DS457: Preparedness and Response for a Nuclear or Radiological Emergency

(Comments received based on DS457 Rev 3.0 dated 15/03/2013)

Version 1.0 dated 03/05/2013

Country	COMMENTS BY REVIEWER Reviewer: ~~Country/Organization:~~			Page.... of.... Date:	RESOLUTION			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
UK	1.	General	This is a well written draft which places nuclear security in proper context in relation to emergency planning		✓			Thank you for the comment. The draft reflects joint work by the Incident and Emergency Centre and the Office of Nuclear Security of the IAEA with involvement of Member States and International Organizations.
France	2.	General	Integration of security aspects in safety documents and vice versa should follow the agreed proposal made during second meeting of NSGC. It should consist in including brief references to where interfaces may exist and provide cross-references in the appropriate serie. This will prevent making incomplete or inappropriate recommendations.		✓			Thank you for the comment. The proposed draft reflects that approach. The nature of the interface is explained, some possible situations that reflect the interface are highlighted, cross references to other publications in Nuclear Security Series is given that are appropriate to the level of the document (therefore, only recommendations' series are referenced and no other low level publications such as implementing guides) and consistent

								terminology is used.
USA	3.	Multiple		The requirements of DS457 do not track the requirements in GSR-3 (see GSR-3, §4.8 for example), in that they do not contain the development of a protection strategy, reference level, generic criteria, and pre-established default triggers. Some of these elements are in DS457 at §3.24, but not all are here, or elsewhere. IAEA requirement level documents should be consistent in their requirements.		✓		Thank you for pointing this out. The DS457 implements the approach introduced in GSR Part 3, particularly in para. 4.8, throughout the whole document (protection strategy, generic criteria, operational criteria (triggers) etc.) and therefore, they are consistent with this regard. However, specific safety guide (GSG-2 published in 2011) in emergency preparedness and response area elaborates in details on these aspects including the application of the justification and optimization principles. This Safety Guide (GSG-2) has been used as basis for the respective requirements GSR Part 3. Any elaboration in DS457 is to be repetitions from the both GSR Part 3 and GSG-2 documents which has been considered as not necessary. However, for clarification and as being applied throughout the document, reference is made to GSG-2.

USA	4.	General	DS457 should discuss INES scale and the relationships between the emergency planning categories, emergency classes, and the INES categories.	Clarity, completeness, and minimization of ambiguities regarding emergency planning categories.		✓		Such a discussion could be part of a guide level document but not of a requirement level document. Please note that Safety Guide GS-G-2.1 discusses in details categories, classes and the INEScale. When its revision will be initiated, particular attention will be given on such clarification as required.
Germany	5.	General	The document used "hazard" as synonym for "risk" throughout its requirements. These two terms were used interchangeably. However, we note that they are two very distinct terms. In this context a hazard is any biological, chemical or physical agent that is reasonably likely to cause harm or damage to humans or the environment with sufficient exposure or dose. Risk however, is defined as the probability that exposure to a hazard will lead to a negative consequence, or more simply, **Risk = Hazard x Dose (Exposure) x Probability.** Thus, a hazard poses no risk if there is no exposure to that hazard.	Proper use of terminology and distinction between "hazard" and "risk."	✓			The use of 'hazard' and 'risk' throughout the document has been reviewed for consistency in order to ensure they are properly used within the context.

France	6.	General	The text structure is not fully adapted to highlight key points.	Some “associated requirements” may be more relevant as overarching requirements. Besides appendix include important measures or criteria that could go back into the main text. On the contrary, there are unnecessary details on the text that lessen its readability and understandability (this could be the subject of recommendations, within a guide).			✓	DS457 follows the new format for the IAEA Safety Standards Series. However, as the GS-R-2 has had structure and contents which have been highly accepted by Member States, they have been kept as much as possible (and in accordance with the Document Preparation Profile (DPP) approved when the revision is initiated) although following this new format. Therefore, formulation of the ‘bold’ requirements relates to the General Requirements, Functional Requirements and Requirements for Infrastructure as contained in the GS-R-2. The intention of the overarching (‘bold’) requirements is to group interrelated requirements under a same title. However, what is very important is that there is NO any hierarchy among the requirements. In addition, appendices are part of the requirements document (which differs for the annex). The present text has been cleared from all unnecessary details after the Technical Meeting held November 2012. Only few detailed

UK	7.	General	The approach in GS-R-2 of treating all requirements on an equal footing seems logical, why does DS457 specifically highlight requirements on the Government? surely all requirements whether on regulator, operator, government etc have equal status? For example is not para 3.21 on the Regulator an important requirement?				✓	In addition to the response under comment No.6, considering that jurisdictions of various orders and levels of government are laid out differently among States and the authorities involved could be allocated substantially differently from State to State, some requirements are stated without specifying particular organization unless it is very important for doing so – concept kept from the GS-R-2. Some of the requirements which require high level dedication in the State are assigned to the Government considering that the government is responsible for adopting legislation, etc. to allocate the different responsibilities in emergency preparedness and response and for meeting the requirements.

UK	8.	General	The language used in the document needs to be consistent as possible bearing in mind that it will be translated into many languages and read by people from different linguistic and cultural backgrounds. For example the terms “reasonably foreseeable events (including very low probability events)”(para 3.10), “Significant likelihood”(para’s 3.30, 4.17 and 4.23), and “those of very low probability…”(para 4.26): Do they mean the same or are they different? It would be helpful if better clarity on what these terms means is provided.		✓			Thank you for the comment. This is very important issue, particularly discussion on the possibility for the written to be properly translated in many languages. The draft has been reviewed for consistent use in the terminology (in addition to the detailed review carried out after the Technical Meeting held in November 2012 and the first review by the Technical Editor). No inconsistency in the used terminology is identified at this point and IAEA Safety Glossary and the terminology used within the Nuclear Security Series is followed. However, the use of some terms such as “reasonably foreseeable events”, “very low probability” is led by the already published publications (e.g SF-1 and GSR Part 3).

ENISS	9.	General	DS 457 as revision of former GS-R-2 follows to a great extend those provisions which had been formulated in the previous revision. For comparison it would have been helpful to make the changes visible. In general the requirements are suited for large facilities and major nuclear or radiological events. However minor, events as e.g. the loss of a sealed source or a contamination on a transport vehicle will probably not follow this standards or at least it is very difficult to evaluate what according a graded approach needs still to be done.			✓		The DS457 was developed in tracking mode on the basis of the current publication. However, after the many consultancies and the Technical Meeting (TM) held in November 2012 (where all the changes in GS-R-2 were visible with explanation on the basis for doing the change), the management of the document was particularly difficult (numbering, footnotes, cross-references etc.). Therefore, after the TM presentation and discussion of the draft, it was decided to continue working on clean version. The current draft, based on GS-R-2, uses graded approach in establishing the requirements (emergency preparedness categories serve for that purpose) and covers the whole spectrum of nuclear or radiological emergencies that might occur including lost source, medical overexposures, transport accident etc. This way of applying the graded approach in relation to the application of the safety requirements has been strengthened based on this comment. In addition, the Annex in

ENISS	10.	General	1. The whole document is aimed at the government and gives the government mandate and responsibility to arrange the preparedness and response system. The document should clarify the respective responsibilities of the government, authority and operator. In the document, there is no clear requirement on the role of the owner company described in the document. 2. The document has a complicated structure; the wording should be clarified to avoid unnecessary repetitions of the issues and long wording (for instance 4.25) 3. The revised requirements have taken into account the lessons learned from the Fukushima accident, including preparedness and public communication. There is a clear focus on the mitigation added. 4. The level of details in the draft document is high in many cases describing how things and actions should be arranged and done. It is more the role of a guideline than that of a general requirements document. (examples: 4.21, 4.57; 4.68, 4.73, …).			✓		1. Considering that jurisdictions of various orders and levels of government are laid out differently among States and the authorities involved could be allocated substantially differently from State to State, some requirements are stated without specifying particular organization unless it is very important for doing so – concept kept from the GS-R-2. Some of the requirements which require high level dedication in the State are assigned to the Government considering that the government is responsible for adopting legislation, etc. to allocate the different responsibilities in emergency preparedness and response and for meeting the requirements. 2. DS457 follows the new format for the IAEA Safety Standards Series. However, as the GS-R-2 has had structure and contents which have been highly accepted by Member States, they have been kept as much as possible (and in accordance with the DPP approved when the revision is initiated)

Belgium	11.	General	As mentioned during the TM for review of the Draft Safety Requirements in Emergency Preparedness & Response (12-16/11/2012, see summary report 4.h), the document should reflect and address more explicitly less severe and/or less immediate emergencies. The document should not be mainly focused on severe accidents but also consider more explicitly less severe and/or less immediate emergencies requesting a graded response.	Indeed, the emergency preparedness & response arrangements should cover situations for which immediate protective & other response actions have to be taken (without meetings and/or assessments) AND those for which protective actions could be taken after assessments and/or projections based on the current situation and its expected evolution (diagnosis, prognosis, "What if" approach). In the first case ("sudden severe situations") should be assessed in the preparedness phase in order to define criteria (EALs) and types/extent of the protective & other response actions to be implemented promptly. These situations would be probably limited in number (few cases). For the second one, protective & other response actions could be adapted/adjusted based either on OILs (based on measurements in the field) or on assessments and/or projections based on the collected data and understanding of the current situation. This graded approach is coherent with the general justification & optimization basic principles to be applied for protective & other response actions.		✓		The hazard assessment addresses all types of emergencies irrespective of the time needed for their development and on their severity (please note paragraph 3.29 of the draft submitted for review). Additional modification has also been made under Site Emergency class which was revised to reflect less severe emergencies. In addition, the use and role of predictions of the radiological situation was addressed throughout the document (please see the response under comment No. 217).

Belgium	12.	General	Use the word "***actions***" instead of "measures" everywhere in the document.	Coherence and avoid confusion with the false friend for French speaking readers.		✓		Explanation: "Actions" is the term that is always used in relation to emergency response from safety perspective (protective action, response action, mitigatory action etc.). "Measures" (except in general quotation from the SF-1, para. 1.6 and also used in GSR Part 3) is used only in relation to nuclear security in accordance with the terminology used in the Nuclear Security Series. There is no mixing of these terms throughout the document.
Belgium	13.	General	List of references is missing				✓	Pages 59-60 of the draft version 3.0 dated 15/03/2013 submitted for review.
Belgium	14.	General	Explicit link to Definitions section should be provided in the text	To avoid misunderstanding or confusion		✓		Please see para 3.1 of the draft version 3.0 dated 15/03/2013 submitted for review for such link. In addition, the terms defined have been in italics in the draft to point out that they could be found in the list of Definitions. However, the technical editor removed them explaining that it was not in accordance with the Style Manual for IAEA publications.

Japan	15.	General	We agree with the presentation order of response and preparedness shown in Chapter 4 in order to emphasize that the response should be defined first and then the preparedness appears later to fulfill the response.		✓			
Canada	16.	General	The document should indicate somewhere in the introduction that it addresses the emergency situation and the *transition to* an existing exposure situation and that the existing exposure situation that arises following an emergency is not addressed.	Clarity and completeness.		✓		Para 1.4 has been updated as follows: This publication is the Safety Requirements publication in the IAEA Safety Standards Series addressing the requirements for preparedness and response for a nuclear or radiological emergency <u>including those for the transition to an existing exposure situation</u>. 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.

Canada	17.	To be determined	Recommend adding a requirement whereby: "**The regulator shall be provided sufficient assurance, by the operating organization, that on-site and off-site emergency preparedness and planning are integrated in a coherent and efficient manner before an operating licence or authorisation is granted**."	Highly desirable requirement.		✓		Para 3.21 has been updated as follows: The regulatory body shall ensure and shall be provided by the operating organization with sufficient assurance, for all facilities and activities under regulatory control, that the emergency arrangements:….
Canada	18.	To be determined	Recommend adding a requirement whereby: "**The Government shall establish national requirements for on-site and the offsite emergency preparedness and planning**." Perhaps under Requirement #2.	Highly desirable requirement.		✓		Para. 3.24 has been updated as follows: The government shall make adequate preparations to anticipate, prepare for and respond at local, regional and national levels to nuclear or radiological emergencies and also, as appropriate, 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 3.19).

Canada	19.	To be determined	Recommend making clear that operating organizations shall have the authority to proceed with urgent protective actions and other actions, including emergency venting, and shall communicate their decision to off-site authorities directly and without delay, as warranted by the situation. These actions shall not be delayed merely to secure regulatory concurrence. Perhaps to be added to paragraph 3.22.	Highly desirable requirement.		✓		This issue has been addressed on the basis of comments made at the Technical Meeting held November 2012. Please note that under para 4.34 of the draft submitted for review (functional requirement on taking mitigatory actions) and consequently updated for clarification. The footnote serves as example. In addition, please see response and addition made under comment No. 90.
France	20.	1.2	It therefore addresses the emergency arrangements to be in place irrespective of the initiator of the emergency, whether due to a natural event, human error, mechanical or other failure or <u>a malicious act</u> ~~nuclear security event~~.	Avoid using nuclear security event.			✓	The terminology used has been agreed with the Office of Nuclear Security in accordance with the terminology used in the Nuclear Security Series. The definition provided and the information note given should provide clarification on the term.

USA	21.	1.3, line 3, Page 1	Modify sentence to read: The present Safety Requirements publication is a revised and updated version of Safety Requirements Series No. GS-R-2 to take account of developments and experience gained since 2002; particularly experience gained after the Fukushima Dai-ichi nuclear power station accident and related actions to update and develop IAEA standards in accordance with the IAEA "Action Plans."	Completeness		✓ …The present Safety Requirements publication is a revised and updated version of Safety Requirements Series 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 TEPCO's Fukushima Daiichi Nuclear Power Plant.		For consistency.
France	22.	1.4	Delete 1.4	Superfluous.			✓	This paragraph is important in explaining the current position of the publication in the IAEA Safety Standards Series and for consideration in ensuring consistency when developing other documents.
France	23.	1.5	"… may involve many national *and international* organizations…."	To maintain consistency with other para.	✓			
Belgium	24.	1.5	"… may involve many national *and international* organizations…."	To maintain consistency	✓			

Belgium	25.	1.5	Therefore, in order to be effective, the response to a nuclear or radiological emergency must be well coordinated and ~~emergency arrangements must be~~ appropriately integrated with those for ~~a~~ conventional emergenc~~y~~ies and ~~those for a~~ nuclear security event<u>s</u>.				✓	The different emergency arrangements should be integrated in an all hazards approach in order to ensure effective response, not the response itself.
Canada	26.	1.5 1st Line	Consider the addition of the text provided below in bold: "**In addition to the licensed operator, local and regional authorities**, the response to a nuclear or radiological emergency may involve many national organizations."	To introduce all parties having a fundamental role to play during an emergency.		✓ The response to a nuclear or radiological emergency may involve many national organizations <u>(e.g. the operating organization and response organizations at local, regional and national level) and international organizations.</u>		'National organizations' do not refer to those responding at national level. Examples provided ensure clarification on this upon the comment made.
France	27.	1.6	Delete 1.6	Superfluous			✓	This is important paragraph addressing the safety/security interface as a basis in putting the nuclear security in proper context in relation to emergency preparedness and response.

France	28.	1.7	Transform 1.7 into a footnote to 1.11	The word “guidance” is also misleading, especially when further reading “establishes the requirements” in 1.9			✓	This is paragraph drafted and agreed by all international organizations members of the Inter-agency Committee for Radiological and Nuclear Emergencies (IACRNE) and potential co-sponsoring organizations of the publication. It should not be undervalued by putting it as footnote.
USA	29.	1.7 Last line, Page 2	The document should also refer to the following document: - The Convention on Assistance of a Nuclear Accident or Radiological Emergency and the Convention of Early Notification of a Nuclear Accident (1986)	Completeness and clarity			✓	Not proper place to reference the two Conventions as the paragraph deals with the inter-agency coordination under the IACRNE and their Joint Emergency Management Plan. Please also note the addition made as a response to the comment no. 63 below.

France	30.	1.8	It is assumed that States applying these requirements have in place an infrastructure for the purpose of regulating the safety and security 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]. ~~In addition,~~ it is also assumed that States applying these requirements have in 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.	To be consistent with the last sentence of 1.8			✓	The wording used in this paragraph is consistent with the use of terminology in the both Safety Standards Series and Nuclear Security Series. Examples, Nuclear Security Series use the term 'nuclear security' instead of just 'security'; 'facility and activity' is safety related term, Nuclear Security Series use 'nuclear material' and 'other radioactive material', 'associated facilities' and 'associated activities'.
France	31.	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 emergency may have transboundary consequences.	Clarification		✓ 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.		For consistency and in accordance with the terms defined.

