as used with the Safety Standards.
Sweden	142.	Requirement 1 Page 7, lines 3-4	This and the requirement 4.1 – 4.4 are taken from GSR Part 3 Consider deleting ... <i>for a nuclear or radiological emergency</i> ...	This is the Requirement 43 Emergency management system of GSR part 3. It has however been edited in that -... <i>for a nuclear or radiological emergency</i> ... was added. Consider not changing the requirement.			✓	For clarity – please note that consistency is still maintained with GSR Part 3.
Slovenia	143.	p. 7, Req.1	Add a provision about neighbouring countries , e.g. in 4.4 ... The government shall ensure also coordination of national emergency arrangements with neighbouring countries as appropriate...	In the explanation of this requirement also a provisions shall be made about the transition period for those countries which do not meet this requirement at all (i.e. countries without plans and adequate emergency preparedness). Such (non-compliant) countries should prepare an action plan in line with other requirements to meet the requirement 1. The requirement 1 is a sort of »catch-all« requirement. If that one is fully met, then it may be assumed that the majority (if not all) other requirements are met.			✓	Kept for consistency with GSR Part 3. The issue is covered under para. 5.9 as well as under Requirements for Infrastructure.

Indonesia	144.	Page 7/ footnote	assurance’, and ‘quality management system’ (the system for managing quality), ‘total quality control’, and ‘integrated management system’.	Total quality control and Integrated management system are improved and comprehensive approaches of management system represented in the IAEA document GS-G-3.1		✓		Footnote removed, as term management system is clearly defined.
Canada	145.	4/4	Consider the following edit: “ ... shall ensure that an integrated and coordinated emergency management system for a nuclear or radiological emergency is established, maintained and validated ... “	The emergency management system must be validated to ensure that the system that it is designed for is still effective with time.			✓	Kept for consistency with GSR Part 3.
Indonesia	146.	Para 4.2, 4.3, and others	Consider to replace all the word ‘hazard’ to ‘disaster’.	Nuclear/radiological emergency is considered to be a disaster, not just a hazard (hazard: something dangerous and likely to cause damage, disaster: an event causing great harm, damage, or suffering).			✓	Transport accident involving radioactive material imposing no contamination at all may not be considered as a disaster but still there will be a hazard present.
Czech	147.	4.1/5		note 1 – the term “management system” is defined (see above), so the explanation in the note is superfluous (otherwise all definitions should be commented and/or explained)	✓			
Sweden	148.	4.2 Page 7, Lines 9-11	Change to the exact formulation of GSR Part 3, 4.3	Slightly changed from GSR Part 3, 4.3 – should preferably be the same.			✓	The scope of these requirements is broader than the scope of GSR Part 3 (facilities and activities). Still, the both requirements are consistent.
Czech	149.	4.2/10, 11		Whether event is a reasonably foreseeable depends on the consequences for health and safety not on the		✓		To be considered by Technical Editor for consistency with GSR Part 3.

				probability of the event.				
Sweden	150.	4.4 Page 7, Lines 14-15	Change to the exact formulation of GSR Part 3, 4.6	Slightly changed from GSR Part 3, 4.6 – should preferably be the same.			✓	Revised on the feedback by relevant international organizations. Please note that there is no inconsistency between the both requirements.
USA	151.	Pg 7 Line 14		Does this requirement need the caveat that the arrangements are those to which the government has formally acceded?		✓ 4.4. The government shall ensure the coordination of and the consistency of national emergency arrangements with the relevant international emergency arrangements ¹ . Footnote: ¹ Arrangements set under the Assistance Convention and the Early Notification Convention [12] are examples of international emergency arrangements that are relevant for States Parties to these Conventions.		Clarification is being made to avoid that the requirement refers to any international arrangements.
NEA	152.	4.4	The government shall <u>establish emergency arrangements, and</u> ensure the coordination and consistency with international emergency arrangements.	Addition needed because emergency arrangements have not as yet been mentioned.			✓	Kept for consistency with GSR Part 3. Please note that this is covered in Requirement 2.
France	153.	4.5	Requirement ## : International organizations 4.5. Relevant international organizations shall coordinate their arrangements in preparedness for a nuclear or radiological emergency and their emergency response actions.	Create a new overarching requirement dedicated to international organization (by relocating current requirements dealing with such topic)	✓			

NEA	154.	4.5	Relevant international organizations shall coordinate their arrangements in preparedness for a nuclear or radiological emergency and their emergency response actions.	Make this a separate requirement on relevant international organisations – this should not be under the government requirement. Mention that the IACRNE agreed to this	✓			
Libya	155.		International <u>and regional</u> emergency arrangements	To be consistent with para 4.6 line 24			✓	Within the draft text, regional is used for a region within a state territory and not for a region covering several states.
Sweden	156.	4.5 Page 7, Lines 16-17	Delete <u>or move to other place</u> in the document – is this issue appropriate in the context? Not a government task per se, re-formulate (?): <i>The government should mandate and require that international organizations coordinate their arrangements etc....?</i>	This requirement refers to the coordination of the work of international organizations – is this really appropriate in this context?		✓		Moved as a separate overarching requirement aimed at international organizations.
Indonesia	157.	Page 7, Req. 2	‘Requirement 2: Roles and responsibilities’ should better be consists of responsibilities of the government, responsibilities of the regulatory body, responsibilities of the licensee and other users (as in GSR part 3), and coordinating mechanism	This is to ensure and make clear the role and responsibilities of each parties.	✓			
France	158.	Requirmt 2	The government shall make provisions to ensure that all roles and responsibilities for preparedness and response for a nuclear or radiological emergency are clearly specified and assigned.	Superfluous	✓			
Ireland	159.	4.6	Could the text in the last line "nuclear or radiological emergency <i>at any level</i> " be clarified?	Clarity	✓			All levels are mentioned in the first sentence of the same paragraph.

Finland	160.	4.6		It would be good to stress that preparations should include not only early phase but also intermediate phase including transition to recovery i.e. the whole duration when actual emergency response is needed. Recovery phase is in my mind already an existing exposure situation and that's why it is not included in my proposal.		✓		In the introduction section (para. 1.4), it is clearly stated that emergency preparedness covers the transition to existing exposure situation and recovery operations carried out to terminate the emergency. Recovery during existing exposure situation is out of the scope of this document. Please also not Requirement 18.
France	161.	4.6	4.6. The government shall make adequate preparations to anticipate, prepare for and respond at local, regional and national levels to nuclear or radiological emergencies <u>occurring within its territories and jurisdictions or affecting them and, as appropriate, to support emergency response and also, as appropriate,</u> at the international level. This shall include adopting legislation and establishing regulations to effectively govern the preparedness and response for a nuclear or radiological emergency at any level (see paras 1.11 and 4.11).	Simplification and clarification		✓ The government shall make adequate preparations to anticipate, prepare for and respond to nuclear or radiological emergencies at operating organization, local, regional and national levels and also, as appropriate, at the international level.		For consistency and considering other comments as well.
Canada	162.	4.6/...	Consider the following re-organization of the sentence: ...prepare for and respond to nuclear and/or radiological emergencies at all levels of government, including the international level if it is deemed appropriate.	Grammatical structure of sentence.		✓ The government shall make adequate preparations to anticipate, prepare for and respond to nuclear or radiological emergencies at operating organization, local, regional and national levels and also, as appropriate, at the international level.		For consistency and considering other comments as well.

Canada	163.	4.7/2-3	Consider the following additions (bold) and deletions: ... clearly identified, shared and allocated in advance among operating organizations, the regulatory body and response organizations with intervening organizations who have a role to play during a nuclear or radiological emergency.	For clarification.			✓	The change introduced is more confusing as it requires allocation of roles in EPR with those with role that has already been allocated and identified.
Canada	164.	4.8	Consider adding the text in bold: The government shall ensure that operating organisations ... considering their expected roles and responsibilities, and commensurate with the hazard assessment, ..	Clarification is needed. 'Necessary' should be risk-based, and consistent with an all-hazards risk assessment		✓ The government shall ensure that response organizations, operating organizations and the regulatory body have the necessary resources, considering their expected roles and responsibilities and assessed hazards, to prepare for and respond to both radiological and non-radiological consequences of a nuclear or radiological emergency, whether the emergency occurs within or beyond national borders.		For consistency.
NEA	165.	4.8	The government shall ensure that <u>response organizations,</u> operating organizations, <u>and</u> the regulatory body have the necessary resources to <u>respond to</u> a	Suggested because response organisations have primary responsibilities, then operating organisations Having just nuclear or radiological emergency sufficiently specifies roles		✓ The government shall ensure that response organizations, operating organizations and the regulatory body have the necessary resources, considering their expected roles and responsibilities and assessed hazards, to prepare for and respond to both radiological and		For consistency and considering other comments as well.

						non-radiological consequences of a nuclear or radiological emergency, whether the emergency occurs within or beyond national borders.		
France	166.	4.8	‘considering their expected roles’	Needs clarifications		✓		Resources needed to be allocated on an organization need to consider their roles that have been allocated at the previous step.
France	167.	4.8	‘non-radiological consequences’	Needs clarifications	✓			Please see the definition on ‘non-radiological consequences’ in the list of Definitions.
Canada	168.	4.8/...	Consider the addition of the following text: The State shall also have a nuclear liability program in place to procure financial assistance to the inhabitants who have been affected and/or displaced as a result of the nuclear and/or radiological accident.	To provide reassurance to the public as well as financial assistance in the event of a major nuclear accident.		✓ The government shall ensure that arrangements are in place to effectively govern the provision of prompt and adequate compensation for victims of damage caused by a nuclear or radiological emergency.		For consistency and considering other comments as well.
Thailand	169.	8 - 8		Assigned duties of the authority of Member state that require action on the part of coordination that still lacking for assigned duties to liaise with the IAEA via Incident and Emergency Center for notification, sharing of information and suggestion needed for the preparedness and response.		✓		Para. 5.34 is updated to include sharing of information with the IAEA throughout the emergency in support of IAEA’s new mandate on prognosis and assessment. Please also note paras 5.18-5.20 of the draft text. At this point, roles and responsibilities are more general; going through functional requirements, one should identify all roles and responsibilities that need to be allocated in EPR.
Canada	170.	4.9/11	Consider the following edits indicated in bold. ... are clearly defined and are well understood...	clarity			✓	Kept for consistency.

France	171.	4.9b	Para (i): ‘the hazard assessment within the State’	Needs clarification in particular towards objectives to be assigned to the assessments.		✓		Covered under Requirement 4. Para 4.23. particularly addresses the objectives of the hazard assessment. Here, the focus is on coordination among all who have responsibilities to assess hazards under Requirement 4.
Pakistan	172.	4.9 (c)/19	To coordinate and ensure consistency among the emergency arrangements of the various response organizations and the regulatory body under the all-hazards approach, including those arrangements for response to relevant nuclear security events, and, as appropriate, to coordinate and ensure consistency with those arrangements of other States and of international organizations.	It may not be possible for a government to ensure consistency of its emergency arrangements with other States.			✓	Harmonized approach should be the goal.
France	173.	4.9e	Consider removing ‘beyond its border’	States have no legal authority beyond their borders			✓	‘beyond its border’ refers to the location of the facility (e.g. NPP is located in neighboring State. This NPP is under regulatory control in that State. Its emergency planning zones and distances cover also the territory of other State for which EPR arrangements should be in place for its territory and jurisdictions not beyond its borders).
France	174.	4.9f	(f) to ensure that arrangements are in place for enforcing compliance with the national requirements for emergency preparedness and response established by legislation, and regulations and guides (see paras 4.6 and 4.11);	Compliance with guides is not mandatory....	✓			
NEA	175.	4.9 f	legislation <u>and</u> regulations (see paras Error! Reference source not found. and Error! Reference source not found.);	Cannot enforce compliance with guides	✓			

NEA	176.	4.9 g	emergency and the emergency response after the event (see para. Error! Reference source not found.);	To more explicitly tie the event to the response in the assessment area		✓ (g) to coordinate the analysis of an emergency after it occurred including the analysis of the emergency response		For consistency.
Cuba	177.	Page 8/Line 21	to coordinate and ensure consistency among the national requirements for emergency arrangements, contingency plans and security plans of operating organizations required by the regulatory body	Consistency of the regulatory requirements of different regulatory authorities should be assured by the coordinating mechanism	✓			
Canada	178.	4.9 (h)/5	Consider replacing the existing text with the following: To ensure that different types of nuclear and radiological exercises are scheduled to allow sufficient time for operating organizations to prepare, implement and coordinate exercise objectives and directives with other participating organizations. These exercises should be systematically evaluated.	Emphasis should be placed on other radiological exercises not just NPPs. Transportation, mines irradiators and research reactors should be considered as well. Sufficient time should be given to allow for preparation.			✓	Too many details for this requirement. Appropriate and coordinated exercises programme apply for all type of emergencies not only NPP and need to consider all of these aspects. Please note Requirement 25 of the draft text. In addition, EPR – Exercises 2005 publication provides guidance in exercise preparation, conduct and evaluation.
NEA	179.	4.9 h	to test interaction between the various response organizations, the regulatory body and the operator are in place and	To be more explicit for the exercise programmes			✓	This is one of many objectives of different exercises.
Sweden	180.	4.9 Page 9, Lines 10-12	Delete the bullet point.	What constitutes “inappropriate actions” is a matter of opinion. Sweden is of the view that such paragraphs should not be used in the requirements.		✓ (i) to coordinate public communications in preparedness for a nuclear or radiological emergency.		Revised and broaden for consistency throughout the draft text.
Ireland	181.	4.9(i)	What might "inappropriate actions" include?	Clarity		✓		Please note the explanation given in the footnote in paragraph 5.71 of the draft text.

NEA	182.	4.9 i	i. ...5.94); and monitoring of rumours ii. delete	To ensure that governments monitor public and media information, and are equipped to provide scientific input to the media and the public Too judgemental for a requirement level document.		✓ (i) to coordinate public communications in preparedness for a nuclear or radiological emergency.		Revised and broaden for consistency throughout the draft text considering other comments as well.
France	183.	4.9i	(i) to ensure and as appropriate coordinate: i. provision of public information in a nuclear or radiological emergency (see para. 8 5.95); and ii. the identification of inappropriate actions taken by the public or any other actors in a nuclear or radiological emergency and actions taken promptly to address inappropriate actions (see paras 5.120 and 5.124).	Clarification		✓ (i) to coordinate public communications in preparedness for a nuclear or radiological emergency.		Revised and broaden for consistency throughout the draft text considering other comments as well.
Argentina	184.	Para. 4.9. (i)	Add a new item: iii. Population training and promotion of the population participation in exercises and drills.	Population training and population participation in exercises and drills allows the population's appropriate response while implementing urgent protective actions and other response actions, REQUIREMENT 7 , as well as preventing inappropriate population actions.		✓ (i) to coordinate public communications in preparedness for a nuclear or radiological emergency.		Revised and broaden for consistency throughout the draft text considering other comments as well.
Cuba	185.	Page 9	To remove the lines 10, 11 and 12	The coordinating mechanism is supposed to act for planning purposes. This issue is to be addressed by the response organization. The requirements 5.120 and 5.124 encompass this issue appropriately		✓ (i) to coordinate public communications in preparedness for a nuclear or radiological emergency.		Revised and broaden for consistency throughout the draft text considering other comments as well.

Indonesia	186.	4.9 (d)	d. ... contingency plans and security plans....	Term of “contingency plan” related to security is better defined in particular section as expressed in Nuclear Security Series No.13 It is due to the fact that nuclear emergency security plan has been commonly regarded as contingency plan.			✓	Contingency plan is used within the context of Nuclear Security Series No. 13. It does not substitute emergency plans as defined in DS457. Coordination between them is appropriately emphasized in this document.
ILO	187.	8 – 21		A definition is given for ‘emergency plans’ in the glossary; Should a definition be given for ‘contingency plans’ to differentiate between emergency and contingency plans?	✓			
Canada	188.	4.9 (g)	Consider adding the text in bold: To coordinate and communicate the analysis ...	Clarification. Communication of the outcomes is as important as coordination during their development		✓		Sharing of findings of the analysis is covered with para. 5.99 of the draft text.
ILO	189.	9 – 8	Add ‘the’ in front of ‘provision’			✓ (i) to coordinate public communications in preparedness for a nuclear or radiological emergency.		Revised and broaden for consistency throughout the draft text considering other comments as well.
ILO	190.	9 -11	Change ‘and actions taken’ to ‘and the actions to be taken’			✓ (i) to coordinate public communications in preparedness for a nuclear or radiological emergency.		Revised and broaden for consistency throughout the draft text considering other comments as well.
Canada	191.	4.9/...	Add an additional sub element “j” (j) The government shall establish a national coordinating mechanism, to review, assess, audit and maintain emergency response actions at all levels to	As emergency plans change over time, it is important to have a national body review changes to ensure there is no conflict with other plans.			✓	Covered by (a) to (h).

			ensure they are well integrated.					
Canada	192.	4.10	Clarification required. The following revision is suggested: The arrangements for preparedness of operating organisations to respond to a nuclear or radiological emergency at facilities and activities under their responsibility shall be dealt with through the regulatory process.	Clarification required. While the arrangements by which the operating organisation responds to emergencies at facilities under its responsibility is dealt with through the regulatory process, the arrangements of other response organisations is outside of this process.		✓		Correct and this is recognized also under para. 4.14 (a) of the draft text. Additional paragraphs are added to clarify operating organization responsibility for on-site EPR (paras 4.16-4.17).
France	193.	4.10	Locate 4.10 before 4.12				✓	To keep to logical order.
France	194.	4.10	4.10. The arrangements for preparedness to respond to a nuclear or radiological emergency for facilities and activities under the responsibility of the operating organization shall be dealt with through the regulatory process to <u>authorize these facilities and activities.</u>	Clarification			✓	Authorization of facilities and activities is not the only activity within the regulatory process.
NEA	195.	4.10	The <u>regulatory body shall ensure that operating organizations establish arrangements for preparedness and response, in line with national regulations and where appropriate managed through the regulatory process.</u>	Editing for clarification			✓	Government should ensure that the regulatory body has the authority to
Libya	196.	4.10/15	shall be dealt with <u>and</u> through the regulatory process			✓ are dealt through the regulatory process.		
Austria	197.		In GSR-Part 7 the role of the local inspector or any other liaison officer of the regulatory body in the on-site response in an emergency situation as independent source of information should be defined for category I and II facilities.	Background: Based on the experience of the Fukushima accident an independent source of information on-site during an emergency situation for assessing and communicating the			✓	All arrangements for response to include communication between the operator and the off-site organizations need to be agreed and coordinated at preparedness stage – issue which is appropriately addressed in the draft text. In addition, all roles and

				overall status of the situation on-site has proofed to be important for the regulatory body. This information source should be established in addition to the already existing information channels.				responsibilities at national level should be assigned early at preparedness stage and appropriate positions designated to fulfil these roles and responsibilities. This includes the roles of the regulatory body; however, any role of the regulatory body should be undertaken in a way that does not jeopardize the effectiveness of the emergency response and should consider the responsibility of the operator on-site.
Slovenia	198.	p.9	Paras: 4.17, 4.13, 4.14 deal with the requirements which are to be met before a license is issued. This could be more clearly stated that within the licensing process (para 4.10 mentions regulatory process) all the requirements of paras: 4.17, 4.13, 4.14 shall be met.			✓		Commencement of operation could not be done unless license is obtained. In addition, considering para. 4.11, it is clear that this is done through licensing process but also includes other regulatory activities (e.g. inspection).
Sweden	199.	4.10 Page 9, Lines 14-15	Change the sentence to: <i>The regulatory body shall ensure that the regulatory process addresses arrangements to respond to a nuclear or radiological emergency. The responsibilities and tasks of response organizations shall be clearly specified.</i>	Suggestion to improve the text (if this is what is meant?). Otherwise redraft it as appropriate to make it clear.		✓ 4.11. The government shall ensure that arrangements for preparedness to respond to a nuclear or radiological emergency for facilities and activities under the responsibility of the operating organization are dealt through the regulatory process.		
ILO	200.	9 – 17	Change ‘is required to’ to ‘shall’.				✓	The requirement is quoted from Ref. [5] and therefore ‘is required’ is used.
Thailnad	201.	9 - 17	DS457 should generally specify in terms of ‘many levels of legal binding documentation including National Legal and Radiological Emergency Plan’ instead of regulation	In given Member State, the regulation will use the long process to establish		✓		The authorities could be assigned in acts, legal codes and statutes. Then, all roles/functions will be documented in plans and procedures (please note paras 6.2-6.3, 6.16 of the draft text).

								Development of comprehensive arrangements and plans will also be a long process. Establishing interim capability meanwhile may be a solution. This is well explained in EPR related guidance EPR-Method published 2003.
Canada	202.	4.11/ ...	Clarification required. Consider adding the text in bold: ... The principles and associated criteria shall include those for preparedness and response of the operating organization for a nuclear or radiological emergency.	Clarification required. While the preparedness and response arrangements of operating organization is dealt with through the regulatory process, the arrangements of other response organizations is outside of this process.	✓			
Canada	203.	4.11/...	Consider adding the text provided in bold below: These principles, requirements and associated criteria shall include those for preparedness, response and if applicable return the affected area back to normalcy as part of the recovery effort for a nuclear or radiological emergency	Is recovery phase in or out of scope for this document? If it is in scope the following comment applies. Important to address recovery as affected residents will surely want to know the government's strategy for them to return to their habitats.			✓	Please see the comment number 202 and its resolution. The aspects mentioned here will not necessarily be under the responsibility of the regulatory body.
NEA	204.	4.11, 4.12		Change to be less redundant with 4.11 and 4.10, and to not specify "how"	✓			
Libya	205.	4.12/23	Necessitates emergency <u>action and for off-site area</u> , and shall carry...	RB has the responsibility over all sites			✓	The regulatory body will not necessarily have the authority for off-site arrangements; but it must be given the authority for on-site arrangements.
Turkey	206.	Chapter 4 Para. 4.12 Page 9	The phrase "from the time that the source is brought to the site" should be changed as "by the time".	The related provision is given in subsection 3.14.3 of the IAEA's document, "Milestones in	✓			

		Lines 25, 26		the Development of a National Infrastructure for Nuclear Power".				
India	207.	9/4.12/25	The regulatory body shall require that arrangements for preparedness and response for a nuclear or radiological emergency be in place for the on-site area for any regulated facility or activity that could necessitate emergency action and shall carry out inspections to verify a compliance with the required arrangements. For a facility in category I, II or IH and for an activity in category IV (see para. 4.17), appropriate emergency arrangements shall be established before the source is brought to the site, and complete emergency arrangements shall be ensured before the commencement of operation of the facility or commencement of the activity.	The sentence may be modified by replacing the term 'from the time that' with 'appropriate emergency arrangements shall be established well before the source is brought to the site, and complete emergency arrangements shall be ensured before the commencement of operation of the facility or commencement of the activity '.		✓ 4.13. The regulatory body shall require that arrangements for preparedness and response for a nuclear or radiological emergency are in place for the on-site area for any regulated facility or activity that could necessitate emergency response action. Appropriate emergency arrangements shall be established by the time the source is brought to the site, and complete emergency arrangements shall be ensured before the commencement of operation of the facility or commencement of the activity. The regulatory body shall verify the compliance with the required arrangements.		For consistency and with consideration of other comments as well.
Czech	208.	4.12/24,25,26	<i>I am not capable to propose new text</i>	For a facility in category I, II or III and for an activity in category IV (see para. 24 4.17), appropriate emergency arrangements shall be established from the time that the source is brought to the site..... The bold text is not right – some of the activities in cat IV do not mean that		✓ 4.13. The regulatory body shall require that arrangements for preparedness and response for a nuclear or radiological emergency are in place for the on-site area for any regulated facility or activity that could necessitate emergency response action.		For consistency and with consideration of other comments as well.

				that it is known when the source is brought to the site. This sentence has to be reformulated to exclude the activities which are defined in cat IV under the first letter b)		Appropriate emergency arrangements shall be established by the time the source is brought to the site, and complete emergency arrangements shall be ensured before the commencement of operation of the facility or commencement of the activity. The regulatory body shall verify the compliance with the required arrangements.		
Sweden	209.	4.12 Page 9 Line 21-24	Change sentence to: <i>The regulatory body shall verify compliance with required on-site arrangements at licensed facilities. For a facility in category...</i>	Clearer without losing anything which is not already said.		✓ 4.13. The regulatory body shall require that arrangements for preparedness and response for a nuclear or radiological emergency are in place for the on-site area for any regulated facility or activity that could necessitate emergency response action. Appropriate emergency arrangements shall be established by the time the source is brought to the site, and complete emergency arrangements shall be ensured before the commencement of operation of the facility or commencement of the activity. The regulatory body shall verify the compliance with the required arrangements.		For consistency and with consideration of other comments as well.

France	210.	4.13	<p>4.13. Before granting an <u>authorization</u>, The regulatory body shall ensure and shall be provided by be satisfied that the operating organization with sufficient assurance, for all facilities and activities under regulatory control, <u>that has established the on-site emergency arrangements which:</u></p>	<p>When authorization is performed through registration, the registration file may be quite limited but regulations has usually established requirements to be met by the registrant....</p> <p>This paragraph may also be restricted to authorization through licensing as (b) and (d) may not be relevant to all king of facilities and activities (e.g. dentists...).</p>		✓	<p>4.13. The regulatory body shall require that arrangements for preparedness and response for a nuclear or radiological emergency are in place for the on-site area for any regulated facility or activity that could necessitate emergency response action. Appropriate emergency arrangements shall be established by the time the source is brought to the site, and complete emergency arrangements shall be ensured before the commencement of operation of the facility or commencement of the activity. The regulatory body shall verify the compliance with the required arrangements.</p>		For consistency and with consideration of other comments as well.
NEA	211.	4.13	<p>The regulatory body shall ensure <u>that</u> for all facilities and activities under regulatory control, the <u>on-site</u> emergency arrangements...</p>	<p>These are all quite redundant, and should be combined to include:</p> <ul style="list-style-type: none"> - Ensure the establishment of arrangements by the operating organisation - establish principles, requirements and criteria on which judgements are made - Verify compliance for different facilities <p>Change suggested because the operating organisation roles and</p>	✓				

			(d) delete	responsibilities are not defined in this section. IAEA should consider whether more text on the operating organisation responsibilities are needed The operating organisation is responsible for on-site, not off-site Should be put into a guide				
France	212.	4.13	Word ‘integrated’ too strong, consider changing to ‘interfaced’ for example				✓	They should be integrated to ensure that they will not jeopardize each other.
Canada	213.	4.13 (d)/4	Suggest the following addition provided in bold text: “...commencement of an activity and thereafter, at suitable intervals as determined by the member state. ” Suggest more specific guidance be provided related to the use of the term “suitable interval”?	Further guidance or clarification with respect to the term “suitable interval” would be of value.		✓		Considering other comments, (d) was removed as covered under (c) and infrastructural requirements on exercises.
Sweden	214.	4.13 Page 10, Lines 3-4	To some extent this is a pre-requisite for the other parts of 4.13. Consider that 4.13 (d) is moved to a guide	The formulations of the requirements vary in detail – perhaps some is of a more advisory nature? How can the RB ensure that arrangements provide a reasonable assurance of an effective response if they are not regularly tested?	✓			

Indonesia	215.	4.13/4	(d), pre-specified interval (i.e. every two years)	It is better to specify the "Suitable interval".		✓		Considering other comments, (d) was removed as covered under (c) and infrastructural requirements on exercises.
UK	216.	Page 9 line 29	...regulatory control, that the <u>on-site</u> emergency arrangements....	The operating organisation is responsible for the on-site plan but it may well be other organisations who are responsible for drawing up an off-site plan	✓			
France	217.	4.14	4.14. The regulatory body shall ensure that the operating organization is given sufficient authority <u>has effective arrangements</u> to promptly take protective actions and other response actions on the site in response to a nuclear or radiological emergency.	The authority is one aspect but the goal is implementation.			✓	In order to perform this function (as recognized under functional requirement on taking mitigatory actions), the operator must have the authority to prepare and respond appropriately.
NEA	218.	4.14	The regulatory body shall ensure <u>that appropriate responsibilities and authorities are assigned to ensure prompt protective and other response actions</u> in	To make this more generic and applicable to the situation in many countries		✓ 4.15. The regulatory body shall ensure that the operating organization is given sufficient authority to promptly take necessary protective actions on-site in response to a nuclear or radiological emergency that may result in off-site consequences.		For clarity.
UK	219.	Page 10 New paragraph proposed	<u>In planning for, and in the event of [a nuclear or radiological emergency], the regulatory body shall act as an adviser to the government and [response organizations] in respect of nuclear safety and radiation protection.</u>	The proposed text is Para 3.10 of the current GS-R-2 which seems to have been lost in DS457			✓	It is up to the State to allocate and designate the role of regulatory body in an emergency.

NEA	220.	General, Hazard Assessment	<p>Countries may need to assess their own hazards from accidents in other countries. The assessment of such hazard caused by facilities outside of the country may involve some information that is unavailable outside the accident country, because of sensitivity for example. Addressing such situations should be included in the text.</p> <p>The use of emergency preparedness categories in focusing many requirements in Section 4 is a level of detail that should be reconsidered, since the hazard assessment is developed commensurate to the hazards being assessed. The specification of requirements for particular categories of emergency is in these cases somewhat confusing, and seems, in some cases, not to add value.</p> <p>In addition to the above suggestion that emergency preparedness categories do not add value to the requirements, no requirements are provided for Category IV. If Table 1 is kept then this should be addressed.</p>			✓		<p>This is addressed in Requirement 4 – please note para 4.23 refers to taking into account the uncertainty and limitations of the information available.</p> <p>Para. 4.19 explains explicitly the purpose of emergency preparedness category and justifies their value. Each of the requirements that are specific to particular category is associated with the category(ies) for which it applies. If they apply for all categories, then no category is specified. The annex to the draft text provides clear overview on the applicability of requirements for each emergency preparedness category.</p>
NEA	221.	Req. 3	The government shall ensure that a hazard assessment is performed to provide a basis for a graded approach to <u>establish an emergency management system</u> for a nuclear or radiological emergency.	Change to ensure that this requirement would cover all types of emergencies, at nuclear installations or for malicious events			✓	To overall EPR including the emergency management system.
UK	222.	Page 10 line 9	“...shall ensure that a hazard <u>or risk</u> assessment is performed to provide the basis for a graded response....”	Requirement 3 mentions the need for a “graded approach” and that a hazard assessment is required. However both hazard and risk should be			✓	Please note the clear definition of hazard assessment and its goals as used in the draft text. Extensive guidance already exists on hazard assessment to include Safety Guide GS-G-2.1 and EPR Method 2003.

				taken into account so the assessment should cover both the likelihood (i.e. probability) of an accident as well as its consequences [see the definition of “graded response” at page 70 line 6 of the draft]. In the UK a “hazard assessment” is different from a “risk assessment”.				
UK	223.	Page 10 line 11	“Identified hazards, <u>their likelihood and potential consequences of accidents or emergencies</u> shall provide the basis....”	To ensure the requirement for the “graded response” takes into account both the potential consequences <u>and</u> the likelihood of them occurring at a particular facility.			✓	Please see the response under comment number 222.
Canada	224.	4.15	Consider the addition of the following words provided in bold: Identified hazards, potential consequences and likelihood of occurrence of an emergency ...	General comment: What about the probability of occurrence? Should it not be considered in the hazards assessment?			✓	Please note the clear definition of hazard assessment and its goals as used in the draft text. Extensive guidance already exists on hazard assessment to include Safety Guide GS-G-2.1 and EPR Method 2003. E.g. hazard assessment requires consideration of relevant events that happened in similar facilities in the past irrespective of their likelihood.
UK	225.	Page 10 line 14	“Based on the identified hazards, <u>their likelihood</u> and potential consequences of an emergency.....	Ditto			✓	Please note the clear definition of hazard assessment and its goals as used in the draft text. Extensive guidance already exists on hazard assessment to include Safety Guide GS-G-2.1 and EPR Method 2003. E.g. hazard assessment requires consideration of relevant events that happened in similar facilities in the past irrespective of their likelihood.

ENISS	226.	Article 4.15	Identified hazards and potential consequences of an emergency shall provide a basis for establishing arrangements for preparedness and response for a nuclear or radiological emergency. These arrangements shall be commensurate in adequation with these hazards and consequences.	The word “commensurate” may be interpreted as a pure addition of means, which is not consistent with a vital action with few means at the right time and at the right place. See formulation of 5.30.			✓	For consistency in the language used throughout the safety standards.
France	227.	4.15	Identified hazards and potential consequences of an emergency shall provide a basis for establishing arrangements for preparedness and response for a nuclear or radiological emergency. These arrangements shall be commensurate in adequation with these hazards and consequences.	The word “commensurate” may be interpreted as a pure addition of means, which is not consistent with a vital action with few means at the right time and at the right place. See formulation of 5.30.			✓	For consistency in the language used throughout the safety standards.
NEA	228.	4.15	arrangements for <u>an emergency management system</u>	To match changes in requirement 3			✓	To overall EPR including the emergency management system.
Argentina	229.	Para. 4.16	4.16. Based on the identified hazards and potential consequences of a nuclear or radiological emergency, protection strategies shall be developed, justified and optimized, following steps elaborated in Ref. [3], for taking effective protective actions and other response actions to avoid or to minimize severe deterministic effects and to reduce the risk of stochastic effects and other risks , in accordance with the generic criteria in Appendix II.	To take into account the risk of non-radiological consequences.		✓		Revised in meeting the goals of emergency response and elaborated in details in separate overarching requirement 5 on the protection strategy.
France	230.	4.16	4.16. Based on the identified hazards and potential consequences of a nuclear or radiological emergency, protection strategies shall be developed, justified and	Ref [3] is a guide and should not be referred to in a requirement document. A footnote may however	✓			

			optimized, following steps elaborated in Ref. [3]; for taking effective protective actions and other response actions to avoid or to minimize severe deterministic effects and to reduce the risk of stochastic effects, in accordance with the generic criteria in Appendix II.	be used...				
NEA	231.	4.16	following <u>practical steps, such as those elaborated</u> in Ref. [3], for taking effective protective actions and other response actions, in accordance with the <u>the objectives established by the protection strategy and described in section 3.</u>	Ref 3 is a guide. ICRP -103 and 109 should be indicated as reference. All relevant ICRP recommendations need to be mentioned. No ICRP recom in the reference list. As written this would artificially make a Safety Guide into a Safety Requirement. The protection strategy is the guiding element, not Appendix II. See also comments for appendix II in page 51		✓		Protection strategy is elaborated in details under new overarching Requirement 5 and reference to safety guides removed.
India	232.	10/4.16/17	Based on the identified hazards and potential consequences of a nuclear or radiological emergency, protection strategies shall be developed, justified and optimized, following steps elaborated in Ref. [3], for taking effective protective actions and other response actions to avoid or to minimize severe deterministic effects to the extent possible and to reduce the risk of stochastic effects, in accordance with the generic criteria in Appendix II.	To minimise severe deterministic effects' may be modified as 'To minimise deterministic effects to the extent possible		✓		Revised in meeting the goals of emergency response and elaborated in details in separate overarching requirement 5 on the protection strategy.
Sweden	233.	4.16 Page 10, Lines 14-18	Rewrite the paragraph to reflect the ICRP recommendations on emergency planning and add ICRP 103, ICRP 109 and ICRP 111 as	The paragraph does not reflect the ICRP-recommendation to develop a protection		✓		Protection strategy is elaborated in details under new overarching Requirements 5 explaining how different criteria and reference

			references. (Take away the reference <i>to avoid or minimize severe deterministic effects</i> – Use <i>prevent tissue reactions (deterministic effects)</i> etc...)	strategy using optimization and reference levels based on annual residual dose taking all exposure pathways into account. The generic criteria in Appendix II cannot be used for this purpose.				levels fit within the strategy. Please also see the response under comment number 111 above.
France	234.	4.16	Consider making reference to existing international text on protection strategies such as ICRP	The ref [3] is just a guide		✓		Protection strategy is elaborated in details under new overarching Requirement 5 and reference to safety guides removed.
Sweden	235.	4.16 Page 10 Lines 14-15	Reformulate: “Based on the identified hazards and potential consequences of a nuclear or radiological emergency, protection strategies shall be developed, justified and optimized for taking effective response actions.”	This would be in line with the ICRP, be a self-standing requirement and avoid referring to advice on implementation before the requirements is established.		✓ 4.27. The government shall ensure that, based on the identified hazards and potential consequences of a nuclear or radiological emergency, protection strategies are developed, justified and optimized at the preparedness stage for taking effective protective actions and other response actions in a nuclear or radiological emergency in order to meet the goals of emergency response.		Addressed under new overarching Requirement 5.
UK	236.	Page 10 line 21	“The five emergency preparedness categories (hereinafter referred to as “categories”) in Table 1 <u>exemplify how a graded approach may be applied</u> to the application of these safety requirements and for developing generically justified and optimized arrangements for preparedness.....”	It needs to be made clear that, while the IAEA’s 5 categories are good practice, they do NOT have to be applied by Member States if they have an acceptable alternative way of developing a graded approach which is generically applicable in their country. Member		✓		Please note the wording for the purposes of these requirements at the very beginning. State may use other categorization, considering that all hazards are covered and requirements specific to them applied.