France	32.	1.11	These requirements are intended to be applied by the Government at the national level by means of adopting legislation, establishing regulations and making other arrangements, including assigning responsibilities (e.g. to the operator of the facility or the person performing the activity giving rise to radiation risks, to local official, to emergency response organization, to the regulatory body…) and verifying effective implementation.	Clarification		✓ These requirements are intended to be applied by the Government at the national level by means of adopting legislation, establishing regulations and making other arrangements, including assigning responsibilities (e.g. to the operating organization or operating personnel of a facility or an activity, local or national officials, response organizations or the regulatory body etc.) and verifying effective implementation.		For consistency

France	33.	1.12	The requirements apply to States where ~~all those~~ facilities and activities with the potential for causing radiation exposure, environmental contamination or public concern warranting protective actions and other response actions in a nuclear or radiological emergency, ~~and that are:~~ ~~(a) Used in a State that chooses to adopt the requirements or that requests any of the Sponsoring Organizations to provide for the application of the requirements;~~ ~~(b) Used by States with the assistance of Sponsoring Organizations in compliance with applicable national and international legal instruments;~~ ~~(c) Used by the IAEA or which involve the use of materials, services, equipment, facilities and non-published information made available by the IAEA or at its request or under its control or supervision; or~~ ~~(d) Used under any bilateral or multilateral arrangement whereby the parties request the IAEA to provide for the application of the requirements.~~	Clarification Superfluous			✓	The Scope of the document explains that the document (the safety requirements) applies for those facilities and activities and not for a State itself. However, the application of the document is up to the States (through the governments, regulatory body, response organizations etc. as direct users) where such facilities and activities are in place. This elaboration is very important in relation to whether the document is binding or not to any State, IAEA and sponsoring organization. Namely, the standards are binding to IAEA (and the sponsoring international organization) in relation to their activities. As example, for a State, the standard, is not binding unless the State chooses to adopt them or in relation to any activity related to any assistance obtained by the IAEA or other sponsoring organization.
France	34.	1.13	Delete 1.13	Already covered by change to 1.12			✓	See reasoning provided under comment No.33.

France	35.	1.14	Transform 1.14 into a footnote 1.9	It is not fully true as the requirements also addresses consequences which are not radiological consequences.			✓	The paragraph explains that requirements apply to actions to be taken in an emergency involving ionizing radiation, which is true, irrespective whether such actions are related to the radiological consequences or the non-radiological. It is also true and useful to point out that requirements are not to be applied for emergencies involving other types of radiation such as UV that are non-ionizing.

France	36.	1.15	The requirements apply for preparedness and response for a nuclear or radiological emergency irrespective of the initiator of the emergency, whether due to a natural event, human error, mechanical or other failure or a malicious act ~~nuclear security event. They do not cover preparedness for, or response measures that are specific to, nuclear security events, for which separate recommendations are provided in Refs [6-8]. Such response measures include activities related to instruments alarms, information alerts, management of a crime scene, nuclear forensics and related actions that would be taken in relation to a nuclear security event. However,~~ the requirements provide for a coordinated and integrated approach to preparedness and response for a nuclear or radiological emergency arising from a ~~nuclear security event~~ malicious acts that necessitates protective actions and other response actions to be taken for protection of members of the public, workers, emergency workers and volunteers and helpers ~~patients~~. However, they do not cover preparedness for, or response measures that are specific to nuclear security aspects, for which separate recommendations are provided in Refs [6-8]. Such response measures include activities related to instruments alarms, information alerts, management of a crime scene, nuclear forensics and related actions that would be taken in relation to a nuclear security event..	Clarification by changing the architecture of the paragraph and avoiding some apparent inconsistency. Add volunteers and helpers and delete patients (this text focuses on emergency situations, patients are note directly concerned). More generally, the text should make clear that emergency workers are not necessarily workers (but could include some volunteers, etc.)			✓	The wording used in this paragraph follows the terminology used in the two sets of Series: Safety Standards and Nuclear Security Series with clear reference to the latter. The term ‘volunteers’ is not used throughout the text as the volunteering is something common for both emergency workers and helpers in an emergency. However, as we do not like to promote the use of helpers in the response to an emergency (which could be misused), they are addressed only under the overarching requirement dealing with their protection in case such help is to be used. In addition, the requirements include the whole spectrum of emergencies including medical overexposures. In this case, we need to refer to them as patients based on the fact that standards (such as Basic Safety Standards) recognizes them as separate group (public, workers, patients etc.). Clarification that emergency workers are not necessarily workers is made under the definition for ’emergency worker’.

France	37.	1.15 page3	Third sentence related to “response measure” should be completed to include response forces actions, judiciary and law enforcement organizations activities, ...” Replace “emergency workers” with “emergency responders”	In the case of nuclear security events other people than the usual “emergency workers” will have to be protected.			✓	The term used ‘response measures that are specific to nuclear security events’ includes all the actions mentioned that are related to such an event. In addition, having references to Nuclear Security Series provides those using this publication opportunity to look at these publications for identifying these actions. “Emergency worker’ is commonly used and defined term in Safety Standards Series. The definition is broad to encompass all persons with duties in response to an emergency.
Belgium	38.	1.16	“The requirements for emergency preparedness apply to *preparations to be made in advance* …”	Pleonasm: ‘preparation’ is always something done ‘in advance’	✓			
Japan	39.	Chapter 2 （p.5）	The presentation order of “Preparedness” paragraph (2.1) and “Response” paragraph (2.2) should be inter-exchange.	The order of "Preparedness" and "Response" is not consistent in the chapter 2 on page 5 and the chapter 4 on page 14.	✓			

France	40.	2.1	The goal of emergency preparedness is to ensure a capability in place, in authority and responsibilities; organization and staff; coordination; plans and procedures; tools, equipment and facilities; training, drills and exercises; and a management system* or a quality management programme, for effectively meeting the practical goals for emergency response (see para. 2.2) at level of the operating organization and at local, regional, national and, where appropriate, international levels. * See GS-R-3 (or DS456) for requirements on the management system for facilities and activities	A management system is expected for the regulator and the operator (GS-R-3)	✓			
Poland	41.	2.2.(b)	(b) To prevent or mitigate onsite and offsite consequences;	The wording "at the scene" is rather unusual and unclear (as term "the scene" was not defined in the document).	✓			
Italy	42.	2.2b	To prevent or mitigate the in-site and off-site consequences ~~at the scene~~;	In line with the definition of "Site (area)"	✓			
France	43.	2.2	(c) To prevent the occurrence of severe deterministic effects in workers, emergency workers, ~~patients~~ , volunteers and helpers and members of the public	Add volunteers and helpers who may have a role in such situations. On the contrary, patients are not directly concerned.			✓	Please see the response under comment No.36. With consideration of other comments as well, listing of separate groups is removed as the text elaborates in details.

Canada	44.	2.2 (c)(e) 3.24 3.29 (a)(b) 4.53 4th line 4.53 (a)(i) 4.53 (a)(ii)	Consider harmonizing key statements and criteria throughout the document. Particularly, statements of intent regarding deterministic and stochastic effects in the text (e.g. 3.24 and 3.29 (a)(b)) should be consistent with the goals on page 5. Variations include: stochastic "risk" to be "reduced" or their "occurrence" to be "prevented to the extent practicable"; deterministic effects be "avoided" or "minimized" or "prevented to the extent practicable".	Key statements and fundamental principles should be worded consistently throughout the text. A number of variations are currently used. Some seem to imply slightly different priorities and effort levels.	✓			

Canada	45.	2.2 (c) 4.25	Recommend adding "**first responders**" to these and all similar lists of persons in the document. Recommend also associating each group with the applicable protection levels explicitly in main body.	First responders are a distinct group of persons, as defined in the glossary. The text should explicitly states, for each group, how persons are to be considered in relation to the radiological risk, and which protection levels are applicable. These considerations are fundamental, but merely implied (via references to appendices). This is important partly because the terminology used in this document is similar in appearance, but not identical in meaning, to that in use in Canada, and likely other States.			✓	With consideration of other comments as well, listing of separate groups is removed as being not necessary under 2.2 (c) as the text elaborates in details. Term 'first responders' is used in the text when we refer, at preparedness stage, to these personnel of general emergency services with responsibilities to respond to any type of emergency (requirements for e.g. training and raising awareness to recognize when this accident might be radiological emergency and what are the immediate actions to be taken on the site). Once they are responding to a nuclear or radiological emergency (or the emergency is recognized to be nuclear or radiological, they are actually emergency workers and they should be protected as such.

USA	46.	2.2(d)	To render first aid with consideration of the radiological environment and to manage the treatment of radiation injuries.	Goal is with regard to radiological emergencies and not for conventional first aid activities without radiological impacts.		✓ To render first aid, to provide critical medical treatment and to manage the treatment of radiation injuries;		Thank you for pointing this out. This paragraph specifies at the very beginning that these goals relate only to a nuclear or radiological emergency. This means that irrespective of the radiological conditions (no need to point out the environment or individual contamination etc.), it is very important to render first aid to those who need it, but also to provide critical medical treatment at the same time to those who need it irrespective of the radiological conditions (e.g. critically ill patients in hospitals where evacuation is taken).
USA	47.	2.2(e), page 5	Change “prevent” to “minimize”	Can’t prevent occurrence of cancer in the population		✓ To reduce the risk of stochastic effects		For consistency throughout the document and considering other comments as well.

Germany	48.	3.1 – 3.8	Note: According to the document structure, these paras do not fit in Chapter 3. Therefore, they should be moved to a higher level, e.g. in Chapter 1 or in a dedicated Chapter.	The document is structured in such a way that Chapter 3 contains a list of general requirements, Chapter 4 the functional ones and Chapter 5 the requirements for infrastructure; all on the same level in the document. In contrast, paras 3.1 to 3.8 are general notes with respect to the document (e.g. definitions; relationship to relevant binding conventions and national regulations; entry into force etc.).		✓		Paras are moved as separate section after the Introduction section.
Belgium	49.	3.1 to 3.8	Move these para/line to section I	These para/line are generic and therefore applicable to all requirements.		✓		Paras are moved as separate section after the Introduction section.
Germany	50.	3.1	"Terms used in this publication have the meanings given under Definitions."	Clarification.	✓			

France	51.	3.1	Transfer 3.1 in section 1 and use the usual IAEA wording "~~Terms used have the meanings given under Definitions.~~ Terms in this publication are to be understood as defined and explained in the IAEA Safety Glossary [xx], unless otherwise stated here (see under Definitions)."	Reference to IAEA safety glossary is the rule.			✓	The target audience of this publication differs from the one of other safety standards. Namely, it includes also response organizations that not necessarily are well aware about the safety and security terminology used in the IAEA Series. Therefore, it is essential to have comprehensive list of definitions for all essential terms used throughout the text to avoid any misinterpretation. In addition, the list has some definitions amending the existing definitions contained in the Safety Glossary 2007 Edition. However, please note that coordination is on-going so that next addition of the Safety Glossary incorporates the latest definitions. Moreover, such coordination is in place for the terms used in other publications by the time the new Safety Glossary is published. In addition, please note the note contained in the Definitions section at the very beginning.

France	52.	3.2	Delete 3.2	This could be better located in a letter signed by the sponsoring organization explaining how this publication is too be used.			✓	Paragraphs 3.1-3.8 are included on the basis of the new format for the IAEA Safety Requirements publication (e.g. see also GSR Part 3). Please note the response under comment no. 48 above.
France	53.	3.3	Locate 3.5 after 1.11	Better location as more logical			✓	Paragraphs 3.1-3.8 are included on the basis of the new format for the IAEA Safety Requirements publication (e.g. see also GSR Part 3). Please note the response under comment no. 48 above.

France	54.	3.4	Delete 3.4	Superfluous. These requirements are consistent with IAEA safety standards. What happens in a State is State responsibility.			✓	Paragraphs 3.1-3.8 are included on the basis of the new format for the IAEA Safety Requirements publication (e.g. see also GSR Part 3). Please note the response under comment no. 48 above. Explanation for a misunderstanding: A State decides to adopt this standard. The requirements contained in this standard could be in conflict with some other requirements adopted by that State maybe in the past. So in this case, this paragraph says that it is up to that State to decide which requirements to enforce.
France	55.	3.5	Delete 3.5	Diminish requirements goal.			✓	Paragraphs 3.1-3.8 are included on the basis of the new format for the IAEA Safety Requirements publication (e.g. see also GSR Part 3). Please note the response under comment no. 48 above. It provides explanation rather than diminish the requirements goal.

France	56.	3.6	Delete 3.6	There is no reason to delay these requirements coming into force. This could be better located in a letter signed by the sponsoring organization explaining how this publication is too be used.			✓	Paragraphs 3.1-3.8 are included on the basis of the new format for the IAEA Safety Requirements publication (e.g. see also GSR Part 3). Please note the response under comment no. 48 above. The entry into force was also specified in the current GS-R-2 under the preface.
France	57.	3.7	Delete 3.7	There is no reason to delay these requirements coming into force. This could be better located in a letter signed by the sponsoring organization explaining how this publication is too be used.			✓	Paragraphs 3.1-3.8 are included on the basis of the new format for the IAEA Safety Requirements publication (e.g. see also GSR Part 3). Please note the response under comment no. 48 above. The entry into force was also specified in the current GS-R-2 under the preface.

France	58.	3.8	Delete 3.8	Superfluous. It is State responsibility to decide when a law/regulation comes into force.			✓	Paragraphs 3.1-3.8 are included on the basis of the new format for the IAEA Safety Requirements publication (e.g. see also GSR Part 3). Please note the response under comment no. 48 above. It states that in case a State adopts the standard, 'this standard shall come into force at the time indicated in the formal adoption by that State'.
Canada	59.	3.8	Clarification requested/required.	Entry into force / adoption is not discussed in previous version. Does adoption imply agreement of all aspects of these requirements, including intervention levels? A country could agree to adopt the basic requirements without following the ILs, due to other national regulatory requirements.				Paragraphs 3.1-3.8 are included on the basis of the new format for the IAEA Safety Requirements publication (e.g. see also GSR Part 3). Please note the response under comment no. 48 above. The entry into force was also specified in the current GS-R-2 under the preface. It is up to the State to decide on adopting the requirements. They are becoming binding only if the State uses assistance under/from the IAEA or Sponsoring organizations etc. as specified under para. 1.12 of the draft submitted for review.

France	60.	3.10	The emergency management system shall be ~~designed to be~~ commensurate with the results of the hazard assessment (see paras 3.23–3.31) and ~~to~~ enable an effective emergency response to reasonably foreseeable events (including very low probability events).	Simplification to focus on the goals	✓			
Canada	61.	3.10 3rd line	Consider the addition of the text provided below in bold: "…reasonably foreseeable events (including very low probability events **of severe consequences**)."	Not all very low probability events need be considered for emergency planning.			✓	Not necessarily just those with severe consequences but all those that require taking protective actions and other response actions in line with para. 3.29 of the draft submitted for review. In addition, wording is consistent with the new Basic Safety Standards (GSR Part 3).
France	62.	3.12	The <u>emergency management system</u> ~~government~~ shall ensure the coordination and consistency of ~~its~~ <u>national</u> emergency arrangements with international emergency arrangements.	Clarification with a view to ensure coordination is taken care of in the management system			✓	Establishment of the emergency management system is again responsibility of the government (see para 3.9 of DS457 ver. 3.0 submitted for review). How this coordination will be achieved is up to the government to decide and of course, the emergency management system covers all the processes related to EPR. In addition, the wording is consistent with the Basic Safety Standards already approved (GSR Part 3).

USA	63.	3.12, page 7 line 2	Add reference to the following two documents: - Convention on Assistance in Case of a Nuclear Accident or Radiological Emergency (INFCIRC/336; November 1986) - Convention on Early Notification of a Nuclear Accident; INFCIR/335; November 1986	Completeness and clarification of what the international emergency arrangements are.		✓ The government shall ensure the coordination and consistency of its emergency arrangements with international emergency arrangements[1]. [1] Arrangements set under the Assistance Convention and the Early Notification Convention [9] are examples of these international emergency arrangements.		The addition is accepted but not just as reference to the Conventions but as footnote. The reason is that the arrangements under these two Conventions are not the only relevant international emergency arrangements. Another example is the emergency arrangements of the European Commission applicable for the members of the European Union.
France	64.	3.13	Delete 3.13	Safety requirements are aimed at Member States.			✓	This is paragraph drafted and agreed by all international organizations members of the IACRNE and potential co-sponsoring organizations of the publication.
France	65.	3.14	The government shall make adequate preparations to anticipate, prepare for and respond at local, regional and national levels to a domestic nuclear or radiological emergencies and also, as appropriate, to such emergency originating in a foreign State ~~at the international level~~.	Clarification			✓	The existing wording is consistent throughout the document.

France	66.	3.15	The government shall ensure that all roles and responsibilities for preparedness and response for a nuclear or radiological emergency are clearly allocated in advance among <u>government members,</u> operating organizations, the regulatory body and response organizations.	Responsibilities within Government should also be clear…		✓ Addition is made as explanatory footnote under this paragraph: <u>This also includes allocation of roles and responsibilities, as appropriate, among members of the government.</u>		Reason is that representatives of all those organizations involved in preparedness and response for a nuclear or radiological emergency (operating organization might be exception) would be members of the government.
Belgium	67.	3.15	Proposal to remove this para/line	Content fully redundant with para/line 3.17(a). Avoid unnecessary duplication.			✓	The two paragraphs are related (therefore, cross referenced) but 3.17 (a) serves as mechanism which is necessary in ensuring that allocated roles and responsibilities are well understood by all.
France	68.	3.16	The government shall ensure that~~, within the emergency management system~~, operating organizations, the regulatory body and response organizations have the necessary resources<u>, considering their expected actions,</u> to deal with radiological and non-radiological consequences of a nuclear or radiological emergency, whether the emergency occurs within or beyond national borders.	Supefluous Clarification		✓		For consistency, ‘expected actions’ is changed with ‘expected roles and responsibilities’.
France	69.	3.17	The government shall establish a national coordinating mechanism<u>, consistent with its emergency management system</u>:	To make link with the emergency management system	✓			

Belgium	70.	3.17		Para/line too detailed/descriptive. More "How" than "What". To be revised accordingly?			✓	Having national coordinating mechanism for effective coordination at national level was agreed at the the Technical Meeting held in November 2012 (instead of NCA introduced in GS-R-2). The list (a) to (i) in this paragraph is based on the current GS-R-2 and on lessons identified from past responses and exercises.
France	71.	3.17 (a)	to ensure that roles and responsibilities are clearly allocated and are well understood ~~by operating organizations, response organizations and the regulatory body~~ (see para. 3.15);	Why limiting this to the licensee and regulator ?			✓	It is not limited just to the licensee and the regulator but it applies to all. In addition, correct cross-reference is made to para. 3.15 (DS457 ver. 3.0). It is wrong to delete by whom these allocated roles and responsibilities should be well understood (e.g. if such mechanism is represented by some national commission than this commission might understand very well the allocated roles and responsibilities which is not enough. All those involved should understand their role and responsibility).

France	72.	3.17 (b)	Need to clarify "to coordinate : i. the hazard assessment within the State"	Which kind of hazard are we talking about ? Which is the objective of the mentioned assessment ?				The assessment relates to paragraphs 3.23 – 3.31 of the draft (in current GS-R-2 referred to as threat assessment).
France	73.	3.17 (e)	to ensure that appropriate emergency arrangements are in place in relation to <u>domestic</u> facilities and activities under regulatory control~~, both within the State and, as relevant, beyond its borders,~~ and also for sources that are not under regulatory control[2];	Clarification as the State has no legal jurisdiction beyond its national borders.			✓	This wording does not imply any action of the State beyond its border. It implies that the State should have emergency arrangements in place to respond to an emergency <u>on its territory that is result from an emergency at a facility beyond its border</u> (e.g. accident at the NPP located at the neighboring State but close to the border – category V). With proposed deletion and addition, preparation for responding in this case will be omitted.
Canada	74.	3.17 (e)	Consider the addition of the text provided below in bold: "to ensure that appropriate arrangements are in place **on site and off site** in relation to…"	Additional text desirable given the distinction caused by existing Canadian legislation.	✓			

France	75.	3.17 (f)	to ensure that arrangements are in place for enforcing compliance with the national <u>legislation, regulations and</u> requirements for emergency preparedness and response;	Clarification		✓ to ensure that arrangements are in place for enforcing compliance with the national requirements for emergency preparedness and response <u>established by legislation, regulations and guides (see paras 3.14 and 3.19);</u>		For consistency and considering other comments.
Canada	76.	3.17 f):	Suggest “national requirements” be defined or clarified somewhere in the text.	'National requirements' is not previously used nor defined. This requires clarity.		✓ to ensure that arrangements are in place for enforcing compliance with the national requirements for emergency preparedness and response <u>established by legislation, regulations and guides (see paras 3.14 and 3.19);</u>		Paragraph was reviewed for consistency and considering other comments as well.
Belgium	77.	3.17(g)	“(g) to coordinate the analysis and review of the development of an emergency and its response (see para.4.139)”	In order to avoid any confusion with assessment(s) to be performed during the emergency.		✓		Analysis is used.
France	78.	3.17 (h)	to ensure that appropriate training and exercise programmes are ~~in place~~ <u>performed</u> and that training and exercises are systematically evaluated;	Clarification		✓ to ensure that appropriate training and exercise programmes are in place <u>and implemented</u> and that training and exercises are systematically evaluated		Programmes are implemented; training and exercises are performed.

Canada	79.	3.17 i) - ii:	Suggest 3.17 i) ii): be removed.	The requirement to identify and promptly address 'inappropriate actions' is not a feasible requirement. Governments may have neither the means nor the authority to address identify and address such actions			✓	This is not a new requirement introduced in the draft DS457. Para. 4.96 of GS-R-2 requires that arrangements are in place so that these inappropriate actions are prevented. The same paragraph requires that responsibility for identifying these actions and for countering them is to be designated to one or more organizations. However, considering the complexity and the involvement of different organizations in addressing these inappropriate actions, coordinating mechanism needs to be ensured. Based on lessons identified from past emergencies, the government should do their best in countering the inappropriate actions taken as they may be of greater concern than the radiological consequences of the emergency itself.

Belgium	80.	3.18 to 3.22		Para/line too detailed/descriptive. More "How" than "What". To be revised accordingly?			✓	Paragraphs are high level requirements emphasizing the role of the regulatory body in relation to the emergency arrangements at regulated facilities and activities and in accordance with regulatory body's responsibilities assigned in other IAEA Safety Standards (e.g. GSR Part 1).
France	81.	3.18	The arrangements under the responsibility of the operating organization 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 authorize such facilities and activities.	Clarification			✓	Not only in relation to authorizing the facility or activity but also in relation to other regulatory activities aimed at ensuring safety and security being in place (e.g. inspection, enforcement).
France	82.	3.19	~~The regulatory body is required to establish or adopt~~ Among the regulations and guides established or adopted to specify the principles, requirements and associated criteria for safety upon which its regulatory judgements, decisions and actions are based [5], ~~These principles, requirements and associated criteria~~ the regulatory body shall include those for preparedness and response for a nuclear or radiological emergency.	Clarification focusing on EPR			✓	The first statement is quote from other Safety Standard (GSR Part 1) and therefore, it is not allowed to paraphrase the paragraph. However, second sentence complements this requirement focusing on EPR.

Canada	83.	3.19 4th line	Consider the addition of the text provided below in bold: "…preparedness and response for a nuclear or radiological emergency **on and off the site**."	Additional text desirable given the distinction caused by existing Canadian legislation.			✓	Regulatory body might not have the role to establish requirements for the off-site preparedness and response. However, this is covered with resolution under comment no. 18. It is responsibility of the government to regulate EPR at any level but the regulatory body (as part of the government) will have the responsibility for regulating on-site EPR for regulated facilities and activities.
Canada	84.	3.20 2nd line	Replace "… for the on-site area" with "**for the on-site and off-site areas**".	Highly desirable requirement.			✓	The regulatory body could not have the authority to require the off-site response organizations to have emergency arrangements in place. However, we agree with the importance of the raised concern. Please also see response under comment no. 83 above. As a result this was assigned to be covered under national coordinating mechanism (see 3.17 (e) and (f)).
Canada	85.	3.21	Consider the addition of the text provided below in bold: "… that **on-site and off-site** emergency arrangements:"	Highly desirable requirement.			✓	See reasoning provided under comments no. 83 and 84 above.

France	86.	3.21 (a)	are ~~integrated~~ <u>adequately interfaced</u> with those of other response organizations as appropriate before the authorization is granted;	"Integrated" is too strong			✓	It is crucial for the emergency arrangements to be integrated in order to ensure effective response and to prevent interference with each other that could jeopardize the prompt implementation of protective actions and other response actions.
Canada	87.	3.21 (a)	Consider the addition of the text provided below in bold: "…before the **operating licence** is granted" or "before the authorization **to operate** is granted".	Should be specified in opposition to other types of authorisations; e.g. site preparation and building.			✓	The terminology used is consistent with other Safety Standards. In addition, the term 'authorization' is defined and there is, therefore, no need to specify 'to operate'.
France	88.	3.21 (b)	are ~~integrated~~ <u>adequately interfaced</u> with contingency plans in the context of Ref. [6] and with security plans in the context of Ref. [7];	"Integrated" is too strong			✓	It is crucial to be integrated in order to ensure effective response and to prevent interference with each other that could jeopardize the prompt implementation of protective actions and other response actions.
France	89.	3.21 b/	Replace "integrated" with "coordinated"	This comment is probably also valuable for 3.21a.			✓	It is crucial for arrangements to be integrated in order to ensure effective response and to prevent interference with each other that could jeopardize the prompt implementation of protective actions and other response actions.

Canada	90.	3.22:	As this section addresses the regulatory body, the requirement should be reworded to indicate that "the regulator shall ensure that the emergency plan clearly allocates sufficient authority to the on-site organization to take prompt decisions on protective actions in an emergency"	Clarification		✓ The regulatory body shall ensure that the operating organization is given sufficient authority to promptly take protective actions and other response actions on the site in response to a nuclear or radiological emergency.		For consistency.
France	91.	Requirement 3 and following		Why is "hazard assessment" used in place of "threat assessment" (which is in GS-R-2) ?				The term 'threat' is used within the Nuclear Security Series with very specific meaning (*A person or group of persons with motivation, intention and capability to commit a malicious act*). Therefore, there has been a need to avoid any confusion in using the same term in the safety publications.

Canada	92.	Requirement #3	Consider the addition of the text provided below in bold: "Assessment of **Radiological** Hazards"	If the intent is to address radiological risk (here) separately from non-radiological risk (later), then Req#3 should be explicit. This would provide clarity and consistency with Req#14 (non-radiological consequences). Else the text for Req#3 should clearly indicate that this requirement applies to both radiological and non-radiological hazards.			✓	Hazard assessment also deals with the non-radiation related hazards at facilities and activities that could affect those involved in the response and therefore, jeopardize the effectiveness of the response actions (see last paragraph of this Section). The consequences considered are both radiological and non-radiological. As this is clearly reflected throughout the document, there is no essential need for such addition.
France	93.	Requirement 3	The government shall ensure that a hazard assessment is performed to provide a basis for ~~a graded approach to~~ preparedness and response for a nuclear or radiological emergency.	Superfluous (graded approach is taken care of in 3.23)			✓	It is important to understand the use of hazard assessment as a step in implementing graded approach in establishing the emergency arrangements.

UK	94.	Req. 3	DS457 Requirement 3 is for a “hazard assessment” but the range of possible outcomes is limited to five categories. The definitions in Table 1 are a great improvement on GS-R-2 but this is not from a UK perspective a hazard assessment, more a crude sorting into groups. A more informative hazard assessment looking at the probabilities and potential consequences of a range of faults can provide a better basis for determining the appropriate level of emergency preparation. Further the categories do not include sites that hold significant inventories of radio nuclides in passively safe structures and containments such as sites in care and maintenance.					The emergency preparedness categories serve as a basis for a graded approach in establishing the requirements in this publication. The description of the categories refers to postulated events. However, if the detailed assessment demonstrates that certain events at a facility (e.g. a borehole disposal facility) could not be postulated to raise certain consequences on and off site than such facility will not fall under the respective category.

Germany	95.	3.23.-3.31.	3.23. Identified hazards—including those of very low probability—and potential consequences [..]	In „Requirement 3: Assessment of hazards" no precise requirements are given which accident categories (e.g. based on INES) or which accident scenarios (e.g. core melt with or without containment failure) shall be considered when establishing arrangements for preparedness and response. It is stated that "The emergency classification system … shall take into account all postulated emergencies including those of very low probability." (4.26.) and „The hazard assessment shall consider: (a) events that could occur at the facility or activity, including those not considered in the design basis;", but a more precise definition of accident categories or scenarios would be very helpful here.		✓		Too detailed for requirement level publication. However, further guidance on criteria for determining the categories is to be found in the Safety Guide (GS-G-2.1). Use of INES has different intent (communicating with public the severity of an event after the emergency occurred) and therefore, should not be mixed with emergency preparedness categories (used as a graded approach in establishing the emergency arrangements) and emergency classes (used for prompt initiation of appropriate protective actions and other response actions). The comment and proposal made will be considered when the revision of this safety guide will be initiated for further discussion and elaboration.
France	96.	3.23	Identified <u>radiological and non-radiological</u> hazards and potential consequences of an emergency shall …	Clarification (to be consistent with 3.26, 3.31, 4.109, 4.116 and requirement 14…)			✓	See response to the comment no. 92.

France	97.	3.23	consequences of an emergency shall provide a basis for ~~a graded approach to be used in~~ establishing arrangements for preparedness and response for a nuclear or radiological emergency. These arrangements shall be commensurate with these hazards and consequences.	Clarification making ore clearer how grading is expected.	✓			
France	98.	3.24	Based on the identified radiological hazards and potential radiological consequences of a nuclear or radiological emergency, protection strategies shall be developed, justified and optimized 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.	This is focus on radiological consequences			✓	See response under the comment no. 92 above.
Poland	99.	3.24	3.24. 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 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 laid down in Appendix II.	Editorial correction.			✓	Not necessary addition.
USA	100.	3.24.	Add to end of requirement: Immediate protective actions, appropriate for the hazard, should be approved in advance. Operators shall issue recommendation of these minimum actions as agreed to with responsible governmental authorities.	Minimum protective action recommendations should be provided to authorities in the event of a severe radiological emergency without delay.		✓		The approach is reflected throughout the document (particularly in the functional requirements) and further elaboration could be found in the Safety Guide GSG-2.
Belgium	101.	3.24	"…emergency, protection strategies shall be developed *to do more good than harm*, justified and optimized…"	To underline the needed graded approach (see comment #1)			✓	The proposed addition is covered under the justification principle (please see definition for justification in the Safety Glossary and/or GSR Part 3).

France	102.	3.25	For the purposes of these requirements, assessed radiological hazards are grouped according to the emergency preparedness categories shown in Table I.	Table I is dealing with radiological aspects			✓	See response to the comment no. 92.
Belgium	103.	3.25	"The five emergency preparedness categories (hereinafter referred to as 'categories') in Table I establish the basis for developing generically *justified and* optimized arrangements for preparedness and response for a nuclear or radiological emergency"	As in 3.24 Justification then optimization of justified actions	✓			
France	104.	3.25	The five emergency preparedness categories (hereinafter referred to as 'categories') in Table I establish the basis for developing generically ~~optimized~~ arrangements for preparedness and response for a nuclear or radiological emergency.	Superfluous			✓	With consideration of other comments as well.
France	105.	Table I Cat I	Facilities, such as nuclear power plants, for which on-site events[a, b] (including ~~those beyond design basis~~ very low probability events) are postulated that could give rise to severe deterministic effects[c] off the site, or for which such events have occurred in similar facilities.	SSR2-1 avoid using ✓ basis. Current wording of GS-R-2 is still appropriate.			✓	In parallel with the development of DS457, there is ongoing revision of SSR-2/1 (under DS462). Within the addendum of SSR-2/1, it has been concluded to retain the use of beyond design basis. In addition, the used wording here has been agreed as preferred at the Technical Meeting held in November 2012.

France	106.	Table I. Cat II	Facilities, such as some types of research reactors ~~and nuclear reactors used to power vessels~~, for which on-site events[a, b] are postulated	No need to put nuclear reactors used to power vessels as their power is not known, nor the potential for release (including if such vessels do carry nuclear weapons)			✓	These are examples based on their typical power. The addition has been made based on request by the Member States. However, further elaboration will be provided in the Safety Guide GS-G-2.1 when its revision will be initiated.
France	107.	Table I. Cat II	Category II (as opposed to category I) does not include facilities for which on-site events (including very low probability events ~~those beyond design basis~~) are postulated that could give rise to severe deterministic effects off the site, or for which such events have occurred in similar facilities.	Consistency with previous comment			✓	In parallel with the development of DS457, there is ongoing revision of SSR-2/1 (under DS462). Within the addendum of SSR-2/1, it has been concluded to retain the use of beyond design basis. In addition, the used wording here has been agreed as preferred at the Technical Meeting held in November 2012.