				States must be free to choose their own system for categorising threats.				
UK	237.	Page 10 Line 20	For the purposes of these requirements, <u>hazard situations</u> are grouped....	Para 4.17 states that Table I presents groups of “assessed hazards”. However Category V in this Table is not “an assessed hazard” is instead a geographical area. This does not make sense.			✓	Please note para. 4.23 and the definition on hazard assessment for clarifying the outcomes of the assessment.
USA	238.	Pg 10, sect 4.17, line 21	Change to read “(hereinafter referred to as ‘categories’) in Table I establish the basis for a graded approach to be applied...”	Editorial. Missing article.	✓			
India	239.	Table-I Heading	EMERGENCY PREPARFDNESS CATEGORIES	The text "For the purpose of these requirements" in the title of the Table is not required.	✓			
Turkey	240.	Chapter 4 Para. 4.17 Page 10 Lines 22	"and" should be removed.				✓	Please note that a State may not apply directly the requirements but may use the categorizations for implementing generically justified and optimized EPR arrangements – therefore ‘and’ is kept.
UK	241.	Page 11 Table 1	Add a footnote to table along the lines: <u>where there is a significant change in the magnitude of inventory of radioactive material or its dispersibility, the threat category may need to be changed</u>	the Threat categories, as currently defined, do not account for facilities changing category e.g. nuclear power plants which have been defueled and are undergoing decommissioning, or waste store where the radioactivity is in a passively safe form		✓		Covered under paras 4.25 and 4.26.
NEA	242.	Page 11, Table 1		These historic categories seem to cover facilities, activities and acts, and areas. But areas are also				There is a difference whether the facility is on the territory of the State or not. Although not necessarily located on its territory, a

				related to facilities, that is, the area around the facilities. The logic of this categorisation is not fully clear.				State may need to implement comprehensive off-site planning in line with the requirements for facility in category I or II located beyond its border.
Sweden	243.	Table 1 Page 11	Category 1 IAEA has lately decided to substitute <i>beyond design basis</i> with the concept: <i>design extension conditions</i> (DEC). Consider using this new terminology.	Consistency between IAEA:s documents		✓		Wording is consistent with DS462 (on-going revision of SSR-2/1).
Czech	244.	4.17 – Table I Cat IV	These activities and acts include: (a) transport of nuclear or radioactive material and other authorized activities involving mobile dangerous sources such as industrial radiography sources, nuclear powered satellites or radioisotope thermoelectric generators or fixed sealed sources; and (b) theft of a dangerous source and use of a radiological dispersal device or radiological exposure device. This category also includes: (i) detection of elevated radiation levels of unknown origin or commodities with contamination; (ii) identification of medical symptoms due to radiation overexposure; and (iii) transnational emergency	To use twice letters a) and b) is confusing	✓			
Cuba	245.	Page 11 Category IV	...nuclear powered satellites or radioisotope thermoelectric generators; and (b) theft of a dangerous source...	The inclusion of the term fixed sealed source in this paragraph could be confusing. A fixed sealed source under the regulatory control is not an unforeseeable location.	✓			
Slovenia	246.	p.11	A strange definition of emergency preparedness category V. With the introduction of distances in this definition the concept of category			✓		Considered. Emergency planning zones and distances are determined at the preparedness stage. Depending on the distance from the

			<p>gets unclear. As said above, emergency planning zones are rather fixed once decided upon them and there is no reason, why should say to zones in the country A (with a facility on its territory) emergency preparedness category I or II and in the neighbouring country a part of the same zone would be emergency preparedness category V!!! If we talk about distances then we can encompass many countries and these distances are not so well fixed. Moreover in emergency preparedness category V we have mixed severe deterministic effects, urgent protective actions, early protective actions.... and all this just because the facility is not on the affected country's territory, but it is a few km from the border. Thus emergency preparedness category V may encompass I, II and in old terms also V!!!</p> <p>Rethink, if this definition does not bring more confusion than making the concept clear.</p>					<p>facility, a State may be required to ensure comprehensive arrangements to cover both urgent and early protective actions and other response actions. Beyond ICPD, category IV applies and respective arrangements need to be put in place.</p>
Spain	247.	Point 4.- General requirements.		Point 4.17. In our opinion the dedicated radioactive waste management facilities (including those for spent fuel) should be explicitly included and mentioned in Table 1.		✓		<p>They are covered too but depending on the inventory they may fall under different categories. Extensive guidance already exists to be used along with Table I. Please see Safety Guide GS-G-2.1 and EPR-Method 2003.</p>
USA	248.	4.6; Table 1; 4.15-4.23	The scope of scenarios needs to be bounded more clearly.	This document addresses a very broad scope of radiological release scenarios. Section 4.6 states that the preparedness and response legislation-		✓		<p>Extensive guidance already exists that can be used along with Table I. Please see Safety Guide GS-G-2.1 and EPR-Method 2003. However, while first three categories are associated with facilities and expected hazards on-site and off-</p>

				<p>regulations shall be for a, “nuclear or radiological emergency at any level,” but it is not clear how the scenarios in Table 1 and the results of the ‘hazard assessment’ (Requirement 3) are fully integrated to cover preparedness and response for emergencies at any level. This should be clarified.</p>				<p>site, category four covers hazards that can occur at any location that not necessarily will be known in advance. Category five is optional and associated with presence of facility in category I and II in another State for which off-site consequences may affect other States – the areas in this category can be identified at preparedness stage and comprehensive EPR put in place.</p>
UK	249.	Page 12 line 1	<p>“The government shall ensure that for all facilities and activities a comprehensive hazard <u>or risk</u> assessment is performed. The hazard <u>or risk</u> assessment shall consider:...”</p>	<p>For the reasons explained above, it should also be made clear that a <u>risk</u> assessment (i.e. assessment of likelihood and potential consequences) is an acceptable alternative to a hazard assessment.</p>			✓	<p>Please note the response to comment number 222 above.</p>
USA	250.	Pg 12, sect 4.18, lines 3-4	<p>(a) events that could occur at the facility or activity, including those not considered in the design basis, but are capable of occurring at the site.</p>	<p>As written, beyond design-basis events would extend to extremely low and perhaps incredible likelihoods. Many IAEA safety guides use “capable” for low likelihood events that are credible, without quantifying likelihood of occurrence.</p>		✓ (a) events affecting the facility or activity, including those of very low probability or otherwise not considered in the design		<p>For consistency and considering other comments as well.</p>
France	251.	4.18a	<p>(a) events that could occur at the facility or activity, including those <u>of very low likelihood</u> not considered in the design basis;</p>	<p>According to IAEA safety glossary, the “design basis” is related to a facility, not an activity.</p>		✓ (a) events affecting the facility or activity, including those of very low probability or otherwise not considered in the design		<p>For consistency and considering other comments as well.</p>

France	252.	4.18c	(c) events affecting several <u>nearby</u> facilities and activities simultaneously and their interactions;	Clarification		✓ events affecting several facilities and activities simultaneously and the interactions among affected facilities and activities		For clarity.
Sweden	253.	4.18 Page 12 Line 10	Change to: <i>Events at nuclear facilities in other States and indigenous events affecting activities in other States?</i>	Not totally clear what 4.18 (d) refers to?			✓	(d) asks for looking in the events that occurred in past at similar facilities or activities. Please see also the response under comment number 254 below.
France	254.	4.18d	(d) events at nuclear facilities or events affecting activities in other States <u>which may have consequences on its territories or jurisdictions</u> ;	Clarification			✓	(d) asks for looking in the events that occurred in past at similar facilities or activities; not necessarily they will have consequences on any territory but theirs but could be useful lesson in EPR for hazards for which one should be prepared to respond.
Canada	255.	4.18	Recommend adding a requirement that the comprehensive hazard assessment be available to all response organisations	Highly desirable recommendation. The hazard assessment is necessary to inform the planning basis of response organisations, as the level of preparedness should be commensurate with the hazard.		✓		Please note that coordination will be done through the coordination mechanisms (para. 4.10) through which all will get the information needed.
WMO	256.	(4.18/6-7)	"...tropical cyclone, severe weather, a tsunami, ..."		✓			
NEA	257.	4.18	events that could occur at the facility or activity, including those <u>of low probability or otherwise</u> not considered in the design basis; <u>a violent storm,</u> a tsunami, an aircraft crash or any civil disturbances that affects events at nuclear facilities or events	To be more clear Thinking of weather events in North America or Europe The intent of these two items and their relationship are not clear		✓ (a) events affecting the facility or activity, including those of very low probability or otherwise not considered in the design		For consistency and considering other comments as well. Please note WMO comment number 256 above.

			affecting activities in other States;					
Canada	258.	4.19/12	Consider the addition of the following words provided in bold: “The government shall ensure that a review is periodically performed at a frequency established by the member state in order to ensure that all...”	Further guidance or clarification would be of value with respect to the frequency of review. Presently the term is too ambiguous.		✓		Kept periodically – the frequency will also depend on requirements 4.25 (aims (a) and (b)) and 4.26).
France	259.	4.19	The results of this review shall be used to revise the emergency arrangements <u>as necessary</u> .	Clarification as revision may not be needed...	✓			
NEA	260.	4.19	The government shall ensure that a <u>periodic</u> review <u>of assessments</u> to ensure that all facilities and activities that could experience events that would necessitate protective actions and other response actions are identified <u>and updated</u> . This review shall be undertaken to take into account any changes to hazard <u>assessments</u> within the State and beyond its borders including any change in assessments of threats, the experience and lessons learned from research, operation and emergency exercises, and technological developments (see paras Error! Reference source not found., Error! Reference source not found., and Error! Reference source not found.).The results of this review shall be used to <u>determine the need to</u> revise the emergency arrangements.	For clarification, because assessments are made of hazards and threats This seems to refer to the overall, country-wide hazard assessment, it should be the last paragraph in this section		✓		Covered below with changes associated with assessment of threats. Paragraphs are reorganized in logical order.
Sweden	261.	4.20 Page 12 Line 19-21	Change to: <i>The Government shall ensure that operating organizations appropriately revise the emergency arrangements</i>	Requirements in a Safety Requirement cannot be addressed to “ <i>the operating organizations</i> ”.	✓			

			<i>(a) prior to any change in the facility or activity that may impact the existing hazard assessment, and (b) when new information challenging the existing arrangements become available</i>	Text in a requirement document should not be intercepted by examples.				
Slovenia	262.	p.12, 4.20	The revision of emergency arrangements shall be made prior changes that may impact existing hazard assessment...Add here, that these changes, that may impact existing hazard assessment, should be also reflected in the hazard assessment itself.			✓ Covered by para. 4.25 of the draft text.		
France	263.	4.20	4.20. Operating organizations shall appropriately revise the emergency arrangements (a) prior to any change in the facility or activity that may impact the existing hazard assessment	"may" would be ok if the requirement was to <i>review</i> the arrangements but the requirement is on <i>revision</i> .	✓			
WMO	264.	(4.20/21)	"...projected flooding, storms or other meteorological hazard)..."		✓			
NEA	265.	4.20	Operating organizations shall appropriately revise the emergency arrangements(a) prior to any change in the facility or activity that may impact the existing hazard assessment (e.g. movement of irradiated reactor fuel to a new location, projected flooding or storms) and (b) when new information challenging the existing arrangements become available.	This seems to be redundant with previous statements, for example 4.19. Consider deleting or modifying		✓ 4.25. The government shall ensure that a review of the hazard assessment is periodically performed with the aim: (a) to ensure that all facilities and activities, on-site areas, off-site areas and locations where events could occur that would necessitate protective actions and other response actions are identified, and (b) to take into account any changes to the hazards within the State and beyond its borders, any change in		For consistency and considering other comments as well.

						assessments of threats for nuclear security purposes, the experience and lessons learned from research, operation and emergency exercises, and technological developments (see paras 6.30, 6.34 and 6.36). The results of this review shall be used to revise the emergency arrangements as necessary. 4.26. The government shall ensure that operating organizations appropriately review and as necessary revise the emergency arrangements (a) prior to any change in the facility or activity that impacts the existing hazard assessment and (b) when new information that provides insight on the adequacy of the existing arrangements becomes available		
ILO	266.	12 – 22	Change ‘become’ to ‘becomes’		✓			
Sweden	267.	4.21 Page 12 Lines 23-35	The frequently occurring text... <i>in accordance with Appendix II</i> ...should be removed. Write <i>according to the selected protection strategy</i> or make a general reference.	It is not proper to end each requirement sentence like this. The requirement should not be dependent on the Appendix in order to be understood?		✓		Paragraph kept but the issue raised is elaborated under the new overarching Requirement 3 on protection strategy. In addition, in Appendix II it is stated ‘These generic criteria and associated protective actions and other response actions shall be used in development of the protection strategy in line with Req. 5’.

France	268.	4.21	Consider rewriting the para to be consistent with international text such as ICRP and emphasize the protection strategy			✓		Paragraph kept but the issue raised is elaborated under the new overarching Requirement 3 on protection strategy. In addition, in Appendix II it is stated ‘These generic criteria and associated protective actions and other response actions shall be used in development of the protection strategy in line with Req. 5’.
NEA	269.	4.21	<p>The hazard assessment <u>will identify the areas where:</u> (see Ref. [3] <u>for example information</u>)</p> <p>levels <u>defined in the protection strategy;</u></p> <p>and other response actions <u>to avoid occurrence of deterministic effects or should they occur, to minimize the severity of consequences and the number of individuals affected.,</u></p> <p><u>the protection strategy</u> Early protective actions and other response actions, in accordance with <u>the protection strategy;</u> Other response actions such as longer term medical actions in accordance <u>the protection strategy;</u> or (Appendix I <u>provides further suggestions</u>).</p>	<p>For clarity The protection strategy is the KEY element of emergency preparedness and response actions by government, regulators and operators. This should be MUCH MORE CENTRALLY presented here in this section on General Requirements This reference is a Safety Guide, and can not be suggested in a requirements document as more than a guide The protection strategy will define actions and criteria To be consistent with ICRP Needs to be discussed. How to mention in the framework of overall protection strategy? See note 15. To focus on the correct objective of “what”, not “how” The appendixes are assumed to be guidance</p>		✓		Not only areas. Paragraph kept but reference to the guide removed. In addition, the issue raised is elaborated under the new overarching Requirement 3 on protection strategy.
Slovenia	270.	p.12, 4.21	This part of hazard assessment can also be reproduced in the emergency plan, but also some			✓		Correct but too detailed for requirement level document. The existing guidance points out this.

			other elements of hazard assessment are not listed. E.g. nature of hazard, assumed scenarios and their probabilities of occurrence including a short description of a course of events leading to an accident, assessment of damage and people affected.					However, please note para. 6.18 (d) that clearly explains the link between hazard assessment and plans and procedures.
Germany	271.	4.21 (a), Line 25	“Precautionary urgent protective actions t aken on the basis of conditions at the facility or on the site ...”	Editorial (redundant bracket).	✓			
UK	272.	Page 12 line 23	“In the hazard <u>or risk</u> assessment.....”	See above. The extent of the area within which these potential types of actions could be required MUST take some account of the likelihood of particular scales of release actually occurring.			✓	Please note the response under comment number 222 above.
Sweden	273.	4.21 Page 12 Line 25-26	Remove the parenthesis: <i>(Taken on the basis of conditions at the facility or on the site before environmental monitoring is conducted (see Ref. [3]))</i>	There is something wrong with the number of parenthesis in 4.21 (a). One should not give reference to a guide in a requirements One should not advice in a requirement.	✓			
Germany	274.	4.21 (d)	“Other response actions such as longer term medical actions in accordance <u>with</u> Appendix II; ...”	Missing word.	✓			
ILO	275.	12 – 26	Add closing bracket ‘)’ after ‘[13]’.		✓			
UK	276.	Page 13 line 1	“The hazard <u>or risk</u> assessment.....”	Ditto			✓	Please note the response under comment number 222 above.
Sweden	277.	4.22	Delete the parenthesis and the text within or give the examples in a proper sentence: <i>Examples of such facilities are.</i>	These are examples which are more for a safety guide. Not proper for the requirement text.	✓			Examples are removed in a footnote.

NEA	278.	4.22	The hazard assessment shall also <u>include</u> facilities and locations at which there <u>has been identified</u> a significant likelihood of encountering a dangerous source that is not under control (e.g. scrap metal processing facilities, national border crossing points, seaports, airports and abandoned military or other facilities where dangerous sources may have been used in the past etc.).	Such facilities and locations may not be licensed facilities. As such, who would be responsible for the hazard assessment?		✓ 4.21. The government shall ensure that the hazard assessment identifies also facilities and locations at which there is a significant likelihood of encountering a dangerous source that is not under control.		
Sweden	279.	4.23	Rephrase to: <i>“The hazard assessment shall also identify non-radiation related hazards associated with the facility or activity that could lead to an emergency or impair the effectiveness of any response actions.”</i>	In order to avoid parenthesis etc. and in keeping the requirements short and concise, avoid giving too many examples.	✓			
France	280.	4.23	Consider rewriting the para to incorporate external hazards assessments	The operating organization shall revise its emergency arrangements not only if there is a modification on its installation but also in the external threat has changed.		✓ 4.24. The government shall ensure that the hazard assessment identifies also the non-radiation related hazards to people on-site and off-site that are associated with the facility or activity and that may impair the effectiveness of response actions to be taken.		For clarity and considering other comments as well. Examples moved in a footnote.
NEA	281.	4.23	<u>The hazards assessment shall identify those aspects (such as the release of toxic chemicals, e.g. uranium hexafluoride (UF₆), fires, explosions, etc.) that may contribute to the nuclear or radiological emergency, or</u> impair the effectiveness of the actions taken in response.	To simplify for clarity		✓ 4.24. The government shall ensure that the hazard assessment identifies also the non-radiation related hazards to people on-site and off-site that are associated with the facility or activity and that may impair the effectiveness		For clarity and considering other comments as well. Examples moved in a footnote.

						of response actions to be taken.		
UK	282.	Page 13 line 9	“....shall be identified in the hazard or risk assessment.”	Ditto			✓	Please note the response under comment number 222.
Cuba	283.	Page 13 (Proposal of a new requirement)	<p>Requirement 4: Alerting systems. The government shall ensure that alerting systems are implemented commensurate with the results of the assessment of hazards. Identified hazards/threats and potential consequences of an emergency shall provide a basis for determining the alerting systems or mechanisms that are necessary to the early detection or discovery of an emergency situation. Examples of alerting systems/mechanisms are:</p> <ul style="list-style-type: none"> (a) environmental monitoring networks (b) national programs to locate orphan sources (c) arrangements to detect medical symptoms of deterministic effects in patients (d) radiation monitoring in facilities for processing scrap metal and at borders (f) arrangements for first responders to detect observables indicators of a potential radiological emergency <p>For facilities in categories I, II and III the operating organization shall implement provisions for the early detection of an abnormal event that can be turned into an emergency.</p>	After the assessment of hazards an important concern is how to discover an emergency situation. The document should address this issue		✓		Covered with functional requirements – please note paras 5.13, 5.14, 5.16, 5.31-5.33, 5.45 etc. of the draft text.
USA	284.	Section 5, all	Due to the structure of Section 5 into ‘Response’ and ‘Preparedness’, there is significant redundancy and repetitiveness in the text. It is proposed that the structure of this section be reconsidered – it seems	The redundancy in the text makes the document difficult to read and use.		✓		Functional requirements are revised and division response/preparedness removed to avoid repetitions.

			more logical that 'Preparedness' should come before 'Response' and only non-redundant information should be included in the 'Response' section.					
NEA	285.	General, Section 5	<p>In section 5, the text is at varying levels of detail. It is recommended that the requirements should remain at a high level, rather than specifying 'how' a requirement should be fulfilled, for example:</p> <ul style="list-style-type: none"> ○ This document includes situations where there is no 'operating organization'. Under these situations it needs to be stated that the situation will be under the responsibility of the government. ○ The classification of a situation depends partially on whether there is a need to take off-site actions. The operating organization will not be responsible for designating off-site actions, and this should be made clear. <p>Requirement 14 is problematic, and needs further clarification as to what types of actions would be implemented to address non-radiological consequences.</p> <p>The phrase "emergency planning zones and distances" is used throughout the document. The use of "distances" was seen to be somewhat confusing, and it was suggested to consider alternatives for clarity, such as "emergency planning zones and areas".</p> <p>The references in the text to specific paragraphs should be reviewed for correctness and relevance.</p> <p>We assume that appendixes are guidance, not part of the</p>			✓		<p>Section 5 was revised considering these recommendations and guidance level statements removed. In addition, division response/preparedness under each functional requirements is reconsidered to avoid repetitions and to simplify the draft text. Please note paras 5.87 -5.89 which clearly state arrangements needed to be put in place to mitigate non-radiological consequences. Term emergency planning zones and distances kept – clarification added under their definitions. Cross references are reviewed – subject to throughout editorial review too.</p>

			requirement. The nature of the appendixes and annexes should be clearly stated. It should be noted that in the new BSS, the “Schedules” are part of the requirements, but the Annexes are not.					
NEA	286.	Section 5		To remove redundancy, consider not having two sections (response and preparation), or at least reducing significantly the text. For example, put the preparation section first, and reduce the response section simply to any necessary adaptations to the plan in order to address the circumstances at hand The same issues as listed under response are listed under preparedness – these should become general requirements, not specific to response.		✓		Considering other comments as well, functional requirements are revised and division response/preparedness removed to avoid repetitions.
Slovenia	287.	Section 5	Organization of Chapter 5, Functional Requirements, i.e. Response vs. Preparedness sections: <ul style="list-style-type: none"> - in principle almost all items (requirements), which are under preparedness, shall be implemented during the response phase, if needed all these in »response phase implementing« preparedness requirements shall be tested in exercises (i.e. a link should be made to exercise requirements). Since there are relatively little real emergencies one can take those real emergencies as a subset of exercises		✓			

			(which are more »realistic«) and with this approach we do not need this division to response and preparedness requirements. We can easily live with just preparedness requirements which some of them (actually many of them) can/shall be implemented during a response as well as exercised during preparedness phase – and the text should clearly indicate that without repeating the whole paragraphs/sentences with different wording, e.g. add a sign or mark (I) or something else, which means the preparedness requirement can be implemented during response. To illustrate this a bit more. For preparedness explanatory requirements the typical beginning of a sentence is »arrangements shall be made..« , under response section in many cases similar text is used by applying take, implement, or any other appropriate verb. The proposal goes in the direction to substantially reduce the text and duplication of similar sentences.					
Slovenia	288.	Section 5 and Section 6	Make the text easier to read and avoid paragraphs, which are almost identical, maybe with a word or two different (as in the game »spot the differences«)...E.g. 5.2 and 5.3, 5.60 and 5.61, 6.8 and 6.9		✓			
Slovenia	289.	Section 5 and Section 6	All arrangements should be trained and exercised and this is a clear link between the functional and infrastructural requirements. What is missing in the document is the context (the story), i.e. how to put together these individual requirements which are like a mosaic, when it is in pieces does not mean a lot – many many			✓		This cannot be done in requirements level document, however guidance on this already exist as indicated on the comment. Paras 5.1 and 6.1 are used to clarify this link.

			individual requirements. How to put this together is missing. Maybe a chapter or explanation similar as described in “step-by-step” approach from the EPR Method would be good to include in the document.					
Slovenia	290.	Section 5	Within the concept of zones and distances it should be clearly stated that the zones, once decided upon them, are quite fixed in terms that they are defined as the areas where the protective actions are planned . The distances are more flexible and this is just an indicative value even in the emergency plans, because during a response protective actions would be based on actual measurements and OILs (or similar) regardless if the OILs are exceeded within or beyond the distances			✓		Correct, but not fully. Even for emergency planning zones arrangements to take these actions should be made at the preparedness stage. Before monitoring is put in place certain recommendations (e.g. food/commodities restrictions) may be needed to be implemented. Latest published guidance in EPR (EPR NPP Public Protective Actions 2013) clearly illustrates this.
NEA	291.	Req. 4	<u>in accordance with the protection strategy</u>	To be clear		✓		Clarified under new overarching Requirement 5 on protection strategy.
UK	292.	Page 14 line 3	Replace “response” with “ <u>response and preparedness</u> ”	Both are addressed in subsequent paragraphs		✓ 5.1.The requirements established in this Section provide the functions critical to be implemented in a nuclear or radiological emergency for the response to be effective and for the goals of emergency response (see para. 3.2) to be met.		For clarity and to reflect latest changes introduced in Section 5 (there is no more division response/preparedness requirements under functional requirements).
France	293.	5.2	5.2. For facilities in categories I, II and III, the on-site emergency response shall be promptly executed and managed without impairing the performance of the continuing operational safety and security functions both within the un-	Maintaining operational safety at a facility under emergency, is a strange concept...			✓	Important concept as actions may be taken that do more harm and good. In addition, areas within the facility that are not necessarily under the emergency conditions, may need to be carried out safely.

			affected parts of facility and at other facilities at the same site.					However, considering previous comments, this paragraph was removed from the draft text.
NEA	294.	5.2	without impairing the performance of the continuing operational safety and security functions both within the facility and at other facilities at the same site.	This seems to be very difficult to achieve, and should be reconsidered			✓	Important concept as actions may be taken that do more harm and good. In addition, areas within the facility that are not necessarily under the emergency conditions, may need to be carried out safely and secure. However, considering previous comments, this paragraph was removed from the draft text.
Pakistan	295.	5.3/15	For facilities in categories I and II and III the off-site emergency response shall be promptly executed and effectively managed and coordinated with the on-site emergency response	For facilities in Category III, offsite response would not required.			✓	First, off-site response organizations may be needed to support the response on-site. Second, they may need to confirm that there are no off-site consequences. However, considering previous comments, this paragraph was removed from the draft text.
NEA	296.	5.3	executed and coordinated	Effective management is self evident		✓		Please note that considering previous comments, this paragraph was removed from the draft text.
India	297.	14/5.3/15	...in categories I, II and III ,...	There will be no off-site emergency in category III The same correction can be applied to other relevant places in the document			✓	First, off-site response organizations may be needed to support the response on-site. Second, they may need to confirm that there are no off-site consequences. However, considering previous comments, this paragraph was removed from the draft text.
France	298.	5.4	5.4. The emergency response shall be coordinated between all response organizations, including those specialized in responding to in a conventional emergency and to in an emergency initiated by a nuclear			✓		Considering previous comments, this paragraph was removed.

			security event.					
NEA	299.	5.4	<u>on-site and off-site</u> response...	To be explicit This seems to be a new term, that is not needed here Unnecessary detail		✓		Considering previous comments, this paragraph was removed.
Cuba	300.	Page 14	The current requirements 5.4, 5.5 and 5.6 should be the firsts requirements in this section related to the Requirement 4	The requirements 5.4, 5.5 and 5.6 are more general than the rest of the requirements in this section (the other requirements are related to facilities in categories I, II and III)		✓		Considering previous comments, this paragraph was removed.
ILO	301.	14 – 15		Should this requirement include Cat III? Cat III does not require off-site response.		✓		Yes. First, off-site response organizations may be needed to support the response on-site. Second, they may need to confirm that there are no off-site consequences.
UK	302.	Page 14 line 19	Add text: <u>In the very early stages of an emergency it may not be evident whether the emergency has been initiated by a nuclear safety or security event. Coordination arrangement shall recognise this potential uncertainty</u>	Emergency response is liable to be influenced by the nature of the initiating cause.		✓ These arrangements shall take into consideration that the initiator of the nuclear or radiological emergency may not be known early in the response.		Addition was made under para 5.6 of the draft text.
Canada	303.	5.5	Consider adding the text in bold: "... and shall be directed by a clearly designated emergency response commander or unified command system.	Clarification required given the distinction caused by existing Canadian legislation. There may be different response commanders for different jurisdictions (eg, on-site versus off-site response). The requirement is that these be integrated and coordinated.		✓ 5.7. Arrangements shall be made for the establishment and implementation of a clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system		For consistency and considering other comments as well.

NEA	304.	5.5	The emergency response shall be managed immediately	On-site / off-site/ both? What is intended should be clearly stated Unnecessary detail		✓		Considering previous comments, this paragraph was removed.
Germany	305.	5.5	“The emergency response shall be managed immediately and continuously under a clearly specified command and control system and shall be directed by a clearly designated emergency response commander or in a coordinated manner when several authorities or other response organizations are responsible for different aspects of the emergency response.”	To require a single response commander may not comply with existing national legislated frameworks and authorities across multiple jurisdictions. With a view to the wide range of emergency response measures it can be adequate to distribute the responsibility to different organizations, which are coordinated, but not directed by a single commander. To act in a coordinated manner do not necessary require a single person in charge.		✓ 5.7. Arrangements shall be made for the establishment and implementation of a clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system...		For consistency and considering other comments as well.
Libya	306.	5.5/22	response commander <u>until the emergency situation is terminated and work is resumed normally.</u>	Emergency response should be carried out to the point the emergency is terminated.		✓		Considering previous comments, this paragraph was removed. However, please note that the issue raised is covered more broadly under Requirement 18 of the draft text.
ILO	307.	14 – 21	Add ‘a’ in front of ‘clearly’.		✓			
Canada	308.	5.6/23	Consider adding the following text to this sentence: “Information necessary for making decision shall be made available on regular basis or on a need to know basis , appraised and allocated throughout the nuclear or radiological emergency.	To make it clear that information is to be received regularly and if need be at a more rapid rate to ensure intervening organizations can make timely decisions.		✓		Considering previous comments, this paragraph was removed.

France	309.	5.6	5.6. Information necessary for making decisions on the allocation of resources <u>and prioritization of emergency response actions</u> shall be appraised throughout the nuclear or radiological emergency.	Allocating resources is not enough....		✓		Considering previous comments, this paragraph was removed.
NEA	310.	5.6		Should be deleted as it adds little to the section	✓			Considering previous comments, this paragraph was removed.
Canada	311.	5.7/...	Consider the addition of the sentence indicated below: “... shall coordinate their emergency responses and shall provide mutual support.” This shall include periodic reviews to update plans, agreements and arrangements in place between States to ensure mutual support reflects latest emergency management strategies.”	States should do periodic reviews of their arrangements to ensure they are up-to-date and adequate.		✓		Considering previous comments, this paragraph was removed.
France	312.	5.7	5.7. For facilities in categories I or II and areas within category V, response organizations (including those of other States) within the emergency planning zones and distances (see para. 5.53) shall coordinate their emergency responses and shall provide <u>expected</u> mutual support.	To be consistent with Requirement 15			✓	‘Expected’ is very subjective.
NEA	313.	5.7		Category IV is not mentioned in 5.2 – 5.7. This should be added somewhere in this response section	✓			Added under 5.3 of the draft text.
Indonesia	314.	Para 5.8, line 1 -3	The sentence should be rearranged to be ‘For facilities in categories I, II and III, arrangements for the transition from normal operations to emergency operations shall be effectively made and clearly defined without jeopardizing safety and nuclear security.	The text in the draft is difficult to comprehend.		✓	5.2. For facilities in categories I, II and III, arrangements shall be made for the on-site emergency response to be promptly executed and managed without	For consistency and considering other comments as well.

						impairing the performance of the continuing operational safety and security functions both within the facility and at other facilities at the same site.		
Pakistan	315.	5.8/29	For facilities in categories I, II and III, arrangements shall be made for the <i>on-site</i> transition from normal operations to emergency operations to be clearly defined, and to be effectively made without jeopardizing safety and nuclear security...	It should be on-site transition as this requirement refers to onsite operations only.		✓ 5.2. For facilities in categories I, II and III, arrangements shall be made for the on-site emergency response to be promptly executed and managed without impairing the performance of the continuing operational safety and security functions both within the facility and at other facilities at the same site.		For consistency and considering other comments as well.
France	316.	5.8	5.8. For facilities in categories I, II and III, <u>on-site</u> arrangements shall be made for the transition from normal operations to emergency operations to be clearly defined and to be effectively made without jeopardizing safety and nuclear security.	Simplification and clarification		✓ 5.2. For facilities in categories I, II and III, arrangements shall be made for the on-site emergency response to be promptly executed and managed without impairing the performance of the continuing operational safety and security functions both within the facility and at other facilities at the same site.		For consistency and considering other comments as well.
NEA	317.	5.8	<u>on-site</u> transition	This entire paragraph refers to on-site operations, so this is added to be explicitly clear		✓ 5.2. For facilities in categories I, II and III, arrangements shall be made for the on-site emergency response to be promptly executed		For consistency and considering other comments as well.

						and managed without impairing the performance of the continuing operational safety and security functions both within the facility and at other facilities at the same site. The transition from normal operations to operations under emergency conditions on-site shall be clearly defined and effectively made.		
ILO	318.	15 – 4		Should this requirement include Cat III? Cat III does not require off-site response.		✓		Yes. First, off-site response organizations may be needed to support the response on-site. Second, they may need to confirm that there are no off-site consequences.
Canada	319.	5.9/...	Consider including the additional wording provided below: For facilities in categories I, II and III, arrangements shall be made for coordinating and integrating the emergency response of all the off-site response organizations with the on-site response.	Elaborate somewhat to capture the integration capability.		✓		Covered under 4.14 (a) of the draft text.
Ireland	320.	5.9	Emergency Preparedness category III included for coordinating the emergency responses of all the off-site response organizations with the on-site response. Category III does not include facilities for which events are postulated that could warrant urgent and early protective actions off the site (Table 1). Therefore, it does not seem that category III should be included here.	Clarity		✓		First, off-site response organizations may be needed to support the response on-site. Second, they may need to confirm that there are no off-site consequences.

NEA	321.	5.9		Off-site responsibilities should be defined in Line 31 para 5.8. This is redundant with 5.13, and is not as complete as 5.13, therefore it can be deleted		✓		Considered in the overall changes introduced in this functional requirement.
Cuba	322.	Page 15/Line 5	...the off-site response organizations with the on-site response. For activities in category IV arrangements shall be made for coordinating emergency response in an unforeseeable location and setting up appropriate emergency response facilities at the scene.			✓	5.3. For facilities in categories I, II and III and where appropriate for activities in category IV, arrangements shall be made for the off-site emergency response to be promptly executed, effectively managed and coordinated with the on-site emergency response.	For consistency throughout the draft text.
Germany	323.	5.10	For a site where several facilities in category I or II are collocated, adequate arrangements (in terms of number of qualified personnel and amount of equipment and supplies, for example) shall be made to manage all the facilities if each of them is under emergency conditions simultaneously. ...	These requirements shall be valid also for facilities in category II, see also requirement 6.10.	✓			
NEA	324.	5.10	where several facilities in category I on-site arrangements	What about a site where there are just several facilities of category I, II, II, etc. A mix, how is this addressed This entire paragraph refers to on-site operations, so this is added to be explicitly clear		✓		Consideration is covered under para 4.20 (c).
USA	325.	Pg 15, sect 5.11, line12	Change to read “ensure, as far as practicable, that the facility or activity has a nuclear security system [6, 7] that would...”	Editorial. Missing article.	✓			

NEA	326.	5.11	a nuclear security system		✓			
Germany	327.	5.11, Line 12	“... arrangements shall be made to ensure, as far as practicable, that the facility or activity has a nuclear security system ...”	Missing article.	✓			
ILO	328.	15 – 12	Add ‘a’ in font of ‘nuclear’.		✓			
NEA	329.	5.12	coordinated response to a radiological emergency with other States, as appropriate.	Coordination with relevant IOs?		✓		Covered under overarching Requirement 3 of the draft text..
Ireland	330.	5.13	The "response commander" is a new role. This should be included in the definitions.	Clarity		✓ 5.7. Arrangements shall be made for the establishment and implementation of a clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system...		For consistency and considering other comments as well.
France	331.	5.13	The commanders for on-site operations and off-site are always different.			✓ 5.7. Arrangements shall be made for the establishment and implementation of a clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system...		For consistency and considering other comments as well.

NEA	332.	5.13		Any specific needs for category I, II or III facilities should be specified here since 5.9 was deleted Same as for paragraph 5.5 The on-site and off-site response commanders are, in essence, always different. Need to mention both on and off explicitly		✓ 5.7. Arrangements shall be made for the establishment and implementation of a clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system...		For consistency and considering other comments as well.
Turkey	333.	Chapter 5 Para. 5.13 Page 15 Lines 21-23	The sentence "When different emergency response commanders are designated to direct the on-site and off-site response, these arrangements shall provide sufficient assurance for their effective coordination" should be revised.	This conflicts with a "single emergency response commander" approach. An "Emergency response command group" may be directed by a single emergency response commander as described in EPR-Method-2003.		✓ 5.7. Arrangements shall be made for the establishment and implementation of a clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system...		For consistency and considering other comments as well.
Germany	334.	5.13, Lines 22 to 24	"When different emergency response commanders are designated to direct <u>different aspects of the response (e.g. the on-site and off-site)</u> , response , these arrangements shall provide sufficient assurance for their effective coordination. <u>Designated</u> An emergency response commanders shall be available immediately and continuously following a notification of an emergency ..."	Designating different emergency response commanders may not be limited to the on-site and off-site response. For example, some measures could be adequately managed under control of a local commander while other decisions may be in the responsibility and regularly taken at the national level.		✓ 5.7. Arrangements shall be made for the establishment and implementation of a clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system...		For consistency and considering other comments as well.
Pakistan	335.	5.13/21	... emergency response under the all hazards approach. Arrangements shall be made for sufficient assurance for effective coordination between the onsite	Emergency response commanders are always different for on-site and off-site responses.		✓ 5.7. Arrangements shall be made for the establishment and implementation of a		For consistency and considering other comments as well.

			and offsite commanders. An emergency response commander...			clearly specified and unified command and control system for emergency response under the all-hazards approach as part of the emergency management system...		
Cuba	336.	Page 15/Lines 24, 25, 26 and 27	... effective. The emergency classification or the implementation of other response actions shall not be delayed by the process of rating the event on the joint IAEA and OECD/NEA International Nuclear and Radiological Event Scale (INES) [10]	For a better understanding	✓			Covered under para. 5.16 of the draft text.
NEA	337.	5.14		Covered by 5.13, thus delete			✓	Para. 5.13 does not cover this aspect.
Canada	338.	Requirement 5/32	Consider expanding the header for Requirement 5 as follows: Identifying and notifying of emergency conditions, and activating an emergency response	Clarity	✓			
NEA	339.	Req. 5	Requirement 5: Identifying, notifying and activating arrangements The government shall ensure that arrangements are put in place for the prompt identification and notification of emergency conditions, and for the activation of an emergency response.	Changes for clarity. Please note that beyond this point the egr comments are limited to comments on the headline requirements, numbers 6 through 24. all other comments are those of the nea secretariat		✓ Requirement 7: Identifying and notifying of an emergency and activating an emergency response The government shall ensure that arrangements are in place for the prompt identification and notification of an emergency and for the activation of an emergency response.		For consistency and considering other comments as well.
Canada	340.	5.16	Consider adding at end: “ the operating personnel shall promptly notify, provide information and any pre-defined assistance, as appropriate, to off-site authorities,	In many cases, the operators are required to assist off-site authorities in radiation surveillance, and in establishing		✓		Please note that due to previous comments, requirements under response subsection of each functional requirement are deleted. However the issue is covered under

			off-site notification point(s) and the national nuclear regulatory authority. ”	emergency worker centres or population screening facilities. In addition the national nuclear regulatory authority is often mandated to be informed by the operator.				para. 5.17 of the draft text under pre-planned response.
NEA	341.	5.16	For facilities and activities in categories I, II, III, operating <u>organisations</u> shall promptly determine the appropriate emergency class (see para. Error! Reference source not found.) <u>and</u> the level of emergency response and shall initiate the appropriate on-site actions. Upon classification of the nuclear or radiological emergency, the operating personnel shall promptly notify and provide sufficient information__to, as appropriate, the off-site notification point. <u>For activities in category IV, or when circumstances necessitate an emergency response, operating organisations shall promptly determine the appropriate emergency response.</u>	This is an example of the redundancy of preparedness and response. The same thing is needed in both, and should be listed only in preparedness. The relevant response requirement should refer only to any need to change to address specific accident circumstances. At the very least, the need to jump ahead to fully understand a requirement is inappropriate. This, and to a certain extent the following, are to specific, are to “how”. Basic assessment shall identify hazards and category, and the management structure will assure that appropriate actions are taken. This is all that is needed in a requirements document		✓		Please note that due to previous comments, requirements under response subsection of each functional requirement are deleted. However the issue is covered under para. 5.17 of the draft text under pre-planned response.
Russia	342.	5.16/6	The emergency classification shall be reviewed and if necessary revised every time new significant information becomes available.	Add this sentence based on bullet (c) of point 1.12 of Appendix III of EPR-Exercises 2005.		✓ 5.15. For facilities in category I, II and III and for category IV, arrangements shall be made to review the		New paragraph added for consistency.

						emergency class once it has been declared in light of any new information and, as appropriate, to revise it.		
Canada	343.	5.16/...	Consider incorporating the sentence below into paragraph 5.16. Upon discovery of an event at the facility, the operating personnel shall promptly notify the regulator, even prior to classification of the nuclear or radiological emergency.	To be inserted somewhere in para 5.16. to alert Operators that reporting of an event does not necessarily have to happen after an event has been classified or categorized. At time the Operator will take too much time to classify an event and this can become problematic.			✓	Focus should be on prompt emergency response not on informing regulatory body. Once notification point receives such information, the information will be simultaneously shared to those needed according to plans and procedures in place.
Germany	344.	5.17/7	When circumstances necessitate an emergency response, those staff at locations where there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.22) and first responders in an emergency at an unforeseen location shall promptly initiate the appropriate actions on the site, and <u>Further they</u> shall notify and provide sufficient information, as appropriate, to the off-site notification point.	Difficult to understand because of the sentence length.		✓		Please note that due to previous comments, requirements under response subsection of each functional requirement are deleted. However, the issue is covered under para 5.13 of the draft text.
NEA	345.	5.17	When <u>local</u> ...	To be clear This needs to be consistent with 5.23		✓		Please note that due to previous comments, requirements under response subsection of each functional requirement are deleted.
Canada	346.	5.17	Consider making similar changes proposed above to end of this paragraph.	Consider adding at end: “ the operating personnel shall promptly notify, provide information and any pre-defined assistance , as appropriate, to off-site authorities , off-site		✓		Please note the response under comment number 340 above.

				notification point(s) and the national nuclear regulatory authority.”				
ILO	347.	16 - 6 16 - 10		Is the ‘as appropriate’ appropriate here? I think this is covered by the use of ‘sufficient’ earlier in the sentence.		✓		Please note that due to previous comments, requirements under response subsection of each functional requirement are deleted.
France	348.	5.18	5.18. Upon notification of a nuclear or radiological emergency warranting an off-site response, the off-site notification point shall promptly initiate a preplanned and coordinated response that is appropriate to the emergency class or the <u>risks associated with the emergency level of emergency response.</u>	It is up to the notification point to initiate the appropriate emergency response. To do so, knowing the emergency class can help but such information may not be available or relevant.		✓		Please note that due to previous comments, requirements under response subsection of each functional requirement are deleted.
NEA	349.	5.18	...response, <u>as per the protection strategy.</u>	To be explicitly clear as to the driving objectives		✓		Please note that due to previous comments, requirements under response subsection of each functional requirement are deleted. However, the issue is covered under para 5.13 of the draft text.
ILO	350.	16 – 14	Add ‘required’ in front of ‘level’.			✓		Please note that due to previous comments, requirements under response subsection of each functional requirement are deleted.
Mexico	351.	5.19/15-16	5.19. In the event of a transnational emergency, the notifying State shall promptly notify ⁵ , either directly or through the IAEA, those States that may be affected. The notifying State shall also notify ⁵ the IAEA of a transnational emergency. The notifying State shall provide information on the nature of the emergency and on any potential transnational consequences and shall respond to requests from other States and from the IAEA for information with the intent of	The superscript is identical in 5 and 6, so it is possible to remove the footnote number 6.	✓			

			<p>minimizing any consequences.</p> <p>⁵ Such a notification is in accordance with the State's obligations under the general principles and rules of international law, and for the case of a significant transboundary release, it is in accordance with the Early Notification Convention [9].</p>					
Japan	352.	5.19 footnote	Delete footnote 6.	Because of the overlap with footnote 5.	✓			
NEA	353.	5.19	the notifying State	The terms State and Government seem to be used almost interchangeably, and this should be clarified		✓		Please note that notifying state is defined term.
Turkey	354.	Chapter 5 Para 5.21 Page 17 Lines 1, 2	<p>Wording of the sentence "such communication shall use suitable and diverse means of communication" may be revised as "suitable and diverse means of communication shall be available" to avoid repetition of "communication.</p>			<p>✓</p> <p>The notification point(s) shall have immediate communication with the response organizations that are providing support using suitable, reliable and diverse communication means.</p>		For consistency.
Pakistan	355.	5.21/24-27	<p>Onsite and offsite notification point(s) shall be established to send and/or receive, as appropriate, notification of an actual or potential nuclear or radiological emergency. The notification point(s) shall be continuously available to receive any notification or request for support and to respond promptly or to initiate a preplanned and coordinated off-site response appropriate to the emergency class or the level of emergency response</p>	There should be clear requirements for establishing both at onsite and offsite notification points.			✓	Paragraph deals with off-site notification points to be established to receive notifications on a 24/7 basis and to initiate preplanned response. At operator level, a position should be given authority to do so, not necessarily established notification point.

NEA	356.	5.21	<u>off-site</u> response organizations that are providing support.	To be clear Sometimes the notification point is a simple relay, taking no actions. How is this included here?		✓		Paragraph deals with off-site notification points to be established to receive notifications on a 24/7 basis and to initiate preplanned response. This mean they have the responsibility upon verification of the notification to activate response plans and procedures where all response organizations are participating as appropriate.
France	357.	5.21	The notification point(s) shall be continuously available to receive any notification or request for support and to respond promptly or to initiate a preplanned and coordinated off-site response appropriate to the emergency class or the <u>risks associated with the emergency level of emergency response</u> .	To remain consistent with modification suggested to 5.18			✓	The level of emergency response is associated with class 4, para. 5.14 (c). Due to different scenarios possible, at preparedness stage adequate level of response should be determined for each scenario in this class based on associated hazards (which are to be assessed within the hazard assessment).
Canada	358.	5.21/...	Consider the addition of the following wording to the last sentence of this paragraph: Such communication shall use suitable and diverse means of communication and intervening organizations shall agree and harmonize on alternate or backup equipment.	Intervening organizations must be harmonized, synchronized and familiar with the alternate means of communications equipment to use to ensure effective communications.		✓		Covered under 'suitable, reliable and diverse' means for communication and in addition, under para. 6.22 of the draft text.
Pakistan	359.	Addition after para 5.21	For facilities in categories I and II, onsite notification point shall be design in such a way that it remains available in case of high radiation levels at the site and natural/manmade disasters.	The notification point should be available in worst conditions for continuous communication. An addition requirement is proposed.			✓	Please note the response under comment number 355 above.
Canada	360.	5.22/...	Consider the addition of the following sentence to this paragraph: These arrangements shall include making known to the IAEA and to other States, directly or	For clarification, does the IAEA want to know of these transnational arrangements prior to an accident or strictly during a nuclear or radiological			✓	Not proper suggestion as the aim of this notification point is to initiate off-site emergency response within the State in a timely manner as it is pre-planned to do so. However, please note para 5.18-5.20 of the

			through the IAEA, its designated organization(s) for doing so.	emergency?				draft text.
NEA	361.	5.22	In a nuclear or radiological emergency, the off-site decision maker shall not be given any other responsibilities that would interfere with prompt execution of the specified function (see para. 6.5).	In some countries, the decision maker is the Prime Minister who has lots of responsibilities		✓ 5.12. For facilities in categories I and II and for areas in category V, the notification point shall have immediate communication with the authority with given responsibility to decide on and to initiate precautionary urgent protective actions and urgent protective actions off-site (see also para. 5.7).		For consistency and considering other comments as well.
Germany	362.	5.22, Line 4	“For facilities in categories I and II and for areas in category V, the off-site notification point shall have immediate and continuous communication with the competent off-site decision maker who has the authority and responsibility, as appropriate, without consultation, immediately to initiate ...”	In some States, responsibilities for different kind of actions and different regions may be distributed for the off-site response, so that the competent/responsible off-site decision maker needs to be referenced.		✓ 5.12. For facilities in categories I and II and for areas in category V, the notification point shall have immediate communication with the authority with given responsibility to decide on and to initiate precautionary urgent protective actions and urgent protective actions off-site (see also para. 5.7).		For consistency and considering other comments as well.
Libya	363.	5.22/6	<u>...to initiate precautionary urgent protective actions and other response actions off-site.</u>	(urgent protective actions) is repeated.		✓ 5.12. For facilities in categories I and II and for areas in category V, the notification point shall have immediate communication with the authority with given responsibility to decide on and to initiate		For consistency and considering other comments as well.

						precautionary urgent protective actions and urgent protective actions off-site (see also para. 5.7).		
NEA	364.	5.23	of and trained in	Requirements for Training are included explicitly only in requirement 23 – Training is CENTRAL and should be mentioned OFTEN. Several additions have been made, but the entire document should be checked to assure that training is correctly cited		✓ 5.13. At facilities and locations where there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.21) and for an emergency at an unforeseen location, arrangements shall be made to ensure that the on-site managers of operations and other staff, as well as the local officials responsible for the response and first responders, are aware of the indicators of a potential radiological emergency, the appropriate notification and protective actions and other response actions warranted immediately in the event of an emergency.		For consistency. Please also note para. 6.26 of the draft text.
Ireland	365.	5.24	It would be useful to give examples of "observable indicators" e.g. Trefoil symbol	Clarity		✓		Considered but requirements kept simple as further guidance already exist on this issue.
NEA	366.	5.24	Arrangements shall be made to ensure that first responders in an emergency at an unforeseen location are aware of and trained in the observable indicators of a potential radiological emergency, appropriate notification, and protective actions and other response actions warranted	This point about first responders needs to be included in response section above		✓ 5.13. At facilities and locations where there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.21) and for an emergency at an unforeseen location,		For consistency. Please also note para. 6.26 of the draft text.

			immediately in the event of an emergency.			arrangements shall be made to ensure that the on-site managers of operations and other staff, as well as the local officials responsible for the response and first responders, are aware of the indicators of a potential radiological emergency, the appropriate notification and protective actions and other response actions warranted immediately in the event of an emergency.		
Slovenia	367.	p.17, 5.24	This paragraph calls for appropriate training, which should cover topics is in this requirement (Training is under infrastructural requirements...)			✓ 5.13. At facilities and locations where there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.21) and for an emergency at an unforeseen location, arrangements shall be made to ensure that the on-site managers of operations and other staff, as well as the local officials responsible for the response and first responders, are aware of the indicators of a potential radiological emergency, the appropriate notification and protective actions and other response actions warranted immediately in the event of an emergency.		For consistency. Please also note para. 6.26 of the draft text.

France	368.	5.25	The operating organization of a facility or activity in category I, II, III or IV shall make arrangements for classifying nuclear and radiological emergencies warranting protective actions and other response actions in order to protect workers, emergency workers, , helpers and members of the public in accordance with Appendices I and II	Add members of the and helpers	✓			
NEA	369.	5.25	operating organization shall make arrangements for promptly classifying <u>all</u> nuclear and radiological emergencies warranting protective actions and other response actions in order to protect workers, emergency workers, _ patients and the public in accordance with <u>the protection strategy</u> .	Because the sub-points now cover categories I to V To make 5.26 unnecessary To be clear on the drivers for planning and response Note that it will not always be the operating organization that identifies the classification of the emergency		✓ 5.14. The operating organization of a facility or activity in category I, II, III or IV shall make arrangements for promptly classifying, on the basis of the hazard assessment, nuclear and radiological emergencies warranting protective actions and other response actions in order to protect workers, emergency workers, patients, helpers in an emergency and members of the public in line with the protection strategy (see Req. 5).		For consistency.
Pakistan	370.	5.25 (a)	The terminology 'General emergency' may be replaced with some other suitable term which should reflect the impact/ consequences linked with this class of emergency.	The term 'General Emergencies' does not reflect the hazard associated with it.			✓	General Emergency is well defined term that has been used for many years and well accepted.
Japan	371.	5.25(b)/ P17.L34 (Req.5: Identifying, notifying and	(iii) to use reliable technical/radiological assessments and/or projections provided that their limitations are recognized and that they can be used promptly (see para. 6.23) and (iv) to conduct monitoring and sampling off the	See General comments #2. It should not be described as a requirement according to General Comment No.2.	✓			

		activating, Pre.)	site-					
Russia	372.	5.25/34	...as it becomes necessary based on off-site monitoring results.	There is possibility that necessity to prepare to take protective actions and other response actions off site could be erroneously interpreted as a result of possible upscale of 'site area emergency' to 'general emergency'. This erroneous interpretation is possible due to statement of point III.7. of Appendix III of GSG-2 according to which one of the examples of situations that could lead to a site area emergency is conditions such that any additional failures could result in a 'general emergency'.	✓			Please note revised wording: (b) Site area emergencies 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 monitoring results, and (iii) to conduct monitoring and sampling off the site.
NEA	373.	5.25 (c)	Emergencies in <u>these classes</u> can never give rise to an off-site hazard.	This should be included in the definition of categories I, II and III			✓	Statement is valid for this emergency class irrespective of the category of the facility affected.
NEA	374.	5.25 (d)		What is meant by Alerts?? This should be specified. It is not clear why this category needs to be included.		✓ (d) Alerts at facilities in category I, II or III for an event that warrants taking actions to assess and to mitigate the consequences at the facility. Upon declaration of this emergency class, actions shall promptly be taken to assess and to mitigate the consequences of the event and to increase the readiness of the on-site response organizations.		Wording revised for clarity and consistency.

NEA	375.	5.25 (e)	...categories IV and V... on site and e.g. delete	It was not clear why this was specified for a category IV emergency, so propose deletion Unnecessary detail			✓	If deleted, this class may cover any type of emergency including the four classes previously discussed. Please note that category V emergencies are associated to general emergency happening in another State.
Indonesia	376.	5.25 (d)	~Definition for alert is to be taken from GS-R-2~	Definition of alert in GS-R-2 is better compared to what is stated in this draft.		✓ (d) Alerts at facilities in category I, II or III for an event that warrants taking actions to assess and to mitigate the consequences at the facility. Upon declaration of this emergency class, actions shall promptly be taken to assess and to mitigate the consequences of the event and to increase the readiness of the on-site response organizations.		Wording revised for clarity and consistency.
Slovenia	377.	p.16, line 27	Is 'the level of emergency response' just another word for 'emergency class' or there is something more substantial?			✓		The level of emergency response is associated to the class <i>other nuclear or radiological emergency</i> . In this class many scenarios are possible which will require different level of response.
Slovenia	378.	p.17, line 1	Not just suitable and diverse means but also reliable .		✓			
ENISS	379.	Article 5.25	The operating organization of a facility or activity in category I, II, III or IV shall make arrangements for promptly classifying nuclear and radiological emergencies warranting protective actions and other response actions in order to protect workers, emergency workers and helpers , patients and the public in accordance with Appendices I and II.	The Appendix I is referred to emergency workers ad helpers	✓			

Slovenia	380.	p.17, 5.25	It says that arrangements shall be made for classification of emergencies warranting protective actions for workers, patients, public... Not all emergency classes warrant protective actions for workers, patients, public...			✓ 5.14. The operating organization of a facility or activity in category I, II, III or IV shall make arrangements for promptly classifying, on the basis of the hazard assessment, nuclear and radiological emergencies warranting protective actions and other response actions in order to protect workers, emergency workers, patients, helpers in an emergency and members of the public in line with the protection strategy (see Req. 5).		Wording revised for clarity.
Sweden	381.	5.25 Page 17 Line 21	Delete “patients”.	Patients are members of the public in this context.			✓	Within the safety standards, patients are not necessarily considered as members of the public. Therefore, they need to be explicitly mentioned considering e.g. medical accidental overexposures scenarios.
ILO	382.	17 – 5	Change line to read: ‘authority and responsibility to initiate immediately and without consultation appropriate precautionary’			✓ 5.12. For facilities in categories I and II and for areas in category V, the notification point shall have immediate communication with the authority with given responsibility to decide on and to initiate precautionary urgent protective actions and urgent protective actions off-site (see also para. 5.7).		Wording revised for consistency and considering other comments as well.

Czech	383.	5.25/4, 5	Emergencies in this class can never give rise to do not require off-site emergency response.	Emergencies in this class can rise to higher emergency class site or even general emergency. The world never is incorrect in this sentence.		✓ Emergencies in this class do not present an off-site hazard.		For clarity.
Canada	384.	5.25 a)	Consider adding the information from 5.25 b) concerning the use of reliable technical/radiological assessment and/or projections provided that their limitations are recognised and that they can be used promptly and the conduct of monitoring and sampling off-site.	Clarification. While actions will be based on plant conditions, the additional information provided by these capabilities can be used to support the response further from the site.		✓ (b) Site area emergencies 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 monitoring results, and (iii) to conduct monitoring and sampling off the site.		Wording under b) revised considering other comments as well. Please note the comments from Japan.
Slovenia	385.	p.18, line 5	One can not exclude escalation, thus »in general« should be added before »Emergencies in this class can never ...«			✓ Emergencies in this class do not present an off-site hazard.		For clarity.
Czech	386.	5.25/14	mitigate the consequences of the emergency to protect those in the vicinity in the place of accident occurred during activities or acts anticipated in Table 1 on the site,	Conflict with the definition of the on site (see Definitions) which means the area within the site area.			✓	There is no colfliction with the definition on site area: A geographical area that contains an authorized facility, authorized

								activity or source within which the management of the authorized facility or authorized activity or first responders may directly initiate emergency actions. <i>Information note:</i> This is typically the area within the security perimeter fence or other designated property marker. It may also be the controlled area around a radiography source or an inner cordoned off area established by first responders around a suspected hazard.
Germany	387.	5.26, Line 22	“The emergency classification system shall be established with the aim of allowing for ...”	Consistency with the terminology introduced in the first sentence of Para 5.26.	✓			
NEA	388.	5.26		This paragraph is redundant with previous paragraphs. To be consistent with GSR Part 3. Modify the title in the reference. If this is to be kept, put in into public information section			✓	Paragraph deals with emergency classification not with public information.
Canada	389.	5.26/18	Provide a definition or reference for determining “low probability”.	Further clarification is required with respect to defining “low probability”.		✓		Term is commonly used throughout the safety standards series. Further elaboration may be considered in a safety guide when revised.
Australia	390.	Section 5.26	Consideration could be given to including the term ‘very low probability’ term in the discussion for Requirement 3 Assessment of Hazards.	Section 5.26 introduces the term ‘very low probability’. Adding this in the discussion for requirement 3 would enable further explanation of the term.	✓			.
ILO	391.	18-Para 5.26		The 2 nd sentence is too long and confusing and looks incomplete; it may be better to put the information in bullet		✓ 5.16. The emergency classification system for facilities and activities in categories I, II, III and IV shall take into account		Wording revised for clarity.

				<p>points.</p> <p>It may also be worth splitting the text after the 2nd sentence into a separate paragraph.</p>		<p>all postulated emergencies including those of very low probability. The operational criteria for classification shall include emergency action levels and other observables and indicators of the conditions at the facility and/or on-site or off-site. The emergency classification system shall be established with the aim of allowing for the prompt initiation of an effective response in recognition of the uncertainty of the available information. It shall be ensured that the process of rating the event on the joint IAEA and OECD/NEA International Nuclear and Radiological Event Scale (INES) [14] does not delay the emergency classification or other response actions</p>		
Germany	392.	Footnote No. 8 to 5.26	“The emergency response classification system is not to be confused with INES. ...”	Consistency with the terminology introduced in the first sentence of Para 5.26.	✓			
NEA	393.	5.27, 28, 29		<p>The requirements in 5.25 cover all that is stated in 5.28 or 5.27.</p> <p>Requirement 5.27 is very repetitive of 5.25, and requires notification of a class c and d emergency that cannot have off site</p>	✓			

				consequences				
Canada	394.	5.27	Line 33 ... ADD: "...and for notifying off-site authorities and notification points..."			<p>✓</p> <p>5.17. For facilities and activities in category I, II, III or IV, arrangements shall be made: (1) to promptly recognize and classify a nuclear or radiological emergency, (2) upon classification, to promptly declare the emergency class and to initiate a coordinated and preplanned on-site response, (3) to notify the appropriate notification point (see para. 5.11) and to provide sufficient information for an effective off-site response, and (4) upon notification, to initiate a coordinated and preplanned off-site response, as appropriate, in line with the protection strategy. These arrangements shall include suitable, reliable and diverse means for alerting the people on the site, for notifying the notification point (see paras 5.41, 5.40, 6.22 and 6.34) and for communication among response organizations.</p>		For consistency and considering other comments as well.

Slovenia	395.	p.18, line 32	Not just suitable and diverse means but also reliable .		✓			
ILO	396.	18 – 33	Add ‘the’ in front of ‘people’ and in front of ‘off-site’.		✓			
France	397.	5.28	Declaration of a particular class of emergency at a facility or activity in category I, II, III or IV 1 shall promptly initiate the appropriate level of coordinated and preplanned emergency response consistent both with the results of the hazard assessment (see para. 4.22) <u>and with the actual occurring hazard conditions</u> , in order to meet the goals of emergency response, as appropriate, on and off the site. The responsibilities and initial response actions of all response organizations shall be specified for each class of emergency.	Rely only on results of hazard assessments (pre-calculated one) could be not sufficient. Meteorological conditions and actual combinations for example can be such that the possible consequences may lead to specific conditions that require a need of a ‘live’ assessment base on threat and anticipation.		✓		Paragraph is removed as repetitive and considering other comments as well.
ILO	398.	19-3		Should the cross reference be para 4.18 and not 4.22?		✓		Paragraph is removed as repetitive and considering other comments as well.
Germany	399.	5.28, Line 3	“... the appropriate level of coordinated and preplanned emergency response consistent with the results of the hazard assessment (see para. 4.22 4.21) ...”	Wrong para is cited.		✓		Paragraph is removed as repetitive and considering other comments as well.
NEA	400.	5.28	... in order to meet the <u>objectives</u> of <u>the protection strategy</u> , as appropriate, on and off the site. ...	To be clear		✓		Paragraph is removed as repetitive and considering other comments as well.
NEA	401.	5.29	... category V, the hazard assessment shall <u>consider</u> , for <u>a</u> range of postulated emergencies,...	This seems to suggest that the hazard assessment will drive actions, rather than the		✓		Paragraph is removed as repetitive and considering other comments as well.

				classification that is described in the rest of this section. This should be clarified, and could be moved to requirement 3				
NEA	402.	5.30		We really did read the entire document! This implies that the rest of the document is unnecessary!		✓		Paragraph is removed.
NEA	403.	5.31	single warning point	If this is defined in the Conventions, it should be in quotes and defined in this document	✓			Warning point is already defined term in the list of Definitions.
NEA	404.	5.32		These seem to be long-winded ways of saying that a single warning point to receive, and a competent authority to notify. These recommendations should be high-level and specific. Requirement 5 provides all the needed information.	✓			
NEA	405.	5.33	delete	Same information as 5.32			✓	It is not same information as 5.32. For areas within emergency planning zones there must be direct notification to affected states in order for them to take effective response.
Sweden	406.	Requirement 6 Page 19, Lines 29-31	Change <i>mitigatory actions</i> to <i>actions to mitigate the impacts of</i> in the requirement	Language change			✓	Term already in use within the safety standards series and defined in the list of definitions and the IAEA Safety Glossary 2007.
NEA	407.	Req. 6	<u>Actions to mitigate impacts</u> <u>...actions to mitigate the impacts of nuclear or radiological emergency.</u>	Title changed for clarity Better use of English			✓	Term already in use within the safety standards series and defined in the list of definitions and the IAEA Safety Glossary 2007.

India	408.	20/ Prepared ness for Require ment 6	Following text is to be added under Requirement 6 : 'For facilities in Category I and II, arrangements shall ensure access/approach to identified and vulnerable off-site areas even during extreme natural calamities such as heavy rains, floods etc.	This is a new clause to take care extreme natural calamities			✓	These aspects are to be considered in the hazard assessment (see para. 4.20 (b)). Arrangements need to reflect this consideration (see para. 4.18).
USA	409.	5.30/10-11	Generic response concepts of operations and methods shall be in place such that the absence of detailed, pre-scripted plans for a nuclear or radiological emergency shall not delay the emergency response.	1. Convoluted and double negative as written 2. What are the "arrangements" referred to in this section? Seems odd to say one has to be able to respond even if plans not in place to do so without elaboration.		✓		Considering other comments as well, this paragraph was deleted.
France	410.	5.30	5.30. Arrangements shall be made such that the absence of detailed plans for a nuclear or radiological emergency which have not been formulated in advance shall not delay the emergency response.	Simplification		✓		Considering other comments as well, this paragraph was deleted.
Slovenia	411.	p.18, line 32	Not just suitable and diverse means but also reliable .	3.	✓			
UK	412.	Page 19 line 14	Replace “warning” with <u>notification</u>	It could be confusing to use a different term, especially when the Convention on Early Notification does not use the term.			✓	Please note that warning point is defined term in the list of Definitions.
France	413.	5.31	Consider making reference to the Convention for the single warning point of states.		✓			The link is clear in the definition of warning point in the list of definitions.

Indonesia	414.	5.31	Consider writing a specific para for the 'request for assistance'		✓			Covered in the same paragraph. Additionally, please note requirement 17.
Slovenia	415.	p.19, Requirement 6	This requirement is primarily focused at the operator and not at the government. Government can ensure arrangements (this is legal frame) – nothing wrong with that, but it is more important that the OPERATOR HAS the arrangements for mitigation with national legislation or without that.		✓			That is clear in the following requirements when arrangements are specific to operating organization. However, in the overarching requirement it is highlighted that the government shall require and ensure that operator has such arrangements. In addition, there are also requirements for first responders, provision of emergency services etc. that would require particular dedication by the government.
France	416.	Footnote 9	⁹ Such actions may include actions with off-site consequences such as discharge of radioactive material to the environment, provided that the appropriate off-site organizations are notified in advance.	Clarification	✓			
NEA	417.	5.34, 35		Why include a nuclear emergency here? These seem to be very redundant with previous requirements			✓	No redundancy – requirements deal specifically with mitigatory actions. Previous requirements dealt with notification and activation of response.
NEA	418.	5.36	<u>Arrangements shall be in place for off-site emergency services to be coordinated with on-site capabilities.</u> at facilities and activities in categories I, II, III or IV.	To be more precise and succinct		✓ 5.24. Off-site emergency services shall be made available, and shall be capable, to support the on-site response at facilities and activities in category I, II, III or IV.		For consistency.
Sweden	419.	5.36 Page 20 Lines 8-9	Define to what extent off-site emergency services shall be capable to support the on-site response?	The licensee shall have sufficient resources on site, or plans to obtain them elsewhere, to handle all accidents within the design basis.		✓ 5.26. The operating organization of a facility or activity in category I, II, III and IV shall assess and determine, at the preparedness stage, when		New paragraph added.

						and under what conditions assistance from the off-site emergency services may need to be provided on the site consistent with the hazard assessment and the protection strategy.		
France	420.	5.36	5.36. Off-site emergency services shall be made available, and shall be capable <u>to perform the off-site actions and</u> to support the on-site response at facilities and activities in category I, II, III or IV.	Primary goal of off-site service is to perform off-site actions. Support to the on-site response may not be relevant to all emergency services			✓	This paragraph deals with the mitigatory actions taken on the site not in general.
NEA	421.	5.37 line 16	<u>an</u> on-site...				✓	The meaning is for an emergency team to be dispatched on the site.
UK	422.	Page 20 line 22	... shall be given information, instruction, training and equipment necessary to restrict potential exposure.	The basic instruction mentioned in DS457 is a nebulous concept, and is arguably not sufficient to meet the IAEA BSS requirement for information, instruction, training and equipment necessary to restrict potential exposure		✓ 5.28. Arrangements shall be made for the operating organization of an activity in category IV, first responders in an emergency at an unforeseen location and those staff at locations where there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.21) to take promptly all practicable and appropriate actions to mitigate the consequences of a nuclear or radiological emergency. These arrangements shall include providing basic instructions and training in the means of mitigating the potential		Broaden to encompass all arrangements.

						consequences of a nuclear or radiological emergency (see also para. 5.42).		
France	423.	5.38	shall be given basic instruction in the 22 means of mitigating the potential consequences of <u>nuclear or radiological emergency</u> emergencies	Clarification	✓			
NEA	424.	5.38 line 22	basic <u>training and</u> instruction	Again, training is very seldom mentioned		✓ 5.28. Arrangements shall be made for the operating organization of an activity in category IV, first responders in an emergency at an unforeseen location and those staff at locations where there is a significant likelihood of encountering a dangerous source that is not under control (see para. 4.21) to take promptly all practicable and appropriate actions to mitigate the consequences of a nuclear or radiological emergency. These arrangements shall include providing basic instructions and training in the means of mitigating the potential consequences of a nuclear or radiological emergency (see also para. 5.42).		Broaden to encompass all arrangements. Other comments were considered as well.
Slovenia	425.	p.20, 5.39	It is required that basic instruction shall be given, but it does not say who should ensure that – here the government should step in and			✓		Please note the response under comment number 415 above.

			ensure this service by whoever is capable to provide it.					
ILO	426.	21-Para. 5.41		It may be useful to put the list of arrangements on page 21 in a bullet format;		✓		To be considered during the editorial review by the Technical Editor.
Slovenia	427.	p. 21, line 1, 5.41	The list of arrangements can be extended with: design features, emergency management , equipment qualification for harsh conditions,...			✓ 5.25. For facilities in category I, II or III, arrangements shall be made for mitigatory actions to be taken by the operating personnel to prevent an escalation of the emergency, to return the facility to a safe and stable state, to reduce the potential for releases of radioactive material or exposures and to mitigate the consequences of any actual releases or exposures. These arrangements shall take into account full range of possible conditions affecting the emergency response to include those resulting from the conditions within the facility and from potential impact of postulated natural, human induced or other events and affecting regional infrastructure and several facilities simultaneously. Arrangements shall include emergency operating procedures and		Paragraph is revised and broaden considering other comments as well.

						guidance for the operating personnel on mitigatory actions for severe conditions (for a nuclear power plant as part of the accident management programme [16]), for the full range of postulated emergencies, including accidents that are not considered in the design and associated conditions. These arrangements need to consider ensuring continued functionality of nuclear security system(s) (see Ref. [9-11]) as far as practicable.		
Turkey	428.	Chapter 5 Para. 5.41 Page 21 Lines 1-10	The sentence given in lines 1-10 has become too long with amendments made in the new version. It will be better if the sentence is divided into short parts or given in bullets.			✓ 5.25. For facilities in category I, II or III, arrangements shall be made for mitigatory actions to be taken by the operating personnel to prevent an escalation of the emergency, to return the facility to a safe and stable state, to reduce the potential for releases of radioactive material or exposures and to mitigate the consequences of any actual releases or exposures. These arrangements shall take into account full range of possible conditions affecting the emergency response to include those resulting from the conditions within the		Paragraph is revised and broaden considering other comments as well.