Italy	108.	3.25/Table.1	Facilities, such as industrial irradiation facilities, or some medical facilities, for which on-site eventsb are postulated that could warrant protective action and other response actions in accordance with international standardsd on the site, or for which such events have occurred in similar facilities. Category III (as opposed to category II) does not include facilities for which events are postulated that could warrant urgent protective actions ~~and other response actions~~ off the site, or for which such events have occurred in similar facilities	If Category III includes early protective actions (only urgent protective action have been not included) then it is appropriate to foresee the off-site planning also for taking into account some kind of "other response actions". This is in accordance with the paragraphs 4.3 and 4.9 which states the requirement that the coordination between in- site and off-site organization is envisaged also for category III. Otherwise, if no off-site planning have to be foreseen for the Category III then the statement have to be changed as: "…Category III (as opposed to category II) does not include facilities for which events are postulated that could warrant off site response actions ~~urgent protective actions and other response actions~~" And paragraphs 4.3 and 4.9 must not include Categogy III	✓			
Canada	109.	Page 11, Table 1/ Cat III:	Consider the addition of the bolded text provided below: Add in last sentence "that could warrant urgent "**or early**" protective actions" ...		✓			

USA	110.	Table 1, page 11, and Para 4.25, page 17	The relationship between the emergency preparedness categories presented in table I and the emergency classes presented under Para 4.25 is unclear. Table I preparedness categories are based on type of facilities and activities. The five emergency classes under Para 4.25 are essentially based on types of facilities and extent of accident impacts (e.g.; at site and/or offsite). We note that the categorization should also be risk-driven and essentially based on potential dose impacts to workers and the public.	Ambiguity and lack of clear classification system of emergency preparedness categories and emergency classes based on potential risk to workers and the public.		✓		Emergency classes are linked with the emergency preparedness categories in their description. Additions are made under Site Emergency for clarification considering other comments as well. In addition, please see the response under comment no. 4.
USA	111.	Table 1, page 11, line 2	Replace "give rise to severe deterministic effects" with "warrant urgent or early protective actions and other response activities" With above change, footnote "c" is to move to Category II for severe deterministic effects.	One of the criteria for establishing the size of an emergency planning zone is that doses exceeding the PAGs are not expected. These PAGs are based on stochastic effects.		✓ Facilities, such as nuclear power plants, for which on-site events[a, b] (including those beyond design basis) are postulated that could give rise to severe deterministic effects[c] off the site <u>that warrant precautionary urgent protective actions, urgent or early protective actions and other response actions</u> in accordance with international standards[d], or for which such events have occurred in similar facilities.		For consistency.

France	112.	3.26	For all facilities and activities, a comprehensive hazard assessment shall be performed and periodically reviewed for update.	To be consistent with idea currently developed 3.27 (Corresponding sentence in 3.27 could therefore be deleted)		✓ 3.26 The government shall ensure that for all facilities and activities, a comprehensive hazard assessment is performed. The hazard assessment shall consider… 3.27 The government shall ensure that a review is periodically performed in order to ensure that all facilities and activities that could experience events that would necessitate protective actions and other response actions are identified. This review shall be undertaken….		For consistency.
Germany	113.	3.26 (b)	"events involving a combination of a nuclear or radiological emergency and a conventional emergency such as an emergency following an earthquake, a volcanic eruption, a tropical cyclone, a tsunami, an aircraft crash or any civil disturbances that affects wide areas and/or impairs capabilities to provide support in the emergency response;"	For completeness. Volcanic hazards are addressed in the IAEA Safety Guides SSG-21 "Volcanic Hazards in Site Evaluation for Nuclear Installations" and DS433 "Safety Aspects in Siting for Nuclear Installations" (revision of 50-SG-S9).	✓			

Belgium	114.	3.26 (b)	" … following an earthquake, a tropical cyclone, a tsunami, an aircraft crash or any civil disturbances *including terrorism and cyber-attacks*"	For better completeness			✓	The issue how to address security related events resulting in a nuclear or radiological emergency has been discussed in details within the GS-R-2 revision. Consideration has been particularly given that such events are subject to a threat assessment in accordance with the Nuclear Security Series referenced. Therefore, line '(e) results from the threat assessment [6-8]' has been added. This means that events such as terrorism and cyber-attacks etc. as assessed within the threat assessment are considered as well.
ENISS	115.	3.26 (b)	events involving a ~~combination of a~~ nuclear or radiological emergency ~~and~~ caused by a conventional emergency such as an emergency following an earthquake, a tropical cyclone, a tsunami, an aircraft crash or any civil disturbances that affects wide areas and/or impairs capabilities to provide support in the emergency response;	It is not reasonable to consider any thinkable combination. The conventional emergency was the cause for the accident in Fukushima.			✓	The proposed change excludes consideration of an event that does not cause the emergency but it occurs in parallel and therefore, it impairs the prompt implementation of protective actions and other response actions.

USA	116.	3.26(b)	Events involving a combination of a nuclear or radiological emergency and a conventional emergency such as an earthquake, a tropical cyclone, a tsunami, an aircraft crash, terrorist based events, or any civil disturbances that affects wide areas and/or impairs capabilities to provide support in the emergency response;	Terrorist based events need to be recognized and are different from civil disturbances.			✓	The issue how to address security related events resulting in a nuclear or radiological emergency has been discussed in details within the GS-R-2 revision (development of DS457). Consideration has been particularly given that such events are subject to a threat assessment in accordance with the Nuclear Security Series referenced. Therefore, line '(e) results from the threat assessment [6-8]' has been added. This means that events such as terrorism and cyber-attacks etc. as assessed within the threat assessment are to be considered as well.
France	117.	3.26 (c)	events affecting several nearby facilities and activities simultaneously;	Clarification			✓	Not necessarily just nearby.
Japan	117a.	3.26 (c)	events affecting several facilities and activities simultaneously, and their interactions;	Can these events be covered interaction among multiple facilities? It might be better to cite these events mentioned above explicitly.	✓			

UK	118.	3.26(e)	Delete existing text and insert "nuclear security events that could occur at the facility or activity"	Threat assessments do not contain an analysis of the potential consequences that could arise from these threats. A separate analysis needs to be carried out to determine the radiological consequences that could arise from acts of sabotage (see NSS No 13, paragraph 5.4)			✓	The wording used considers relevant Nuclear Security Series. Through the threat assessment relevant nuclear security events will be identified. An assessment on the associated expected hazards is subject to these requirements.
France	119.	3.27	The government shall verify ~~periodically perform a review in order to ensure~~ that all facilities and activities that could experience events that would necessitate protective actions and other response actions are identified.	Alternate wording clearer on the goal			✓	Please note the resolution under comments no.112 and 120.
UK	120.	3.27	Para 3.27 states 'The government shall periodically perform a review in order to ensure that all facilities and activities that could experience events that would necessitate protective actions and other response actions are identified'. In the UK there are a number of organisations who would deliver this requirement – regulatory authority, local authority and operator. As such, responsibility is not designated to the government.			✓ The government shall ensure that a review is periodically performed in order to ensure that…		For consistency. Please consider para. 3.17(b)(ii) for ensuring coordination in the reviews when number of organization are involved.
France	121.	3.27	~~The government shall ensure that a hazard assessment is performed and periodically reviewed for such facilities and activities.~~	Deletion is proposed considering changed proposed in 3.26.	✓			
France	122.	3.27	3.26bis The~~is~~ periodic review shall be undertaken to take into account any changes to the hazards 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 5.31, 5.35 and 5.37). The results of this review shall be used to revise the emergency arrangements.	This sentence could be taken out of 3.27 and become a specific paragraph located after 3.26			✓	Please note the resolution under comment no.112.

France	123.	3.28	Operating organizations shall appropriately revise the emergency arrangements 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). They shall also revise these arrangements when new information challenging current arrangements become available.	The change in the facility/activity is not the only reason for a licensee to revise its EPR arrangements. For example, a change in external hazards assessment, without any change in the facility/activity design/operation should warrant a review….		✓ 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.		For consistency.
Poland	124.	3.29.(a)	(a) Precautionary urgent protective actions (taken on the basis of conditions at the facility, on its site or off the site before environmental monitoring is conducted …	Same as for comment No. 1.		✓ …conditions at the facility or on the site before…		Undertaking these actions is based on the conditions at the facility and on the site (e.g. plant conditions) not on the conditions off the site.
USA	125.	3.30, line 2	"dangerous source" - Need to clarify what is defined as a dangerous source (e.g., category 3 radioactive source?).	Clarity				The term 'dangerous source' is defined. It relates to dangerous quantities of radioactive material (D-values) established in Ref. [16] of the draft (EPR-D values).

USA	126.	3.30, line 2, page 13	Change “dangerous source” to “orphan source”	Responses need to be developed for all sources that are not under regulatory control.			✓	We agree with the reasoning. But the proposed change excludes other examples of dangerous sources that could not be under regulatory control but they are not orphan (e.g. sources being smuggled).
USA	127.	3.31.	For all facilities and activities, non-radiation related hazards to people on and off site that are associated with the facility or activity (such as the release of toxic chemicals (e.g. uranium hexafluoride (UF_6), fires, explosions, etc.) that may inhibit the facility activities to implement emergency response activities related to a nuclear or radiological emergency shall be identified in the hazard assessment.	Only hazards that impact emergency response capabilities need to be assessed.		✓ For all facilities and activities, non-radiation related hazards to people on and off the site that are associated with the facility or activity (such as the release of toxic chemicals, e.g. uranium hexafluoride (UF6), fires, explosions, etc.) <u>that may impair the effectiveness of the actions taken in response to the nuclear or radiological emergency at the facility or activity</u> shall be identified in the hazard assessment.		For consistency.

France	128.	4.1	The requirements for response established in this Section apply for the response to a nuclear or radiological emergency. ~~The requirements for response must be met to achieve the practical goals of emergency response (see para. 2.2)~~. In order to ensure that there is the necessary capability to meet the requirements for response, the requirements for preparedness apply as part of the planning and preparation process for emergency response.	Superfluous			✓	The paragraph is general explaining the structuring of the functional requirements. At the Technical Meeting in November 2012, it has been decided to have this paragraph (as in GS-R-2) at the beginning of the section just for clarification although repeats partially its structure.
USA	129.	Reqt 4 Title	The government shall ensure that emergency plans are developed to facilitate effective emergency response operations.	The government cannot ensure emergency response is appropriately managed. The government can ensure that the plans provide for managed emergency response.		✓ The government shall ensure that arrangements are in place for the emergency response operations to be appropriately managed.		For consistency.
Belgium	130.	4.1	To move and merge with 2.2	Content redundant. Unnecessary duplication to be avoided.			✓	The paragraph is general explaining the structuring of the functional requirements. At the Technical Meeting in November 2012, it has been decided to have this paragraph (as in GS-R-2) at the beginning of the section just for clarification although repeats partially its structure.

France	131.	4.2	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~~. Where several facilities are operated on the same site by the same operating organization, this emergency response shall not compromise the safety and security of the facilities which are not under emergency conditions.	"managed without impairing the performance of the continuing operational safety and security functions" is unclear as, obviously, an emergency may be the consequence of the failures of some SSCs important to safety or even safety system (e.g. Fukushima)		✓ 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 facility and at other facilities at the same site.		Operating personnel taking mitigatory actions should be capable for doing so safely, although other actions on the site are simultaneously initiated such as declaration of the emergency and initiating response actions, warning people on the site, evacuating those not involved in the response etc. Meanwhile, security of the facility should neither be jeopardized to the extent possible by all these actions nor should interfere with actions taken by the operating personnel to mitigate the consequences of the emergency. In addition, this also relates to other facilities located on the same site – remark that is reflected with the change made.

Germany	132.	4.3	"For facilities in categories I~~,~~ and II ~~and III~~, the off-site emergency response shall be effectively managed and coordinated with the on-site emergency response."	Compare with the definition of the emergency preparedness category III provided in Table I: "Category III … does not include facilities for which events are postulated that could warrant urgent protective actions and other response actions off the site, …". If there is no off-site response, it cannot be coordinated with the on-site response.		✓		Modification is made under the description of Category III in Table 1 to relate only to urgent and early protective actions taken off site in the part quoted. Other off-site response actions such as medical or public information might be required to be taken in this category as well and coordination will be necessary.
Canada	133.	4.3	Consider the addition of the text provided below in bold: "… shall be **promptly executed and effectively** coordinated with the on-site…"	More precise.		✓ For facilities in categories I, II and III, the off-site emergency response shall be promptly executed and effectively managed and coordinated with the on-site emergency response.		For consistency.

Germany	134.	4.5	4.5. The emergency response shall be managed immediately and continuously under a clearly specified command and control system [and shall be directed by a single clearly designated emergency response commander. *or in coordinated manner when several authorities or other response organisations are responsible for managing or implementing different aspects of the emergency response (see para 4.7, 4.13, 5.5).]*	To require a single response commander does not comply with the possibility to have different response organisations acting in a coordinated manner (see 4.15, 5.5). With a view to the wide range of emergency response measures it can be adequate to distribute the responsibility to diffent organsations (e.g. Civil protection authorities, authorities responsible for the food chain and radiation protection authorities). Some measures could be adequately managed under control of a local commander while other decisions are regularly taken at national level.		✓ 4.5. The emergency response shall be managed immediately and continuously under a clearly specified command and control system and shall be directed by clearly designated emergency response commander. 4.13. Arrangements shall be made for the establishment and implementation of a clearly specified command and control system for emergency response as part of the emergency management system (see paras 3.9-3.11) and for identifying a single clearly designated emergency response commander (see para.5.4) to direct the emergency response under the all hazards approach. 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. […]		Considering the other comments as well. The role of the emergency response commander should not be mixed with the role of those persons in each operating organization and response organizations that are given the authority and responsibility for managing their own response actions (please see paragraph 5.5 of the draft submitted for review). All of them need to be coordinated under clearly designated emergency response commander.

Canada	135.	4.5	Consider the addition of the text provided below in bold: "… directed by a single clearly designated emergency response commander **for the on-site and the off-site responses**"	A single emergency response commander for the overall emergency response (on and off-site) may not be compatible with existing national legislated frameworks and authorities across multiple jurisdictions. There needs to be a unified governance with clear authorities but this may also include a unified command within each jurisdiction and within respective authorities. Although ideal, a single commander for the on-site and off-site responses is not possible in Canada under current legislation. The province leads the off-site response, the operator the on-site one. This recommendation reoccurs…		✓ 4.5. The emergency response shall be managed immediately and continuously under a clearly specified command and control system and shall be directed by clearly designated emergency response commander. 4.13. Arrangements shall be made for the establishment and implementation of a clearly specified command and control system for emergency response as part of the emergency management system (see paras 3.9-3.11) and for identifying a single clearly designated emergency response commander (see para.5.4) to direct the emergency response under the all hazards approach. 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. […]		Considering the other comments as well and for consistency. In case two commanders are assigned, their coordination is essential, they could not act independently.

Belgium	136.	4.5 and others (4.13, 5.4…)	"…directed by ~~a single~~ clearly designated emergency response commander*(s)*."	"single" too restrictive. To be further addressed in other para/line (4.13, 5.4…) Commanders could be a committee collegially sharing the responsibility.		✓ 4.5. The emergency response shall be managed immediately and continuously under a clearly specified command and control system and shall be directed by clearly designated emergency response commander. 4.13. Arrangements shall be made for the establishment and implementation of a clearly specified command and control system for emergency response as part of the emergency management system (see paras 3.9-3.11) and for identifying a single clearly designated emergency response commander (see para.5.4) to direct the emergency response under the all hazards approach. <u>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.</u> <u>[…]</u>		Considering the other comments as well. The role of the emergency response commander should not be mixed with the role of those persons in each operating organization and response organizations that are given the authority and responsibility for managing/directing their own response actions (please see paragraph 5.5 of the draft submitted for review). All of them need to be coordinated under clearly designated emergency response commander.

France	137.	4.6	Information necessary for making decisions on <u>emergency response, including</u> the allocation of resources <u>and protective actions,</u> shall be appraised throughout the nuclear or radiological emergency.	Why limiting to resources ?			✓	This paragraph relates to the resources necessary to be allocated for ensuring an effective response. Information necessary for making decisions on protective actions and other response action is reflected throughout the functional requirements as appropriate (e.g. please see the overarching requirement on taking urgent protective actions and other response actions).
France	138.	4.7	For facilities in categories I or II and areas within category V, <u>domestic</u> response organizations ~~(including those of other States)~~ within the emergency planning zones and distances (see para. 4.53) shall coordinate their emergency responses and shall provide mutual support. <u>This shall also be the case, as far as practicable, for foreign response organizations involved (if any)</u>	A more flexible wording should be used for foreign response organizations.			✓	This paragraph particularly focuses on the coordination and support among the response organizations of neighboring countries that fall within the planning zones and distances around facilities in category I and II (in order to ensure same level of protection of the population on the both sides of the border as a result of the same emergency). It does not relate to foreign response organizations to be involved in the response actions at the accident State.