						<p>facility and from potential impact of postulated natural, human induced or other events and affecting regional infrastructure and several facilities simultaneously. Arrangements shall include emergency operating procedures and guidance for the operating personnel on mitigatory actions for severe conditions (for a nuclear power plant as part of the accident management programme [16]), for the full range of postulated emergencies, including accidents that are not considered in the design and associated conditions. These arrangements need to consider ensuring continued functionality of nuclear security system(s) (see Ref. [9-11]) as far as practicable.</p>		
NEA	429.	5.41 line 29	<p><u>, in accordance with the protection strategy,</u> for <u>the</u> mitigatory action by the operating personnel to pre</p>	For clarity		<p>✓</p> <p>5.25. For facilities in category I, II or III, arrangements shall be made for mitigatory actions to be taken by the operating personnel to prevent an escalation of the emergency, to return the facility to a safe and stable state, to reduce the potential for releases of radioactive material or</p>		<p>Paragraph is revised and broaden considering other comments as well.</p>

					<p>exposures and to mitigate the consequences of any actual releases or exposures. These arrangements shall take into account full range of possible conditions affecting the emergency response to include those resulting from the conditions within the facility and from potential impact of postulated natural, human induced or other events and affecting regional infrastructure and several facilities simultaneously. Arrangements shall include emergency operating procedures and guidance for the operating personnel on mitigatory actions for severe conditions (for a nuclear power plant as part of the accident management programme [16]), for the full range of postulated emergencies, including accidents that are not considered in the design and associated conditions. These arrangements need to consider ensuring continued functionality of nuclear security system(s) (see Ref. [9-11]) as far as practicable.</p>		
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Germany	430.	5.41, Lines 1 to 9	<p>“... These arrangements shall take into account the full range of possible conditions affecting the emergency response ... as well as the following aspects: (a) the operational actions necessary; (b) the operational information needs; (c) the workload and habitability conditions of the operating personnel (such as in the control room); (d) the response actions necessary in the facility; (e) the conditions in the facility and, where appropriate, the conditions in the vicinity of the facility, in which response actions are necessary, including possible hazardous conditions affecting emergency workers (e.g. high temperatures, toxic gases, high external dose rates etc.); and (f) the response and availability of the personnel, instrumentation and structures, systems and components of the facility under emergency conditions. ...”</p>	<p>This sentence addresses six different aspects to be taken into account in the arrangements for mitigatory actions for facilities in category I, II or III. Introduce structuring of the different items to improve the readability of the whole sentence.</p>		<p>✓</p> <p>5.25. For facilities in category I, II or III, arrangements shall be made for mitigatory actions to be taken by the operating personnel to prevent an escalation of the emergency, to return the facility to a safe and stable state, to reduce the potential for releases of radioactive material or exposures and to mitigate the consequences of any actual releases or exposures. These arrangements shall take into account full range of possible conditions affecting the emergency response to include those resulting from the conditions within the facility and from potential impact of postulated natural, human induced or other events and affecting regional infrastructure and several facilities simultaneously. Arrangements shall include emergency operating procedures and guidance for the operating personnel on mitigatory actions for severe conditions (for a nuclear power plant as part of the accident management programme [16]), for the full range of postulated</p>	<p>Paragraph is revised and broaden considering other comments as well.</p>
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						emergencies, including accidents that are not considered in the design and associated conditions. These arrangements need to consider ensuring continued functionality of nuclear security system(s) (see Ref. [9-11]) as far as practicable.		
ENISS	431.	Article 5.42	For facilities in category I, II or III, arrangements shall be made, in particular by the operating organization, to provide technical assistance to the operating personnel. On-site Teams for mitigating the consequences of an on-site emergency (e.g. damage control, firefighting) shall be available and shall be prepared to perform actions in the facility.	Fire fighters (big fire trucks, human resources to rescue a first responding team) are not always located on-site.			✓	The sentence requires for on-site teams to be available. The support from off-site services is covered in the last two sentences of the same paragraph.
France	432.	5.42	For facilities in category I, II or III, arrangements shall be made, in particular by the operating organization, to provide technical assistance to the operating personnel. On-site Teams for mitigating the consequences of an on-site emergency (e.g. damage control, firefighting) shall be available and shall be prepared to perform actions in the facility.	Fire fighters (big fire trucks, human resources to rescue a first responding team) are not always located on-site.			✓	The sentence requires for on-site teams to be available. The support from off-site services is covered in the last two sentences of the same paragraph.
Canada	433.	5.42/18	Existing text: “Any equipment necessary in response and recovery shall be...” If recovery is in scope keep sentence as is. If it is out of scope “recovery” should be deleted.	Unsure as to whether the recovery phase is in or out of scope for this document. If recovery is in scope keep sentence as is. If it is out of scope “recovery” should be deleted.		✓		Recovery operations as long as the emergency is not terminated are within the scope of this document.

Canada	434.	5.42/ 22-23	Consider the addition of the following text to this sentence. Arrangements shall be made, reviewed and updated on a regular basis to obtain the required support promptly from the emergency services (e.g. police, medical and firefighting services) off the site.	Important to indicate that these arrangements shall be updated on a regular basis as changes do occur over time for both the onsite and offsite organizations. Both have to be on same page as to what is available in the response effort.		✓		No addition needed, as it is covered by Requirement 26.
Slovenia	435.	p.21, req. 7	It is difficult to combine urgent and other actions into one requirement especially in the explanatory paragraphs, because the other actions are quite broad term and urgent actions shall and must be implement without delay. Why is here added »with account taken of international standards« - this can be added to any of the requirements since all requirements represent international standards.			✓		Reference to standards is removed. Please note definition for other response actions for clarity. These actions will accompany the urgent protective actions. As a set they are part of overall protection strategy.
Austria	436.	Requirement 7	The relation between GSR Part 3 (BSS) approach on protective action strategies and GSR Part 7 urgent protective actions is unclear. In GSR Part 7 generic criteria for isolated urgent protective actions are defined versus reference levels for the residual dose (effective dose in the range 20–100 mSv) for the protection strategies in GSR Part 3.		✓			Please note new overarching Requirement 5 on protection strategy.
Japan	437.	5.43/ P21.L34 (Req.7: Taking urgent protective actions and other response actions, Res.)	in the activity, use of reliable and timely technical/radiological assessments and/or projections (see para. 6.23) and conducting radiation monitoring and environmental monitoring and assessment, in order promptly to identify, characterize or	See General comments #2. It should not be described as a requirement according to General Comment No.2.	✓			

Czech	438.	5.43/35, 1	<i>I am not capable to propose new text</i>	<p>technical/radiological assessments and/or projections (see para. 6.23) and conducting radiation monitoring, environmental monitoring and assessment, in order promptly</p> <p>The bold text is not clear – what is radiation monitoring. In my understanding it is monitoring of radiation situation which means among others monitoring of radionuclide content in environment samples. What is then environmental monitoring?</p> <p>I think it is necessary to define monitoring of radiation situation (or radiation monitoring) and in the definition clearly describe what this monitoring means/contains. And then – of course – to use the defined term systematically in the whole document.</p>	✓			Wording revised considering other comments as well. Please note that IAEA Safety Glossary provides definitions on different terms associated with monitoring.
Canada	439.	5.44/...	<p>Consider the addition of the word “protect” as indicated below:</p> <p>All appropriate actions shall be taken to protect, save lives and to prevent severe deterministic effects</p>	Add “protect” to be consistent with rest of document.			✓	Covered under specific protective actions.

Turkey	440.	Chapter 5 Para 5.44 Page 22 Line 3	The phrase "to prevent severe deterministic effects" should be amended as ", to prevent severe deterministic effects ,, and reduce the risk of stochastic effects, as appropriate."	All health related goals of emergency response should be mentioned.			✓	Safe implementation of protective actions to reduce the risk of stochastic effects is reflected under specific protective actions discussed in the draft text.
Libya	441.	5.44/3	...to save lives, <u>protect environment and to prevent severe...</u>	Environment has great effect on all lives.			✓	Actions are not directly associated with the protection of the environment but with the goal to protect the public.
NEA	442.	5.45 line 5	...national <u>protection strategy</u> ...	To be precise concerning the driver for actions	✓			Addressed under Requirement 5.
Canada	443.	5.46	With respect to the text “Urgent protective actions.....shall be modified as appropriate to...”. consider providing reference to guidance for making such modification	Clarification. Given the need to make timely and appropriate decisions on protective actions, it will be helpful to make reference to available guidance or methods for making the necessary modifications during and emergency.		✓		Further elaboration is given under Requirement 5 with due consideration of other comments as well. Further guidance to be considered for provision in lower level document. Currently existing guidance in EPR provides basis for this.
USA	444.	Pg 22 Line 9	Revise as: ...shall not be implemented if it is not justified or and shall be...	Editorial revision to correctly relate that both parts of the requirement apply.	✓			Wording revised and elaborated under overarching Requirement 5 on protection strategy.
France	445.	5.46	5.46. Urgent protective actions and other response actions shall be modified as appropriate to take into account any new information relating to the emergency that becomes available. A protective action and other response action shall not be implemented if it is not justified or shall be discontinued when it is no longer justified.	The sentence on implementing justified protective action would better fit in 5.45.		✓		Wording revised and elaborated under overarching Requirement 5 on protection strategy.

Canada	446.	5.46/9	Suggest the following edit: “...shall not be implemented if it is not justified or and shall be discontinued when it is no longer justified.”	Clarification required with respect to the use of “or” versus “and” in this sentence.	✓			Wording revised and elaborated under overarching Requirement 5 on protection strategy.
Pakistan	447.	5.48/17	The operating organization of a facility in category I, II or III shall make arrangements to assess and anticipate promptly: abnormal conditions at the facility; exposures and releases of radioactive material and other hazardous material; radiological conditions on and off the site; <i>as appropriate</i> and any actual or potential exposures of the public.	As there will be no radiological consequences off the site for a facility in Category III.	✓			
USA	448.	Pg 22, sect 5.48, line 18	Change to read “...and any actual or potential exposures of the public and workers. ”	This section should include both members of the public and radiation workers and emergency workers.	✓			
France	449.	5.48	5.48. The operating organization of a facility in category I, II or III shall make arrangements to assess and anticipate promptly: abnormal conditions at the facility; exposures and releases of radioactive material and other hazardous material; radiological conditions on and <u>in the vicinity of</u> off the site; and any actual or potential exposures of the public.	“Off-site” is too broad as the licensee is expected to make contamination and dose rate monitoring in the immediate vicinity (a few km) of the site. Emergency planning zone are usually wider than that for NPP....		✓ ...and, as appropriate, off the site		Considering other comments as well.
Germany	450.	5.48, Lines 18 to 21	“... These assessments shall be used: (a) for deciding on mitigatory actions to be taken by the operating personnel; (b) as a basis for emergency classification (see para. 5.25); (c) for deciding on urgent protective actions and other response actions to be taken on the site including those for protection of workers; and (d) for	This sentence addresses four specific purposes for the use of the radiological assessments. Introduce structuring of the different items to improve the readability of the whole sentence.	✓			

			recommendations for urgent protective actions and other response actions to be taken off the site. ...”					
France	451.	5.48	These arrangements shall include provision for access to instruments displaying or measuring those parameters that <u>shall and</u> can readily be measured or observed in a nuclear or radiological emergency.	Clarification (not all parameters are concerned)			✓	If some parameters cannot be measured or displayed then one cannot set requirement for them to be measured. Please note ‘shall’ formulation at the beginning of the sentence.
France	452.	5.48	Consider including other response organizations	The assessment and anticipation is not the sole responsibility of the operating organization.		✓		Covered under para. 5.31 of the draft text: Arrangements shall be made so that the magnitude of hazards and the possible development of hazardous conditions are assessed initially and throughout a nuclear or radiological emergency in order to promptly identify, characterize or anticipate, as appropriate, new hazards or the extent of hazards and to refine the protection strategy.
Sweden	453.	5.48 Page 22 Lines 15-27	Delete the text “ <i>and for recommendations for urgent protective actions and other response actions to be taken off the site</i> ”	The licensee should not be responsible for recommending protective actions to be taken off-site. This is the responsibility of the government (possibly delegated to authority or governmental body)	✓			
Japan	454.	5.48/ P22.L26 (Req.7: Taking urgent protective actions and other response actions, Pre.)	conditions shall be take into account. Any use of technical/radiological assessments and/or projections shall be made with recognition of their limitations and provided that they can be used promptly (see para. 6.23).	See General comments #2. It should not be described as a requirement according to General Comment No.2.	✓			

Sweden	455.	5.49 Page 22 Lines 28-33	Delete the text “ <i>to identify members of the public who could potentially be exposed; and to communicate the extent of the hazards and the recommended protective actions and other response actions to the appropriate off-site response organizations</i> ”.	The licensee should not be responsible for identifying members of the public who could potentially be exposed, communicate the extent of the hazard and recommend protective actions and other response actions to the appropriate off-site response organizations. This is the responsibility of the government (possibly delegated to an authority or other government body)	✓			
Slovenia	456.	p.22, 5.49		This requirement refers actually to classification procedure for category IV, which is for such activities very simple, but it is described here by many words and sounds complicated. And in most cases actually should not foresee urgent protective actions (at least those can not be pre-planned).		✓ 5.33. The operating organization for activities in category IV shall make arrangements to assess promptly the extent and/or the significance of any abnormal conditions on the site, any exposures or any contamination. These assessments shall be used: (a) for initiating the mitigatory actions; (b) as a basis for protective actions and other response actions to be taken on the site; and (c) for determining the level for emergency response and for communicating the extent of the hazard to the appropriate off-site response organizations.		For clarity.

France	457.	5.50	Consider rewriting the para. Some emphasize is needed to address the fact that OIL is not the only way of triggering protection of the public. Waiting for measurement is not a optimized strategy.	The use of OIL is not internationally done and accepted. OIL is helpless for anticipation and anticipation is still a ley for the protection strategies to be implemented.	✓			Wording revised and clarified under overarching Requirement 5 on protection strategy.
NEA	458.	5.50	A protection strategy for taking precautionary and urgent protective actions and other response actions shall be established, and shall be justified and optimized with account taken of local and national conditions and conditions specific to the range of postulated emergencies. Based on the protection strategy , predetermined operational intervention ...	The protection strategy drives actions, which may be precautionary or urgent	✓			Consistent revision is done throughout the draft text considering new overarching Requirement 5 on protection strategy.
NEA	459.	5.51	<u>As the emergency evolves,</u> arrangements... involvement of interested parties.	Needs clarification How, is appropriateness judged?	✓			Consistent revision is done throughout the draft text considering new overarching Requirement 5 on protection strategy.
Canada	460.	5.51/7	Consider the additional wording provided in bold text below: ...with involvement of relevant stakeholders ...	Involvement should only be with those at stake, not those who are interested.	✓			Consistent revision is done throughout the draft text considering new overarching Requirement 5 on protection strategy. Therefore, this paragraph is deleted. However, interested party is defined term already in use with the safety standards series.
USA	461.	5.52		Statement is not logical. It is not good practice to train during an emergency and ordering untrained responders into a radiological emergency is unsound practice. Safety of the responders is not well thought out in this document.		✓ 5.36. Arrangements shall be made for actions to save human life or to prevent serious injury to be taken without delay on the grounds of the possible presence of radioactive material (see also para. 5.38 and 5.62). These arrangements shall include providing		Wording is revised for clarity. Please note that dedicated functional requirement (Req. 11) and Appendix I deal specifically with protection of emergency workers.

						information to first responders in an emergency at an unforeseen location on the precautions to take in giving first aid or in transporting an individual with possible contamination.		
USA	462.	Pg 23, sect 5.52, line 8-9	Change to read "First responders in an emergency at an unforeseen location shall be informed that, in the event of an immediate danger to life (such as fire) , they should not delay any action to save human life or..."	An absolute statement that there should be no delay to save human life should be made, no qualifications or restrictions.		✓ 5.36. Arrangements shall be made for actions to save human life or to prevent serious injury to be taken without delay on the grounds of the possible presence of radioactive material (see also para. 5.38 and 5.62). These arrangements shall include providing information to first responders in an emergency at an unforeseen location on the precautions to take in giving first aid or in transporting an individual with possible contamination.		Wording is revised for clarity.
USA	463.	5.52, Lines 12-14	This requirement needs clarification on guidance to an emergency responder when the possible presence of radioactive material is or could be an immediate and significant danger to the responder.	The document currently says that first responders, "...should not delay any action to save human life or prevent serious injury on the grounds of the possible presence of radioactive material," but does not address the first responder's own safety considerations adequately.		✓ 5.36. Arrangements shall be made for actions to save human life or to prevent serious injury to be taken without delay on the grounds of the possible presence of radioactive material (see also para. 5.38 and 5.62). These arrangements shall include providing information to first responders in an		Wording is revised for clarity.

						emergency at an unforeseen location on the precautions to take in giving first aid or in transporting an individual with possible contamination.		
UK	464.	Page 23 line 21 to Page 24 line 20	“These emergency planning zones and distances shall be contiguous across national borders, where appropriate. <u>In defining these zones consideration shall be given</u> to: (i) A precautionary action zone.....	It should NOT be a requirement within this document for Member States to define separate PAZs, UPZs, etc. Multiple zones can lead to unnecessary confusion. Instead the requirement should be to <u>consider</u> the need for precautionary action, etc. as part of determining what predefined zones may be appropriate. The current text is much too prescriptive. An alternative approach would be to include the Footnote 44 from the current GS-R-2 which acknowledges that zones may differ from those described.	✓			The following footnote is added: The off-site emergency planning zones and distances may differ from those specified provided that, at preparedness stage, such areas and distances are designated and arrangements are made to effectively take precautionary urgent, urgent and early protective actions and other response actions within these areas and distances in order to meet the goals of emergency response.
Ireland	465.	5.53	The term "existing public infrastructure" is explained twice in this paragraph (duplication).	Editorial	✓			
Turkey	466.	Chapter 5 Para. 5.53 Page 23 Line 15	"Emergency classification" may be referred to in the sentence explicitly and "graded approach" may be put into parentheses or vice versa.				✓	Not the same. Class General Emergency will require taking protective actions and other response actions off-site within predetermined zones. The emergency planning zones and distances will ensure you apply a graded approach in implementing

								the response actions (priority to public in PAZ due to possibility for severe deterministic effects; then those in UPZ so that implementation of actions within UPZ will not jeopardize actions in PAZ; etc.).
NEA	467.	5.53 line 15	on the defined protection strategy and on a graded approach.	For clarity		✓ ... and in line with the protection strategy.		For consistency.
NEA	468.	5.53	transport networks) to avoid occurrence of deterministic effects or should they occur, to minimize the severity of consequences and the number of individuals affected , and to reduce the risk of stochastic effects, for the full range of possible emergencies (including those ...	Changed as such throughout to be consistent with ICRP		✓		Sentence removed considering other comments as more appropriate for guidance document (how to be achieved).
NEA	469.	5.53 (a)	zones and suggested areas for which arrangements shall be made for taking protective actions and other response actions. These emergency planning zones and suggested areas	Needs clarity		✓		Wording revised under the definitions for emergency planning distances for clarity.
NEA	470.	5.53 (a) (i)	in order to avoid occurrence of deterministic effects or should they occur, to minimize the severity of consequences and the number of individuals affected .				✓	Wording consistently used throughout the draft text and other safety standards, e.g. GSR Part 3.
Japan	471.	5.53(a)(ii) / P23.L31 (Req.7: Taking urgent protective actions and other response actions, Pre.)	(ii) An urgent protective action planning zone (UPZ), for facilities in category I or II, for which arrangements shall be made at the preparedness stage with the goal of initiating precautionary urgent protective actions if possible before a release on the basis of conditions at the facility (i.e. conditions leading to the declaration of a general emergency; see para. 5.25) and urgent protective actions and other response actions on the basis	See General comments #2. Initiating protective actions may delay if available predictions are to be used. And those predictions are made using source-term projections and weather forecast information that include errors not negligible. Moreover, in the Fukushima accident, we acutely felt	✓			

			of reliable and timely predictions of the radiological situation off the site (see para. 6.23) if available or on monitoring off the site <u>and predetermined operational intervention levels (see paras 5.50 and 5.103)</u> , in order to take response actions that are effective in reducing the risk of stochastic effects off the site. Any such actions shall be taken in such a way as not to delay the implementation of precautionary urgent protective actions and other response actions within the precautionary action zone.	uncertainty of computer calculated dose deposition predictions. So we think we should avoid relying on predictions in emergencies.				
Germany	472.	5.53 (a), item (ii), Line 33	“An urgent protective action planning zone (UPZ), for facilities in category I or II, for which arrangements shall be made at the preparedness stage with the goal of initiating precautionary urgent protective actions if possible before a <u>significant</u> release on the basis of conditions at the facility (i.e. conditions leading to the declaration of a general emergency; see para. 5.25) ...”	Adapted to the same wording as used in item (i) of the same paragraph.	✓			
Turkey	473.	Chapter 5 Para. 5.53 Page 24 Line 3, 4	The phrase "to avoid or minimize detenninistic effects" should be added to the sentence.	It is evident from EPR-NPP Public Protective Actions - 2013 (Fig. 21) that detenninistic effects can be observed in UPZ.		✓		Please note the footnote in para. 5.53 (a) (ii).
Japan	474.	5.53(a)(iii)/ P24.L9-13 (Req.7: Taking urgent protective actions and other	An extended planning distance (EPD) from the facility, for facilities in category I or II, for which arrangements shall be made at the preparedness stage to conduct monitoring <u>in order to identify contaminated locations</u> and on the basis of predetermined operational intervention levels (see paras 5.50 and 5.103), identify areas within a	See General comments #1. It is within UPZ that requires urgent protective actions and other response actions within a day following a release.		✓	(iii) An extended planning distance (EPD) from the facility, for facilities in category I or II, is the area beyond the UPZ for which arrangements shall be made to conduct monitoring and assessment of the	For consistency.

		response actions, Pre.)	period that would be effective in reducing the risk of stochastic effects by taking: (1) urgent protective actions and other response actions (e.g. evacuation) within a day following a release or (2) early protective actions and other response actions (e.g. relocation) within a week to a month following a release			radiological situation off the site in order to identify areas within a period of time that would allow reducing the risk of stochastic effects effectively by taking: (1) urgent protective actions and other response actions within a day following a significant release and (2) early protective actions and other response actions within a week to a month following a significant release.		
France	475.	5.53 a(iii)	Consider not defining at the preparedness phase the areas concerned by EPD and ICDP but put in place criteria to promptly define them when needed (during or just after the release phase)	These zones are highly dependent of the accident and the prevalent conditions during the occurrence of the releases. As an example the meteorological conditions (wind but also rain) may change dramatically the post-accidental consequences.			✓	In the light of past experience, it is important for these areas to be considered at preparedness stage and arrangements to be put in place for taking effective response actions within them.
France	476.	5.53a (iv)	An ingestion and commodities planning preparedness distance (ICPD) from the facility, for facilities in category I or II, for which arrangements shall be made at the preparedness stage, following the declaration of a general emergency, to take effective response actions in accordance with the generic criteria in Appendix II, to protect the public from food, milk, water and commodities that may be contaminated by the release.	In view of the distances considered and of uncertainties, a more flexible system than planning should be considered. The notion of preparedness seems a good intermediary between planning and “do nothing”.			✓	Please note the response under comment number 475 above.

FAO	477.	5.5 3(a)(iv) at line 18 on page 24	that may be contaminated by the release radionuclides .	These criteria only apply to releases of radionuclides. Some releases may give rise to chemical contamination of food and feed produced locally (e.g. fluorine gas from a fuel production facility) and appendix II does not provide criteria in relation to chemical contaminants.	✓			Wording is revised considering other comments as well.
NEA	478.	5.53 (a) (iv) line 4	...in accordance with the protection strategy , to...	To focus on the correct driver		✓		Revised throughout the draft text and addressed as appropriately.
Czech	479.	5.53 (b) 29	<i>I am not capable to propose new text</i>	exposures or results of environmental monitoring following a release of radioactive material The same commnets as those to pages 21,22 The bold text is not clear – what is radiation monitoring. In my understanding it is monitoring of radiation situation which means among others monitoirng of radionuclide content in environment samples. What is then environmental monitoring? I think it is necessary to define monitoring of radiation situation (or radiation monitoring) and in the definiton celarly describe what this		✓		Comment considered. Please note the response under comment number 438 above.

				monitoring means/contains. And then – of course – to use the defined term systematically in the whole document.				
Japan	480.	5.53(b)/P24.L22 21 (Req.7: Taking urgent protective actions and other response actions, Pre.)	and on conditions at the facility and off the site (see paras 5.25, 5.26 and 5.48) <u>and on monitoring off the site (see paras 5.50 and 5.103)</u> and on use of reliable technical/radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see para. 6.23);	<u>Implementation of urgent protective actions shall be judged from facility situation and OILs according to definition.</u> See General comments #2. It should not be described as a requirement according to General Comment No.2.		✓ (b) Criteria, based on emergency classification and on conditions at the facility and off the site (see paras 4.28(3), 4.28(4), 5.14 and 5.15), for initiating and adjusting urgent protective actions and other response actions within the emergency planning zones and distances in line with the protection strategy.		Wording is revised for consistency. Other comments are considered as well.
Sweden	481.	5.53 (c), Page 24, Lines 31-33	Delete the bullet point (c).	The licensee should not be responsible for recommending protective actions and other response actions to be taken off-site. This is the responsibility of the government (possibly delegated to an authority or other government body)		✓ (c) Authority and responsibility available at any time to provide sufficient and updated information to the notification point to allow for an effective off-site emergency response.		Context fully accepted.
Russia	482.	5.53(c)/3 3	...the declaration of emergency class (see para. 5.27).	According to para 5.27 of draft not nuclear or radiological emergency but emergency class have to be declared.		✓ (c) Authority and responsibility available at any time to provide sufficient and updated information to the notification point to allow for an effective off-site emergency response.		Wording revised for consistency and considering other comments as well.

Canada	483.	5.53 (c)/31	<p>Suggest that wording should indicate the need for a single position on-site at all times that is responsible for providing the necessary information to the authorities that have jurisdiction for off-site protective actions.</p> <p>Should also indicate the need to have plans which clearly identify the individual (positions) with authority to authorize protective actions.</p>	Regarding “on the site at all times” and “to recommend protective actions” It’s feasible that the individual with authority may be physically located off-site and not all NPPs have the jurisdiction to recommend protective actions to offsite agencies.		✓ (c) Authority and responsibility available at any time to provide sufficient and updated information to the notification point to allow for an effective off-site emergency response.		Wording revised for consistency and considering other comments as well.
Switzerland	484.	5.53 (c) Page 24 Line 31	A single position on or off the site with the authority and responsibility ...	The position with the authority to recommend protective actions need not to be at the site. This task could also be assigned to the regulatory body which will make the recommendations based on source term and on-line plant parameters to be provided by the operating organization.		✓ (c) Authority and responsibility available at any time to provide sufficient and updated information to the notification point to allow for an effective off-site emergency response.		Wording revised for consistency and considering other comments as well.
France	485.	5.54	The arrangements shall be coordinated with all jurisdictions (including those beyond national borders) within any emergency planning zone or distance, <u>and as appropriate interfaced with neighbouring State emergency response organizations.</u>	To make a clearer distinction between what is within a State jurisdiction and what is involving a foreign State.			✓	Emphasis is on the coordination (to be ensured during preparedness stage) with other States that fall within emergency planning zones and distances.
Germany	486.	5.54, Lines 6 to 9	“... These arrangements shall include arrangements for: (a) designation and training of off-site decision makers to promptly initiate protective action and other response actions upon the notification of an emergency (see para. 5.22); (b) taking appropriate actions for the protection of emergency workers; <u>and (c) alerting permanent, transient</u>	1.) Wording. 2.) This sentence addresses three specific arrangements for taking protective actions and other response actions within the emergency planning zones and distances. Introduce	✓			

			and special population groups or those responsible for them and special facilities. ...”	structuring of the different items to improve the readability of the whole sentence.				
Germany	487.	5.54, Lines 12 to 14	“... These arrangements <u>This</u> shall also include arrangements to ensure that services are continuously provided in order to ensure public safety for continuous provision of necessary services (e.g. <u>medical</u> services for the care of critically ill patients) <u>in order to ensure public safety</u> throughout the emergency, ...”	Improve wording to avoid phrases such as “arrangements shall include arrangements” and “ensure that ... in order to ensure”. Emphasis should be placed on public services that are indispensable upon the notification of an emergency.		✓ These arrangements shall ensure that services necessary to ensure public safety (e.g. rescue services and services for the care of critically ill patients) are continuously provided throughout the emergency, including during the implementation of protective actions and other response actions.		For consistency and considering other comments as well.
Japan	488.	5.55/ P25.L17 (Req.7: Taking urgent protective actions and other response actions, Pre.)	Within emergency planning zones, arrangements shall be made for promptly <u>monitoring dose rate and assessing</u> contamination, and <u>assessing</u> releases of radioactive material and doses for the purpose of deciding on or adjusting the protective actions	Actions based on OILs require dose rate not dose.				
Japan	489.	5.55/ P25.L19 (Req.7: Taking urgent protective actions and other response actions, Pre.)	These shall include arrangements for: (a) use of reliable technical/radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see 6.23) and (b) promptly conducting environmental monitoring and monitoring for contamination on people (e.g. evacuees) within the emergency planning zones and promptly assessing the results of the monitoring on the basis of predetermined operational intervention levels.	See General comments #2. It should not be described as a requirement according to General Comment No.2.	✓			

Germany	490.	5.55/20	“...used promptly (see para. 6.23) and (b) promptly...”	Missing word	✓			
Czech	491.	5.55/21, 22	<i>I am not capable to propose new text</i>	conducting environmental monitoring and monitoring for contamination on people (e.g. evacuees) within the emergency planning zones and promptly assessing the results of the monitoring on the basis		✓		Comment considered. Please note the response under comment number 438 above.
UK	492.	Page 25 line 26	“...shall make arrangements to ensure <u>so far as reasonably practicable</u> the safety of all persons on the site....”	It is an impossible requirement to <u>ensure</u> the safety of all persons on site in the event of any emergency. This needs to be qualified.			✓	Safety of all those present on the site must be a priority. Adequate protection needs to be provided to them depending on their position (visitor, worker or emergency worker).
Germany	493.	5.56, Lines 27 to 29	“... This shall include arrangements: (a) to notify people on the site of an emergency; (b) for all persons on the site to take appropriate actions immediately upon notification of an emergency; (c) to account for those on the site; (d) to locate and recover those unaccounted for; (e) to take urgent protective actions; and (f) to provide immediate first aid. ...”	This sentence addresses six specific arrangements to ensure the safety of all persons on the site for facilities in category I, II or III. Introduce structuring of the different items to improve the readability of the whole sentence.	✓			
Czech	494.	5.56/31	<i>I am not capable to propose new text</i>	site that are provided with continuous radiation monitoring ; a sufficient number of safe escape routes; The same comments as those to pages 21,22 and 24 The bold text is not clear		✓		Comment considered. Please note the response under comment number 438 above.

				<p>– what is radiation monitoring. In my understanding it is monitoring of radiation situation which means among others monitoring of radionuclide content in environment samples. What is then environmental monitoring?</p> <p>I think it is necessary to define monitoring of radiation situation (or radiation monitoring) and in the definition clearly describe what this monitoring means/contains. And then – of course – to use the defined term systematically in the whole document.</p>				
Canada	495.	5.57	Consider adding that responding organisations shall ensure that suitable and diverse means of communication exist for communications amongst themselves.	Highly desirable requirement. The focus of communications should not be just between the operating organisation and the off-site officials, but between all off-site responding organisations to ensure coordination.		✓		Considered. Issue raised is covered under para. 6.22 of the draft text.
NEA	496.	5.58	with guidance and training on taking urgent protective actions and other response actions in accordance with the protection strategy (see para. Error! Reference source not found.). This shall include the approximate radius	Training is key, and the protection strategy (what) is the driver, not generic criteria (how)		<p>✓</p> <p>5.42. Operating personnel of activities in category IV, first responders in an emergency at an unforeseen location and those staff at locations where there is a significant likelihood of encountering a dangerous</p>		For consistency with overall revisions.

						source that is not under control (see para. 4.21) shall be provided with guidance and training on taking urgent protective actions and other response actions. This shall include the approximate radius of the inner cordoned off area in which urgent protective actions and other response actions would initially be taken and its adjustment on the basis of observed or assessed conditions on the site.		
Pakistan	497.	Requirement 8/ 11 & 12	The government shall ensure that arrangements are in place to warn the public promptly of a nuclear or radiological emergency and to educate them before and during the operation of a facility.	The details under Requirement 8 discuss about the public education before operation and throughout the lifetime of the facility.		✓ The government shall ensure that arrangements are in place to provide information to the potentially or actually affected public necessary for their protection, to warn them promptly of a nuclear or radiological emergency and to instruct them on actions that they must take.		Other details are covered by associated requirements.
NEA	498.	Req.8	Issuing instructions and warnings to the public ...actions that <u>must be taken.</u>	Requirement 11 is on public information		✓ The government shall ensure that arrangements are in place to provide information to the potentially or actually affected public necessary for their protection, to warn them promptly of a nuclear or radiological emergency and to instruct them on actions that they must take.		Other details are covered by associated requirements.

Slovenia	499.	p.26, Req. 8	Maybe to make clear, that this requirement refers to »potentially or actually affected public« and not to the general public.		✓			
Canada	500.	5.59/14	Consider the additional of the following text provided in bold: “Upon declaration of a nuclear or radiological emergency, the public shall be promptly warned of the emergency within timelines established by the member state and shall be instructed...”	“Promptly” is a bit ambiguous. Request clarification. Note: it is recognized that defining “promptly” <i>a priori</i> is a challenge.			✓	Promptly is associated with the urgency of specific actions (e.g. in the precautionary action zone) in order for them to be effective.
Ireland	501.	5.59	"..public ...shall be instructed in the actions they <i>should</i> take..." has been changed to "..public ...shall be instructed in the actions they <i>must</i> take..." . Is this feasible?	Clarity		✓ The government shall ensure that arrangements are in place to provide the public who are affected or are potentially affected by a nuclear or radiological emergency with information that is necessary for their protection, to warn them promptly and to instruct them on actions to be taken.		For consistency.
Russia	502.	5.59/14	Upon declaration of emergency class...	According to para 5.27 of draft not nuclear or radiological emergency but emergency class have to be declared.	✓			
UK	503.	Page 26 line 25	Amend the sentence to: <u>The information shall be periodically reviewed, and the effectiveness....</u>	It is important for the information to be reviewed from time to time; perhaps guidelines could be included in a Safety Guide to say every 3 years.		✓		Comment was considered; the issue is covered under periodical assessment of the arrangements.

Canada	504.	5.60/...	Consider the addition of a sentence similar to the one provided below: “ ... information shall be provided in the languages mainly spoken in these emergency planning zones and distances.” Additional means of communication should also be considered such as the use of visual symbols and audible systems should there be literacy concerns or minority language groups present. “The effectiveness ...”	Auditory and visual symbols and measures would be a useful tool for all, including minority groups located in the EPZs who do not understand the primary language or should there be concerns with respect to general literacy. This would apply to 5.61 and 5.90 as well.			✓	Addition proposed is too detailed for a requirement level document but it will be considered for inclusion in a safety guide once revised. The issue of languages spoken within areas is already covered with para. 5.44 of the draft text.
Ireland	505.	5.60	Facilities in category I and II and areas in category V must make arrangements to provide the public with information on the potential for a nuclear or radiological emergency before operation and throughout the lifetime of the facility. How will this work in practice for areas in category V?	Clarity		✓		In the same way as for categories I and II. The difference is that in this case the responsibility falls directly under local and national authorities. Coordination is necessary. The issue will be considered for detailed discussion in a safety guide once revised.
Ireland	506.	5.61	"Arrangements shall be made... To register those members of the public...". It is not clear what "registering" means.	Clarity		✓		To identify and recognize special population groups and those responsible for them within the areas where protective actions and other response actions are to be taken in order to identify specific arrangements to be made for their protection. Examples include disabled persons whose evacuation may require additional support and prisoners for whom special security arrangements are needed.
Slovenia	507.	p.27, 5.62	In principle for Category III no off-site actions are foreseen or planned. In line 2: 'information and instructions to the public to identify and locate people' – How people can be identified by providing them with 'information and instructions'? The people should be requested to refer to muster points to be checked				✓	Example is radiotherapy facility where medical accidental overexposure has been occurred for some time. Provision of the information in order to locate patients involved would be needed. This surely will be achieved by asking them refer to certain hospital or other point for follow up.

			for contamination, etc....					
Czech	508.	5.62/1	Arrangements shall be made for facilities in category III and for activities and acts in category IV to provide	Original sentence was not true. Category IV doesn't include facilities.	✓			
NEA	509.	5.62		<p>Why is the public locating those people in danger?</p> <p>This sentence needs to be rewritten.</p> <p>Alternative sentence; Arrangements shall be made to identify and locate people who may have been affected by the nuclear or radiological emergency and who may require urgent or longer term response actions such as decontamination, medical examination or medical screening by providing information to the local public.</p> <p>For completeness.</p>	✓			Wording revised for clarity.
Slovenia	510.	p.27, 5.64	The requirement 8 would like to cover also information and advice to any potentially interested party, if emergency is declared beyond national border...This information should be delivered also in case of large countries when this declaration is not required by this requirement but it should be. In addition, who would declare that 'the emergency is beyond national border' and then provide this information. Here information to		✓			Wording revised for clarity. This is group of potentially or actually affected public. Provision of information to general public is covered under Requirement 13.

			travelers and exporters is explicitly mentioned, what about exporters, local trade, cultural events, scheduled traffic connections, sports events, etc... In my opinion, information to those directly affected and taking protective actions to avoid immediate or serious health risks should not be mixed up with the information referring to exporters, importers, goods and food control....A separate requirement should be made.					
Germany	511.	5.64, Lines 11 and 12	“... with due account taken of the response actions recommended either within the State where the emergency occurred or <u>as well as</u> within the State(s) affected by that emergency (see paras 5.97 and 6.14).”	Para 5.64 deals with emergencies declared beyond national borders. With respect to information and advice provided to e.g. travellers and exporters, restriction to response actions recommended within the State where the emergency occurred is not adequate. In the event of a transnational emergency, several neighbouring States could be affected (compare with the wording used in related Paras 5.19, 5.97 and 6.14).	✓			
Spain	512.	Point 5.- Functional requirements Requirement 9.-		ICRP is right now developing a new “paper” to define the criteria and conditions applicable to all kind of “emergency responders”, which could useful to consider in this report. They are specially	✓			Findings of ICRP TG 84 on this topic were considered when developing this functional requirement and introducing helpers in an emergency.

				important to provide the appropriate level of protection to the so called “emergency workers” as well as to other “helpers”, and they should be fully aligned with the most recent ICRP doctrine in this field. (In line 26 of paragraph 5.75, the word “exceed” is lacking before the number 50 mSv).				
NEA	513.	Req. 9	Protecting emergency workers in an emergency	Emergency workers are different than helpers. These should not be under the same requirement. Helpers should be dealt with separately in another document. Emergency worker categories (3 categories) as recommended by the ICRP 109 should be taken into account.			✓	Although helpers are volunteers on the part of the public, once accepted as helpers they are to be integrated in emergency operations and the same level of protection afforded to them. Therefore, this functional requirement is adequate for addressing helpers as well. Emergency workers categories would be considered for inclusion in a safety guide once revised – too detailed for requirement level document.
India	514.	27/13	Requirement 9: Protecting emergency workers and informed volunteers in an emergency	"helper" can be renamed as "informed volunteer". In ICRP also "informed volunteer or informed volunteers" are used in place of "helper or helpers."			✓	Please note that volunteering is common for both workers and members of the public, therefore, the terms emergency worker and helper are carefully chosen.
USA	515.	5.65/17	“...shall be appropriately protected to deal with both radiological and non-radiological hazards.”	the worker protection response section should address workers potentially having to deal with mixed hazards - radiological and non-radiological at the same time. This impacts equipment and training.		✓		Comment is considered. Please note para. 5.49 of the draft text which refers to identification of anticipated hazardous condition in which emergency workers may have to take their actions. These conditions are basis for affording adequate level of protection in line with para 5.50 of the draft text and include all hazards. Therefore, the

								issue is already covered with the draft text.
Ireland	516.	5.65	"Helpers in an emergency" is a new term. Perhaps the text regarding them being "appropriately protected" should be expanded for clarity.	Clarity		✓		Requirements for their protection are addressed clearly under this functional requirement.
Ireland	517.	5.67	Training should also be included here.	Emergency workers should be trained in advance		✓		Covered under para. 5.50 of the draft text.
NEA	518.	5.67	...designated <u>and trained</u> in advance.	The importance of training should be appropriately mentioned			✓	Covered under para. 5.50 of this functional requirement.
Sweden	519.	5.70 Page 28 Lines 3-10	Include pre-distribution of tablets for iodine prophylaxis (as appropriate) in the list.	Iodine prophylaxis tablets must be pre-distributed to ensure that all projected users are able to obtain them in time if needed.	✓			
NEA	520.	5.70 (d)	... specialized <u>personal</u> ...	For clarity		✓		All types of protective equipment, not just personal.
NEA	521.	5.70	Add: ' <u>use of health protection agents (e.g.'KI and radioprotectors)</u> '		✓			
France	522.	5.70b	(b) providing instructions immediately before their job use to those emergency workers not designated as such in advance and to helpers in an emergency on how to perform their specified duties under emergency conditions ('just in time' training);	Clarification		✓	(b) providing instructions on how to perform specified duties under emergency conditions immediately before the conduct of these duties to those emergency workers not designated in advance and to helpers in an emergency ('just in time' training)	Wording is revised for clarity.