France	139.	4.8	For facilities in categories I, II and III, arrangements shall be ~~made~~ specified for the transition from normal operations to emergency operations ~~to be clearly specified and to be effectively made without jeopardizing safety and security~~.	Clarification Superfluous		✓ For facilities in categories I, II and III, 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 security. The responsibilities of all persons		This paragraph calls for such arrangements to be made at preparedness stage and of course, all the arrangements set forth under the functional requirements are to be specified in appropriate plans and procedures. The proposed deletion makes the aim of these arrangements to be lost. In addition, please see the response under comment No. 131.
France	140.	4.8	The responsibilities of all persons who would be on the site in an emergency shall be ~~designated~~ defined as part of the arrangements for the transition.	Clarification			✓	Designation has different meaning of just defining the responsibilities. Namely, it calls for formal assigning of the responsibilities of all people on the site in the respective arrangements such as plans and procedures.
France	141.	4.8	It shall be ensured that the transition to the emergency response and the performance of initial response actions are governed by procedures available to ~~do not impair the ability of~~ the operating personnel (such as the control room staff) ~~to ensure safe and secure operation while taking mitigatory actions~~.	Obviously, some emergencies are a result of failure of SSC or even safety systems and it is difficult to say that safety is ensured (e.g. Fukushima)			✓	See the response under comment No. 131. In addition, of course, procedures to be developed for doing so (please see paragraph 4.41 and overarching requirement 21 of the draft submitted for review).
UK	142.	4.8, line 3	Insert “nuclear” before “security”	Correct terminology	✓			

Germany	143.	4.9	"For facilities in categories I~~,~~ and II ~~and III~~, arrangements shall be made for coordinating the emergency responses of all the off-site response organizations with the on-site response."	See our related comment on Para 4.3.			✓	Please see the response provided under comment number 132.
France	144.	4.10	For a site where several facilit~~y~~ies in category I are collocated ~~with multiple units~~, adequate arrangements (in terms of number of qualified personnel and amount of equipment and supplies, for example) shall be made to manage all the ~~units~~ facilities if each of them is under emergency conditions simultaneously. This shall include arrangements to manage the deployment and the protection and safety of personnel responding on and off the site (see paras 4.66–4.78).	Avoid using the word "unit" which could be understood as limiting to NPP.	✓			
ENISS	145.	4.11	For facilities and activities in categories I, II, III and IV, arrangements shall be made to ensure as far as practicable that the facility or activity has nuclear security systems and measures [6, 7] that would be functional in a nuclear or radiological emergency.	It will not be possible with reasonable efforts to sustain all security systems in all emergency situations.	✓			

Germany	146.	4.13	…under the all hazards approach *or in coordinated manner when several authorities or other response organisations .are responsible for managing or implementing different aspects of the emergency response*	To require a single response commander does not comply with the possibility to have different response organisations acting in a coordinated manner (see 4.15, 5.5). With a view to the wide range of emergency response measures it can be adequate to distribute the responsibility to diffent organsations (e.g. Civil protection authorities, authorities responsible for the food chain and radiation protection authorities). Some measures could be adequately managed under control of a local commander while other decisions are regularly taken at national level.		✓ 4.13. Arrangements shall be made for the establishment and implementation of a clearly specified command and control system for emergency response as part of the emergency management system (see paras 3.9-3.11) and for identifying a single clearly designated emergency response commander (see para.5.4) to direct the emergency response under the all hazards approach. 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. […]		Considering the other comments as well. The role of the emergency response commander should not be mixed with the role of those persons in each operating organization and response organizations that are given the authority and responsibility for managing/directing their own response actions (please see paragraph 5.5 of the draft submitted for review). All of them need to be coordinated under clearly designated emergency response commander.

USA	147.	4.13	Add: A fully trained back up commander will be available to ensure 24/7 availability and the immediate and continuous response to the event(s). What (timeframe) is meant by immediate?			✓		24/7 coverage is covered under the 'continuous' availability of the commander. Training and qualifications are addressed for each position under overarching requirements 19 and 23. Immediate means immediately after the emergency is notified. However, please note that in, for example transport accident, the senior first responder present at the site should be considered as emergency response commander by the time the specifically assigned person arrives at the site. In addition, please note that paragraph 5.6 of the draft submitted for review applies for the transfer of the authority in this case.

Canada	148.	4.13 3rd line	Consider the addition of the text provided below in bold: "… single clearly designated **on-site and off-site** emergency response commanders…"	Although ideal, a single commander for the on-site and off-site responses is not possible in Canada under current legislation. The province leads the off-site response, the operator the on-site one.		✓ 4.13. Arrangements shall be made for the establishment and implementation of a clearly specified command and control system for emergency response as part of the emergency management system (see paras 3.9-3.11) and for identifying a single clearly designated emergency response commander (see para.5.4) to direct the emergency response under the all hazards approach. 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. […]		Considering the other comments as well and for consistency. In case two commanders are assigned, their coordination is essential, they could not act independently.
France	149.	4.14	Arrangements shall be made for obtaining and assessing the information necessary for emergency response and associated decision, including in order to allocate resources, for all response organizations.	Why limiting to resources ?			✓	Please see the response under comment no. 137.

Canada	150.	Page 15, Requirement 5	Add at end of sentence "... <u>and for taking precautionary urgent protective actions</u>"	Provides additional clarity			✓	This functional requirement deals with activating the preplanned response. The planned response covers the specific actions elaborated under respective functional requirements in the document including the precautionary urgent protective actions.
France	151.	4.16	Upon classification of the nuclear or radiological emergency, the operating personnel shall promptly notify and provide sufficient ~~and periodically updated~~ information to, as appropriate, the off-site notification point.	The requirement is dealing with initial notification. On-going information is more relevant to requirement 7.	✓			
UK	152.	4.16	Para 4.16 requires operating personnel to determine emergency class in accordance with a 'general emergency', 'site emergency' etc. The UK does not apply such classification criteria, although it has an equivalent system.			✓		Please note para. 5.25: "*The emergency classes may differ from those specified below provided that emergencies of all these types are addressed"*
France	153.	4.17	When circumstances necessitate an emergency response, those staff at locations where there is a significant likelihood of a radiological emergency (see para. 3.30) and first responders in an emergency at an unforeseen location shall promptly initiate the appropriate actions on the site and shall notify and provide sufficient ~~and updated~~ information, as appropriate, to the off-site notification point.	The requirement is dealing with initial notification. On-going information is more relevant to requirement 7.	✓			
Belgium	154.	4.17	Change "on the site" by "<u>*on the scene*</u>"	To avoid confusion with on-site emergency in facilities			✓	Considering the other comments on the use of 'scene' and for consistency with the term defined 'site'.

USA	155.	4.17.	Requirement 4.17 should be split into two requirements for clarity. One for Categories I, II, and III. Another for Category IV. For facilities and activities in categories I, II, III, when circumstances necessitate an emergency response, those staff at locations where there is a significant likelihood of a radiological emergency (see para. 3.30) shall promptly initiate the appropriate actions on the scene and shall notify the onsite emergency director of the condition who, following declaration of the emergency, shall notify and provide sufficient and updated information, as appropriate, to the off-site notification point. For activities in categories IV, first responders in an emergency at an unforeseen location offsite shall promptly initiate the appropriate actions on the scene and shall notify and provide sufficient and updated information, as appropriate, to the off-site notification point.	Categories need to be separated to avoid confusion on what actions need to taken.			✓	This is paragraph specific for the category IV. Annex given in the draft aims at easy identifying the paragraphs to be applied based on the categories present in the State..
Canada	156.	4.18	Add at end of sentence ”... and that includes any necessary precautionary urgent protective actions”	Provides additional clarity			✓	This functional requirement deals with activating the preplanned response. The planned response covers the specific actions elaborated under respective functional requirements in the document including the precautionary urgent protective actions.
France	157.	4.19	Locate 4.19 after 4.20	More logical order: 4.20 deals with notification of foreign States and 4.19 deals with action of a foreign State after receiving a notification	✓			

France	158.	4.21	Notification point(s)[5] shall be established to receive 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 ~~activate~~ initiate a preplanned and coordinated off-site response appropriate to the emergency class or the level of emergency response.	"Request for support" is not included in the notification nor the notification point definitions. To be more consistent with the definition of the notification point		✓ 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		The definition on 'notification' (meaning (2)) says 'to initiate promptly predertmined actions'. Please consider also other paragraphs such as 4.37 and 4.41. This means that one of such predetermined actions is acting upon the request for providing off-site support to those responding on-site.
France	159.	4.21	The notification point(s) shall have ~~immediate and continuous~~ diverse means of communication with the response organizations that are providing support.	To maintain a parallel requirement with 4.58		✓ …notification point(s) shall have immediate and continuous communication with the response organizations that are providing support. Such communication shall use suitable and diverse means of communication.		'immediate and continuous' is kept as a 24/7 availability needs to be ensured.
Belgium	160.	4.21	Change "immediate and continuous" by "appropriate"	Too strong/restrictive.			✓	The notification point needs to be available 24/7 to receive the notification and to initiate the preplanned response. This should not be optional.

France	161.	4.22	For facilities in categories I and II and for areas in category V, the off-site notification point shall have ~~immediate and continuous~~ appropriate communication with the off-site decision maker who has the authority and responsibility~~, without consultation, immediately~~ to initiate precautionary urgent protective actions and urgenent protective actions and other response actions *off the site* ~~within the emergency planning zones and distances (see para. 4.53)~~. In a nuclear or radiological emergency (…)"	To maintain a parallel requirement with 4.58 and 4.21 Immediate decision on protective & other response actions (without consultation) does not apply in all cases		✓ 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 off-site decision maker who has the authority and responsibility, <u>as appropriate,</u> without consultation, immediately to initiate precautionary urgent protective actions and urgent protective actions and other response actions <u>off-site</u>.		Please see the response under comment no. 159.

Belgium	162.	4.22	"…shall have ~~immediate and continuous~~ appropriate communication with … the authority and responsibility~~, without consultation, immediately~~ to initiate precautionary urgent protective actions and… response actions *off the site* ~~within the emergency planning zones and distances (see para. 4.53)~~. In …"	Immediate decision on protective & other response actions (without consultation) does not apply in all cases (see comment #1)		✓ 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 off-site decision maker who has the authority and responsibility, as appropriate, without consultation, immediately to initiate precautionary urgent protective actions and urgent protective actions and other response actions off-site.		Please see the response under comment no. 160.

Canada	163.	4.22	Recommend deleting “within the emergency planning zones and distances”.	Inherently implied in planning zones, but need not be strictly restricted, so adequate actions can be taken wherever appropriate.		✓ 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 off-site decision maker who has the authority and responsibility, <u>as appropriate,</u> without consultation, immediately to initiate precautionary urgent protective actions and urgent protective actions and other response actions <u>off-site</u>.		For clarification.

Germany	164.	4.22	1st sentence: "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, without consultation if necessary, immediately to initiate precautionary urgent protective actions and urgent protective actions and other response actions within the emergency planning zones and distances (see para. 4.53)."	1. In some States, competences for different kind of actions and different regions may be distributed. 2. If time for consultation e.g. with expert emergency organizations is available, this possibility has to be used to avoid inappropriate decisions.		✓ 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 off-site decision maker who has the authority and responsibility, as appropriate, without consultation, immediately to initiate precautionary urgent protective actions and urgent protective actions and other response actions off-site.		The addition on 'competent' was rejected because the adequate qualifications, training etc. for this person are required by paras 5.9, 5.29 and 5.33 of the Requirements for Infrastructure (DS457 version 3.0).
France	165.	4.23	At facilities and locations where there is a significant likelihood of ~~a radiological emergency~~ encountering a dangerous source that is not under control (see para. 3.30), arrangements shall be made	To be consistent with 3.30	✓			
USA	166.	4.24.	For activities in category IV, arrangements shall be made to ensure that first responders in an emergency at an unforeseen location are aware of the observable indicators of a potential radiological emergency, appropriate notification, and protective actions and other response actions warranted immediately in the event of an emergency.	Requirement 4.24 only applies to Category IV.		✓		We agree with the comment but not need for addition, the Annex in the draft also clarifies that.

France	167.	4.25	Need to clarify the proposed classification and make it more operational.	Actions during the emergency phase should aim at avoiding deterministic effects and limiting stochastic effects. They are anticipated during the preparedness phase , according to the principle of optimization, and implemented and adapted by the local authority during the emergency phase, given the circumstances of the accident (meteorological conditions, size and nature of releases, kinetics, etc.). Actions during the post-accidental phase aim at reducing the level of exposure back to normal. They are decided and implemented with the members of the public. All of this make very difficult a pre-defined classification and too strict arrangements.			✓	Responses to all these issues are considered in implementation of the response under the classification system and reflected throughout the document. This system has been effectively used in numerous States for years to promptly initiate appropriate response actions.
UK	168.	4.25	Para 4.25 has a list of emergency classes, whilst a), b), c) and e) line up with the equivalent declaration states within the UK, the rational for class d) is not clear since the action to assess is an integral part of the decision process for classes a), b) and c). What is the rational and benefit for this? The wording in GS-R-2 is clearer.				✓	Classes a), b), c) and d) remained the same as in GS-R-2. Class e) has been only elaborated in more details. The concept is the same as in GS-R-2 but instead of providing just a limited number of possible scenarios under this class, more detailed description is provided in DS457 (following the same approach in describing other classes) to encompass all possible scenarios within category IV.

France	169.	4.25	The operating organization of a facility or activity in category I, II, III or IV shall make arrangements for <u>promptly</u> classifying nuclear and radiological emergencies warranting protective actions and other response actions	Clarification (to maintain consistency with other requirements)	✓			
France	170.	4.25	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, <u>volunteers, helpers</u> and <u>members of the</u> public in accordance with Appendices I and II	Add volunteers and helpers			✓	The term 'volunteers' is not used throughout the text as the volunteering is something common for both emergency workers and helpers in an emergency. However, as we do not like to promote the use of helpers in the response to an emergency (in order not to be misused), they are addressed only under the overarching requirement dealing with their protection in case such help is to be used.
France	171.	4.25	Replace "emergency workers" with "emergency responders"				✓	"Emergency worker' is commonly used and defined term in Safety Standards Series. The definition is broad to encompass all persons with duties in response to an emergency.
France	172.	4.25 (a)	"…protect people on the site and *off the site* ~~within the emergency planning zones and distances (see para. 4.53)~~	To allow application of the graded approach and consistency with other para (4.25(b))	✓			
Belgium	173.	4.25(a)	"…protect people on the site and <u>*off the site*</u> ~~within the emergency planning zones and distances (see para. 4.53)~~	To allow application of the graded approach (see comment #1) and consistency with other para (4.25(b))	✓			

France	174.	4.25 (c)	Emergencies in this class ~~could~~ shall never give rise to an off-site hazard.	Could is too weak.		✓ Emergencies in this class can never give rise to an off-site hazard.		This statement could not be formulated as a requirement (using 'shall').
France	175.	4.25 (e)	Upon declaration of this emergency class ~~and the level of emergency response~~, actions shall promptly be taken to mitigate the consequences of the emergency on the site, to protect those in the vicinity…	Superfluous			✓	Class e) covers different types of emergency within the emergency preparedness category IV. They might require operator level response or response at local and even national level.
Germany	176.	4.25 (a)	2nd sentence: "Upon declaration of this emergency class, appropriate actions shall promptly be taken according to the available information relating to the emergency to mitigate the consequences of the emergency on the site and to protect people on the site and within the emergency planning zones and distances (see para. 4.53)."	There should be no obligation for an automatism to carry out predetermined actions which may not be appropriate for the specific situation. In case information is available that a specific action is unnecessary or would do more harm than good it should be used in the decision.	✓			
Japan	177.	4.25 (a)/4-5	Replace "within the emergency planning zones and distances" with "within the emergency planning zones. And if necessary within EPD and ICPD."	Amendment is required to provide more flexibility in timing for the protective actions in EPD and ICPD.		✓		To be broader changed to off-site considering other comments as well.

France	178.	4.26	"The operational criteria for classification shall ~~be predefined~~ include emergency action levels (EALs) related to the status of the installation (actual and predicted) as well as observation indications in the facility and/or on the site. ~~and that relate to abnormal conditions for the facility of activity concerned, possible nuclear security events, releases of radioactive material, environmental measurements and other observable indications on site~~."	To be clarified.		✓ The emergency classification system for facilities and activities in categories I, II, III and IV shall take into account all postulated emergencies including those of very low probability. The operational criteria for classification shall include emergency action levels (EALs) related to abnormal conditions for the facility or activity concerned and associated, either actual or projected, progression and other observables and indicators of the conditions at the facility and/or on the site or off the site[…]		For consistency. Broaden to apply for each emergency preparedness category.

Belgium	179.	4.26	"for classification shall *include* ~~be predefined~~ emergency action levels (EALs)…and other observable indications *in the facility and/or* on the site (see…)"	EAL is by definition predefined.		✓ The emergency classification system for facilities and activities in categories I, II, III and IV shall take into account all postulated emergencies including those of very low probability. The operational criteria for classification shall include emergency action levels (EALs) related to abnormal conditions for the facility or activity concerned and associated, either actual or projected, progression and other observables and indicators of the conditions at the facility and/or on the site or off the site[…]		For consistency. Broaden to apply for each emergency preparedness category.
Belgium	180.	4.26 – footnote 6	"…event only, INES ~~cannot~~ *shall not* be used as the basis…"				✓	"shall" formulation is for requirements only and not to be used in an explanatory footnote.

France	181.	4.27	Change current para.4.27 by the following text: *"Each facility or activity in category I, II, III or IV shall provide arrangements to* (a) *Promptly recognize and classify a nuclear or radiological emergency;* *(b) Promptly declare an emergency and, upon classification, initiate the appropriate on-site response;* *(c) Notify the appropriate off-site notification point and provide sufficient information for an effective off-site response.* *These arrangements shall include appropriate and suitable means of alerting on-site response personnel & notifying the off-site notification point.*"	Clarification, in accordance to the proposal provided by France and Belgium during the TM for review of the Draft Safety Requirements in Emergency Preparedness & Response (12-16/11/2012) Moreover, there may be a need for limited consultation as long as it does not delay appropriate actions. Consultations may sometimes be useful to avoid inappropriate actions (hence the proposal not to mention "*without notification*")		✓ For each facility or activity 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 an appropriate on-site response, and (3) to notify the appropriate off-site notification point […]. These arrangements shall include appropriate and diverse means for alerting people on the site and for notifying off-site notification point (see paras 4.57, 4.58, 5.25 and 5.35).		For consistency.

Belgium	182.	4.27	"For each facility or activity in category I, II, III or IV, arrangements shall be made to identify and classify a nuclear or radiological emergency and, upon classification, promptly ~~and without consultation~~ …" Change current para.4.27 by the following text: *"Each facility or activity in category I, II, III or IV shall provide arrangements to* *(d) Promptly recognize and classify a nuclear or radiological emergency;* *(e) Promptly declare an emergency and, upon classification, initiate the appropriate on-site response;* *(f) Notify the appropriate off-site notification point and provide sufficient information for an effective off-site response.* *These arrangements shall include appropriate and suitable means of alerting on-site response personnel & notifying the off-site notification point.*"	This statement is too strong. In accordance to the proposal provided by Belgium during the TM for review of the Draft Safety Requirements in Emergency Preparedness & Response (12-16/11/2012)		✓ For each facility or activity 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 an appropriate on-site response, and (3) to notify the appropriate off-site notification point […]. These arrangements shall include appropriate and diverse means for alerting people on the site and for notifying off-site notification point (see paras 4.57, 4.58, 5.25 and 5.35).		For consistency.
Germany	183.	4.28	1st sentence: "Declaration of a particular class of emergency at a facility or activity in category I, II, III or IV shall promptly initiate the appropriate level of coordinated and preplanned emergency response on and, as appropriate, off the site."	See our related comment on Para 4.3.	✓			

Canada	184.	4.30	Suggest to reword this requirement as follows – "The absence of detailed plans for emergencies which have not been formulated in advance shall not delay the response"	It is not clear what is meant by "arrangements", and how these are to be put in place to provide a response in the absence of detailed plans.		✓ Arrangements shall be made <u>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.</u>		Requires for flexibility to respond even detailed plans are not in place as such event, for example, was not considered as postulated to give rise to such consequences.
USA	185.	4.30.	For category IV, arrangements shall be made to provide a response to a nuclear or radiological emergency for which detailed plans could not be formulated in advance.	Detailed plans are required for category I, II, and III facilities.			✓	With consideration of comments no. 184.
France	186.	4.31	The State shall make known to the IAEA and to other States, directly or through the IAEA, its <u>current</u> single ~~warning~~ <u>notification</u> point ~~of contact~~ responsible for receiving emergency notifications and information from other States and information from the IAEA. This ~~warning~~ <u>notification</u> point shall be continuously available to receive any notification, ~~request for assistance~~ or request for verification and to initiate promptly a response or verification.	Is there a real need to introduce "warning point". Would it be inappropriate to use "notification point" ? Request for assistance should be addressed in a different section (see comment above).			✓	This paragraph relates to the point of contact (available 24/7) e.g. required under the Early Notification and the Assistance Conventions. It relates to the first meaning of the definition for 'notification' (note 'notification point' definition relates to the second meaning). At a State, the same organization might be designated as both notification point and warning point. If they are separate, there is no need for the IAEA to be notified what is the notification point. Using both terms is necessary to avoid any confusion.

France	187.	4.31	~~The State shall promptly inform the IAEA and, directly or through the IAEA, other States of any changes that may occur in respect of the point of contact.~~	By adding "current" in previous sentence of 4.31, this sentence can be deleted.			✓	Although not necessary, but essential to remind States to update their contact details as necessary.
France	188.	4.33	Arrangements shall be made to promptly and directly ~~to~~ notify any State within the emergency planning zones and distances (see para. 4.53) in which urgent and early protective actions and other response actions ~~are~~ could be required ~~to be taken~~.	Typo It is up to the State to decide on protective actions	✓			
France	189.	4.34	The operating organization of a facility or activity in category I, II, III or IV shall promptly decide on, and take, the actions[7] necessary at the scene to mitigate the consequences of a nuclear or radiological emergency involving a facility or activity under its responsibility.	Off-site measures are usually not under the responsibility of the licensee.		✓ The operating organization of a facility or activity in category I, II, III or IV shall promptly decide on, and take actions on-site necessary to mitigate the consequences of a nuclear or radiological emergency involving a facility or activity under its responsibility		For consistency.
Germany	190.	4.34	"The operating organization of a facility or activity in category I, II, III or IV shall promptly decide on, and take~~, the~~ actions on-site necessary to mitigate the consequences of a nuclear or radiological emergency involving a facility or activity under its responsibility."	It should be clarified that this statement is limited to on-site actions.	✓			
USA	191.	4.34. footnote 7	Such actions may include actions such as discharge of radioactive material to the environment, provided that the appropriate off-site agencies are notified in advance.	Agencies are to be notified rather than a specific individual.		✓		For consistency 'organizations' has been used instead of 'agencies'.

Belgium	192.	4.34 (footnote)	"Such actions may include actions such as discharge of radioactive material to the environment, provided *that they are agreed by the management authority and* that the appropriate off-site officials are notified in advance"	The licensee should have the agreement of the authority in charge after an evaluation of the consequences possibly resulting from this action or no action.			✓	Considering other comments as well. Such actions should be predetermined and the operating organization needs to be given authority for doing so when needed, without seeking for an agreement that could result in delay in taking these actions.
France	193.	Footnote 7	Delete footnote 7	Venting should not be encouraged even if it may become necessary.			✓	The addition has been agreed at the Technical Meeting in November 2012. With consideration of other comments as well the footnote is kept. Please in addition see the general comment no. 19 made by Canada and comment no. 90.
France	194.	4.34	At the end of 4.34, add : "These actions shall be communicated, as appropriate, to the regulatory body and off-site emergency response organizations."	Actions decided by the licensee should be known by the regulator and off-site emergency services so they can check adequacy and take them into account in their own response…			✓	See explanation under comments no. 192 and 193.
France	195.	4.36	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.	Clarification	✓			
France	196.	4.36	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.	Capabilities of off-site services should not diminish the licensee capabilities to handle an emergency.			✓	The addition was agreed at the Technical Meeting held in November 2012. It is not intention, or should this been understood, as diminishing the operator's capabilities.

USA	197.	4.36.	Emergency services shall be made available, and shall be capable, to support the on-site response at facilities in category I, II, III and on scene response activities in category IV.	There is no on-site response in category IV, only offsite.			✓	The definition for 'site (area)' is also applicable for category IV for 'scene' as used in the proposed change.
France	198.	4.37	This shall include arrangements for on-call advice and arrangements to dispatch to the scene of an emergency an emergency team ~~that includes radiological assessors who are~~ capable of assessing the radiation hazards, mitigating the radiological consequences and managing the exposure of emergency workers.	Simplification	✓			
Belgium	199.	4.37	"… to dispatch to the scene of an emergency an emergency team *(or to provide appropriate mechanisms)* that…"	Too restrictive? Allowing flexibility		✓ This shall include arrangements for on-call advice or other appropriate mechanisms and arrangements to dispatch on-site an emergency team….		For consistency.
France	200.	4.37	In addition, arrangements shall be made to determine when additional assistance is necessary ~~for dealing with the radiological aspects of an event~~ and to obtain such assistance (see paras 4.125 and 4.127).	Simplification	✓			
Poland	201.	4.37/5	… This shall include arrangements for on-call advice and arrangements to dispatch to the location of an emergency an emergency team that includes …	Same as for comment No. 1.		✓ …to dispatch on-site an emergency team…		For consistency throughout the document and in line with the terms defined.
Poland	202.	4.37/8	… In addition, arrangements shall be made to determine whether and when additional assistance is necessary …	The need for additional assistance should be determined first.	✓			
UK	203.	4.41	Para 4.41 Quite a number of 'requirements' rolled up in to a single requirement and should be separated.			✓		The requirement is shortened for clarification.

France	204.	4.41	For facilities in category I, II or III, arrangements shall be made for mitigatory action by the operating personnel to prevent an escalation of the emergency ~~hazard~~, to return the facility to a safe and stable state, to ensure as far as practicable the continued functionality of nuclear security systems and measures, to reduce the potential for releases of radioactive material or exposures and to mitigate the consequences of any actual releases or exposures.		✓			
USA	205.	4.41	Additional consideration should be given to ensure vehicle access to facilities.	Completeness		✓		Covered under para. 4.42: "…emergency services shall be afforded prompt access to the facility…"
ENISS	206.	4.41	For facilities in category I, II or III, arrangements shall be made for mitigatory action by the operating personnel to prevent an escalation of the hazard, to return the facility to a safe and stable state, to ensure the continued functionality of nuclear security systems and measures as far as practicable,	See above.	✓			
UK	207.	4.41	Delete "nuclear security systems and measures" and insert "the nuclear security system"	Each facility has a nuclear security (or physical protection) system which comprises an integrated set of measures (see definitions in eg NSS No.13)	✓			
France	208.	4.41	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 [11]), for the full range of postulated emergencies, including for very low probability events ~~beyond design basis accidents and associated conditions~~.	See previous comments. SSR2-1 does not use BDBA anymore.			✓	In parallel with the development of DS457, there is ongoing revision of SSR-2/1 (under DS462). Within the addendum of SSR-2/1, it has been concluded to retain the use of beyond design basis accidents and therefore, the use of this terminology is justified.

Germany	209.	4.41	"Arrangements shall include emergency operating procedures and guidance for the operating personnel on mitigatory actions for severe conditions … for the full range of postulated emergencies, including ~~beyond~~ design ~~basis accidents and associated~~ extension conditions. The full range of possible on-site conditions affecting the response to emergencies, including ~~beyond~~ design ~~basis accidents~~ extension conditions, shall be considered to include the potential impact of postulated natural or ~~other events~~ human induced hazards affecting regional infrastructure and affecting one or several sites …"	According to the new definitions introduced by the IAEA Safety Requirements SSR-2/1, the term 'design extension conditions' has superseded 'beyond design basis accidents'. Design extension conditions could include severe accident conditions.			✓	In parallel with the development of DS457, there is ongoing revision of SSR-2/1 (under DS462). Within the addendum of SSR-2/1, it has been concluded to retain the use of beyond design basis accidents and therefore, the use of this terminology is justified.
Poland	210.	4.41/3	4.41. … to ensure the continued functionality of nuclear safety and security systems and measures, …	Ensuring the functionality not only security systems but first of all safety systems is essential.			✓	This part of the requirement deals particularly with nuclear security measures (therefore, reference is given to nuclear security series). Safety is covered with other relevant parts of the requirements.
Poland	211.	4.41/7,10	… These arrangements shall take into account the following aspects of the emergency response: … the workload and habitability conditions of the operating personnel (such as in the control room); … instrumentation and structures, systems and components of the facility under emergency conditions. …	Editorial corrections.	✓			

France	212.	4.41	The full range of possible on-site conditions affecting the response to emergencies, including <u>for very low probability events</u> ~~beyond design basis accidents~~, shall be considered to include the potential impact of postulated natural or other events	See previous comments. SSR2-1 does not use BDBA anymore.			✓	In parallel with the development of DS457, there is ongoing revision of SSR-2/1 (under DS462). Within the addendum of SSR-2/1, it has been concluded to retain the use of beyond design basis. In addition, the wording used has been agreed as preferred at the Technical Meeting held in November 2012.
Belgium	213.	4.41	"nuclear security systems and measures" to be clarified	Could lead to misunderstanding or misinterpretation		✓		Whenever the term is mentioned (either nuclear security measures or nuclear security system) reference is given to relevant nuclear security series in order to avoid any misinterpretation.
France	214.	4.42	For facilities in category I, II or III, arrangements shall be made<u>, in particular by the operating organization,</u> to provide technical assistance to the operating personnel.	To stress the prime responsibility of the licensee	✓			
France	215.	4.42	Arrangements shall be made to obtain support ~~promptly~~ from the emergency services (e.g. police, medical and firefighting services) off the site.	Capabilities of off-site services should not diminish the licensee capabilities to handle an emergency and prompt support may not be possible (for example in case of a natural disaster)			✓	It is not an intention to diminish operator's capabilities. Such support should be provided on time. Para. 4.41 recognizes that in actual emergency different conditions/aspects might affect the emergency response and therefore, special consideration needs to be given on that.

France	216.	4.43	This shall include observing the abnormal conditions at the facility or in the activity, and conducting radiation monitoring, environmental monitoring ~~and~~ assessment, and modeling in order ~~promptly~~ to ~~identify~~ anticipate or characterize promptly new hazards or the extent of hazards and to refine the protection strategy.	Anticipation is expected. In this respect, modeling and projection can be very useful.		✓ The magnitude of hazards and the possible development of hazardous conditions shall be appraised initially and throughout a nuclear or radiological emergency. This shall include observing the abnormal conditions at the facility or in the activity, use of reliable and timely technical/radiological assessments and/or projections provided that their limitations are recognized and that they can be used promptly (see para. 5.24) and conducting radiation monitoring, environmental monitoring and assessment, in order promptly to identify, characterize or anticipate, as appropriate, new hazards or the extent of hazards and to refine the protection strategy.		For consistency and considering other comments as well. However, any use of projections should be with recognition of their limitations particularly because there are emergency situations where they could not provide a basis for an effective response.

Belgium	217.	4.43, 4.48, 4.53(b), 4.56, 4.104, 4.105, 4.109	The use of technical/radiological assessments and/or projection is a major tool to appreciate a situation and should be included in these paragraphs.	In accordance with the graded approach, as explained in the comment #1		✓		Comment made is accepted and appropriate changes are incorporated in the stated paragraphs. However, any use of projections should be with recognition of their limitations particularly because there are emergency situations where they could not provide a basis for an effective response.
France	218.	4.44		Does not appear in GS-R-2 May be excessive.				GS-R-2: Paragraph 4.41.
Germany	219.	4.44	"All appropriate actions shall be taken to save lives and to prevent severe deterministic effects."	Additional basic objective. Consistency with the practical goal of emergency response stated in Para 2.2 (c).	✓			
Belgium	220.	4.47	"4.47. Information about emergency conditions, ~~emergency~~ assessments and … promptly made available, *as appropriate*, to all…"	Only relevant organizations should receive the information/data that is relevant for them ("targeted" information/data)	✓			
USA	221.	4.50, lines 3-6	Based on these generic criteria, predetermined operational intervention levels (OILs) shall be developed ~~at the national level~~ for triggering urgent protective actions and other response actions, which are subject to revision as the emergency evolves.	Development of OILs may occur at different levels depending on member state's jurisdictional policies/regulations. Should not be a rigid requirement that OILs are developed at the national level and should remain flexible.	✓			

Belgium	222.	4.51	"4.51. National *guidance and process* shall be *developed and* adopted for adjusting urgent…actions *during the development of the emergency*	In accordance with the graded approach, as explained in the comment #1		✓ Arrangements shall be made for adjusting urgent protective actions and other response actions as the emergency evolves.		For consistency throughout the document.
Belgium	223.	4.52	"4.52. First responders ~~in an emergency at an unforeseen location~~ shall…"	Valid for any radiological or nuclear emergency.			✓	Those first responders responding at a facility or in an activity are recognized emergency workers and they are provided with appropriate training, they participate in exercises etc. This paragraph focuses on those scenarios under category IV where there is no operating organization and the emergency could occur anywhere (such as RDD or transport accident). Therefore, those first responders should be aware not to refrain from taking such actions based on the possible presence of radioactive material.
France	224.	4.66/4.67	This should include all emergency responders including "security people".			✓		Although they are 'security people' these people have specified duties in an emergency response and they are covered under the definition for 'emergency worker'.