Slovenia	523.	p.28, 5.70	Arrangements for emergency workers: What about medical/health fitness of emergency workers?		✓			Covered under para. 5.47 of the draft text.
India	524.	28/After (f) and after line 10	The following may be added as point (g): "establishing communication link among emergency workers and between emergency workers and Operating/response organization"	A new item suggested for addition since the communication among and between emergency workers and Operating/response organization is essential for protection and successful emergency operations			✓	Covered under para. 6.22 of the draft text.
Ireland	525.	5.71	Not clear why "non-penetrating external radiation" only is included here.	Clarity	✓			
India	526.	28/5.71/1 2-131	...exposure to non penetrating external radiation...	More appropriate		✓		Revised considering other comments as well.
NEA	527.	5.71 line 13	non-penetrating external radiation	Why not gamma? Beta only?	✓			
France	528.	5.72		This requirement is not clear. What is meant by "with a grade approach" ?				The information and training to be provided to drivers of evacuation, police officers, medical staff or operating personnel of a NPP will differ although they all will be regarded as emergency workers.
Germany	529.	5.72	"In a nuclear or radiological emergency, the relevant requirements for occupational exposure in planned exposure situations established in Ref. [14] shall be applied for emergency workers ..."	Editorial.	✓			

UK	530.	Page28 line 21 Also page 49 table 1.1	Replace current reference to “collective dose“. With text: ... <u>(3) when undertaking actions to prevent a substantial increase in potential doses to members of the public.</u> Similarly replace “collective dose” in Table 1.1	It is best to avoid mention of collective dose because ICRP has recognised it is open to widespread misuse. E.g. a “large collective dose” could result from integrating tiny individual doses received by a very large population			✓	Correct within this concept. Kept for consistency with already published safety standards, mainly GSR Part 3 and GSG-2.
Japan	531.	5.73	The operating organization, <u>employers</u> , and response organizations shall ensure that no emergency worker is subject to an exposure in an emergency in excess of 50 mSv other than (1)...	To be consistent with the BSS.			✓	Term not used within these requirements. Please note the definition for emergency workers to cover all responders either directly or indirectly employed to ensure all are adequately covered.
NEA	532.	5.73 line 17	<u>volunteered lifesaving activity</u> or ...	For completeness and grammar		✓		For consideration by the Technical Editor.
France	533.	5.73	5.73. The operating organization and response organizations shall ensure that no emergency worker is subject to an exposure in an emergency in excess of 50 mSv other than (1) for the purposes of saving life or preventing serious injury, (2) when undertaking actions to prevent severe deterministic effects and actions to prevent the development of catastrophic conditions that could significantly affect people and the environment, or (3) when undertaking actions to avert a large collective dose.	(3) seems related to venting a NPP. (2) and (3) seems to cover the same kind of actions....			✓	Kept for consistency with GSR Part 3. In addition, 2 relates to mitigatory actions taken by operators on the site, while 3 with actions to protect the public such as evacuation. The aim of actions in 3 are not just necessarily prevention of severe deterministic effect.
Indonesia	534.	5.73-5.74	-both paragraphs are to be combined-	Statement in paragraph 5.73 mentioning that no emergency worker is subject to an exposure in an emergency in excess of 50 mSv – and soon-			✓	Kept for clarity.

				The value of 50 mSv as expressed in para 5.73 is a better stated in appendix instead.				
France	535.	5.74	For the exceptional circumstances of para. 5.73, national guidance values shall be established for restricting the exposures of emergency workers and helpers in an emergency , in accordance with Appendix I.	Helpers in an emergency shall not be allowed to take actions in which the doses received might exceed 50 mSv.	✓			
NEA	536.	5.74	values <u>as a part of the protection strategy</u> shall be established for restricting the exposures of emergency workers and helpers in an emergency, <u>taking into account the information in</u> Appendix I	Using the correct driver for protection		✓		Wording revised consistently throughout the draft text considering other comments as well.
USA	537.	Pg 28, section 5.74, line 24	Add additional text “ All practical means, including distance and stay time calculations, shall be used to minimize radiation exposure to the greatest extent possible. ”	This will help introduce the need to optimize worker exposure.		✓		Covered with revised para. 5.51 of the draft text. More details will be considered to be given in a safety guide once revised.
ILO	538.	28 – 26	Add ‘exceed’ before ‘50 mSv’.		✓			
Interpol	539.	5.75, line 26	... in which the doses received might <u>exceed</u> 500 mSv do so voluntarily	Exceed is missing	✓			
India	540.	28/5.75/26	.. .doses received might exceed 50 mSv	More appropriate	✓			
USA	541.	Pg 28, sect 5.71, line 26	Change to read “who undertake actions in which the doses received might exceed 50 mSv do so voluntarily ¹² ; that they have...”	Editorial.	✓			
Libya	542.	5.75/26	who undertake actions in which the doses received might exceed 500 mSv do so voluntarily		✓			
ENISS	543.	Article 5.75	The operating organization and response organizations shall ensure that emergency workers who	A verb is missing. 500 mSv instead of 50 mSv (see table I.1).		✓ Exceed 50 mSv		

			undertake actions in which the doses received might exceed 500 mSv do so voluntarily;					
Pakistan	544.	5.75/25	The operating organization and response organizations shall ensure that emergency workers who undertake actions in which the doses received might exceed 50 mSv do so voluntarily...	To be consistent with 5.73 in term of dose.	✓			
Ireland	545.	5.75	Typo (missing word) in 2nd line. "...in which the doses received might exceed 50 mSv..."	Editorial	✓			
Canada	546.	5.75, Line 26	Missing word: "...emergency workers who undertake actions in which the doses received might attain or exceed 50 mSv do so..."		✓			
UK	547.	Page 28 line 26	...might <u>exceed</u> 50 mSv...	missing word	✓			
NEA	548.	5.75	received might <u>exceed</u> 50 mSv do so voluntarily ² ; that they have been clearly and comprehensively informed in advance of the associated health risks as well as of available <u>personal</u> protective measures; and that they are, to the ...	Changes for clarity		✓		Not only personal.
Indoneasia	549.	Para 5.75/2	The operating organization and response organizations shall ensure that emergency workers who undertake actions in which the doses received might 50 mSv do so voluntarily ¹² ; that they have been clearly and comprehensively informed in advance of the associated health risks as well as of available protective measures; and that they are, to the extent possible, trained in the actions that they may be required to take.	~ Footnote (12) related to the paragraph is to be replaced by the footnote included within GS-R-2. Culture in army and fire brigade shows that the officer can not refuse any assignment from their super-ordinate; while the fact that in emergency situation occurring there is a voluntarily concept which they need to understand completely if			✓	Kept for consistency with other safety standards such as GSR Part 3. All emergency workers should be equally protected.

				<p>they happen to be involved in any emergency worker team..</p> <p>- there should be an additional paragraph underlining the term and condition for emergency worker as stated in GS-R-2</p> <p>regarding a military personnel joining a voluntarily action.</p> <p>The footnote in GS-R-2 is more relevant to be in harmony in several (member) states by still promoting the voluntarily action.</p>				
ENISS	550.	Article 5.75	<p>Helpers in an emergency shall not be allowed to take actions that might result in their exceeding the guidance values of dose for taking actions to avert a large collective dose given in Appendix I</p>	<p>It is not consistent with the Appendix I and Table I.1 that relate to emergency workers and helpers</p>	✓	<p>Helpers in an emergency shall not be allowed to take actions in a nuclear or radiological emergency that might result in doses in excess of an effective dose of 50 mSv.</p>		<p>Wording revised considering other comments as well.</p>
France	551.	5.75.	<p>The operating organization and response organizations shall ensure that emergency workers who undertake actions in which the doses received might 50 mSv do so voluntarily; that they have been clearly and comprehensively informed in advance of the associated health risks as well as of available protective measures; and that they are, to the extent possible, trained in the actions that they may be required to take. Emergency workers not designated as such in advance shall not be the first choice</p>	<p>Helpers in an emergency shall not be allowed to take actions in which the doses received might exceed 50 mSv.</p>	✓			

			for taking actions that might result in their exceeding the guidance values of dose for life saving actions given in Appendix I. Helpers in an emergency shall not be allowed to take actions in which the doses received might exceed 50 mSv. that might result in their exceeding the guidance values of dose for taking actions to avert a large collective dose given in Appendix I.					
UK	552.	Page 29 line 8	“...if it is reasonably practicable, qualified medical advice should be obtained before any further occupational exposure....”	As currently drafted the requirement for medical advice might be difficult to comply with, and could prevent important actions such as life saving.			✓	It does not interfere with life saving actions as it relates to returning of radiation workers that were emergency workers to workplaces involving occupational exposure to radiation.
Indoneasi	553.	Para 5.77/3	However, qualified medical advice shall be obtained before any further occupational exposure if an emergency worker has received an effective dose exceeding 200 mSv 100 mSv or at the request of the emergency worker	The reference level for emergency exposure based on BSS-115 is between 20 – 100 mSv.			✓	Kept for consistency with GSR Part 3 (please see para. 4.19 of GSR Part 3). This should not be mixed with the use of reference levels.
Sweden	554.	5.77 Page 29 Line 10	Consider adding a foot-note explaining the basis for choosing 200 mSv as a recommended “ <i>hold point</i> ” for allowing further exposure.	The reader should understand the reason behind the selection of 200 mSv as an “action level”, e.g. that qualified medical advice is required before allowing further exposure.	✓			
NEA	555.	Req. 10	medical <u>care</u>	To simplify this, and focus on the emergency situation needs			✓	Focus is on medical preparedness and response.
ENISS	556.	Article 5.82	Where appropriate, actions shall be taken to detect, in time to allow for effective treatment, radiation induced health effects among workers and helpers , emergency			✓		Considering other comment, this paragraph was removed.

			workers, patients and the public resulting from exposure in a nuclear or radiological emergency, consistent with national generic criteria (see para. 5.89).					
NEA	557.	5.84 line 8	...that infection control standard precautions in health care (e.g. ...	clarity		✓		To be considered by the Technical Editor.
France	558.	5.84	These arrangements shall include ensuring transport services are provided when needed and providing the advice to medical personnel that universal precautions against infection (e.g. masks, gloves, etc.) provide <u>generally</u> sufficient protection when treating patients with possible contamination.	May be too optimistic	✓			
Czech	559.	5.84/8	the advice to medical personnel that universal precautions against internal and external contamination (e.g. masks, gloves, etc.)	To use the word “infection” is not suitable – radionuclide contamination is not infection and this simplification/misuse could cause use of this word.			✓	Infection is used in general and not associated with radiation itself.
Germany	560.	5.84, Line 9	“... the advice to medical personnel that universal precautions against infection (e.g. masks, gloves, etc.) provide sufficient protection for themselves when treating patients with possible contamination.”	For completeness.	✓			
France	561.	5.85	5.85. Facilities in category I, II and III shall make arrangements to treat <u>take care of</u> a limited number of individuals with contamination or overexposure, including arrangements for first aid, the estimation of doses, medical transport and the initial medical treatment of individuals	To be consistent with the end of the sentence (Treatment of over-exposure can't be done at the site....)		✓ Manage is used.		

ENISS	562.	Article 5.86	For areas within the emergency planning zones (see para. 5.53), arrangements shall be put in place for performing medical screening and triage and for assigning any individual exposed at levels exceeding the criteria in Table II.1 and Table II.2 of Appendix II to a predesignated medical facility on the basis of predetermined operational criteria (see para. 5.89).	Also the levels of Table 2 may provide medical interventions			✓	Not such necessity for doses at levels contained in Table II.2.
Canada	563.	5.87	Modify: “Arrangements shall be made at the national, or other appropriate level for the member state , to identify and treat...”	Not all countries have the “national” authority to treat people. The Governance for provision of medical services is a Provincial responsibility in Canada.		✓		True. National level is removed.
USA	564.	5.88, Lines 3-7	The phrases ‘detectable increases in the incidence of cancer’ and ‘radiation induced health effects’ used in this section create some confusion about whether the reference is to stochastic effects or deterministic effects. Terms to describe radiological health effects should be clearly defined in the glossary and a minimal number of these terms should be used consistently throughout the document.	Different phrases are used to describe the same concept in some parts of the document, particularly for the descriptions of radiological health effects.		✓		Use of terms is reviewed for consistency throughout the draft text. First relates to stochastic effects and the second to both, deterministic and stochastic effects.
Germany	565.	5.87, Lines 19 to 21	“... These arrangements shall include: (a) guidelines for effective treatment; (b) the designation of medical personnel trained in the early diagnosis and treatment of radiation injuries; and (c) the selection of approved institutions to be used for extended medical treatment or longer term medical follow-up of individuals subjected to radiation exposure or contamination and for evaluating radiation exposure (external and	This sentence addresses three specific arrangements for identification and treatment of people who have undergone exposure or contamination. Introduce structuring of the different items to improve the readability of the whole sentence.	✓			

			internal). ...”					
USA	566.	Pg 30 Line 26		How would specific individuals be identified? Groups of individuals can be identified.				Example is monitoring of evacuees as a way to identify these individuals.
USA	567.	Pg 30, sect 5.89, lines 31	Change to read “National generic criteria shall be established for initiating appropriate medial actions in a ...”	If generic criteria exist (see Appendix II), doesn’t that preclude the need to establish generic criteria.?		✓		Paragraph is removed considering other comments. Elaboration is given under Requirement 5 on protection strategy.
Slovenia	568.	p.31, Req.11	This requirement should be compared with req. 8, because both tackle protective actions... In the explanatory paragraphs there is not much about protective actions. Paras 5.92 and 5.98 are clearly related to non-radiological consequences – and this parallel should be made clear (a separate requirement on non-radiological consequences).		✓			Comment was considered. Please note that functional requirement deals with early protective actions as well as with other response actions.
NEA	569.	Req. 11	The government shall ensure that arrangements are put in place to keep the public informed throughout a nuclear or radiological emergency.	This is dealt with in requirement 8.		✓		Requirements 10 and 13 target different audience: first, potentially or actually affected public that would require specific information and second, the general public. Both requirements were slightly revised for clarity.
Austria	570.	Requirement 11: Keeping the public informed	According to GSR Part 7: Arrangements shall be made to ensure that information communicated to the public in a nuclear or radiological emergency is coordinated and consistent with recognition of the evolutionary nature of the emergency. We propose that GSR Part 7 requires a		✓			The need for strategy is added. In addition, please note para. 6.4 of the draft text requiring for assigning the authority and responsibility for public communications.

			leading organization in the field of information of the public which ensures the coordination and consistency this information.					
UNEP/OC HA	571.	Page 31 Line 6	Include promptly “shall be made to respond promptly to enquiries”	Point being that even if information is not available, enquiries should be answered promptly and openly - for example just indicating WHEN more detailed information will be made available (press conference or similar).	✓			
Canada	572.	5.90/9	Consider deleting the word “useful” from this section. The public shall be provided with useful , timely, truthfulinformation...	The term “useful” is somewhat subjective.				Please note that the exact paragraph is removed considering other comments.
France	573.	5.90	5.90. The public shall be provided with useful, timely, truthful, consistent , clear and appropriate information throughout a nuclear or radiological emergency, in plain and understandable language.	Consistent information is the result of timely, truthful information. Achieving consistency is not an objective by itself.... And if one organization does not properly communicate (for example by minimizing the situation), the other should not make efforts to have a consistent communication on a inappropriate message....	✓			Please note that the exact paragraph is removed considering other comments.
NEA	574.	5.90	Add: ‘ <u>and shall based on national and cultural dimensions.</u> ’	To be sensitive to cultural differences				Please note that the exact paragraph is removed considering other comments.
Pakistan	575.	5.91/11	Information provided by the response organizations, operating organization, regulatory bodies and others (e.g. international	The information to the public will also be provided by the regulatory body which	✓			Please note that the exact paragraph is removed considering other comments. Comment addressed under para.

			organizations) shall be coordinated and put into perspective, to the extent possible, in terms of associated health hazards.	shall also be coordinated with other parties.				5.68 of the draft text.
France	576.	5.91	5.91. Information provided by the response organizations, operating organization and others (e.g. international organizations) shall be coordinated <u>to the extent possible</u> and, <u>where relevant</u> , put into perspective, to the extent possible , in terms of associated health hazards (see Appendix II).		✓			Please note that the exact paragraph is removed considering other comments as well. Comment addressed under para. 5.69 of the draft text.
NEA	577.	5.91	Information provided by the response organizations, operating organization and others (e.g. international organizations) shall be coordinated.	This is not a part of coordination, and is included in 5.90				Please note that the exact paragraph is removed considering other comments as well.
Sweden	578.	5.91 Page 31 Line2 12-13	Delete the text: “ <i>and put in perspective, to the extent possible, in terms of associated health hazards (see Appendix II)</i> ”	The description of health hazards in Appendix II is not in accordance with the views of UNSCEAR and ICRP. Sweden is of the view that advice on risk communication should not be included in the requirements.	✓			Considering other comments as well.
Sweden	579.	5.92 Page 31 Lines 14-15	Delete the paragraph.	What constitutes “ <i>misconceptions, rumours and incorrect and misleading information</i> ” is a matter of opinion - judgemental. Sweden recommends that this is avoided.	✓			Considering other comments as well.
NEA	580.	5.92	delete	The identification of such information is too judgemental to be included in a requirements level document	✓			Considering other comments as well.

UNEP/OC HA	581.	Page 31 Line 16	Change “in due time” to "shall respond to any enquiries from the public and from news and information media in an appropriate timeframe, making all efforts to do so promptly"	In due time is ambiguous, not clear what is meant.				Please note that the exact paragraph is removed considering other comments.
Libya	582.	5.93/17	...from news, information media and international organizations such as IAEA...	Nuclear or radiological emergency is of concern to international organizations in particular IAEA				Please note that the exact paragraph is removed considering other comments.
France	583.	5.93	5.93. Response organizations and operating organizations shall respond in due time to any enquiries from the public and from news and information media.	“any” is very strong				Please note that the exact paragraph is removed considering other comments.
NEA	584.	5.93	<u>The government shall have arrangements in place to</u> respond to any enquiries from the public and from news and information media.	To be more clear.				Please note that the exact paragraph is removed considering other comments.
Canada	585.	5.94/19	Consider deleting the word “useful” from this section. Arrangements shall be made for providing useful , timely, truthful...information	The term “useful” is somewhat subjective.			✓	If no any use of the messages given to the public, then the question raised is on the purpose of the information given.
France	586.	5.94	Arrangements shall be made for providing useful, timely, truthful, consistent , clear and appropriate information to the public in a nuclear or radiological emergency,...	To be consistent with comment made on 5.90	✓			
NEA	587.	5.94	...international community informed.	It should be mentioned under governmental requirements. 5.19 7 5.20 are not clear in this respect. Please delete. It is always needed.		✓	...informed, as appropriate.	Kept due to its importance in light of the past experience.
France	588.	5.95	5.95. Arrangements shall be made to ensure that information communicated to the public in a	To be consistent with comment made on 5.90.			✓	Kept due to its importance in the light of past experience.

			nuclear or radiological emergency is coordinated <u>as far as practicable and consistent</u> (see para. 4.9(i)) with recognition of the evolutionary nature of the emergency.	Coordinated communication is difficult at the national level but would be even more challenging at international level...				
Germany	589.	5.95, Line 26	“Arrangements shall be made to ensure that information communicated to the public in a nuclear or radiological emergency is coordinated and consistent (see para. 4.9(i)) <u>and consistent</u> with recognition of the evolutionary nature of the emergency.”	Para 4.9 (i) requires the government to coordinate the provision of public information. Consistency of that information with recognition of the evolutionary nature of the emergency is an additional requirement.	✓			
Sweden	590.	5.96 Page 31 Lines 28-31	Delete the paragraph.	The description of health hazards in Appendix II is not in accordance with the risk of exposure to ionizing radiation as formulated by UNSCEAR and ICRP. Sweden has the view that advice on risk communication should not be included in the safety requirements”			✓	Kept due to its importance in light of past experience. However, the system for placing health hazards in perspective has been revised for clarity.
NEA	591.	5.96	...calculated doses or...	Use “Technical assessment” to be more generic	✓			Kept broader without examples.
Germany	592.	5.96, Lines 30 and 31	“... with <u>due</u> account duly taken of pregnant women and children as the <u>those members of the public</u> most vulnerable to radiation exposure.”	Wording.		✓ These arrangements shall consider pregnant women and children as the members of the public who are most vulnerable to radiation exposure.		For clarity.
Sweden	593.	5.97 Page 31, line 32 – Page 32 line 2	Delete the paragraph.	The description of health hazards in Appendix II is not in accordance with the risk of exposure to ionizing radiation as expressed by UNSCEAR		✓ 5.70. Arrangements shall be put in place to explain to the public any changes in the protective actions and other response actions being		Please note that the system for placing the health hazard has been revised for clarity.

				and ICRP. Sweden has the view that advice on risk communication should not be included in the safety requirements”		recommended in the State and any differences from those being recommended in other States		
Sweden	594.	5.98 Page 32, Lines 3-5	Delete the paragraph.	Too judgemental, not to be included in safety requirements.			✓	Kept due to its importance in light of past experience. These are not necessarily judgmental and may jeopardize the effectiveness of emergency response. Please note that this is also a requirement under existing safety requirements in EPR.
NEA	595.	5.98	delete	Too judgmental, not relevant for a requirement level documents.			✓	Kept due to its importance in light of past experience. These are not necessarily judgmental and may jeopardize the effectiveness of emergency response. Please note that this is also a requirement under existing safety requirements in EPR.
NEA	596.	5.99+	Arrangements shall be made such that, as the emergency situation approaches the transition to an existing situation, the public will be increasingly involved in decision making process concerning public and environmental health circumstances.	The concept of stakeholder involvement should be put into section 3, and not as a requirement			✓	Covered under functional requirement 18.
USA	597.	Requirement 12	“other response actions in a nuclear or radiological emergency.”	refers to "international standards" but the sections below refer to local and national generic criteria. There is no reference to international standards at all. Maybe add a phrase about national and local generic criteria being based on international standards.	✓			Revised and clarified consistently throughout the draft text.
Slovenia	598.	p.32, req. 12	Requirement 7 and req. 12 both address »other response actions«... which are those ‘other response					Please note the definition in the list explaining other response actions.

			actions' in one or the other requirement? Is this the same set or not? E.g. 5.101 mentions contamination as a separate issue. Can decontamination not be included under other response actions into 5.100?					
Sweden	599.	Requirement 12 Page 32 Lines 10-11	Delete ... with account taken of international standards.	Unnecessary to point out, not to be included in overarching requirement.	✓			
NEA	600.	Req. 12	The government shall ensure that arrangements are in place to take early protective actions and other response actions in a nuclear or radiological emergency.	Requirement 7 talks about Urgent protective actions – what is the difference? Unnecessary detail.				Please note definitions on early and urgent protective actions provided in the list.
Indonesia	601.	Page 32/ paragrap h 5.100 / line no 14	... radiological emergency, in accordance with national generic criteria (see para. 5.103) which taken into account the appropriate International Standard and with due	Consistent with the header, the followed national criteria should refer to an international standard (i.e. IAEA documents) because it allows that the emergency response should be coordinated with the other States		✓		Please note that the exact paragraph is removed considering other comments. However, the issue raised is clarified under new Requirement 5 on protection strategy.
NEA	602.	5.100	in accordance with the protection strategy (...)	Focus on high level aspects, not “how” To be clear concerning the protection strategy		✓		Please note that the exact paragraph is removed considering other comments. However, the issue raised is clarified under new Requirement 5 on protection strategy.
Canada	603.	5.101	Remove entry or re-word to make the meaning more clear. “Managed: to what ends? Eg: “Controls and	“Contamination” cannot be managed. Contaminated areas,				Please note that the exact paragraph is removed considering other comments.

			disposition of contaminated areas and goods will be managed in accordance with practices defined by the national nuclear regulatory authority (See 5.108 and 5.109)."	goods, or property can be managed. However, the intent of this statement is not clear. The example provided may or may not be appropriate based on intent of authors.				
USA	604.	Pg 32, sect 5.101	The statement "Contamination shall be appropriately managed" should be expanded upon.	The statement seems rather vague.				Please note that the exact paragraph is removed considering other comments.
Czech	605.	5.101/16	Contamination Decontamination shall be appropriately managed.	wording with contamination - clear error				Please note that the exact paragraph is removed considering other comments.
Slovenia	606.	p.33	In this page expression 'a) use of reliable technical/radiological assessments and projections...' repeats 3 times		✓			Wording is revised considering other comments as well.
France	607.	5.103	Same remarks as for para 5.50. OIL is not the only mean to address the protection of people.	When a situation is still evaluating, protection strategies bases on OIL may not be adequate.		✓		Please note that the exact paragraph is removed considering other comments. Further elaboration on this is given under new Requirement 5 on protection strategy.
NEA	608.	5.103	<u>Protection strategy</u> for taking early protective actions and otherresponse actions shall be established <u>taking into account the</u> generic criteria in Appendix II, and shall be justified and optimizedwithaccount taken of local and national conditions and conditions specific to the emergency. On <u>this</u> basis,.	To be clear concerning the protection strategy		✓		Please note that the exact paragraph is removed considering other comments. The issue raised is elaborated clearly under the new Requirement 5 on protection strategy.
USA	609.	Pg 32, sect 5.103	Based on Fukushima experience, the Preparedness section beginning with 5.103 should have something along the lines of "It must be recognized that some mobile objects such as transportation conveyances may have become contaminated and then relocated significant distances from the	Completeness.		✓ 5.75 ... and shall take into consideration that some potentially contaminated vehicles and items as well as members of the public and emergency workers may have left these areas		For consistency.

			incident, possibly prior to the establishment of contamination control boundaries.”			before the establishment of contamination control points and boundaries.		
NEA	610.	5.104	Delete when appropriate	It will be essential to involve stakeholders, at the very least in terms of providing them instructions, in adjusting early actions		✓		Please note that the exact paragraph is removed considering other comments. The issue raised is elaborated clearly under the new Requirement 5 on protection strategy.
Ireland	611.	5.105	Requirement 12 (Taking early protective actions and other response actions) - there is no specific reference to agricultural countermeasures. Pre-emptive agricultural protective actions should also be included in 5.105.	Clarity		✓		Covered by paras 5.74, 5.78 and 5.79 of the draft text.
India	612.	32/5.105	The following text is to be considered under restricted items for use/ consumption following a radioactive release: "Contaminated water from reservoirs and Streams"	Reservoirs and running streams are among the sources of spread of contamination following a radioactive release and much attention is not given to this aspect.	✓			Clarification is added on water supply systems using rainwater or other untreated surface water.
USA	613.	Pg 33, sect 5.105, line 3	Change to read “(a) use of reliable technical/radiological assessments and/or projections provided their limitations are...”	Editorial. Text is repetitious.	✓			Wording is revised considering other comments as well.
Germany	614.	5.105, Lines 2 to 7	“... These arrangements shall include: the use of (a) <u>the</u> use of reliable technical/radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see <u>para. 6.23</u>); and (b) <u>the use of</u> predetermined operational intervention levels; and the means for their revision; (c) prompt monitoring for ground contamination; (d) sampling and analysis of food, milk, drinking water and other commodities; (e) the means to enforce the restrictions; and (f) provisions to	This sentence addresses six specific arrangements within the ingestion and commodities planning distance (ICPD). Introduce structuring of the different items to improve the readability of the whole sentence.	✓			

			expand the monitoring and restriction beyond this distance if needed.”					
Czech	615.	5.105/29, 30	<i>I am not capable to propose new text</i>	Within the ingestion and commodities planning distance (see para. 5.53), arrangements shall be made for prompt protection in relation to, and for restriction of, non-essential local produce, forest I do not understand the text in bold, I think something is missing – it has to be corrected.			✓	Please note that phrase for this emergency planning distance is ‘Ingestion and Commodities Planning Distance (ICPD)’.
Turkey	616.	Chapter 5 Para— 5.105 Page 32-33	It should be explained that the monitoring and sample analyses results will be unavailable in early stages of a General Emergency, hence consumption of non-essential food, milk and rainwater should be restricted within ICPD with declaration of general emergency.	This issue was explained in EPR- NPP Public Protective Actions -2013, on Page 29	✓			Wording is revised throughout the draft text for consistency and considering other comments as well.
Libya	617.	5.105/30	...of, non-essential local <u>and imported</u> products, forest products...	Precaution must be taken			✓	Covered under Requirement 16 on mitigating non-radiological consequences (please see para. 5.88).
Japan	618.	5.105/ P33.L3 (Req.12: Taking early protective actions and other response actions, Pre.)	These arrangements shall include : the use of (a) use of reliable technical/radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see 6.23) and (b) predetermined operational intervention levels,	See General comments #2. It should not be described as a requirement according to General Comment No.2.	✓			Wording is consistently revised throughout the draft text.

France	619.	5.105	These arrangements shall include: the use of (a) use of reliable technical/radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see 6.23)...	typo	✓			Wording is revised considering other comments as well.
Switzerland	620.	5.105 Page 33 Line 2	These arrangements shall include: the use of (a) the use of ...	Editorial	✓			Wording is revised considering other comments as well.
FAO	621.	5.105 (page 33) line1	(e.g. wild berries or wild mushrooms)	The key forest foods of concern are berries or edible fungi and using the term “wild” differentiates them from any produce that may be cultivated)	✓			
ILO	622.	33 – 3 33 – 10	Delete ‘use of’ after ‘(a)’; it is given in the previous line.		✓			Wording is revised considering other comments as well.
Austria	623.		Editorial changes need to be done at page 33, line 3 and 10 (use of (a) use of?)		✓			Wording is revised considering other comments as well.
Switzerland	624.	5.106 Page 33 Line 9	These shall include: use of (a) the use of reliable ...	Editorial	✓			Wording is revised considering other comments as well.
Germany	625.	5.106, Lines 9 to 14	“... These shall include: use of (a) <u>the</u> use of reliable technical/radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see <u>para. 6.23</u>); and (b) <u>the use of</u> predetermined operational intervention levels and the means for their revision; (c) arrangements for the prompt monitoring of ground deposition; (d) the means for accomplishing relocation; (e) arrangements for assisting those persons who have been relocated;	This sentence addresses six specific arrangements within the extended planning distance (EPD). Introduce structuring of the different items to improve the readability of the whole sentence.	✓			

			and (f) provision to extend monitoring and relocation beyond the extended planning distance if necessary.”					
Slovenia	626.	p.33, 5.106	For relocation sometimes there is enough time to make a thorough assessment based on spectroscopic measurements to be used for decision making and not to base decision on 'reliable technical/radiological assessments and projections ' or OILs only.		✓			
USA	627.	Pg 33, sect 5.106, line 10	Change to read “(a) use of reliable technical/radiological assessments and/or projections provided their limitations are...”	Editorial. Text is repetitious.	✓			Wording is revised considering other comments as well.
Japan	628.	5.106/ P33.L10 (Req.12: early protective actions and other response actions, Pre.)	(a) use of reliable technical/radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see 6.23) and (b)	See General comments #2. It should not be described as a requirement according to General Comment No.2.	✓			Wording is consistency revised throughout the draft text.
France	629.	5.106	These shall include: use of (a) use of reliable technical/radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see 6.23)	typo	✓			Wording is revised considering other comments as well.
France	630.	5.107	5.107. Within the emergency planning zones and inner cordoned off area, arrangements shall be made for monitoring the contamination levels of vehicles, personnel and goods moving into and out of contaminated areas in order to control the spread of contamination.	Why monitoring goods, vehicle and personnel getting into the zone	✓			

NEA	631.	5.107	...in order to <u>protect public health and control...</u>	This is the key objective.		✓		This key objective is addressed throughout the draft text.
France	632.	5.108	Returns to these areas for short periods of time shall be permitted if justified (e.g. to feed animals left behind) and provided that those individuals entering the area are (1) subject to controls while in the area, (2) instructed on how to protect themselves and (3) briefed on the associated risks. <u>and (4) benefiting from dose monitoring</u>	These people should benefit from dosimetry so their exposure can be evaluated/monitored and registered		✓	...provided that those individuals entering the area are (1) subject to control and dose assessment while in the area, (2) instructed on how to protect themselves and (3) briefed on the associated risks.	For consistency.
Libya	633.	5.108/26 and 31	(3) <u>enforced to leave the area after finishing the business they returned for.</u> ...contamination. <u>The decontamination shall be carried out with well trained staff.</u>	Part of the control on the areas. To make pretty sure that decontamination does more good than harm.			✓	Covered with 'for short period of time' and 'subject to control'. Qualified and trained staff in fulfilling functions in emergency response is requirement for all.
Sweden	634.	5.109 Page 33, Line 27	Reformulate the text removing: ..." <i>does more good than harm</i> " For example: <i>Decontamination methods shall be tested before general use, and their effectiveness shall be documented.</i>	All justified decisions on protective measures, including those concerning decontamination, shall fulfil the requirement to do more good than harm.	✓			
Slovenia	635.	p.33, 5.109, line 27	'more good than harm' means justification and it applies for ALL protective actions and not only for decontamination.		✓			Addressed under new Requirement 5 on protection strategy.
Slovenia	636.	p.33, 5.110, line 3	Revision of predetermined OILs – this is true for ALL cases and not only for the case in 5.110.		✓			Addressed under new Requirement 5 on protection strategy.
NEA	637.	5.110	... <u>to protect public health and to mitigate</u> non-radiological consequences of a nuclear or radiological emergency. These arrangements shall include use of predetermined operational	To be fully clear on objectives of protection actions		✓	... with the aim of mitigating the consequences of a nuclear or radiological emergency and of	For consistency.

			intervention levels and the means for their revision, as appropriate .			reassurance of the public.		
Japan	638.	5.110/P33.L33 (Req.12: Taking early protective actions and other response actions, Pre.)	(a) use of reliable technical/ radiological assessments and/or projections provided their limitations are recognized and that they can be used promptly (see para. 6.23) and (b) promptly conducting environmental monitoring and monitoring for contamination of commodities, sampling and assessments, even if such monitoring and assessments have the aim of reassuring the public or mitigating the non-radiological consequences of a nuclear or radiological emergency.	See General comments #2. It should not be described as a requirement according to General Comment No.2.	✓			Wording is consistency revised throughout the draft text.
Czech	639.	5.110/35, 36	<i>I am not capable to propose new text</i>	promptly (see 6.23) and (b) promptly conducting environmental monitoring and monitoring for contamination of commodities, sampling and assessments, even if such monitoring and assessments What does it mean „environmental monitoring“ and „monitoring of contamination“? It is necessary to define some term for monitoring and I prefer monitoring of radiation situation – see also my comments to pages 21/ 22, 24		✓		Comment considered. Please note the response under comment number 438 above.
Germany	640.	5.110/35	“...can be used 34 promptly (see para. 6.23) and (b) promptly...”	Missing word	✓			

Slovenia	641.	p.33, line 33	Is in this sentence "beyond areas in category V" meant within extended planning distances or is meant also ICPD, and in the meaning of category V this refers only to the neighbouring States (i.e. across the border) /p.11/.			✓ 5.78. For transnational emergency in category IV, arrangements...		For consistency with emergency preparedness categories.
Sweden	642.	5.111 Page 34, Lines 6-7	Delete the text..."shall be put into perspective in terms of associated health hazards (see paras 5.91 and 5.96)"	The description of health hazards in Appendix II is not in accordance with the risk of exposure to ionizing radiation as expressed by UNSCEAR and ICRP. SE has the view that advice on risk communication should not be included in the safety requirements"			✓	Important lesson from past experience. Please note the appendix on the system for placing health hazard in perspective was revised for clarity.
USA	643.	Pg 34, sect 5.111, line 6	Change to read "publicly available to these individuals. The assessments shall be based on the best available..."	In some member states, this information is considered medial record information and is not releasable to the general public.			✓	Not in relation to the individual data.
Slovenia	644.	p.33, 5.111	Are epidemiological studies included in this paragraph, otherwise they maybe added to relate exposures to the consequences.					Covered.
NEA	645.	Req. 13	Requirement 13: Managing radioactive waste arising from a nuclear or radiological emergency ...waste generated...	IMPORTANT: Waste management should be a part of existing exposure situation. By taking into account the current version, it is much better to consider with req 16		✓		Associated requirements make this clarification. Radioactive waste management activities will be initiated before moving to existing exposure situation.
ENISS	646.	Req. 13	Managing radioactive waste during arising from a nuclear or radiological emergency	Consistency with the content of the requirement		✓		Associated requirements make this clarification. Radioactive waste management activities will be initiated before moving to existing exposure

								situation.
Finland	647.	Req. 13	Radioactive waste	This expression is problematic, because only one part of the generated waste e.g. during decontamination contains so much radioactive material that it can be categorized as a true radioactive waste which needs to be permanently isolated. I would recommend to replace this a term “waste containing radioactive material”		✓		Term ‘radioactive waste’ is well defined within the safety standards – please note its definition in the IAEA Safety Glossary 2007. The waste that does not compile with this definition should not be declared as radioactive waste due to very low activities as a result of the emergency and its management should follow conventional waste streams.
ENISS	648.	Article 5.112	Radioactive waste arising from a nuclear or radiological emergency, and associated protective actions and other response actions, shall be promptly identified, characterized and categorized <u>in due time in compliance with the regulations in force.</u>	To complete the objective and to stress the fact that a national policy and a strategy for radioactive waste management are needed (see para. 4.114, in Preparedness).		✓		Consideration is covered by the following paragraph of the draft text: 5.81: The national policy and strategy for radioactive waste management [18] shall apply for radioactive waste generated in a nuclear or radiological emergency.
France	649.	5.112	5.112. Radioactive waste arising from a nuclear or radiological emergency, and <u>including from</u> associated protective actions and other response actions, shall be identified, characterized and categorized in due time.	Clarification	✓			
Australia	650.	Section 5.112		Section 5.112 states that: Radioactive waste arising from a nuclear or radiological emergency, and associated protective actions and other response actions, shall be identified, characterized and categorized in due time. It is not clear what		✓		Please note the paragraph 5.81 of the draft text. Identification, characterization and categorization of radioactive waste arising from an emergency should be done in the same way as for any radioactive waste. More details on the specifics of doing so during an emergency will be considered for a lower level document such as safety guides.

				actions should be undertaken during the response phase for the identification, characterization and categorization of waste.				
Canada	651.	5.112/14	The following edits are proposed: “...actions and other response actions, shall be identified, characterized and categorized in due time a timely manner commensurate with the risk and/or within timelines established by the member state. ”	“In due time” is somewhat ambiguous.	✓			Please note this paragraph is removed considering other comments.
USA	652.	5.13 p.34	Radioactive Waste	Should add discussion of water runoff (i.e - from decontamination). Should it be captured, allowed to runoff to drainage system, etc? Note: In USA,EPA allows runoff to draining during emergency activities. Must be captured for cleanup/recovery activities.			✓	The requirements ask for consideration of the waste to be produced with the response actions taken – this includes consideration of the waste to be produced during decontamination activities. The management of waste produced during this activity will require assessment whether and under what consideration this waste is to be treated as radioactive waste or as conventional waste (please note the definition on radioactive waste in the IAEA Safety Glossary). In addition, the draft text requires considerations to reduce the amount of waste declared as radioactive waste just because of the presence of any level of radioactivity in it due to the emergency or from response actions taken. Furthermore, it is clearly stated that management of radioactive waste need to be such that it will not compromise the protection strategy. More detailed discussion on this will be considered for addition in a lower level document such as safety guides.

France	653.	5.113	5.113. Radioactive waste arising from a nuclear or radiological emergency shall be managed with account taken of the characteristics of the waste in manner that does not compromise the protection strategy.	Clarification		✓		Please note that the exact paragraph is removed considering other comments. The issue raised is addressed under para. 5.82 of the draft text..
France	654.	5.113	Radioactive waste shall be managed with account taken of the characteristics of the waste in manner that does not compromise the protection of <u>human and environment strategy</u> .	Generally speaking, the waste management intervene in post emergency phase. The main objective is the protection of human and environment during emergency			✓	Protection of humans and environment (as goals of emergency response) are drivers of the protection strategy elaborated in Requirement 5. Management of waste will be an issue to deal with before the decision to move to existing exposure situation is made.
USA	655.	Pg 34, sect 5.113	Add “Actions shall be taken to expedite licensing of disposal facilities particularly when large volumes of radioactive waste are generated after a nuclear or radiological emergency.”	Completeness.			✓	Licensing of disposal facilities will surely come later in the existing exposure situation but not during the emergency and is out of scope of emergency preparedness and response (please note para. 5.81 of the draft text). Arrangements being made at preparedness stage under para. 5.84 (e) and (f) should facilitate the licensing process thereafter.
USA	656.	5.13 p.34	Radioactive Waste	Should consider adding direction on determining what is considered waste and what is not (i.e. – What is/is not releaseable). There is some discussion in Appendix Table II.4, but some further explanation on hoe this applies to all items potentially contaminated should be discussed.			✓	Please note that clear definition on what is radioactive waste in the IAEA Safety Glossary 2007:
Slovenia	657.	p.34	In the explanatory paragraphs to the req.13 it is not mentioned that the extent and quantity of radwaste is practically impossible to predict and the management of RW during				✓	Radioactive waste is to be managed in the same way irrespective of the way it has been produced. Paras 5.82-5.83 and 5.84 (c-f) are specific to EPR. More discussion upon these

			emergency should take into account priorities in line with decontamination strategy(e.g. inhabited areas, important production areas, roads, etc.) otherwise this activity will be overwhelmed with requests and problems. The explanatory paragraphs repeat more or less common RW principles without addressing emergencies except in 5.116 (protection strategy).					requirements will be considered for inclusion in a safety guide.
France	658.	5.114	5.114. Mixing of radioactive waste <u>,arising from a nuclear or radiological emergency.</u> of different categories shall be avoided to the extent practicable.	Clarification				Please note that the exact paragraph is removed considering other comments.
Slovenia	659.	p.34, 5.115	This paragraph clearly interferes with the national strategy for radioactive waste – should this not be included in the normal radioactive waste standards, which define national strategy for radioactive waste.		✓			IAEA safety standards in radioactive waste management (for example those referenced and their supporting safety guides) are covering radioactive waste resulting for an emergency. Further guidance is also under development on this topic.
France	660.	5.115.	“The national policy and strategy for radioactive waste management [12] shall cover radioactive waste generated in a nuclear or radiological emergency”	It will be difficult to anticipate a potential accident and in particular the nature and quantity of waste generated in nuclear emergency..			✓	Radioactive waste is to be managed in the same way irrespective of the way it has been produced. IAEA safety standards in radioactive waste management (for example those referenced and their supporting safety guides) are covering radioactive waste resulting for an emergency. Further guidance is also under development on this topic.
Germany	661.	5.116	“The protection strategy (see para. 4.17 4.16) shall take into account radioactive waste ...”	Wrong para is cited.	✓			

Slovenia	662.	p.34	5.117 contains more or less normal (standard) arrangements for dealing with radwaste and nothing specific for EPR. E.g. item c requires avoiding mixing radwaste, but 5.114 allows it to the extent practicable (a bit contradictory!).			✓		Para. 5.114 is removed considering other comment. Please note the response under comment numbers 657 and 659.
Russia	663.	5.117/27	Avoiding the mixing of waste of different categories to the extent practicable.	According to a similar statement in 5.114/17.		✓ (c) avoiding, to the extent possible, the mixing of waste of different categories;		For consistency and considering other comments as well.
Finland	664.	5.117 (c)	avoid, <u>to extent practicable</u> .			✓ (c) avoiding, to the extent possible, the mixing of waste of different categories;		For consistency and considering other comments as well.
Turkey	665.	Chapter 5 Para. 5.117 Page 34 Line 28	The definition of radioactive waste given in IAEA Safety Glossary may be included in the Definitions part and item (d) may be amended as "minimizing the amount of radioactive wastes".	Otherwise, the provision may be misunderstood.		✓		To be considered during editorial review. Please note that IAEA Safety Glossary will be included with the publication too.
France	666.	5.117c	(c) avoiding the mixing of waste of different categories <u>to the extent practicable</u> ;	To be consistent with 5.114		✓ (c) avoiding, to the extent possible, the mixing of waste of different categories;		For consistency and considering other comments as well.
France	667.	5.117d	Delete 5.117 (d)	Minimizing waste designated as rad waste should not be an objective by itself.			✓	Important lesson from past emergencies – there should not be an intention to treat as radioactive waste all the waste produced during the emergency. The waste that does not comply with the definition for radioactive waste should be managed using conventional waste streams.
USA	668.	Pg 34, sect 5.117(d), line 28	Delete.	Although this is a laudable arrangement, many stakeholders would object to this being a			✓	Important lesson from past emergencies – there should not be an intention to treat as radioactive waste all the waste produced during

				national policy and strategy without consulting with the affected stakeholders during the course of the actual response to cleanup of environmental contamination.				the emergency. The waste that does not comply with the definition for radioactive waste should be managed using conventional waste streams.
Germany	669.	5.117 (g)	“consideration of non-radiological aspects of waste (e.g. toxicity, chemical or biological properties).”	For completeness.		✓ (g) consideration of non-radiological aspects of waste (e.g. chemical properties such as toxicity, biological properties)		For consistency.
Sweden	670.	Requirement 14 Page 35, Lines 6-9	Delete the Requirement 14 or establish better the basis for this within the present draft Safety requirement.	The present draft standard requirement addresses nuclear safety - as such it is not understood on what basis this requirement is formulated? Furthermore, what practicable steps within nuclear safety, can be taken to mitigate non-radiological consequences?			✓	Mitigating adverse psychological, economic and social consequences of the radiation emergency and the response is a goal of emergency response and requirements to do so are contained in the existing safety requirements in emergency preparedness and response; therefore, this is not a new requirement. These requirements draw from the past experience when, in many cases e.g. psychological and economic consequences, were more severe than the radiological ones. Addressing these consequences, e.g. through public communication, even during a perceived emergency is necessary. Paras 5.87-5.89 of the draft text address the practical arrangements to be made for mitigating these consequences. Further details can also be found in the existing safety guide GS-G-2.1. In the EPR-Lessons Learned 2012 publication, some of the lessons learned in mitigating non-radiological consequences from responses to emergencies in the past

								can be found.
NEA	671.	Req. 14	Requirement 14: Mitigating <u>other</u> consequences of a nuclear or radiological emergency and response The government shall ensure that arrangements are in place for mitigating non-radiological consequences of a nuclear or radiological emergency and the response.	<p>This section is problematic, and needs to be more clear in terms of what actions would be taken.</p> <p>Much of this should be addressed in the public information section.</p>			✓	<p>The requirement deals with mitigating adverse psychological, economic and social consequences of the radiation emergency and the response not any consequences which are covered throughout the whole draft text. This is a goal of emergency response and requirements to do so are contained in the existing safety requirements in emergency preparedness and response; therefore, this is not a new requirement. These requirements draw from the past experience when, in many cases e.g. psychological and economic consequences, were more severe than the radiological ones. Addressing these consequences, e.g. through public communication, even during a perceived emergency is necessary.</p> <p>Please note that paras 5.87 and 5.88 of the draft text make clearly a link with the importance of proper public communication as addressed in the Requirements 10 and 13. But that is not all to be done – medical and psychological counselling, social support, prevention of disturbances in the international trade, addressing actions taken on the part of public that are not appropriate etc. is also important. Further details on mitigating non-radiological consequences can also be found in the existing safety guide GS-G-2.1.</p>

France	672.	5.119	5.119. All practicable steps shall be taken to mitigate non-radiological consequences of the <u>nuclear or radiological</u> emergency and the response and to ensure that the response actions do more good than harm.	Clarification		✓		Please note that the exact paragraph is removed considering other comments.
NEA	673.	5.119	...do more good than harm.	Need examples.		✓		Considered; however, please note that the exact paragraph is removed considering other comments.
Sweden	674.	5.120 Page 35, Lines 13-15	Delete the paragraph	Too judgemental, not proper for a requirement document	✓			Please note that the exact paragraph is removed considering other comments.
NEA	675.	5.120	Delete	Judgment, not for a requirement level document. Please delete	✓			Please note that the exact paragraph is removed considering other comments.
Sweden	676.	5.121 Page 35 Lines 16-17	Delete the paragraph	Not needed, included in the justification process but also about non-ionising effects, outside of the scope.	✓			Please note that the exact paragraph is removed considering other comments.
France	677.	5.121	5.121. Non-radiological consequences of the <u>nuclear or radiological</u> emergency and the response shall be considered when deciding on the protective actions and other response actions to be taken.	Clarification		✓		✓
Slovenia	678.	p.35, 5.121	Are in the OILs, which include to certain extent the optimisation, non-radiological consequences also included?					Criteria, including OILS, are based on radiation protection consideration. As indicated in the existing guidance (please see safety guide GSG-2, paras 1.13-1.14) other factors (social, economic, psychological etc.) are to be considered by national authorities when deciding on protective actions and other response actions to be taken.

Ireland	679.	5.122 - 5.124	Requirement 14 (Mitigating non-radiological consequences of a nuclear or radiological emergency and response) contains a lot of new material. Non-radiological consequences of the emergency and response must now be considered. Both medical and psychological counselling is to be provided to the public and actual and perceived concerns of the public must be addressed. Also inappropriate actions by members of the public and others must be identified and addressed. This may be difficult to achieve in practice.	Clarity		✓		Please note that the paragraph have been broaden for clarification; however, these requirement and recommendation upon them are also part of existing safety standards in emergency preparedness and response (GS-R-2, GS-G-2.1).
Germany	680.	5.122, Lines 22 and 23	“... These arrangements shall include providing the public with: (a) information on any associated health hazards and clear instructions on the actions to be taken (see paras 5.59–5.64 and 5.90–5.99); (b) medical and psychological counselling; and (c) appropriate social support.”	This sentence addresses three specific provisions for mitigating the non-radiological consequences of an emergency and for responding to public concern. Introduce structuring of the different items to improve the readability of the whole sentence.	✓			
NEA	681.	5.122 line 21	Delete i.e.	Concern is real.	✓			
USA	682.	Pg 36, sect 5.124, line 2-3	Change to read “...(e.g. unjustified voluntary terminations of pregnancy, stigmatization discrimination of people from affected areas, cancellation of commercial flights, closing of airports, etc) are promptly identified...”	Is the cancellation of commercial flights and closing of airports always inappropriate, especially if the event is terrorism related (e.g. the terror attack on 11 September 2001).	✓			

Sweden	683.	5.123 Page 35 Lines 25-29	Delete or reformulate the paragraph to: <i>Arrangements shall be made to mitigate impacts of a nuclear or radiological emergency and the associated actions on international trade.</i>	Arrangements shall be made to provide information based on scientific evidence, not to provide reassurance. The description of the health hazards in Appendix II is not in accordance with the risks (detriment) of exposure to ionizing radiation as expressed by UNSCEAR and ICRP.		✓ 5.88. Arrangements shall be made to mitigate impacts of a nuclear or radiological emergency and associated protective actions and other response actions taken on international trade with account taken of the generic criteria in Appendix II. These arrangements shall provide for reassurance of the public and interested parties (such as importing States) in relation to tradable commodities including food, vehicles and cargoes being shipped and on any revision of national criteria.		For consistency and considering other comments as well. Please note that the Appendix on the system to put the health hazard in perspective was revised for better clarity.
France	684.	5.123	5.123. Arrangements shall be made to mitigate <u>address</u> impacts of a nuclear or radiological emergency and associated protective actions and other response actions taken on international trade, with account taken of the generic criteria in Appendix II.	Mitigation is not the most appropriate word			✓	Kept in line with the set goal of emergency response.
France	685.	5.123	These arrangements shall provide for reassurance <u>information</u> of the public and interested parties (such as importing States) <u>on controls performed items being shipped</u> , health hazards in relation to tradable commodities and on any revision of national standards.	Reassurance could be too positive. Information on dose rate and contamination control before shipping should be mentioned.		✓ 5.88. Arrangements shall be made to mitigate impacts of a nuclear or radiological emergency and associated protective actions and other response actions taken on international trade with account taken of the generic criteria in Appendix II. These arrangements shall		For consistency and considering other comments as well. In light of past experience, provision of information may not be enough but some reassurance (monitoring, certification etc.) may be necessary.

						provide for reassurance of the public and interested parties (such as importing States) in relation to tradable commodities including food, vehicles and cargoes being shipped and on any revision of national criteria.		
Sweden	686.	5.124 Page 36 Lines 1-7	Delete the paragraph:	Too judgemental – not fitting in the requirements. Perhaps part of it could be moved to a guide.			✓	Please note the response under comment number 670 above.
NEA	687.	5.124	Delete	This is too judgmental and should not be included in a requirement level document. Please delete.			✓	Please note the response under comment number 671 above.
Turkey	688.	Chapter 5 Para. 5.124 Page 36	Inappropriate actions may be referred to in the same parenthesis.			✓		Footnote 28 in para. 5.71 of the draft text explains what inappropriate actions are.
Argentina	689.	Para. 5.124	5.124. Arrangements shall be put in place for ensuring that inappropriate actions taken by members of the public and others (e.g. unjustified voluntary terminations of pregnancy, stigmatization of people from affected areas, cancellation of commercial flights, closing of airports or actions that obstruct the implementation of the urgent protective actions and other response actions , etc.) are promptly identified and appropriately addressed. This shall include the designation of organization(s) with the responsibility for monitoring, identifying and addressing inappropriate actions taken by the	To complete the examples presented with a very important inappropriate action.	✓			Revised wording is given in the footnote 28 in para. 5.71 of the draft text.

			public (including unnecessarily burdening the health care system) and others (e.g. commercial, industrial, infrastructural or other non-governmental bodies) (see para. 4.9(i)).					
Canada	690.	5.124/...	Consider the addition of “shadow evacuations” in the paragraph 5.24 as shown below: Arrangements shall be put in place for ensuring that inappropriate actions taken by members of the public and others (e.g. unjustified voluntary terminations of pregnancy, stigmatization of people from affected areas, shadow evacuations , cancellation of commercial flights, closing of airports etc.) are promptly identified and appropriately addressed.	Shadow evacuations should also be considered as this could have a negative impact on traffic control and the government’s strategy to evacuate residents in an orderly fashion.	✓			Revised wording is given in the footnote 28 in para. 5.71 of the draft text.
Sweden	691.	Requirement 15 Page 36 Line 9	Change “...to benefit from...” To read: “...to receive...”	Receive fits better with the word contribute. The first sentence talks about requesting, providing and receiving.		✓		To be considered during the editorial review.
NEA	692.	Req. 15	...arrangements are in place to receive, and contribute to international assistance in response ...	Changes for clarity, and to note that assistance for response is what is the most important		✓		To be considered during the editorial review. Please note para. 5.91 of the draft text where obtaining assistance is explicitly addressed.
Sweden	693.	5.126 Page 36, Lines 16-19	Delete the paragraph	The paragraph is not needed since the content is obvious.	✓			Please note that the exact paragraph is removed considering other comments as well.
Libya	694.	5.126/17	...to other governments for assistance in response...	International organizations and other governments simply imply international (i.e. delete international at the beginning of line 17)	✓			Please note that the exact paragraph is removed considering other comments.

ILO	695.	36 – 21	Change ‘respond’ with ‘put in place arrangements to respond’			✓ 5.90. Governments and international organizations shall put in place and maintain arrangements to respond in a timely manner to a request made by a State, in accordance with established mechanisms and respective mandates, for assistance in preparedness and response for a nuclear or radiological emergency.		For consistency and clarity.
Pakistan	696.	5.127/21-23	Governments and international organizations shall make arrangements to respond to any request made by a State, in accordance with established mechanisms and respective mandates, for assistance in preparedness for a nuclear or radiological emergency	The requirement describes response but it is in preparedness section. It need to be changed as a preparedness requirements.		✓ 5.90. Governments and international organizations shall put in place and maintain arrangements to respond in a timely manner to a request made by a State, in accordance with established mechanisms and respective mandates, for assistance in preparedness and response for a nuclear or radiological emergency.		For consistency and clarity.
France	697.	5.127	5.127. Governments and international organizations shall respond to any request made by a State,	“Any” may be too strong		✓ 5.90. Governments and international organizations shall put in place and maintain arrangements to respond in a timely manner to a request made by a State, in accordance with established mechanisms and respective mandates, for assistance in preparedness and response for a nuclear or		For consistency and clarity.

						radiological emergency.		
UNEP/OC HA	698.	Page 36 Line 31	Suggest to add “, in accordance with the procedures of the respective instruments, agreements and mechanisms.” after international assistance.	To make clear that the details of the response arrangements will be decided within the respective mechanisms.		✓ 5.90. Governments and international organizations shall put in place and maintain arrangements to respond in a timely manner to a request made by a State, in accordance with established mechanisms and respective mandates, for assistance in preparedness and response for a nuclear or radiological emergency.		For consistency and clarity considering other comments as well.
Spain	699.	Point 5.- Functional requirements Requirement 16.-		In general the message of the “self help” protective actions is missing. On the other hand, point 5.135 seems to reflect a very strong statement, which should perhaps be expressed somehow differently to offer some degree of flexibility in its application (see 5.137)		✓		Addressed in para. 5.93 of the draft text: ...This shall include providing the public with information on the need for any on-going protective actions following the termination of the emergency and any necessary modifications to their personal behaviour. Please also note the Appendix II with the criteria and conditions to be fulfilled to enable the termination. Para. 5.98 is revised for consistency considering other comments and consistently with other safety standards (e.g. GSR Part 3).
Sweden	700.	Requirement 16, Page 37 Lines 2-5	Change text to: <i>“The Government shall ensure that arrangements are put in place for the transition from an emergency exposure situation to an existing exposure situation”</i>	More proper formulation of the requirement		✓		Not necessarily each emergency will result in transition to existing exposure situation. Therefore, the requirement was revised to reflect this. The termination of the emergency is common for all possible scenarios that also involve returning to planned exposure situation (in the case of Paks fuel

								damage in Hungary or Panama radiotherapy accident) or source recovery (e.g. in case of accident involving recovery of sealed radioactive source being lost or stolen).
NEA	701.	Req. 16	<p>Transition from an emergency exposure situation to an existing exposure situation</p> <p>The government shall ensure that arrangements are put in place for the transition from an emergency exposure situation to an existing exposure situation.</p>	Simplification to high level requirement.		✓		Not necessarily each emergency will result in transition to existing exposure situation. Therefore, the requirement was revised to reflect this. The termination of the emergency is common for all possible scenarios that also involve returning to planned exposure situation (in the case of Paks fuel damage in Hungary or Panama radiotherapy accident) or source recovery (e.g. in case of accident involving recovery of sealed radioactive source being lost or stolen).
Sweden	702.	Requirement 16, Page 36, Line 32	Delete: <i>Deciding on the trans...</i> Starting with: <i>Transition from an emergency exposure...</i>	To start with <i>The decision...</i> narrows the Requirement too much and does not fit with the corresponding text that follows		✓		Not necessarily each emergency will result in transition to existing exposure situation. Therefore, the requirement was revised to reflect this. The termination of the emergency is common for all possible scenarios that also involve returning to planned exposure situation (in the case of Paks fuel damage in Hungary or Panama radiotherapy accident) or source recovery (e.g. in case of accident involving recovery of sealed radioactive source being lost or stolen).
Slovenia	703.	p.37, 5.130, line 8	It is more important that the transition is justified and not about the administrative form it was based on (based on administrative decision)		✓			

France	704.	5.130	5.130. The transition from an emergency exposure situation to an existing exposure situation shall be based on an <u>administrative formal</u> decision, made public, by the authority responsible for the overall response.	“Administrative” is ambiguous	✓			
Sweden	705.	5.131 Page 37, Lines 10-13	Delete paragraph	The paragraph is not necessary as this is included in the justification process. There is no need to repeatedly state this in the document.		✓ 5.95. Both radiological consequences and non-radiological consequences shall be considered in deciding on termination of the emergency as well as in justifying and optimizing further protection strategies as needed.		Kept due to its importance during the transition period and considering other comments.
NEA	706.	5.131	emergency phase	Emergency phase is a new term. Should use emergency exposure situation as standard terminology	✓			Wording is revised.
Slovenia	707.	p.37, 5.131	This paragraph deals with optimisation of radiological and non-radiological consequences and this should be clearly stated.			✓ 5.95. Both radiological consequences and non-radiological consequences shall be considered in deciding on termination of the emergency as well as in justifying and optimizing further protection strategies as needed.		For consistency.
NEA	708.	5.132 line 17	...be <u>discussed with and</u> explained to all parties...	Stakeholder involvement at this point is essential		✓ 5.96. The transition from an emergency exposure situation to an existing exposure situation and the returning to planned exposure situation shall be made in a coordinated and orderly manner, by making any necessary		For consistency and considering other comments as well.

						transfer of responsibilities and with the involvement of relevant authorities and interested parties.		
Sweden	709.	5.134 Page 37, Lines 22-23	Delete the text: “ <i>and shall be put into perspective in terms of associated health hazards (see Appendix II).</i> ”	The description of the health hazards in Appendix II is not in accordance with the risks (detriment) of exposure to ionizing radiation as expressed by UNSCEAR and ICRP. Advice on risk communication could be left out in requirements.			✓	Kept due to its importance in light of past experience. Please note that the system for placing the health hazard in perspective has been revised for clarity.
NEA	710.	5.134	emergency phase ...in terms the objectives of the protection strategy .	Change with emergency exposure situation Focus on high level aspects			✓	Kept due to its importance in light of past experience. Public will like to know what health hazards are in relation to the new situation after the emergency has been terminated rather than to be getting confused in terms of the protection strategy. Please note that the system for placing the health hazard in perspective has been revised for clarity.
Libya	711.	5.134/24	...behavior <u>and activities</u> ...	Behavior is not enough activities do more harm		✓		To be considered during the editorial review taking into account the meaning of the word ‘behavior’.
Slovenia	712.	p.37, 5.134	What is the message of this text? How it should be understood (e.g. On the basis <i>protective</i> actions, <i>response</i> actions and other arrangements /why so many words for this »basis«/? the health hazards should be explained to the public...???? Can not be reworded in a more clear text? E.g the health hazards should explained to the public in plain language and it should be minimal due to the appropriate actions and the public			✓ 5.93. Arrangements for public communications in a nuclear or radiological emergency (see Req. 13) shall cover the communication arrangements concerning the basis for adjusting protective actions and other response actions and of other arrangements aimed at enabling the termination		For clarity and considering other comments as well.

			should be made feel safe. The last sentence is always true and not just during the period of emergency phase			of the emergency. This shall include providing the public with information on the need for any on-going protective actions following the termination of the emergency and any necessary modifications to their personal behaviour. Arrangements shall be made, during this period, to closely monitor public opinion and the response of news media in order to ensure that any concerns can be addressed promptly. These arrangements shall consider that any information provided to the public places the health hazards in perspective (see Appendix III).		
Slovenia	713.	p.37, 5.135	Refers to emergency workers: Maybe it should be moved to requirement on emergency workers and it refers to both response and preparedness: to have such an arrangement and to implement it. Here is just under »response section«.			✓		Kept under para. 5.98. There is no response/preparedness division made considering other comments. Once the emergency is terminated, these workers are not regarded as emergency workers.
Finland	714.	5.135		Correct. But throughout an emergency a goal should be to try to minimize dose of emergency workers, and when possible remain below the limits of planned exposure situations. This is valid especially in the	✓			True. Please note paras 5.51 – 5.55 of the draft text. These requirements are valid for emergency workers as long as the emergency is not terminated (meaning, during transition as well). Once the emergency is terminated and transition is made to existing exposure situation the workers are not regarded as emergency workers.

				intermediate phase.				
USA	715.	Pg 38, Sect 5.136, line 2	Change “ These arrangements shall involve interested parties. ” to “The government shall involve and utilize stakeholders and interested parties in establishing and communicating the transitional arrangements.”	Stakeholder involvement (both establishing and communicating arrangements) is a key aspect of achieving a smooth transition between emergency and existing exposure situations. Current text in the draft document does not convey this level of importance.		✓ 5.97. The government shall ensure that, as part of its emergency preparedness, arrangements are in place for the termination of a nuclear or radiological emergency. The arrangements shall take into account that the decision for the termination of the emergency might be taken at different times in different geographical areas. The planning process shall include as appropriate: (a) the roles and functions of organizations; (b) methods of transferring information; (c) means for assessing radiological consequences and non-radiological consequences; (d) conditions, criteria and objectives to be met for enabling the termination (see Appendix II); (e) review of the hazard assessment and of the emergency arrangements; (f) establishment of national guidelines for termination of an emergency; (g) arrangements for on-		For consistency.

						going public communications, monitoring public opinion and the response of the news media and <u>(h) arrangements for consultation with interested parties.</u>		
Libya	716.	5.136/6	...organizations; <u>designated department or organization authorized to brief the public on the situation;</u> methods...	Briefing the public should be done by designated authority.		✓		Please note para. 6.4 of the draft text.
Germany	717.	5.136, Lines 6 to 12	“... The planning process shall include: <u>(a)</u> the roles and functions of organizations; <u>(b)</u> methods of transferring information; <u>(c)</u> methods for assessing radiological consequences and non-radiological consequences; <u>(d)</u> ensuring consistent system of national generic criteria to be applied from the start of the emergency until the emergency phase is terminated (see Appendix II); <u>(e)</u> review of the hazard assessment; <u>(f)</u> establishment of national guidelines for termination of an emergency phase by returning to a planned exposure situation or by transition to an existing exposure situation, as appropriate, e.g. by adjusting protective actions and other response actions; and <u>(g)</u> arrangements for on-going public communications, monitoring public opinion and the response of the news and information media.”	This sentence addresses seven different aspects in the planning process for the transition from an emergency exposure situation to an existing exposure situation. Introduce structuring of the different items to improve the readability of the whole sentence.	✓			
France	718.	5.136	The government shall ensure that, as part of its emergency preparedness, arrangements are in place for the transition from an emergency exposure situation to an existing exposure situation. These	“Administrative” is ambiguous (See comment on 5.130) In addition, this recommendation is		✓ 5.94. The termination of a nuclear or radiological emergency shall be based on a formal decision made public and shall		The example is not necessary as too detailed and already clearly indicated with the previous statement.

			arrangements shall involve interested parties. <u>The arrangements shall take into account that the administrative formal decision for the transition from an emergency exposure situation to an existing exposure situation might be taken at different times in different geographical areas.</u> Especially, the emergency exposure situation could be maintained on the most contaminated areas, but raised, in areas less affected by the radioactive contamination. The planning process shall include [...] information media.	relatively new and could benefit from being more explained.		include consultation with interested parties. 5.97. The government shall ensure that, as part of its emergency preparedness, arrangements are in place for the termination of a nuclear or radiological emergency. The arrangements shall take into account that the decision for the termination of the emergency might be taken at different times in different geographical areas. The planning process...		
Slovenia	719.	p.38, line 3	Instead of this sentence that transition can be at different times at different areas something about the criteria for the transition should be included.			✓		Please note Appendix II, paras II.15-II.16.
Germany	720.	5.137, Line 17	“... shall be conducted subject to the requirements for planned exposure situation ^s or existing exposure situation ^s , as appropriate [14].”	Editorial.	✓			
Libya	721.	5.138/20	...behavior <u>and activities</u> ...	To be consistent with para 134 line 25.		✓		To be considered during the editorial review taking into account the meaning of the word ‘behavior’.
NEA	722.	5.138	... <u>discussed and developed</u> with the public... ...in terms of <u>the objectives of the protection strategy.</u>	Stakeholder involvement is central at the end of the emergency phase As before		✓		Public will like to know what health hazards are in relation to the new situation after the emergency has been terminated rather than to be getting confused in terms of the protection strategy. Please note that the system for placing the health hazard in perspective has been revised for clarity.

Sweden	723.	5.138 Page 38, Lines 22-23	Delete the text: “Any information provided shall be put into perspective in terms of associated health hazards (see Appendix II).”	The description of the health hazards in Appendix II is not in accordance with the risks (detriment) of exposure to ionizing radiation as expressed by UNSCEAR and ICRP. Advice on risk communication could be left out in requirements.			✓	Kept due to its importance in light of past experience. Please note that the system for placing the health hazard in perspective has been revised for clarity.
Libya	724.	5.139/2	(e) general implications for safety (<u>radiation and industrial</u>)	Safety should be clearly identified		✓ (d) general implications for safety to include possible involvement of other sources or devices (including those in other States);		For consistency and in line with IAEA mandate.
France	725.	5.139d		5.139 (d) may not be necessary as it seems cover by 5.139 (e) and (f)	✓			
Austria	726.	Requirement 17:	There could be a possible overlapping of this Chapter (Analyzing the emergency) and the INES reporting of an incident or accident.				✓	Not at all – as per these requirements one should analyze the emergency and the response to identify the circumstances surrounding the emergency and assess the emergency response. The goal will be to initiate improvements to prevent similar emergencies to occur and to improve emergency arrangements. INES is used to communicate the safety significance of an event to the public not for the purposes indicated in these requirements.
USA	727.	Requirement 17	Additional requirement or modification of requirement.	General. An additional requirement is needed for the planning, conduct, and analysis of emergency response exercises to identify improvements and adopt changes into the		✓		Covered under Requirements for Infrastructure of the draft text (Requirements 25 and 26). In addition, please note para. 4.10 (h) of the draft text.

				emergency response plan before a real emergency or emergency response.				
NEA	728.	Req. 17		This is not part of this document, but should be moved to a guidance document. This is not part of Response or it should perhaps move to the section on QM			✓	Kept considering other comments as well. Looking back at what and why it happen is very important. In many cases, this will be done as soon as possible to identify possible involvement of similar sources/equipment in other facilities and activities within the State or in other State in order to prevent similar emergencies to occur.
Finland	729.	Req. 17		It would be good if an additional paragraph could be added here: to share results of analyses among relevant national responding organisations. In addition it would be beneficial in a transparent manner to share lessons identified also internationally in order to give a possibility to learn from experiences in the same manner as we share evaluation results of exercises.		✓ Para. 5.99: ... These arrangements shall consider the need for contribution to relevant internationally coordinated analysis and for sharing the findings of the analysis with relevant response organizations. ...		For consistency.
NEA	730.	5.139	Add: ' <u>Implications for present and future generations</u> .'	added for completeness			✓	Covered under general implications for safety and nuclear security.
Slovenia	731.	p.39, 5.140	Under preparedness section a similar text addressing similar activity should be added: e.g. Arrangements for collection of data and its data analysis capability shall be in place (referring to activities in 5.139).				✓	Covered under Requirement 26.