ENISS	225.	4.74	The operating organization and response organizations shall ensure that those emergency workers who are not undertaking (1) life saving actions, (2) actions to prevent severe deterministic effects or actions to prevent the development of catastrophic conditions that could significantly affect people and the environment, or (3) actions to avert a large collective dose are protected as ~~members of the public~~ occupationally exposed persons in a nuclear or radiological emergency.	To demand the protection for members of the public only is too restrictive and reduces the flexibility in the emergency response.		✓ 4.71. In a nuclear or radiological emergency, the relevant requirements for occupational exposure in planned exposure situation established in Ref. [14] shall be applied for emergency workers, in accordance with a graded approach, except as required in para. 4.72. 4.72. 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.		Paragraph amended consistently with GSR Part 3 considering other comments as well (please note that numbering of paragraphs has changed).

Germany	226.	4.46	2nd sentence: "A protective action and other response action shall not be implemented or shall be discontinued when it is not ~~no longer~~ justified."	Actions should not be implemented when information is available that these actions are not justified. See also our comment on Para 4.25 (a).	✓			
France	227.	4.48	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 or other hazardous material; radiological conditions on and off the site; and any actual or potential exposures of the public.	Other non-radioactive but hazardous release could occur and warrant protective action. Need to anticipate (see above 4.43)	✓			
France	228.	4.48	These assessments shall be used ~~for mitigatory actions taken~~ by the operating personnel; as a basis for determining ~~the emergency action levels and for~~ emergency classification (see para. 4.25); for urgent protective actions and other response actions to be taken on the site; for the protection of workers; and for recommendations for urgent protective actions and other response actions to be taken off the site.	Simplification (Mitigatory actions are encompassed by "other response actions" and "emergency action levels" is a mean to determine the emergency class)		✓ These assessments shall be used: for deciding on mitigatory actions to be taken by the operating personnel; as a basis for emergency classification (see para. 4.25); for deciding on urgent protective actions and other response actions to be taken on the site including those for protection of workers; and for recommendations for urgent protective actions and other response actions to be taken off the site.		For consistency. Other response actions do not cover mitigatory actions.
France	229.	4.50	National generic criteria for taking urgent protective actions and other response actions shall be established in accordance with the generic criteria in Appendix II and shall be optimized with account taken of local and national conditions and conditions specific to the postulated emergency.	Clarification	✓			

France	230.	4.50	On the basis of these generic criteria, predetermined operational intervention levels (OILs) shall be developed at the national level for triggering urgent protective actions and other response actions~~, which are subject to revision as the emergency evolves.~~	In the preparedness phase, no emergency is going on so it can't evolve.		✓ …predetermined operational intervention levels (OILs) shall be developed for triggering urgent protective actions and other response actions. Arrangements shall be made for revision of these operational intervention levels, as appropriate, in a nuclear or radiological emergency, with account taken of the prevailing conditions as they evolve.		For consistency and considering the importance to be prepared to revise these triggers as the emergency develops.
Canada	231.	4.50	Second sentence - add "national" in front of 'generic criteria' to avoid confusion with criteria of Appendix II.	Clarity	✓			

Canada	232.	4.50	Recommend removing "which are subject to revision as the emergency evolves" and adding this amplification to section 4.51 instead.	4.51 seems a more appropriate location for this statement. See comment for 4.51 (below).		✓ …predetermined operational intervention levels (OILs) shall be developed for triggering urgent protective actions and other response actions. Arrangements shall be made for revision of these operational intervention levels, as appropriate, in a nuclear or radiological emergency, with account taken of the prevailing conditions as they evolve.		For consistency and considering the importance to be prepared to revise these triggers as the emergency develops.
France	233.	4.51	National guidelines shall be adopted, involving stakeholders, ….	The involvement of stakeholders is crucial during the preparedness.		✓		Addition made for their involvement as appropriate
Canada	234.	4.51	Recommend adding "… **and OILs, as the actual accident conditions become known and as the situation evolves during an emergency**."	This seems a more appropriate location for this statement. OILs are based on assumptions and approximations and they too can be revised and adjusted during an event.			✓	Please see resolution under comment no. 232.
France	235.	4.52	First responders in an emergency at an unforeseen location shall be informed that, in the event of an immediate danger to life (such as a fire), they ~~must~~ should not delay any action to save human life	GS-R-2 wording was adequate	✓			

Japan	236.	General on EPD and ICPD	We have revised our guidelines for nuclear emergency preparedness and responses since we have learned many things from Fukushima Nuclear Accident. Briefly, we realized that the original guidelines including evacuation plan were not well operated. We have analyzed these failures, and then, we focused on following aspects; ✓ whether the requirements are reasonable enough to be carried out, ✓ whether the requirements and criteria for protective actions are reasonable enough for stakeholders to understand. This draft requests that the appropriate "arrangements" shall be made in the emergency planning zones and distances. We agree with the idea that it is necessary to establish a certain scheme to be able to respond to any postulated hazards. Some parts in the draft, however, appeared to impractical propositions; it is doubtful if the procedures are to be conducted uniformly for the initial response to an emergency situation throughout the UPZ or EPD, or ICPD, as requested in the draft. In these regards and on the base of lessons we have learned from Fukushima Nuclear Accident, we would like to request some rephrasing in the following paragraphs shown from page 2 to 4 indicating as "UPZ, EPD/ICPD related comments" No. 3 to 11 in the comment column to be able to understand that some actions are to be taken as the occasion demands.			✓		Accepted and para. 4.35 revised accordingly. EPD description does not need revision since it does not call for specific response actions except for the need to perform monitoring. ICPD is revised to require provisions to implement protective and other response action to provide for the protection of the public in accordance with the Generic Criteria in Appendix II following a release from contaminated food, milk, water and commodities and recognition of uncertainty and limitation of the information available when protective and other actions need to be taken to be effective.

Japan	237.	General on EPD and ICPD	EPD and ICPD were introduced as new areas for emergency response. These new areas should be clearly and consistently defined in the relevant paragraphs such as 4.53, 4.104 and 4.105, as well as in Definitions. Moreover, it is necessary to explain the differences between emergency planning zones and EPD/ICPD. We understand that the emergency planning zones are the areas where comprehensive arrangements are put in place at the preparedness stage. While the emergency distances (EPD/ICPD) are the areas required appropriate arrangements in advance to be able to conduct protective actions not necessarily in whole areas but some limited areas as appropriately during the response., Clarification is also necessary for EPD and ICPD since some requirements for these distances in para. 4.53 for urgent protective actions (Requirement 7) and in para. 4.104 for early protective actions (Requirement 12) are overlapping.			✓		Accepted and para. 4.35 revised accordingly. EPD description does not need revision since it does not call for specific response actions except for the need to perform monitoring. ICPD is revised to require provisions to implement protective and other response action to provide for the protection of the public in accordance with the Generic Criteria in Appendix II following a release from contaminated food, milk, water and commodities and recognition of uncertainty and limitation of the information available when protective and other actions need to be taken to be effective.
Japan	238.	General on EPD and ICPD	The time frame such as “within a day” and “within a week” for implementing protective actions in 4.53 depends on the prevailing circumstances. These expressions are the matter to be described in the “Safety Guide” and should be removed from this “Requirements”.			✓		Accepted, replaced specific times with ‘within a period that would be effective in reducing the risk of stochastic effects’.

UK	239.	4.53	Para 4.53 Calls for the emergency planning zones consisting of: precautionary action zone, urgent protective action zone, extended planning zone and ingestion and commodities planning distance. It is not clear how from a practical point of view this approach can be delivered. In contrast the UK has detailed Emergency Planning Zone and, in the event of an extended release scenario, extendibility				✓	The approach is based on considerable analysis.
France	240.	4.53	For facilities in category I or II, arrangements shall be made for effectively making and implementing decisions on urgent protective actions and other response actions to be taken off the site, <u>in order to</u> minimize the occurrence of severe deterministic effects and to prevent to the extent practicable the occurrence of stochastic effects, for the full range of possible emergencies (including those not considered in the design basis) at those facilities. These arrangements, <u>depending of the capability to use existing public infrastructure (e.g. buildings and transport networks),</u> shall include the following:	For clarification	✓			

Germany	241.	4.53.	4.53. For facilities […] arrangements shall be made for effectively making and implementing decisions on […] actions to be taken off the site following a graded approach. […] 4.53.(ii) […] Any such actions shall follow a graded approach and be taken in such a way […]	In the current version of the document it is stated that urgent protective actions both in the PAZ and in the UPZ should be initiated "on the basis of conditions at the facility". This is in contrast to the previous version of the document (GS-R-2, 2002), where this was only stated for the PAZ. Thus the new requirement reduces the possibilities for a graded approach for deciding about urgent protective actions in the UPZ and does not allow for consideration of further information like dispersion calculations and dose prognoses.		✓		Revised 4.53 ii to include consideration of available reliable and timely predictions of the radiological situation off the site.

France	242.	4.53	Need to distinguish emergency zones (PAS and UPZ) that need to be predefined during the preparedness phase and post-accidental zones (EPD and ICDP) once the accident has occurred.	The proposed organization is too difficult to put in place. Indeed, it is difficult to predefine zones for post-accidental measures (EPD and ICPD) given that the perimeters of such zones should be established taking into account deposition and contamination. The system, established during the preparedness phase, should be more flexible (considering space and time) to distinguish : - one zone to implement emergency protective actions – to be adapted given the kinetics and the scale of releases ; - one or several zones to implement post-accidental measures – to be adapted given the scale and levels of contaminations.			✓	These are distances to which arrangement are required for implementation of urgent and early actions (e.g. food restriction) in order to protect the public and not for the post emergency phase.

France	243.	4.53	For radiation safety purposes, These arrangements shall include the following, based on a graded approach:	These are related to radiological hazards. It is important to stress out the fact that not all the situations require immediate & protective actions (according to predefine criteria / EALs). In some cases, depending on the technical diagnosis and prognosis (including a "what if" approach), there is time to assess the current situation and its possible evolutions and implement appropriate actions, taking into account OILs (connected with measurements on field, collected data, projections and modeling, etc.) This graded approach is consistent with the general justification and optimization principles.		✓ For facilities in category I or II, arrangements shall be made for effectively making and implementing decisions on urgent protective actions and other response actions to be taken off the site in order to meet the goals of emergency response based on a graded approach.		For consistency.
France	244.	4.53 (a) (i)	precautionary action zone (PAZ), for facilities in category I, for which arrangements shall be made at the preparedness stage with the goal of taking precautionary urgent protective actions and other response actions, before any significant release of radioactive material occurs, on the basis of conditions at the facility (i.e. conditions leading to the declaration of a general emergency; see para. 4.25), in order to avoid or to minimize severe deterministic effects.	"*any* release" is too strong as there are usually radioactive release during normal operation		✓		Accepted with inclusion of a footnote defining a significant release as one that warrants taking protective actions or other response action off the site.

France	245.	4.53 (a) (ii)	An urgent protective action planning zone (UPZ), for facilities in category I or II, for which arrangements shall be made at preparedness stage with the goal of initiating precautionary urgent protective actions, ~~urgent protective actions~~ and other response actions primarily before any <u>significant</u> release of radioactive material occurs, on the basis of conditions at the facility (i.e. conditions leading to the declaration of a general emergency; see para. 4.25) or shortly after any <u>significant</u> release of radioactive material occurs, in order to reduce the risk of stochastic effects off the site.	"*any* release" is too strong as there are usually radioactive release during normal operation		✓		Accepted with inclusion of a footnote defining a significant release as one that warrants taking protective actions or other response action off the site.
Germany	246.	4.53 (a), bullet (ii)	"An urgent protective action planning zone (UPZ), for facilities in category I or II, for which arrangements shall be made at preparedness stage with the goal of initiating precautionary urgent protective actions, urgent protective actions and other response actions primarily before any release of radioactive material occurs, on the basis of conditions at the facility (i.e. conditions leading to the declaration of a general emergency; see para. 4.25) <u>and, if available, predictions of the radiological situation off the site,</u> or shortly after any release of radioactive material occurs, in order to reduce the risk of stochastic effects off the site."	Predictions of the radiological situation off the site should be taken into account if they are available in time for taking actions within the UPZ.		✓		Accept – revised to read 'reliable and timely predictions of the radiological situation off the site (see para 5.25) if available
Belgium	247.	4.53(a)(ii)	Last sentence ("Any such actions…") to be removed.	Not fully coherent with the graded approach. Could lead to confusion or over/excessive response			✓	PAZ is where actions are taken with the objective to prevent or minimize severe deterministic effects and thus has priority over taking actions within the UPZ where the objective is to reduce the risk of stochastic effects.

Poland	248.	4.53.(ii)	(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 …	Editorial correction.	✓			
Japan	249.	4.53 (a) (ii)/3	Replace "primarily before any release" with "if possible before any release".	Amendment is required to provide more flexibility in timing for the protective actions in UPZ, because it is not feasible to evacuate all people in UPZ before any release.	✓			
France	250.	4.53 (a) (iii)	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 early monitoring for deposition and dose rate resulting from any significant release of radioactive material, to identify, on the basis of predetermined operational intervention levels (see paras 4.50 and 4.102), areas warranting, in order to reduce the risk of stochastic effects: (1) urgent protective actions and other response actions (e.g. evacuation) within a day following such a release or (2) early protective actions and other response actions (e.g. relocation) within a week to a month following such a release.	Dose rate can also be monitored (and more easily than contamination). "*any* release" is too strong as there are usually radioactive release during normal operation		✓		Accepted by just referring to monitoring and by adding a footnote defining a significant release as one that warrants taking protective or other response action off the site.
Japan	251.	4.53 (a) (iii)	Replace "early monitoring" on line 2 with "monitoring in an early stage" and replace "within a day following a release" on line 6 with "within a day to a week following a release".	Amendment is required to provide more flexibility in timing for the protective actions in EPD, because it is not practicable to evacuate some people in EPD within a day.		✓		Accepted and revised consistently with response to comment no. 238.

USA	252.	4.53.(a)(iii)	Add a new requirement between 4.53.(a)(iii) and 4.53.(a)(iv): The PAZ, UPZ and EPD can be identified as being made up of radial and azimuthal subzones that are used in public messaging for the overall EPZ.	Recognize that the subzones that would comprise the PAZ, UPZ and EPD could change radially and azimuthally depending on situational meteorology. The facility's and ORO's protective strategies would ensure that the proper subzones are included with the appropriate action in the messaging			✓	Too detailed requirement, will be considered for inclusion in a Safety Guide.
Italy	253.	4.53 iv	An ingestion and commodities planning distance (ICPD) from the facility, for facilities in category I or II, for which arrangements shall be made at the preparedness stage so that, ~~upon~~ following the declaration of a general emergency, if necessary, prompt protective actions shall be taken within hours, such as in general ~~and~~ restrictions of consumption and distribution of the food exposed to the fallout, the ~~for~~ non-essential local produce, the forest products (e.g. mushrooms and game), the milk from grazing animals ~~rainwater8~~, or place grazing animals on covered feed and protect drinking water supplies that use rainwater[8] (e.g. to disconnect rainwater collection pipes). Moreover, restrict distribution of other commodities with possible contamination following a release shall be taken until further assessments are performed.	Define "prompt protective action". Due to the distance from the facility, the prompt protective actions could be taken following an evaluation activity, based also on monitoring data, and not necessarily just as a result of the declaration of a general emergency. Make "4.53 iv" statement and the "ICPD" definition at page 67, more compliant.		✓		Revised accordingly with consideration of other comments and avoiding many details that could be part of a Safety Guide. See response under comment no. 254.