Interpol	732.			<p>This section refers to preservation of data and an analysis of the circumstances leading to a nuclear or radiological emergency for the purpose of greater understanding of what happened and why and with a view to ensuring it doesn't happen again. The authors may wish to include few lines to the effect that it is vital to secure the data and analysis as it will form part of any subsequent investigation. An investigation/inquiry could be: public; governmental; judicial; coronial; criminal; civil.</p>	✓			Suitable references to these circumstances have been added throughout the draft text.
France	733.	5.143	Locate 5.143 in the “response” part			✓		Please note that there is not more division between response and preparedness requirements.
Libya	734.	5.144/17	...(e.g. from the IAEA, <u>or states, or</u> from manufacturer of equipment)	States can be of great help	✓			
NEA	735.	5.144	...from the relevant national and/or international organisations or...	maybe not only the IAEA		✓	... (e.g. from the IAEA, other State or from the manufacturer of equipment).	Considering other comments as well.
France	736.	5.145	Locate 5.145 in the “response” part			✓		Please note that there is not more division between response and preparedness requirements.

Sweden	737.	5.145+ Page 39. Lines 21 -	Add a paragraph about arrangements made to reconstruct, to the extent possible, incurred doses both for workers and the public and the associated health effects after the emergency	The reconstruction of doses and the estimation of health effects are very important. To be able to do that in a good way, arrangements have to be in place beforehand to collect the proper data and information during the emergency.		✓		Covered under paras 5.56, 5.80 and 6.36 of the draft text.
Indonesia	738.	Page 39/ inserting item after number 5.144/ line no 18	5.145. Arrangements shall be made to acquire the expertise needed to collect a lesson learned of the nuclear or radiological emergency	Lesson learned from a nuclear or radiological emergency is important as a guidance to avoid the same accident in the future			✓	Lessons will be identified on the analysis; no need for additional expertise to be pointed out for drawing the lessons.
NEA	739.	Section 6	<u>6. INFRASTRUCTURAL REQUIREMENTS</u>	Infrastructure aspects should be moved earlier, to follow section 3			✓	Please see the response under comment number 102 above.
NEA	740.	Req. 18		Requirements 18 to 21 are fundamental and should be moved to after section 3			✓	Please see the response under comment number 102 above.
Canada	741.	6.2	Suggest adding the text in bold: “The authority for developing, maintaining and regulating or overseeing arrangements, ...	Clarification. Not all emergency management arrangements fall under the authority of the regulatory body. Specifically, off-site arrangements, while part of a legislative framework, may not be part of the regulatory process established by the nuclear safety regulator.	✓			True. Covered under 4.10 (h) of the draft text.

NEA	742.	6.2		The SF-1 says that operator is responsible for safety. There is a need to add a paragraph stating the responsibilities of the operator.	✓			Covered under Requirement 2 in details.
Slovenia	743.	p.40, 6.2	line 8: The authority <i>or many of those</i> (in the requirement the authorities are in plural) line 10: instead of listing documents, e.g. acts... use term 'legal framework'			✓		To be considered by the Technical Editor.
Slovenia	744.	p.40, 6.3	The 6.3 requires that the responsibilities (as required by Section 5) of response organizations shall be assigned and documented – but also a parallel should be made to req.2, which deals with the same subject. The last sentence describes ICS, which is similar to 5.13.		✓			
Finland	745.	6.3		for all phases of an emergency; not only early phase	✓			
Germany	746.	6.3./11	All of the functions specified in Section 5 shall be assigned to the appropriate operating organizations and to local, regional and national organizations, whose involvement in the performance of these functions, or in support of their performance, <u>and</u> shall be documented	Clarification	✓			

Canada	747.	6.5/32	Consider the addition of the following bolded text: “...an on-site position the responsibility for directing the entire on-site response as established by the emergency response commander. ”	Regarding “an on-site position the responsibility for directing the entire on-site response”. This responsibility is initially on-site but circumstances may require transfer of this authority to an individual or emergency response commander located off-site.		✓		Wording is revised consistently throughout the draft text considering other comment as well.
NEA	748.	6.9 line 17	..fit <u>and trained</u> ...	Training is key			✓	Covered under Requirement 25 of the draft text.
Slovenia	749.	p.41, line 2	Critical functions are not defined in the document.		✓			
Slovenia	750.	p.41, req.20	There are similarities between req.1 and req.20 in terms of coordinated emergency response system and coordinating emergency response between different operating organizations and authorities. Therefore a clear distinction should be made between these two requirements, if they are not similar.			✓		Requirement 1 on emergency management system ensures that all interrelated elements, functions and processes in EPR are adequately managed within the same system. This includes the required coordination indicated in Requirement 20, para 4.10 and Requirement 6.
NEA	751.	Req.20		Seems redundant. If kept, should be in section on preparedness.		✓		Kept under the same section. Please see the response under comment number 102 above.
Czech	752.	6.12/32	Arrangements for the coordination of emergency preparedness and response and protocols for operational	The content of requirement 20 was extended but the content of para 6.12 was unchanged	✓			

France	753.	6.13	6.13. When several different organizations or other States are expected to have or to develop tools, procedures or criteria for use in responding to the same emergency, coordination arrangements shall be put in place to harmonize <u>share</u> the results of assessments of contamination, doses and radiation induced health effects and of any other appropriate assessments made in a nuclear or radiological emergency in order to <u>improve quality of the assessments, avoid unexplained inconsistencies and therefore not to give rise to inconsistency and confusion.</u>	Harmonization may be the ultimate goal but a more practical achievement is to understand why results may be different. See 6.14		✓		To be considered by the Technical Editor.
NEA	754.	6.13	When several different organizations or other States are expected to have or to develop tools, procedures or criteria for use in responding to the same emergency, coordination arrangements shall be put in place to <u>share</u> the results of assessments of contamination, doses and radiation induced health effects and of any other appropriate assessments made in a nuclear or radiological emergency in order to <u>avoid</u> inconsistency and confusion.	It is EXTREMELY DIFFICULT, if not impossible to “harmonise”.		✓		Efforts need to be made for doing so; or differences and the results communicated needs to recognize and clearly explain the differences to avoid any confusion.
Germany	755.	6.13, Line 7	“When several different organizations or other States are expected to have or to develop tools, procedures or criteria for use in responding to the same emergency, coordination arrangements <u>for coordination</u> shall be put in place to harmonize the results of assessments of contamination, doses and radiation induced health effects ...”	Wording.	✓			

Canada	756.	6.14	Consider adding the text in bold: “Arrangements shall be made in the event of a transnational emergency to coordinate with other States any assessment and related protective actions...”	Clarification. Discrepancies in protective actions may be based on differences in the technical assessment of the situation. As a result, assessment outcomes will need to be coordinated in order to coordinate protective actions.	✓			
France	757.	6.15	The language and physical units to be used as well as the system for putting health hazards into perspective shall be determined and agreed in advance.	Too detailed to be in a requirement... To be transferred to a guide	✓			
Germany	758.	6.15, Line 18	“Arrangements shall be made to ensure that States with areas in category V are provided with appropriate information for developing their own preparedness to respond to a transboundary emergency and that arrangements shall be made for <u>to ensure</u> appropriate transboundary coordination. ...”	Clarification. The phrase “Arrangements shall be made to ensure that ... and that arrangements shall be made for ...” does not make sense.	✓			
Germany	759.	6.15, Lines 19 to 22	“... These arrangements shall include: (a) agreements and protocols to provide information necessary to develop a coordinated means for notification, classification schemes, generic criteria and operational criteria for taking and adjusting protective actions and other response actions; (b) arrangements for public information; and (c) arrangements for the exchange of information between decision making authorities. ...”	This sentence addresses three specific arrangements for the coordination of information in a transnational emergency. Introduce structuring of the different items to improve the readability of the whole sentence.	✓			

NEA	760.	Req. 21	Requirement 21: Plans and procedures The government shall ensure that plans and procedures necessary for effective emergency response are established.	Should there be a paragraph on IACRNE here? Seems redundant, but Move to preparedness section			✓	Please see the response under comment number 102 above.
France	761.	6.16		Second sentence ??? (Cela ne me semble pas le cas en France. Voir avec DEU...)				No clear comment made but rather self-assessment.
Slovenia	762.	p.42, 6.17	This paragraph deals with coordination of responsibilities and it could be suitable also to put it under req.2 which describes clear allocation of responsibilities.				✓	Kept as infrastructural element for what is required in requirement 2.
France	763.	6.17	6.17. Plans, procedures and other arrangements, to include coordinating bodies , letters of agreement or legal instruments, shall be made for coordinating a national emergency response.	Simplification		✓ 6.16. Plans, procedures and other arrangements for emergency response, to include <u>coordinating mechanism</u> , letters of agreement...		For consistency with para. 4.10 of the draft text.
France	764.	6.17	The arrangements shall include provisions that can be used to formulate in detail a response to situations such as: a serious exposure or contamination resulting from contact with a source by a member of the public or resulting from the use of sources in medical applications in patients; the notification of a potential significant transboundary release of radioactive material; dangerous source in the public domain; the notification of the potential re-entry of a satellite; and other unanticipated situations warranting protective actions and other	Too detailed to be in a requirement... To be transferred to a guide	✓			

			response actions.					
USA	765.	Pg 43, sect 6.17, lines 7-8	Change to read "...dangerous source in the public domain; the notification of the potential re-entry of a satellite ; and other unanticipated situations warranting protective actions..."	Few satellite are equipped with radiothermal generators using radioactive sources, rather they use solar cells. Re-entry of a satellite with a radioactive source might be an unanticipated situation."	✓			Sentence with examples is deleted considering other comment as well.
Libya	766.	6.17/4	...such as: a serious <u>exposure of emergency response workers and helpers</u> or contamination...	Arrangements shall include provisions for workers and helpers.				Sentence with examples is deleted considering other comment as well.
Slovenia	767.	p.43, line 3	Confidentiality is mentioned, but it should be clearly stated that in general the emergency plans should not be confidential otherwise one could face serious difficulties implementing them. Confidential can only be personal data or similar. In the same line a long sentence starts which lists some examples of emergencies, which shall be considered and arrangements made – it should be noted that this is not an exhaustive (complete) list.			✓		Sentence with examples is deleted considering other comment as well. In addition, although the plan itself or the procedure may not be confidential, some parts (such as plan of the facility) may be confidential. Therefore, this needs to be considered at national level.
Germany	768.	6.17, Lines 4 to 8	"... The arrangements shall include provisions that can be used to formulate in detail a response to situations such as: (a) a serious exposure or contamination resulting from contact with a source by a member of the public or resulting from the use of sources in medical applications in patients; (b) the	This sentence addresses five typical situations requiring provisions for an emergency response. Introduce structuring of the different items to improve the readability of the whole sentence. Item (c) has been	✓			

			notification of a potential significant transboundary release of radioactive material; (c) a dangerous source in the public domain as a result of its loss or unauthorized removal ; (d) the notification of the potential re-entry of a satellite equipped with sources or radioactive materials ; and (e) other unanticipated situations warranting protective actions and other response actions.”	amanded for harmonization with the wording used in Paras 5.40 and 5.63. Item (d) has been amanded for completeness.				
Canada	769.	6.19 (e)	Consider adding the text in bold: “emergency plans are periodically reviewed, updated and exercised ”	Highly desirable requirements		✓		Covered under Requirement 25.
UK	770.	Page 41 Para 6.19 & Page 44 para 6.21		<p>Paragraph 6.19 is broadened in order to be more general. Any specification on ‘how’ to do it has been avoided. Further elaboration should be made, in lower level documents (Safety Guide), on specifics to be included in the emergency plan in support to this requirement.</p> <p>Para 6.21 draws upon detail contained in the IAEA Safety Guide ‘Arrangements for Preparedness for a Nuclear or Radiological Emergency, GS-G-2.1, and the deatail contained in the current GS-R-2 para 5.20 seems to have been lost in DS457.</p> <p>These 2 points highlight</p>	✓			

				the importance of updating the IAEA Safety Guide 'Arrangements for Preparedness for a Nuclear or Radiological Emergency, GS-G-2.1' as soon as possible to ensure a consistent and structured programme of improving emergency preparedness and response plans.				
Canada	771.	6.21	Consider adding after bullet a): “Roles and responsibilities of implicated responding organisations”	Highly desirable requirement. Plans should clearly state the roles and responsibilities of all implicated organisations.		✓		Please note that this paragraph was removed considering other comments (too detailed for requirement level document). Existing guidance and tools in EPR provide further information on the contents of the plans (e.g. GS-G-2.1, EPR-Method 2003 etc.).
Finland	772.	6.21		I am not sure if this a correct place, but I suggest that there should a be a requirement to have a monitoring strategy where in addition to measurements, possibilities of calculation (e.g. by using decision support systems) will be taken into account i.e. what has to be measured, what can be calculated and their combination.	✓			Para. 5.79 is added: The monitoring in response to a nuclear or radiological emergency shall be carried out on the basis of a strategy to be developed at the preparedness stage as part of the protection strategy. Arrangements shall be made to adjust the monitoring in the emergency response based on prevailing conditions.
Libya	773.	6.21/5	(b) the conditions <u>and the type of emergency</u> under which the plan is applicable	It is prerequisite to know the type of emergency you will deal with.		✓		Please note that this paragraph was removed considering other comments (too detailed for requirement level document). Existing guidance and tools in EPR provide further information on the

								contents of the plans (e.g. GS-G-2.1, EPR-Method 2003 etc.).
Russia	774.	6.22/12	Analytical tools and computer models	According to similar statements in 6.23/14.		✓ tools		For clarity and consistency.
Japan	775.	6.23/ P44.L14 (Req.21: Plans and procedur es)	Procedures, analytical tools and computer models to be used in performing functions to meet the requirements for emergency response shall be tested under simulated emergency conditions and shall be validated as correct prior to use. Any arrangements that are made to use dose projection models early in the emergency response for supporting decision making on the protective actions and other response actions to be taken shall be made in recognition of the limitations of such models to include that the timing and magnitude of releases warranting taking precautionary urgent protective actions and urgent protective actions before, or shortly after, a release off the site may not be predictable and such a release could occur over several days resulting in very complex deposition patterns off the site. These limitations shall be made clear to, and understood by, those responsible for decision making. Tools used as a basis for precautionary urgent protective actions and urgent protective actions shall be integrated into decision-making systems in such a way that their use will not delay the	See General comments #2. It should not be described as a requirement according to General Comment No.2.		✓ 6.21. Procedures and analytical tools shall be tested under simulated emergency conditions and shall be validated as appropriate prior to initial use. Any arrangements for use of analytical tools early in the emergency response for supporting decision making on protective actions and other response actions to be taken shall be made recognizing the limitations ³² of such analytical tools and in a way that will not jeopardize the effectiveness of response actions. These limitations shall be made clear to, and understood by, those responsible for decision making. ³² Example for such limitation is that the timing and magnitude of releases of radioactive material due to an emergency at a nuclear power plant warranting taking		For consistency and considering other comments as well.

			implementation of these actions, especially for making decisions concerning those that need to be taken before or shortly after release to be most effective.			precautionary urgent protective actions and urgent protective actions off-site before, or shortly after, a release may not be predictable. In addition, the release could occur over several days resulting in very complex deposition patterns off-site.		
Germany	776.	6.23/16	Any arrangements that are made to use dose projection models early in the emergency response for supporting decision making on the protective actions and other response actions to be taken shall be made in recognition of the limitations of such models. <u>This</u> to includes that the timing and magnitude of releases warranting taking precautionary urgent protective actions and urgent protective actions before, or shortly after, a release off the site may not be predictable and such a release could occur over several days resulting in very complex deposition patterns off the site.	Difficult to understand because of the sentence length.		<p>✓</p> <p>6.21. Procedures and analytical tools shall be tested under simulated emergency conditions and shall be validated as appropriate prior to initial use. Any arrangements for use of analytical tools early in the emergency response for supporting decision making on protective actions and other response actions to be taken shall be made recognizing the limitations³² of such analytical tools and in a way that will not jeopardize the effectiveness of response actions. These limitations shall be made clear to, and understood by, those responsible for decision making.</p> <p>³² Example for such limitation is that the timing and magnitude of releases of radioactive material due to an emergency at a nuclear power plant warranting taking</p>		For consistency and considering other comments as well.

						<p>precautionary urgent protective actions and urgent protective actions off-site before, or shortly after, a release may not be predictable. In addition, the release could occur over several days resulting in very complex deposition patterns off-site.</p>		
France	777.	6.23	<p>to include that the timing and magnitude of releases warranting taking precautionary urgent protective actions and urgent protective actions before, or shortly after, a release off the site may not be predictable and such a release could occur over several days resulting in very complex deposition patterns off the site.</p>	<p>Too detailed to be in a requirement... To be transferred to a guide</p>		<p>✓</p> <p>6.21. Procedures and analytical tools shall be tested under simulated emergency conditions and shall be validated as appropriate prior to initial use. Any arrangements for use of analytical tools early in the emergency response for supporting decision making on protective actions and other response actions to be taken shall be made recognizing the limitations³² of such analytical tools and in a way that will not jeopardize the effectiveness of response actions. These limitations shall be made clear to, and understood by, those responsible for decision making.</p> <p>³² Example for such limitation is that the timing and magnitude of releases of radioactive material due to an emergency at a nuclear power plant warranting taking</p>		<p>For consistency and considering other comments as well.</p>

						precautionary urgent protective actions and urgent protective actions off-site before, or shortly after, a release may not be predictable. In addition, the release could occur over several days resulting in very complex deposition patterns off-site.		
Canada	778.	6.23/15-16	Existing text: “...shall be validated as correct prior to use.” Request deletion of the word “use” and replace with “ implementation ” or change to “ prior to initial use ”.	“shall be validated as correct prior to use” could be interpreted as a requirement to be repeated every time the tools or models are used.	✓			prior to initial use - proposal
Canada	779.	6.23/16-17	Consider adding the text in bold: “...Any arrangements that are made to use atmospheric dispersion or dose projection models ...”	Atmospheric dispersion modelling in the absence of source terms can still provide relevant information to support decision makers, but may have similar limitations as dose projection models		✓ 6.21. Procedures and analytical tools shall be tested under simulated emergency conditions and shall be validated as appropriate prior to initial use. Any arrangements for use of analytical tools early in the emergency response for supporting decision making on protective actions and other response actions to be taken shall be made recognizing the limitations ³² of such analytical tools and in a way that will not jeopardize the effectiveness of response actions. These limitations shall be made clear to, and understood by, those responsible for decision making.		For consistency and considering other comments as well.

					<p>³² Example for such limitation is that the timing and magnitude of releases of radioactive material due to an emergency at a nuclear power plant warranting taking precautionary urgent protective actions and urgent protective actions off-site before, or shortly after, a release may not be predictable. In addition, the release could occur over several days resulting in very complex deposition patterns off-site.</p>		
Slovenia	780.	p.44, 6.23	In this paragraph actually a position and a warning as regards using models, their uncertainties and decision making. Maybe a new requirement about decision making should be formulated combining assessment of the situation and decision making, which would take this advice on board.		<p>✓</p> <p>6.21. Procedures and analytical tools shall be tested under simulated emergency conditions and shall be validated as appropriate prior to initial use. Any arrangements for use of analytical tools early in the emergency response for supporting decision making on protective actions and other response actions to be taken shall be made recognizing the limitations³² of such analytical tools and in a way that will not jeopardize the effectiveness of response actions. These limitations shall be made clear to, and understood by, those responsible for decision making.</p>		For consistency and considering other comments as well.

						³² Example for such limitation is that the timing and magnitude of releases of radioactive material due to an emergency at a nuclear power plant warranting taking precautionary urgent protective actions and urgent protective actions off-site before, or shortly after, a release may not be predictable. In addition, the release could occur over several days resulting in very complex deposition patterns off-site.		
USA	781.	Pg 44, Requirement 22	Additional requirement or modification of requirement.	General. Resources and logistical support must be identified to test emergency response plans, review and assess the exercise results, and to revise and update the emergency response plan.		✓		Covered under para. 4.8. of the draft text: The government shall ensure that response organizations, operating organizations and the regulatory body have the necessary resources, considering their expected roles and responsibilities and assessed hazards, to prepare for and respond to both radiological and non-radiological consequences of a nuclear or radiological emergency, whether the emergency occurs within or beyond national borders.
NEA	782.	Req. 22	Requirement 22: Logistical support and facilities The government shall ensure that <u>sufficient logistical support and facilities</u> are provided to enable response functions to be performed effectively in a <u>nuclear or radiological emergency</u> .	Too detailed, move to guidance			✓	Kept considering its importance and other comments.
ENISS	783.	Article 6.24	Adequate tools, instruments, supplies, equipment, communication systems, facilities and documentation (such as procedures, checklists, telephone	The functional requirements are sufficient. The other considerations are examples and shall not			✓	Kept due to its importance in light of past emergencies.

			numbers, email addresses and manuals) shall be provided for performing the functions specified in Section 5. These items and facilities shall be selected or designed to be operational under the postulated conditions (such as radiological, working and environmental conditions) that may be encountered in the emergency response, and to be compatible with other procedures and equipment for the response (such as the communication frequencies of other response organizations), as appropriate. These support items shall be located or provided in a manner that allows their effective use under postulated emergency conditions.	be taken as a requirement. For example : there is no need to have a phone resisting in-situ to all stress, but you need to be able to replace it efficiently.				
USA	784.	Pg 45, section 6.24, line 7	Change to read “that they can withstand unplanned physical stressors (e.g., temperature, pressure, droppage, etc) and will be readily accessible in postulated emergency conditions.”	Editorial. Critical text was missing.		✓ ...This equipment shall be located and maintained so that it can be functional and readily accessible when needed.		Kept broadly to avoid details. Other comments were also considered.
ENISS	785.	Article 6.25	For facilities in category I, alternative supplies as contingency measures, such as the supply of water, compressed air and mobile electrical power, including any necessary equipment, that are necessary for mitigating severe emergency conditions shall be located and maintained in such a way that they can withstand and will be readily accessible available to operate in postulated emergency conditions.	There are many requirements to allow mobile emergency means to operate: a functional requirement is better.		✓ ...This equipment shall be located and maintained so that it can be functional and readily accessible when needed.		Kept broadly considering other comments as well.
France	786.	6.25	For facilities in category I, alternative supplies as contingency measures, such as the supply of water, compressed air and mobile electrical power, including any	There are many requirements to allow mobile emergency means to operate : a functional requirement is better.		✓ ...This equipment shall be located and maintained so that it can be functional and readily		Kept broadly considering other comments as well.

			necessary equipment, that are necessary for mitigating severe emergency conditions shall be located and maintained in such a way that they can withstand and will be readily accessible available to operate in postulated emergency conditions.			accessible when needed.		
Germany	787.	6.25	For facilities in category I <u>or II</u> , alternative supplies as contingency measures, such as the supply of water, compressed air and mobile electrical power, including any necessary equipment, that are necessary for mitigating severe emergency conditions shall be located and maintained in such a way that they can withstand and will be readily <u>available and</u> accessible in postulated emergency conditions.	These requirements shall be valid also for facilities in category II. Clarification and consistency with the wording used in the third sentence of Para 5.42. Concerning alternative supplies as contingency measures, it is essential to ensure their availability when needed and to allow safe access to them under postulated emergency conditions.		✓ 6.23. For facilities in category I, alternative supplies as contingency measures, such as alternative supply of water and electrical power, including any necessary equipment shall be ensured for taking mitigatory actions. This equipment shall be located and maintained so that it can be functional and readily accessible when needed.		Kept for consistency with other draft standards (DS462).
Libya	788.	6.25/5	... compressed air, <u>mobile phones radiation measurements and survey meters, and...</u>	It is very important in such cases to have a handy equipment		✓ 6.23. For facilities in category I, alternative supplies as contingency measures, such as alternative supply of water and electrical power, including any necessary equipment shall be ensured for taking mitigatory actions. This equipment shall be located and maintained so that it can be functional and readily accessible when needed.		Kept for consistency with other draft standards (DS462).

Slovenia	789.	p.45, 6.25	In this paragraph portable pumps and firefighting equipment could be added.			✓ 6.23. For facilities in category I, alternative supplies as contingency measures, such as alternative supply of water and electrical power, including any necessary equipment shall be ensured for taking mitigatory actions. This equipment shall be located and maintained so that it can be functional and readily accessible when needed.		Kept for consistency with other draft standards (DS462).
UK	790.	Page 45 Para 6.26 & para 6.27		Guidance on how to meet the requirement of paras 6.26 & 6.27 (DS457) should be developed and highlights the need to review / update the IAEA Safety Guide 'Arrangements for Preparedness for a Nuclear or Radiological Emergency, GS-G-2.1'.	✓			
Canada	791.	6.26/9	Suggest it be re-written in a manner that clarifies whether “designated” or “designed” is the intent of the clause	It is unclear if this is this meant to be a design requirement?		✓		Not necessarily for all of them. Please note also para. 6.25 – these facilities will be part of the design and therefore, they are referred to in draft design/operation requirements (DS462 on Safety of NPP). GS-G-2.1 provides guidance on emergency response facilities and locations.
France	792.	6.26	6.26. Emergency response facilities or locations to support the emergency response shall <u>remain</u> be designated that are operational under the full range of postulated hazardous conditions with and <u>enable</u> the following functions, as appropriate, <u>to be performed</u> :	Clarification		✓ 6.24. Emergency response facilities or locations shall be designated to support the emergency response under the full range of postulated hazardous		For consistency.

						conditions and shall be assigned with the following functions, as appropriate: ...		
NEA	793.	6.26		For category 1 accidents, facilities and locations shall be provided resources ensuring protective measures , such as sheltering, medical resources for KI.		✓		Covered under para 6.25 of the draft text.
Germany	794.	6.26, Lines 10 to 17	“Emergency response facilities or locations to support the emergency response shall be designated that are operational under the full range of postulated hazardous conditions with the following functions, as appropriate: (a) receiving notifications and initiating the response; (b) coordination and direction of on-site response actions; (c) providing technical and operational support to those personnel performing tasks within a facility and those responding off-site; (d) coordination and direction of off-site response actions with on-site response actions; (e) coordination of national response actions; (f) coordination of public information; (g) coordination of radiological monitoring, sampling and assessment; (h) managing those evacuated (including reception, registration, monitoring and decontamination as well as for meeting the personal needs of those staffing them such as housing, feeding, sanitation etc.); (i) safe storage of necessary resources; and (j) appropriate medical attention to and treatment of individuals who have undergone exposure or	This sentence addresses ten different functions of emergency response facilities. Introduce structuring of the different items to improve the readability of the whole sentence.	✓			

			contamination.”					
ENISS	795.	6.26	Emergency response facilities or locations to support the emergency response shall be designated that are operational under the full range of postulated hazardous conditions. with For example , the following functions may , as appropriate, receive ing notifications and initiating the response; coordination and direction of on-site response actions; providing technical and operational support to those personnel performing tasks within a facility and those responding off-site; coordination and direction of off-site response actions with on-site response actions; coordination of national response actions; coordination of public information; coordination of radiological monitoring, sampling and assessment; managing those evacuated (including reception, registration, monitoring and decontamination as well as for meeting the personal needs of those staffing them such as housing, feeding, sanitation etc.); safe storage of necessary resources; and appropriate medical attention to and treatment of individuals who have undergone exposure or contamination.	This requirement is too detailed. A lot of details may not be adequate so that it seems better to describe it as examples.			✓	Important issue – further guidance is given in GS-G-2.1 – here, only the requirement for facilities and locations to perform certain functions in an emergency is given.
Germany	796.	6.27	For facilities in category I <u>or II</u> , ¹⁸ emergency response facilities separate from the control room and supplementary control room shall be provided so that: technical	These requirements shall be valid also for facilities in category II.			✓	Kept, but please note more generally they are covered under para. 6.24 of the draft text. Further guidance can be found in the safety guide GS-G-2.1.

			<p>support can be given to the control room operating personnel in emergency conditions (technical support centre); operational control by the personnel performing tasks within or near the facility can be maintained (operational support centre); and the on-site emergency response is managed (emergency centre).</p> <p>For facilities in category I or II, the emergency response facilities or locations to be used in an emergency response shall provide reasonable assurance of being able to be operable and habitable under a range of hazardous conditions, including those not considered in the design basis.</p>					
Germany	797.	6.27	<p>Note: For facilities in category I, the term “emergency response facility” strongly corresponds to the term “emergency control room” in the IAEA Safety Requirements SSR-2/1 “Safety of Nuclear Power Plants: Design” (see Requirement 67 with subordinated Para 6.42 in SSR-2/1). The relationship between both terms should be elaborated (either in this para or in the section on definitions) in order to avoid confusion with the terminology used in SSR-2/1. In addition, reference to SSR-2/1 is recommended.</p>	For clarification and completeness.		✓		SSR-2/1 is under revision (DS462). The terms are consistently used in both DS457 and DS462. Please note that SSR-2/1 makes reference to DS457.
Germany	798.	6.27, Lines 20 to 23	<p>“For facilities in category I, emergency response facilities separate from the control room and supplementary control room shall be provided so that: (a) technical support can be given to the control room operating personnel in</p>	This sentence addresses three specific functions of emergency response facilities provided for facilities in category I. Introduce structuring of the different items to	✓			

			emergency conditions (technical support centre); (b) operational control by the personnel performing tasks within or near the facility can be maintained (operational support centre); and (c) the on-site emergency response is managed (emergency centre). ...”	improve the readability of the whole sentence.				
Germany	799.	6.27, Line 27	“... to be operable and habitable under a range of <u>postulated</u> hazardous conditions, including those not considered in the design basis.”	Consistency with the wording used in the first sentence of Para 6.26.	✓			
Indonesia	800.	Page 45/ paragraph 6.27/ line 28design basis. A remote emergency response center and emergency response tool can be considered when the local emergency response facility can not serve as well	A remote emergency response center and emergency response tool can be considered as diversity to assure the performance of emergency response action when the local emergency response facility can not be operated well			✓	Proposal on how to be achieved. Further guidance to be provided in a safety guide. Please note the existing guide GS-G-2.1 where emergency response facilities and locations are elaborated in more details.
Canada	801.	6.27/26-28	It’s not clear if lines 26-28 convey a requirement for “hardened” facilities or permits the use of back up facilities at alternate locations. The term “reasonable assurance” is ambiguous. Request clarification or definition.	It’s not clear if lines 26-28 convey a requirement for “hardened” facilities or permits the use of back up facilities at alternate locations. The term “reasonable assurance” is ambiguous. Request clarification or definition.		✓		Exactly – important requirement in light of past experience. Further guidance on this requirement will be considered to be provided in safety guides when revised. Currently GS-G-2.1 elaborates on emergency response facilities and locations in more details.
ENISS	802.	6.27	For facilities in category I, emergency response facilities separate from the control room and supplementary control room shall be provided so that: technical support can be given to the control room operating personnel in emergency conditions (technical support centre); operational control	This is an over-requirement, which is not necessary and may be misinterpreted.			✓	Kept due to its importance and for consistency with other safety standards such those for safety of NPPs.

			by the personnel performing tasks within or near the facility can be maintained (operational support centre); and the on-site emergency response is managed (emergency centre). These emergency response facilities shall operate as an integrated system in support of the control room, without interfering in each other's functions. For facilities in category I, the emergency response facilities or locations to be used in an emergency response shall provide reasonable assurance of being able to be operable and habitable under a range of hazardous conditions, including those not considered in the design basis.				
Argentina	803.	Requirement 23	<p>Add a new paragraph:</p> <p>The operating organization and response organizations shall encourage the participation of the local population and local media (radio, TV, newspapers, etc.) in the drills and exercises.</p>	<p>It's expected that the population involved take appropriate actions in the response to protection actions taken by the authorities (stable iodine prophylaxis, sheltering, evacuation, etc.), during the implementation of urgent protective actions and other response actions.</p> <p>The best way to train the population, to strengthen its trust in the authorities in charge of the emergencies response and to verify that the population takes the appropriate actions is encouraging their active participation in exercises. On the other hand, local media participation in</p>		<p>✓</p> <p>6.30. ...These programmes shall include the participation in some exercises of, as appropriate and feasible, all of the organizations concerned, potentially affected public and the news media.</p>	For consistency.

				exercises allows them to know the response system and gives them opportunity to give better information in case a real event happens.				
NEA	804.	Req. 23		Move to new preparedness section			✓	Kept under the same section. Please see the response under comment number 102 above.
Slovenia	805.	p.46	<p>Are requirements:</p> <ul style="list-style-type: none"> - In line 2: ..to perform functions specified in Section 5, and - Requirement 6.29 identical, because Section 5 covers also notification. <p>Do we need to mention also training of medical personnel including paramedics and other first responders. E.g. training of decision makers is explicitly mentioned in 6.32.</p>					<p>Requirement 6.29 relates to those staff that not necessarily will be involved in the emergency response and will be e.g. instructed to leave the site.</p> <p>Covered with para. 6.28.</p>
Canada	806.	6.30	<p>Consider the addition of the following bolded text:</p> <p>“...and the national level programmes for category IV or V are tested at suitable intervals as established by the member state.”</p>	<p>Clarification is required with respect to regulatory evaluation of exercise. The regulatory body can only evaluate within its scope and mandate, which may exclude aspects of the off-site response.</p>			✓	<p>Addition is not needed. Guidance exists providing more details (e.g. GS-G-2.1 and EPR-Exercises 2005). The exact intervals at the end will be a decision of Member State.</p>
Japan	807.	6.30/18	<p>Some exercise programmes shall be conducted as joint exercises with security organizations, which simultaneously test emergency and contingency plans and actions. (see para. 5.52 of [6])</p>	<p>To ensure the compatibility between the emergency arrangements and the contingency plan.</p> <p>Ref.[6] 5.52. The State should ensure that joint exercises, which simultaneously test</p>		✓ 6.30. ...These programmes shall include the participation in some exercises of, as appropriate and feasible, all of the organizations concerned, potentially affected public and the news media.		<p>Issue covered under this paragraph. The specific objectives of the exercise will dictate the involvement needed by different organizations.</p>

				emergency and contingency plans and actions, are regularly carried out in order to assess and validate the adequacy of the interfaces and response coordination of emergency and security organizations involved in responding to various scenarios, and should have a method for incorporating lessons learned to improve both management systems.				
UK	808.	Page 46 line 21	...training exercises <u>at a frequency that is agreed by the regulatory body</u>	While it is appropriate to test on-site nuclear emergency plans annually, para 6.31 could be taken to include testing of off-site emergency plans every year which may well not be necessary.		✓ 6.31. The staff responsible for critical response functions shall participate in drills and exercises on a regular basis sufficient to ensure their ability to effectively take these actions.		Paragraph is broadened considering other comments as well.
India	809.	46/19	"The staff responsible for critical response functions for a facility in category I or II and within the emergency planning zones and extended planning distance (to include areas in category V) shall participate in drills and training exercises as per the requirements of member states. For facilities in category En and activities in category IV the staff responsible for critical response functions shall participate in training exercises or drills on an appropriate schedule."	Exercises in Emergency Planning Zones are conducted with frequencies as per regulatory requirements of Member states. Hence the requirement of Line no 21 i.e "at least once every year" may be replaced by "as per the requirements of member states."		✓ 6.31. The staff responsible for critical response functions shall participate in drills and exercises on a regular basis sufficient to ensure their ability to effectively take these actions.		Paragraph is broadened considering other comments as well.
Pakistan	810.	6.31/23	The staff responsible for critical response functions for a facility in category I or II and within the emergency planning zones and extended planning distance(to	The frequency of for participation in training, drills/exercise for responsible staff should also be defined for		✓ 6.31. The staff responsible for critical response functions shall participate in drills and		Paragraph is broadened considering other comments as well.

			include areas in category V) shall participate in drills and training exercises at least once every year. For facilities in category III and activities in category IV the staff responsible for critical response functions shall participate in training exercises or drills at least once in two years. Some of the exercises shall also be conducted as announced.	facilities in category III and activities in category IV. Further, requirement for conducting unannounced emergency exercises should also be added in order to test arrangements in effectively.		exercises on a regular basis sufficient to ensure their ability to effectively take these actions.		
Switzerland	811.	6.31 Page 46 Line 21	The staff responsible for critical response functions for a facility in category I or II and within the emergency planning zones and distances (to include areas in category V) shall regularly participate in drills and training exercises at least once every year.	Performing training exercises for staff tasked with critical off-site response functions for each facility at such a high frequency is not adequate and hardly feasible. There will not be enough time to find solutions for identified gaps(lessons identified) and to implement them in the emergency arrangements.		✓ 6.31. The staff responsible for critical response functions shall participate in drills and exercises on a regular basis sufficient to ensure their ability to effectively take these actions.		Paragraph is broadened considering other comments as well.
Canada	812.	6.32/26 and 28	Consider the addition of the following bolded text: “The officials of the site responsible for public communications in a nuclear or radiological emergency shall also regularly participate in exercises at suitable intervals as established by the member state. ”	The phrase “regularly participate” is ambiguous. Request clarification, define acceptable frequency.		✓		Kept as it is because currently guidance exists on this topic (please see EPR-Exercise 2005). More elaboration to be considered to be given in safety guide when revised.
Slovenia	813.	p.46, 6.33		In exercises evaluation time is emphasized as one of the parameters (or even as the main one) for achieving response objectives. There are also other evaluation parameters, e.g. accurate		✓ 6.33. The conduct of exercises shall be evaluated against pre-established response objectives that demonstrate that identification, notification, activation		

				measurements, following the procedures, eliminating mistakes in reports, understandable communication messages, etc.		and the response actions can be performed <u>effectively</u> to meet the goals of emergency response (see para. 3.2).		
France	814.	6.33	6.33. The conduct of exercises shall be evaluated against established response objectives that demonstrate that identification, notification, activation and other response actions can be performed in time to achieve the practical goals of emergency response (see para. 3.1).	Evaluation is covered by 6.30		✓ 6.33. The conduct of exercises shall be evaluated against pre-established response objectives that demonstrate that identification, notification, activation and the response actions can be performed effectively to meet the goals of emergency response (see para. 3.2).		Evaluation is always to be done against set response objectives. Other comments were considered as well.
NEA	815.	Req. 24		Move to new infrastructure section			✓	Kept under the same section. Please see the response under comment number 102 above.
ILO	816.	47 – 5	Change ‘its’ with ‘their’.		✓			
Slovenia	817.	p.47	The requirement for quality management should allow that organizations can have different QM systems, however they should be compatible and the main characteristics of these QM systems should be described/listed in explanatory paragraphs, e.g. organization, QM program, control of processes, instructions and procedures, training, audits, documentation control, non-conformances and corrective actions, quality control, etc.	The term ‘quality management’ is no longer used, and instead replaced by ‘management system’ (see also footnote 1 in page 7).		✓		Within the management system, one may prepare a programme as described in this requirement for managing quality of certain aspects. The requirement is consistent with DS456 on Leadership and management for safety. Footnote is removed considering the clear definition in the list of definitions on management system.

France	818.	Requirt 24	<p>Requirement 24: <u>Quality management programme to ensure availability and reliability of equipment and documentation</u></p> <p>The government shall ensure that a quality management programme is established to ensure a high degree of availability and reliability of all supplies, equipment, communication systems and facilities, plans, procedures and other arrangements necessary for effective emergency response.</p>	No need to focus on “quality”			✓	Quality is term correctly used within the context of the requirement.
France	819.	6.34	<p>6.34. The operating organization, as part of its management system, and response organizations, as part of its emergency management system, shall establish a quality management programme <u>processes</u> to ensure a high degree of availability and reliability of all supplies, equipment, communication systems and facilities, plans, procedures and other arrangements necessary to perform the functions specified in Section 5 in a nuclear or radiological emergency (see para. 6.24). <u>These processes</u> This programme shall include arrangements for inventories, resupply, tests and calibrations,...</p>				✓	Covered under overall management system. Please also note the response under comment number 817 above.
France	820.	6.34	<p>The quality management programme <u>system</u> shall also include periodic and independent audits against the functions specified under Section 5 including participation in international audits such as those organized through the IAEA (e.g. Emergency Preparedness Review (EPREV) missions).</p>				✓	Covered under overall management system. Please also note the response under comment number 817 above.

Indonesia	821.	Page 46, Req.24:	The title should be changed to “Management system programme”			✓		Within the management system, one may prepare a programme as described in this requirement for managing quality of certain aspects. The requirement is consistent with DS456 on Leadership and management for safety. The management system itself will be much broader (please note the definition on management system).
Indonesia	822.	Page 47/ paragraph	... through the IAEA (e.g. Emergency Preparedness Review (EPREV) missions). The quality management programme should be integrated to the integrated safety management system available in the facility.	The quality management program should be a part of and be integrated to the integrated safety management system which is available in the facility as required in the GS-G-3.1.			✓	Addition is covered under Requirement 1 addressing the establishment and maintenance of an integrated and coordinated emergency management system.
UK	823.	Page 47 para 6.35		Either para 6.35 or perhaps in a supporting Safety Guide there should be an indication to keep adequate records relating to all key decisions and their basis and all actions including the time of implementation. Such records would be invaluable for the inevitable subsequent review.	✓			Covered under para. 6.37: The operating organization and response organizations shall establish and maintain adequate records in relation to both the emergency arrangements and the response to a nuclear or radiological emergency. Please also note Requirement 19 of the draft text.
Canada	824.	6.36/24	Suggest the following minor edit: “...evaluate responses in real events and in exercises, to record the areas in which improvements are necessary.”	Minor edit.	✓			
Canada	825.	6.36/24 & 6.37/28	Section 6.36 line 24 has “real events” while section 6.37 line 28 has “real emergencies”; why the difference?	Section 6.36 line 24 has “real events” while section 6.37 line 28 has “real emergencies”. Consistent language			✓	Kept – events that are not considered emergency (e.g. Alerts) may give one a useful insights.

			Suggest change “real events” to “real emergencies”.	should be applied.				
France	826.	Appendix I	GUIDANCE VALUES FOR RESTRICTING EXPOSURE OF EMERGENCY WORKERS AND HELPERS IN AN EMERGENCY	Helpers in an emergency shall not be allowed to take actions in which the doses received might exceed 50 mSv.	✓			
NEA	827.	General, Appendix I	<p>For Appendix-1, emergency workers categories as indicated in ICRP Publication 109 (page 27), should be included.</p> <p>BSS states that for saving life purposes, a limit of Hp (10) of 500 mSv is established, considering that there is no internal exposure. If internal exposure is not avoided, a correction to the limit shall be applied, so that the total effective dose should be below 500 mSv. Also it is stated that the limit could be, in some conditions, exceeded (emergency workers, avoiding of severe deterministic health effects). , The way the table in the new draft document is presented means that one could use any one of three options (they are separated by 'or'). Note also that exposure of the foetus is also added. Logically this is not correct, as for example one could use the first condition, even if internal exposure is not avoided, or one could exceed 500 mSv by free choice. Table I-1 of Appendix 1 is a significant problem, creates confusion, and should be replaced by Table IV-2 in the BSS.</p>			✓		<p>The Appendix and Table are revised for clarity. Other comments were considered as well.</p> <p>Categories of emergency workers to be considered for inclusion in a safety guide level document.</p>
NEA	828.	App. I		Needs to be reviewed by taking into account the ICRP 109.		✓		The Appendix and Table are revised for clarity. Other comments were considered as well.

								Categories of emergency workers to be considered for inclusion in a safety guide level document.
France	829.	Appendix I	I.1. This Appendix provides guidance values to be the basis for operational guidance for restricting exposure to emergency workers and helpers in an emergency.	Helpers in an emergency shall not be allowed to take actions in which the doses received might exceed 50 mSv.	✓			
USA	830.	Pg 48, Appendix I, section I.1, line 5	Add “Member States may prescribe more restrictive guidance values.”	Highlights that more restrictive values could be considered.			✓	Not necessary addition. The decision to choose and set national guidance values for restricting exposure of emergency workers will be made by States. However, when doing so, the State may wish to consider international guidance values.
France	831.	Appendix I	TABLE I.1. GUIDANCE VALUES FOR RESTRICTING EXPOSURE OF EMERGENCY WORKERS AND HELPERS IN AN EMERGENCY	Helpers in an emergency shall not be allowed to take actions in which the doses received might exceed 50 mSv.	✓			
Canada	832.	I.2	“.....assuming that every efforts has been made for protection <u>against non-penetrating external radiation and</u> from intake or skin contamination” Consider deleting the underlined words or elaborate	Clarification. It is not clear why a distinction is made for non-penetrating external radiation with respect to protective measures.	✓			
USA	833.	Pg 48, Appendix I, section I.2, line 10	Change to read “...personal dose equivalent Hp(10) from external penetrating radiation during the response to the emergency.	Clarification that these guidance values are for the duration of the emergency and do not daily or work shift guidance values.	✓			
Spain	834.	Appendix I		It should be revisited using the most recent ICRP doctrine in this particular field. As part of that effort several conditions could be attached to the different categories of “responders”, besides the “guidance values” in		✓		The Appendix and Table are revised for clarity. Other comments were considered as well.

				terms of the admissible “dose”.				
ILO	835.	48 – 9		Reference to para 4.71 is incorrect.	✓			
USA	836.	Pg 48, Appendix I, section I.2, line 8-9	Change to read “(see para 5.71 4.71), Table I.1 provides...”	Editorial.	✓			
Germany	837.	App. I, I.2, Line 9	“... protection against non-penetrating external radiation and from intake or skin contamination (see para. 4.71 5.71).”	Wrong para is cited.	✓			
Germany	838.	App. I, I.4, Lines 19 and 20	“Consequently female workers who are aware that they are pregnant or who might be <u>are likely</u> pregnant shall be informed of this risk and would typically <u>shall</u> be excluded from taking actions in response to a nuclear or radiological emergency that might result in doses exceeding the guidance values in Table I.1 for actions to avert a large collective dose.”	Consistency with Para 5.75 which states “... Emergency workers not designated as such in advance shall not be the first choice for taking actions that might result in their exceeding the guidance values of dose for life saving actions given in Appendix I. Helpers in an emergency shall not be allowed to take actions that might result in their exceeding the guidance values of dose for taking actions to avert a large collective dose given in Appendix I.” In order to protect the fetus, female workers who are pregnant shall be excluded – even if they volunteer to do so – from any response actions that might result in doses		✓ The guidance levels do not consider the possible severe deterministic effects to a fetus which can occur at an equivalent dose to the fetus (e.g. from external dose) greater than 100 mSv. Consequently female workers who are aware that they are pregnant or who might be pregnant need to be (1) informed of this risk and (2) excluded from taking actions in response to a nuclear or radiological emergency that might result in equivalent dose to the fetus exceeding 50 mSv for the full period of in utero development of the embryo or fetus.		For consistency and clarity. Other comments were also considered.

				exceeding the guidance values given in Table I.1 for actions to avert a large collective dose.				
Japan	839.	Requirement 9 Table.I.1	Comment only	Because the definition is not clear, the role of the "helper in an emergency" should be clarified. What kind of actions can "helpers in an emergency" take in Table.I.1?		✓		The Appendix and Table are revised for clarity. Other comments were considered as well. Actions in response to an emergency on the part of helpers are limited within 50 mSv effective dose (please note para. 5.55 of the draft text).
NEA	840.	Table I.1		The text from the BSS should be used here instead of this table		✓		The Appendix and Table are revised for clarity – please note that these Appendix and Table go beyond the one in BSS. Other comments were considered as well.
Canada	841.	Table I.1 (p.49).	Suggest “Hp(10)” be replaced with “E”.	Correct Table I.1 (p.49) Hp(10) and E in the ‘Guidance value’ column are one and the same. Hp(10) is a surrogate for E (see Ref. for ICRP 103 below). Delete Hp(10) and keep E. Ref. ICRP 103 (B 146) p. 247		✓		The Appendix and Table are revised for clarity. Other comments were considered as well.
Sweden	842.	Table I.1 Page 49	Use Table IV-2 of the BSS: <i>Guidance values for restricting exposure of emergency workers</i>	In light of the importance of this Table, Sweden prefers the agreed Table IV-2 of the International BSS to be used. This preference is also motivated by the confusing inclusion of the word “or” and alternatives which lead to the belief that one can choose between options.		✓		The Appendix and Table are revised for clarity – please note that these Appendix and Table go beyond the one in BSS. Other comments were considered as well.

				From Table IV-2 in the BSS it is clear that if, for instance, internal exposure cannot be not avoided, a correction shall be applied, so that the total dose stays below 500 mSv (or rather the risk associated with the guidance value is not exceeded)				
Japan	843.	Table.I.1	Comment only	Because "Helpers in an emergency" does not designated in Table IV-2 of the BSS, it is necessary to discuss whether the same guidance value in Table I.1 applies for both emergency workers and helpers in an emergency.		✓		The Appendix and Table are revised for clarity. Other comments were considered as well. Actions in response to an emergency on the part of helpers are limited within 50 mSv effective dose (please note para. 5.55 of the draft text).
Sweden	844.		Revise and rewrite Appendix II (including tables) to better reflect the recommendations of ICRP 103, ICRP 109 and ICRP 111.	Appendix II is not based on the ICRP recommendation to develop a protection strategy using reference levels based on annual residual dose, taking all exposure pathways into account, and optimization. The generic criteria in Appendix II cannot be used for this purpose.		✓		Elaboration for better clarity is made under new Requirement 5 on protection strategy of the draft text. Additionally, the use of criteria within the protection strategy is also explained in Appendix II.
NEA	845.	App. II	.. to be used in developing the overall protection strategy This Appendix provides generic criteria, <u>which shall be considered when developing a protection strategy. Criteria selected for the protection strategy shall not exceed the valued given in this appendix.</u>			✓ These generic criteria and associated protective actions and other response actions shall be used in the development of the protection strategy in accordance with Req. 5.		Requirement 5 is specifically addressing the protection strategy.

			<p><u>These generic criteria provide values:</u></p> <p>(a) at which protective actions and other response actions are expected to be undertaken under any circumstances <u>to avoid occurrence of deterministic effects or should they occur, to minimize the severity of consequences and the number of individuals affected;</u></p>					
FAO	846.	II.7. / lines 3 – 5 (page 53)	<p>Table II.2 relates to the protection of people and provides generic criteria for use in developing a protection strategy and operational criteria for effective implementation of protective actions and other response actions to reduce the risk of stochastic effects in a nuclear or radiological emergency as elaborated in Ref. [3].</p>	<p>The doses provided in relation to protective actions relate to people (not animals). Advice from agricultural departments might relate to placing farm animals under shelter or restricting their feed and the doses provided in the table are not for this purpose.</p>	✓			Text is revised for clarity throughout the draft text.
FAO	847.	II.1 0. / lines 5 – 6 (page 55)	<p>reduce the risk of stochastic effects from ingestion of food, milk and drinking water and from used the use of other commodities in a nuclear or radiological emergency.</p>		✓			
Sweden	848.	Pages 50 to 64	<p>Revise and rewrite Appendix II (including tables) to better reflect the recommendations of ICRP 103, ICRP 109 and ICRP 111.</p>	<p>Appendix II is not based on the ICRP recommendation to develop a protection strategy using reference levels based on annual residual dose, taking all exposure pathways into account, and optimization. The generic criteria in Appendix II</p>		✓		<p>Elaboration for better clarity is made under new Requirement 5 on protection strategy of the draft text. Additionally, the use of criteria within the protection strategy is also explained in Appendix II.</p>

				cannot be used for this purpose.				
Spain	849.	General		<p>The content of Appendix II seems also to be specially important and it's crucial to reach international agreement on the general use of the numbers within it. We have two specific points to raise:</p> <ul style="list-style-type: none"> - Tables II.3 and II.5 should try to incorporate also derived values (Bq/g; Bq/l; etc) with the same general meaning. - The values given as the "target dose" for the transition to an existing exposure situation seem to be not fully in agreement with the most recent ICRP doctrine (Publications 109 and 111) 				<p>At earlier stage it has been requested by Member State for the operational criteria (i.e. OILs) not to be part of requirement level document. Please note the existing guidance (such as GSG-2 and EPR-NPP Public Protective Actions 2013) providing specific OILs.</p> <p>The target dose is exactly consistent with ICRP doctrine. While for emergency exposure situation the band for reference level is 20-100 mSv, acute or annual, effective dose; for existing the given band is 1-20 mSv annual effective dose. Therefore, it is reasonable to choose 20 mSv/y as a target dose to move from emergency to existing exposure situation as the only value that is common for both exposure situations.</p>
NEA	850.	General, Appendix II	<p>The tables listed in Appendix 2 need further discussion, and do not fully reflect the philosophy and principles of the new ICRP recommendations. The new ICRP principles should be taken into account to explain the use of these tables and should not become part of the requirements. It should also be noted that the values of projected doses listed in the Appendix 2 tables seem to be too high if used independently.</p> <p>There was a strong view that the use of the word 'safe' in Appendix 2 is inappropriate for this document. Because of the extremely subjective</p>			✓		<p>Elaboration for better clarity is made under new Requirement 5 on protection strategy of the draft text. Additionally, the use of criteria within the protection strategy is also explained in Appendix II.</p> <p>The system for putting the health hazards in perspective in an emergency is revised for better clarity and removed as Appendix III of the draft text.</p>

			nature of the word “safe” it should not be used in a generic sense that does not reflect the particular circumstances of the accident situation being considered. There is a need to change the title of Appendix 2, proposal: Generic Criteria for use in developing a protection strategy.					
ENISS	851.	APPEND IX II Table II.1		It would be more appropriate to use Gy-Eq instead of Gy as shown in ICRP 92 and the IAEA TECDOC-1432			✓	Kept for consistency with the latest established standards (GSG-2 published 2011 and GSR Part 3 published 2011 as interim edition).
Germany	852.	App. II, II.4	“... with <u>due</u> account duly taken of pregnant women and children as the <u>those members of the public</u> most vulnerable to radiation exposure.”	Wording.				Please note that the paragraph is removed while considering and addressing other comments.
Canada	853.	II.5 (c) and Table II.2	Clarification required.	The statement that actions would not be justified below the generic criteria is not consistent with optimisation. If more good than harm can be done, then additional actions should be considered. Additionally, the values in Table II.2 apply to suite of various protective actions that could be implemented at lower dose, such as food controls. Finally, ‘Public reassurance’ is included as a possible protective action, which would certainly be justified at doses lower than those shown in Table II.2		✓ (c) ‘Safe’: Doses, either projected or received, below the generic criteria in both Table II.1 and Table II.2 of Appendix II do not present a health concern. At such doses, there would be neither an observable increase in the incidence of cancer nor any severe deterministic effects among the exposed population. Therefore, no health screening or longer term medical follow-up to detect radiation induced health effects early or to treat them effectively is warranted.		The system for putting the health hazards in perspective in an emergency is revised for better clarity and removed as Appendix III of the draft text.

NEA	854.	II.5	Delete	Means that Deterministic effects are dangerous This should be deleted. “Safe” is a national judgment. The others are also too subjective for a requirement level documents.		✓		The system for putting the health hazards in perspective in an emergency is revised for better clarity and removed as Appendix III of the draft text.
USA	855.	Pg 50, Appendix II, sect II.5, line 23	Change to read “(a) Possibly Dangerous to health’ when the generic criteria ...”	The generic criteria are intended to minimize the occurrence of severe deterministic effects to 5 % of the exposed population.	✓			
USA	856.	Pg 50, Appendix II, sect II.5, line 28	Change “Safe” to “Possible Health Concerns”	What is the definition of Safe or unsafe? Surely, if the criteria in Table II.1 are not quite met, that isn’t a definition of safe. Is 1 Gy to the thyroid safe? Is 20 Gy to the lung safe? Is 19 Gy to the colon safe?			✓	The system for putting the health hazards in perspective in an emergency is revised for better clarity and removed as Appendix III of the draft text.
Sweden	857.	Page 50, Lines 20 - 32	Delete the paragraph	The description of health hazards is not in accordance with the risk (detriment) of exposure to ionizing exposure as expressed by UNSCEAR and ICRP.			✓	The system for putting the health hazards in perspective in an emergency is revised for better clarity and removed as Appendix III of the draft text.
ILO	858.	50 – 8		It is not clear if bullet point (c) of II.1 referring to non-radiological consequences should be included. Is there a table that fulfills this objective?	✓			Please note the Table II.5 of the draft text.
ILO	859.	51-Table II.1		What does ‘carry out contamination control’ mean in terms of internal exposure? Is it to ensure that the individual is not contaminated externally?				Monitoring to check for contamination (relates to both externally and internally).

Canada	860.	Table II.1 (p.51).	<p>Table II.1 should be substantially redesigned or removed and replaced with generic advice in the form of paragraph or two.</p> <p>See the accompanying list if issues/concerns associated with Table II.1 as it is presently used.</p>	<p>Table II.1 should be redesigned or removed and replaced with a generic advice in the form of paragraph or two.</p> <p>Table II.1 would be of greater value if a more generic level of simplicity was provided, e.g. $D > 1 \text{ Gy}$ for a whole body exposure in a uniform field, instead of $AD_{\text{Red marrow}}$ with a fine print redefining the 'red marrow' as lungs, intestine, etc. Absorbed dose is usually indicated as D, and not AD (see ICRP 103). Furthermore: AD is used to "represent the the average RBE-weighted absorbed dose", which does not exist, nor the "AD" part, nor "the RBE-weighted absorbed dose" part, according to ICRU. Replace AD with D, with a mention that high LET radiation may require special attention. Table II.1 : is the 'red marrow' defined in small print the same for external and internal exposure? Table II.1 is inconsistent; why external exposure is 'projected' (column 3), while internal exposure 'has been received'? The</p>			✓	Kept for consistency with the latest established standards (GSG-2 published 2011 and GSR Part 3 published 2011 as interim edition).
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				opposite would be a more common occurrence.				
Germany	861.	App. II, Table II.1, Footnote b, Line 17	“... Therefore, 1 Gy is used as the generic criteria for acute doses to the fetus: (i) in the hazard assessment (see para. 4.22 4.21) to identify ...”	Wrong para is cited.	✓			
India	862.	51/ last paragraph	The sentence "Therefore, 1 Gy is used as the generic criteria for acute doses to the fetus* is contradictory to the figure given Table II.1. It should be corrected as 0,1 Gy.	The numerical value is 0.1 Gy instead of 1 Gy.			✓	1 Gy is the used value.
USA	863.	Pg 53, Table II.2, line 12	Change to read “ACTIONS IN AN EMERGENCY EXPOSURE SITUATION TO REDUCE THE RISK OF STOCHASTIC EFFECTS [14]	Change is consistent with reference [14].		✓		To be considered by the Technical Editor for consistency in both standards.
NEA	864.	Table II.2	Projected dose	No residual dose. Can these easily be used in developing the strategy?				Yes, for initiating protective actions and other response actions. Residual dose could not be easily used for that purpose but to assess and optimize the overall strategy. Clarification is made in Requirement 5 on protection strategy.
USA	865.	Pg 55, Appendix II, line 6	Change to read “reduce the risk of stochastic effects from ingestion of food, milk, and drinking water and from use of other...”	Grammatical change.	✓			
USA	866.	Tables II.2. and II.3.	These tables have different dose limits for the fetus over the full term (100 mSv vs 10 mSv). Table II.4 also uses 10 mSv. Is there a reason? Also, if there is significant risk for “severe deterministic effects” to the fetus at doses greater than 100 mSv (as stated at the bottom of 58/89, but with no dose rate), and the					Both criteria derive from UNSCEAR findings. Namely, the criteria for effective dose of 100 mSv is associated with the UNSCEAR findings that below this level no increased incidence of cancers is to be observed. However, keeping the effective dose below 100 mSv may not ensure that the

			<p>“adult” doses are about 1% of where we would expect deterministic effects, shouldn’t the fetal doses be a little lower? The adult limits reflecting 10 mSv are 50% of the regulatory limit for a radiation worker, yet the fetal limits are 10x the occupational (pregnant worker) limits. The ratio also seems odd in II.5. How is this resolved?</p>					<p>RBE weighed dose to an organ or tissue (i.e. thyroid and fetus) are kept below the generic criteria in Table II.1 for all radionuclides (e.g. I-131). In addition, there is no basis for calculating effective dose to the fetus since there is no basis for the required tissue weighting factors. Therefore, a generic criterion for the fetus is also established to ensure the RBE weighted dose to an organ or tissue (i.e. the thyroid and fetus) will be below the threshold for severe deterministic effects. Moreover, the ICRP very clearly states that fetal doses below 100 mGy should not be considered a reason for terminating a pregnancy. The further scaling in the Tables following Table II.2 ensures that the criteria set in Table II.1 will not be exceeded considering all exposure pathways.</p>
Sweden	867.	II.3 Page 56	<p>Change the generic criteria to 1 mSv per annum</p>	<p>In most countries the legislation is based on 1 millisievert per annum. Arrangements to provide alternative food should be part of the emergency plan.</p>			✓	<p>The criterion of 10 mSv per year is already part of existing safety standards. Please see safety guide GSG-2. Other comments are considered as well.</p>
FAO	868.	II12 / lines 12	<p>II.12. If restriction(s) of consumption of on food, milk and drinking water will result in severe malnutrition or dehydration ...</p>	<p>The intention of the rewording is to include any action (including consumption) that relates to food and water restrictions. This is necessary because the principle applies broadly and not only to restrictions on consumption (For example it should include any general activity including restrictions on the gathering, transportation, distribution or sale of</p>	✓			

				food/water)				
Germany	869.	App. II, II.19, Line 7	“Exceeding the generic criteria in Table II.5 does not mean that the commodities and food are unsafe in terms of the radiation induced health effects (see para. II.4). Commodities and food are to be considered unsafe in terms of the radiation induced health effects (see para. II.5) only if ...”	Wrong para is cited in the first sentence. Radiation induced health effects are addressed in Para II.5. Reference to Para II.5 is provided in the second sentence.	✓			
Canada	870.	Tables II.3 / II.5	Clarification required. How do the values for E (10 mSv per annum) shown in Table II.3 relate to the values of E for taking urgent and early protective actions, shown in Table II.2, where the restriction and replacement of food, milk and water are noted as a possible protective action. The values in Table II.3 appear to be assessed as ‘stand alone’ after the decisions on urgent and early protective actions have been taken. However, this is not clear.	Table II.3: The related OILs for food should be shown, and their relation to the CODEX values discussed in the context of Table II.5 explained. The rationale for two different food guidelines (Table II.3 and II.5) needs to be explained. Discrepancy between national and international criteria may lead to a loss of public trust in authorities, and a boycott of all food from contaminated areas, regardless of measured levels of contamination.	✓			Clarification is provided under Table II.3 as following: 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 on the basis of the generic criteria in Table II.2. Please note that this criterion is not applied for international trade. In this case, Table II.5 (derived from CAC) is to be used.
India	871.	60/Table II.5	Response actions for commodities and food traded internationally	There should be a separate table for commodities other than food since for commodities the generally acceptable level is 10 µSv per annum (SSG-17, RS-G-1.7, GSR Part 3 etc.) and commodities other than			✓	The criterion of 1mSv per year is kept. The criterion of 10 microSv per year serves other purposes (as explained in RS-G-1.7) and not specifically for trade of commodities in the aftermath of an emergency.

				food are normally considered to be non-essential product.				
USA	872.	Pg 60, Table II.5, line 3, column 2	“1 mSv per annum”	Additional guidance on how this is implemented is needed. OILs for food, water, milk and construction material?	✓			OILs associated with all generic criteria are to be developed and provided in lower level documents (e.g. in safety guides when revised).
NEA	873.	II.24	Target dose change with residual dose	As recommended by the ICRP		✓		
Sweden	874.	II.26 Page 61	Delete the paragraph	Reference values shall be selected in the lower band in the interval 1-20 mSv annual effective dose according to ICRP 111. That such decisions are justified is obvious.			✓	Please note that one is still in emergency exposure situation and not in existing exposure situation.
France	875.	Appendix II	Consider transforming Appendix II into an Annex	The current appendix clearly says that the generic criteria given are to be adapted to prevailing circumstances and that protective/response actions are given as examples. Therefore, it is more recommendations than requirements...			✓	Kept as appendix as agreed at earlier stages of development of the draft text.
France	876.	Appendix II	Reserve on the criteria based on fetus dose	Question: Is fetus dose really justified as decision criteria in emergency phase?				Keeping the effective dose below 100 mSv may not ensure that the RBE weighed dose to an organ or tissue (i.e. thyroid and fetus) are kept below the generic criteria in Table II.1 for all radionuclides (e.g. I-131). In addition, there is no basis for calculating effective dose to the fetus since there is no basis for the required tissue weighting factors. Therefore, a generic criterion for

								the fetus is also established to ensure the RBE weighted dose to an organ or tissue (i.e. the thyroid and fetus) will be below the threshold for severe deterministic effects. Moreover, the ICRP very clearly states that fetal doses below 100 mGy should not be considered a reason for terminating a pregnancy.
Mexico	877.	62 - 13	[3] FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS, INTERNATIONAL ATOMIC ENERGY AGENCY, INTERNATIONAL LABOUR ORGANIZATION, PAN AMERICAN HEALTH ORGANIZATION, WORLD HEALTH ORGANIZATION, Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency, IAEA Safety Standards Series No. GSG-2, IAEA, Vienna (2011).	Missing space after 'NATIONS,'	✓			
Pakistan	878.	Reference [10]	INTERNATIONAL ATOMIC ENERGY AGENCY, OECD NUCLEAR ENERGY AGENCY, INES: The International Nuclear and Radiological Event Scale Users' Manual, 2008 edition, IAEA, Vienna (2009)	The title of the document need to be corrected.	✓			
Germany	879.	Ref. [10]	"INTERNATIONAL ATOMIC ENERGY AGENCY, OECD NUCLEAR ENERGY AGENCY, INES: The International Nuclear and Radiological Events Scale Users' Manual, 2008 e Edition, IAEA, Vienna (2009)."	Correct title of publication.	✓			
NEA	880.	Ref	[3] and [4] In [10] add 'and radiological'	Guidance documents		✓		References revised according to the draft text.

Slovenia	881.		Make it easier which requirement applies to which category (maybe in a table). Actually Table A-1 exists, but it is unclear, why there are five columns under the same heading “Paragraphs applicable for each category”. E.g. 5.11 applies for categories I-IV, but from the table it seems that it applies to category II – How is supposed to read A-1?		✓			Table revised for clarity.
Germany	882.	Annex, Table A-1	Proposed title: “PARAGRAPHS APPLICABLE FOR EACH EMERGENCY PREPAREDNESS CATEGORY”	Consistency with the title of Table I which introduces the emergency preparedness categories.	✓			
Pakistan	883.	Page 64	The 'Annex' is not referred anywhere in the document.	The Annex should be referred/ linked in the document.	✓			
NEA	884.	Annex		No reference in the text Add emergency preparedness categories This is about structure (1.16)	✓			
Germany	885.	Annex, Table A-1	Note: In the column “Paragraphs applicable for each category”, several paras of Section 6 are incorrectly assigned to the emergency preparedness categories. Column 1, Categories I – V: 6.1 – 6.10, 6.12 – 6.14, 6.16 – 6.20 6.19 , 6.23 6.22 – 6.25 6.24 , 6.27 6.26 , 6.29 6.28 , 6.31 6.30 – 6.32 6.31 , 6.34 6.33 – 6.38 6.37 Column 2, Categories I – IV: 6.21 6.20 – 6.22 6.21 Column 2, Category V: 6.15	Wrong paras are cited in the table.	✓			Revised according to the latest version of the draft text.

			Column 3, Categories I – III: 6.30 6.29 Column 4, Categories I – II: 6.11, 6.33 6.32 Column 4, Category V: 6.33 6.32 Column 5, Category I: 6.26 6.25 , 6.28 6.27					
France	886.	Glossary	For terms already defined in the IAEA Safety Glossary or GSR-Part 3, which are marked with “*”, don’t quote the definition but just write “see definition in IAEA safety glossary” or “ see definition in IAEA GSR Part 3”.	No need to duplicate already established definitions.			✓	Kept all considering that the target audience for this publication is broader (response organizations at all levels) than for other safety standards.
Japan	887.	General	Comment only	Regarding the definition of "employer", "operating organization" and "operator", to avoid confusion, they should be consistent within the IAEA.	✓			
Indonesia	888.	Page 65, Definitions	Is it necessary to include Definitions in this document?	The Contents of ‘GSR Part’ series should better be similar. Part 1, 4 and 5 do not contain Definition, so as ds456 (that will become Part 2). Part 3 and this ds457 (that will become Part 7), however, include Definition.		✓		The target audience for this publication is broader (response organizations at all levels) than for other safety standards. Therefore, having the list of definitions will facilitate the readability of the publication.
Pakistan	889.	Definition	The term other 'Response Actions' is used throughout the document which need to be defined or removed.	The requirements should be clear and concise.	✓			

Pakistan	890.	Definition	The term "Protection Strategy" is used many times throughout the document. It needs to be defined.	It should be added in definitions.		✓		Elaborated in details under Requirement 5.
Germany	891.	Definitions	Note: The term “design extension conditions” mentioned in the last sentence of Para 5.41 should be added to the section on definitions.	For clarification and completeness. According to the new definitions introduced by the Safety Requirements SSR-2/1 “Safety of Nuclear Power Plants: Design”, the term ‘design extension conditions’ has superseded the term ‘beyond design basis accidents’. Design extension conditions could include severe accident conditions (see Section “Definitions” in SSR-2/1).		✓		Its use is revised throughout the document for consistency with DS462.
Australia	892.	General	Provide a definition for ‘large collective dose’ in the glossary or text	Throughout the document the term ‘large collective dose’ is applied. There is no clear definition of the term in the text or glossary.		✓		The need to be considered by the Technical Editor.
ILO	893.	65-Def.		Two different symbols are used to denote an information note; ‘ Θ ’ is used at the start and □□□s used in the individual definitions.	✓			
ILO	894.	65-Def.		What are the definitions without * or ** imply? Are they not consistent with the standard definitions?	✓			The definitions that are not marked are consistent with those in the IAEA Safety Glossary 2007 Edition. Those marked indicate change from this edition of the Glossary and will be incorporated in the next edition.

Japan	895.	P69.L6-10 (DEFINITIONS)	extended planning distance (EPD) Distance around a nuclear power plant within which arrangements are made to conduct monitoring in order to identify, within a period that would be effective in reducing the risk of stochastic effects, areas warranting (1) evacuation within a day following a release or (2) relocation within a week to a month following a release.	See General comments #1. It is within UPZ that requires urgent protective actions and other response actions within a day following a release.		✓ A distance around a facility for the area within which arrangements are made following declaration of a general emergency to conduct monitoring and to identify areas warranting response actions to be taken off the site within a period following the release that would allow to effectively reduce the risk of stochastic effects among members of the public.		For consistency.
ILO	896.	71-Def.		Pg 71: Doesn't 'Notification' used in licensing with a different meaning?		✓		Yes. Notification for the purpose of these Safety Requirements has the meaning as defined. This is also clarified in the IAEA Safety Glossary 2007 Edition.
Sweden	897.		Consider reviewing the number of new definitions. Some may not need to be defined, e.g. <i>generic criteria, sabotage, site, helpers, non-radiological consequences, off-site decision maker?</i> Also if the meaning is narrowed down, the possibility to use the broader, general meaning of the term is lost! In requirements, the meaning should rather be understood without having too much to rely on the glossary.	The present draft includes at least 20 new terms: <i>Early protective actions</i> <i>Emergency planning distance</i> <i>Emergency planning zones and distances</i> <i>Emergency response commander</i> <i>Emergency response facility or location</i> <i>Extended planning distance</i> <i>Generic criteria</i> <i>Helpers in an emergency</i> <i>Ingestion and commodities planning distance (ICPD)</i> <i>Inner cordoned-off area</i> <i>Non-radiological</i>		✓		The list was reviewed in light of other comments received. No change in any definition of the current Glossary was made unless necessary. Each new term introduced has to have clear meaning.

				<i>consequences</i> <i>Nuclear security event</i> <i>Off-site decision maker</i> <i>Operational criteria</i> <i>Preparedness stage</i> <i>Radiological assessor</i> <i>Response action</i> <i>Sabotage</i> <i>Site (area)</i> <i>Warning point</i>				
Switzerland	898.	Page 74 Line 31	Precautionary urgent protective action. A protective action in the event of a nuclear or radiological radiation emergency ...	Editorial	✓			
Japan	899.	P74.L9 (DEFINITIONS)	An area around a facility for which arrangements have been made to take <u>precautionary</u> urgent protective actions in the event of a nuclear or radiological emergency	See General comments #1. Within PAZ, precautionary urgent protective actions are required.		✓		'Precautionary' is covered with the following sentence: Protective actions within this area are to be taken before or shortly after a release of radioactive material or exposure on the basis of the prevailing conditions at the facility.
ILO	900.			Projected Dose and Residual Dose: the 2nd part of the definition of the residual dose, in the brackets in line 26, implies that this dose is the same as the Projected Dose.		✓ projected dose* The dose that would be expected to be received if planned protective actions were not taken. residual dose* The dose expected to be incurred after protective actions have been terminated (or a decision has been taken not to implement protective actions).		Consistently with GSR Part 3.
WMO	901.	(Definitions, "response organization"/ line 9)	"such as for meteorological services."		✓			

USA	902.	All	An index would improve readability and usability of the document.	Document utility would be greatly enhanced.			✓	Having index in a requirement level document is not in accordance with the style manual for safety standards.
USA	903.	All	A document flowchart or explanation of the overall interrelationship of the different sections and different requirements would provide context and improve usability.	Document utility would be greatly enhanced.			✓	This is not in accordance with the style manual for safety standards.