Japan	254.	4.53 (a) (iv)	Replace “upon the declaration of a general emergency, prompt protective actions” with “based on environmental monitoring data and other information regarding plume diffusion, protective actions”.	The restricted expression of “upon the declaration of a general emergency” and “prompt” are excessively demanding requirement for the response in ICPD.		✓		Accepted but kept requirement to act upon declaration of a General Emergency because that is when these actions would be warranted but only requires that for a General Emergency provisions be implement to insure that food, milk, water and commodities that may contaminated by a release that could result in doses in excess of those warranting protective and other response actions in accordance with the generic criteria in Appendix II are identified and effective response actions taken while recognizing the uncertainty and limitation of the information available when protective and other actions need to be taken to be effective.
France	255.	4.53 (c)	To be removed	Covered by proposed new 4.27			✓	Cross-reference is made to para. 4.27. However, in addition to that paragraph, this para states for having a person designated for doing so at such facilities.

Belgium	256.	4.53(c)	To be removed	Covered by proposed new 4.27 (see comment #24)			✓	Cross-reference is made to para. 4.27. However, in addition to that paragraph, this para states for having a person designated for doing so at such facilities.
France	257.	4.53 (e)	A new specific paragraph should be useful on drinking water (preparedness and response).	The possible contamination of drinking water provided to population by public networks depends of the vulnerability of the resources, superficial water used for the production of drinking water is particularly vulnerable during the emergency phase and the contamination of groundwater may occur after several days or months. Contamination of the water tap is also possible outside EPD and ICPD			✓	Drinking water is addressed elsewhere, so no need to specifically address it.
France	258.	4.54	Delete 4.54	Covered by first sentence of 4.55		✓		Paragraph deleted and some clarification provided under para. 4.55 with consideration of other comments as well.
Belgium	259.	4.54	To be removed.	Not useful because this is already addressed in the allocation of responsibilities.	✓			Paragraph deleted and some clarification provided under para. 4.55 with consideration of other comments as well.

USA	260.	4.54.	Arrangements shall be made to ensure off-site decision makers are authorized and trained to direct protective actions and other response actions promptly upon the notification of a nuclear or radiological emergency.	Rather than informing off-site decision makers of their responsibility, it should be a direct requirement that they are fully aware of their responsibility to direct prompt protective actions.		✓ …These arrangements shall include arrangements for: <u>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. 4.22);</u> taking appropriate actions for the protection of emergency workers; …		With consideration of other comments as well, para. 4.54 has been deleted and proposed addition is made under para 4.55 of the draft submitted for review for clarification.
USA	261.	4.54, line 4	Change “prevent” to “minimize”	Can’t prevent occurrence of cancer in the population				Reference is made to wrong paragraph.
France	262.	4.55	Within the emergency planning zones and distances, arrangements shall be made for taking appropriate protective actions and other response actions, <u>if necessary</u> promptly upon the notification of a nuclear or radiological emergency. (….) The arrangements shall be coordinated with all jurisdictions (including those beyond national borders <u>as far as practicable</u>) within any emergency planning zone or distance.	State is responsible within its borders. See comment on 4.53. Depending on the kinetics of the accident, some actions do not need to be taken automatically upon the notification.		✓ Within the emergency planning zones and distances, arrangements shall be made for taking appropriate <u>and effective</u> protective actions and other response actions<u>, as necessary,</u> promptly upon the notification of a nuclear or radiological emergency. …		For consistency and after consideration of other comments as well.

Belgium	263.	4.55	"…appropriate ***and efficient*** protective actions and other response actions ~~promptly upon the notification of a nuclear or radiological emergency~~. These…"	Any action, when taken, must be justified with regard to the situation and the potential risk. See graded approach (see general comment #1).		✓ Within the emergency planning zones and distances, arrangements shall be made for taking appropriate and effective protective actions and other response actions, as necessary, promptly upon the notification of a nuclear or radiological emergency. …		For consistency and after consideration of other comments as well.

UK	264.	4.55	Para 4.55 Contains requirements which should be taken out and dealt with under their respective requirements e.g. requirement for protection of emergency workers and managing the medical response.				✓	The focus in this paragraph is not to repeat what is contained elsewhere but on: 1). urgency in implementing protection of emergency workers (still, protection requirements in details are elaborated under respective functional requirement); and 2) on consideration that urgent protective actions should be taken safely for all. This means that in case of critically ill patients, evacuation should not be priority over providing them the necessary medical care (at preparedness stage , arrangements should be ensured for doing so), as the evacuation without necessary care might result in doing more harm than good (e.g. death)).
Japan	265.	4.56	Delete “and distances” on lines 1 and 5. And insert “Those actions mentioned above shall be conducted in EPD and ICPD in an early stage.” at the end of the paragraph.	Amendment is required to provide more flexibility in timing for the protective actions in EPD and ICPD, because the arrangements for prompt assessment of contamination, releases, and doses and for prompt environmental and contamination monitoring are excessively demanding requirement in EPD and ICPD.	✓			

France	266.	4.57	And suitable and robust alarm systems and means of communication, so that all persons present in the facility and on the site could be warned and instructed, even under emergency conditions.	From the Fukushima lessons learnt, there is a need to have communications systems robust to extreme situations (natural damages, etc.)	✓			
Belgium	267.	4.57	Requirement regarding the continuous radiation monitoring of the assembly points on the site to be provided here		✓			
France	268.	4.60	Upon declaration of a nuclear or radiological emergency, the public shall be promptly warned of the emergency and shall be instructed in the actions that they must take~~. There shall be no~~ without undue delay that could jeopardize the effectiveness of protective actions and other response actions.	Simplification	✓			
Canada	269.	4.60	Add that in cases where planning zones cross borders, notifications and actions shall be coordinated across borders"	Addresses international co-ordination.		✓		Covered under paragraph 5.25 of the draft submitted for review.
France	270.	4.61	For facilities in category I or II and areas within category V, arrangements shall be made to provide information, before operation and throughout the lifetime of the facility, on the potential for a nuclear or radiological emergency and the response to such an ~~a nuclear or radiological~~ emergency to permanent, transient and special population groups or those responsible for them and to special facilities within the emergency planning zones and distances (see para. 4.53).	Clarification		✓ … This shall include information on the potential for a nuclear or radiological emergency, on the nature of the hazard,….		For consistency.

USA	271.	Add a requirement between 4.61. and 4.62.	Arrangements shall be made to include instructions in public information materials for special needs individuals that reside outside of special facilities to register with authorities if evacuation assistance is necessary.	Those special needs populations that need assistance during evacuations need to be identified.		✓ Under 4.62: Arrangements shall be made for facilities in category I or II and in areas within category V <u>to register those members of the public within the special population groups and, if appropriate, those responsible for them</u> and promptly to provide a warning and instruction to…		For consistency in line with the terms defined.
France	272.	4.62	Arrangements shall be made for facilities in category I or II and areas within category V promptly to provide a warning and instruction to the permanent and transient <u>~~**and special**~~</u> population groups or those responsible for them and to special facilities in the emergency planning zones and distances upon declaration of a general emergency	Editorial. The local authority is the one responsible for the special caring of special population. The warning will not make any difference.			✓	In any case, irrespective whether under responsibility of the local authority or otherwise organized, they should be warned and instructed on the actions to take.
USA	273.	4.64.	Arrangements shall be made by offsite response organizations for issuing a warning to the public in the event that an orphan ~~dangerous~~ source could possibly be in the public domain as a consequence of its loss or unauthorized removal.	Responsibility has to be assigned to some organization, in the interest of clarity. Dangerous source is vague. Should include any orphan source.		✓ Arrangements shall be made <u>by response organizations supported by the operating organization, if any,</u> for issuing a warning		Not only orphan sources but any dangerous source (as defined in the list of definitions) e.g. being lost. In that case, operating organization could provide support in issuing warning and providing information about the source itself.

France	274.	4.65	Arrangements shall be made for information and advice to be promptly provided to national citizens and to those with interests abroad (e.g. to travellers and to exporters) in a nuclear or radiological emergency declared beyond national borders, considering response actions that are being recommended in the State where the emergency originates (see paras 4.97 and 5.14).	Should be made more consistent with 4.97 and 5.14		✓ Arrangements shall be made by response organizations for information and advice to be promptlyprovided to national citizens and to those with interests abroad (e.g. to travellers and to exporters) in a nuclear or radiological emergency declared beyond national borders with due account taken of the response actions recommended either within the State where the emergency occurred or within the State affected by that emergency (see paras 4.97 and 5.14).		For consistency. It applies for the accident State as well as for other States that might be affected by the emergency.
USA	275.	4.65.	Arrangements shall be made by offsite response organizations for information and advice to be promptly provided to national citizens …	For clarity, responsibility needs to be assigned to the offsite organizations.	✓			
France	276.	4.65	~~and, where appropriate, for facilitating the repatriation of national citizens.~~	This is not covered by the overarching requirement.	✓			
France	277.	R9	**Requirement 9: Protecting emergency workers and helpers in an emergency** The government shall ensure that arrangements are in place to protect emergency workers and ~~to protect~~ helpers in an emergency	Editorial.	✓			

UK	278.	4.66	Para 4.66 states 'Emergency workers and helpers in an emergency shall be appropriately protected'. What role are helpers expected to deliver ? How are they trained? How will management of their potential exposure be controlled unless they are classified as emergency workers? Suggest term 'helpers' be removed.				✓	The need for protecting members of the public who voluntarily offer to help in the response to a nuclear or radiological emergency has been recognized in the latest findings of ICRP TG84 in light of the lessons identified in response to the accident at Fukushima. The ICRP C4 Position Paper on protection of responders in nuclear accidents and radiological events confirms this need. Therefore, comprehensive discussions have been held within the revision of GS-R-2 in which ILO, JAPAN, USA, ICRP representatives and UNSCEAR members participated that resulted in defining these group of persons and addressing their protection.

France	279.	4.67	Emergency workers not designated as such in advance of a nuclear or radiological emergency and helpers in an emergency shall be registered and integrated into the emergency response operations to benefit from information, training and resources directed to emergency response organizations.	The goals of registration and integration should be made clear.		✓ Arrangements shall be made to ensure that emergency workers are, to the extent practicable, designated in advance. Arrangements shall be made to register and to integrate into the emergency response operations those emergency workers who were not designated as such in advance of anuclear or radiological emergency and helpers in an emergency. This shall include designation of the response organization responsible for ensuring their protection.		The goal of registration and integration is to ensure their protection in the same way as for emergency workers (as elaborated in the requirements following this paragraph) and to avoid them taking response actions based on their own consideration but to be directed in the same way as emergency workers are. As other paragraphs elaborate on this there is no need for addition (instead, could be explained well in a Safety guide). Considering the comment, addition has been made to strengthen the requirement with designating response organization(s) responsible for ensuring their protection.
Canada	280.	4.67	Consider the addition of the text provided below in bold: "…shall be registered, **provided basic training commensurate with the risk** and integrated into…"	Emergency workers and helpers not designated in advance of an emergency should be provided basic training and made cognisant of the risks during the response, since their needs were, inherently, not met as part of preparedness.			✓	Covered under para. 4.70 (b) of the draft submitted for review.

France	281.	4.68	Split 4.68 in two paragraphs, each one with one sentence of current 4.68 : 4.68 Arrangements shall be made to ensure that emergency workers are, to the extent practicable, designated in advance. <u>4.68 bis</u> Arrangements shall be made to register and to integrate into the emergency response operations those emergency workers who were not designated as such in advance of a nuclear or radiological emergency and helpers in an emergency <u>so they benefit from information, training and resources directed to emergency response organizations</u>.	There are 2 expectations regarding emergency workers (and helpers)	✓			Please also note the response under comment no. 279.
France	282.	4.68	Arrangements shall be made to register and to integrate into the emergency response operations those emergency workers who were not designated as such in advance of a nuclear or radiological emergency and helpers in an emergency.	The goals of registration and integration should be made clear.				Please see the response under comment number 279.
Poland	283.	4.70	4.70. The operating organization and response organizations shall ensure that arrangements …	Editorial correction.	✓			
Germany	284.	4.70	1st sentence: "The operating organization and response organizations ~~and~~ shall ensure that arrangements are in place for the protection of emergency workers and of helpers in an emergency …"	Editorial.	✓			
ILO	285.	4.70 Line 1	delete 'and'	Editorial.	✓			
USA	286.	4.70.	The operating organization and response organizations ~~and~~ shall ensure that arrangements are in place ….	Clarify who has responsibility for which workers.	✓			

France	287.	4.70 (e)	Medical <u>and psychosocial</u> follow-up, as appropriate;	Consequences related to such interventions can be more than medical ones, especially for the workers who were not designated as such in advance;		✓ medical follow-up <u>and psychological counselling</u>, as appropriate;		For consistency.
UK	288.	4.71	Para 4.71 states that we should use "all possible means" to prevent doses to emergency workers due to external radiation or intake of radionuclides. This could lead to Breathing Apparatus being provided in all situations, suggest that use of "all practical means" would be better.		✓			
USA	289.	4.71.	The operating organization and response organizations shall ensure that all possible means are used to minimize ~~prevent~~ doses to emergency workers and helpers in an emergency due to exposure to …	Dose to emergency workers cannot be reasonably prevented. However, it can be controlled and minimized.	✓			
Canada	290.	4.71:	Suggest to reword - .."that every effort has been made for protection against doses …" , for consistency with Appendix I, and since it may not be possible to fully prevent such doses.	Wording should be consistent with Appendix 1.		✓ The operating organization and response organizations shall ensure that all <u>practical</u> means are used to <u>minimize</u> doses to emergency workers and helpers in an emergency due to exposure to non-penetrating external radiation and due to intakes of radionuclides or to skin contamination.		Considering other comments as well.
ILO	291.	4.73 & 4.74	The phrasing of these two paragraphs should be consistent with paragraphs 4.15 to 4.17 of the BSS (GSR Part 3).		✓			

ILO	292.	4.73 & 4.74	4.73) The operating organization and response organizations shall ensure that emergency workers and helpers in an emergency are protected as members of the public in a nuclear or radiological emergency other than for: 1) life saving actions, 2) actions to prevent severe deterministic effects or actions to prevent the development of catastrophic conditions that could significantly affect people and the environment, 3) actions to avert a large collective dose. 4.74) The operating organization and response organizations shall make all reasonable efforts to keep doses to emergency workers who may be required to take the actions identified in para 4.73 below the values set out in Appendix I, Table I.1. Emergency workers undertaking actions due to which their doses could approach or exceed the values set out in Appendix I Table I.1 shall do so only after being clearly informed in advance of the associated health risks and the available protective measures; and that they are, to the extent possible, trained in the actions that they could be required to take and have given specific informed consent. 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 Table I.1. Helpers in an emergency shall not be required 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 Table I.1.	The phrasing of these two paragraphs is inconsistent with the BSS (GSR Part 3) paragraphs 4.15 to 4.17. It is suggested that 4.74 comes first and both are reworded.	✓			

Canada	293.	4.73-4.74	These sections should be written such that they conform to the GSR Part 3 (BSS) with respect to emergency workers (BSS requirements 4.14-4.17).	These requirements are not fully consistent with GSR Part 3 (BSS) with respect to emergency workers (BSS requirements 4.14-4.17, repeated below: *> 4.14. In an emergency exposure situation, the relevant requirements for occupational exposure in planned exposure situations shall be applied for emergency workers, ... except as required in para. 4.15.* *> 4.15. Response organizations and employers shall ensure that no emergency worker is subject to an exposure in an emergency in excess of 50 mSv other than:* *.....* *> 4.16. In the exceptional circumstances of para. 4.15, response organizations and employers shall make all reasonable efforts to keep doses to emergency workers below the values set out in Schedule IV, TableIV-2. ...* *> 4.17. Response organizations and employers shall ensure that emergency workers who undertake actions in which the doses received might exceed 50 mSv do so voluntarily;*	✓			

ILO	294.	4.73	4.73) The operating organization and response organizations shall ensure that no emergency worker or helper in an emergency is subject to an exposure in excess of 50 mSv in a nuclear or radiological emergency other than for: 1) life saving actions, 2) actions to prevent severe deterministic effects or actions to prevent the development of catastrophic conditions that could significantly affect people and the environment, 3) actions to avert a large collective dose.).	Further to the comment above, there is another difference from the BSS which has been debated as part of the preparations to the revision of GSR Part 7. This is the dose constraint for emergency workers in general. The current proposal constraints the exposure of the emergency worker to that of the public. However, protective actions for the public mean that the actual dose the public receives is say less than 100mSv. However, for the emergency worker the protective action to limit dose will start only when the dose approached the 100mSv. Therefore, the protection approach is different. The comment proposes that the value of 50mSv is re-instated in GSR Part 7 to make it consistent with the BSS. The proposal is that para 4.73 from above is phrased as follows	✓			
USA	295.	4.73.	The operating organization and response organizations shall ensure that those emergency workers who may ~~be required~~ volunteer to take actions that might result in doses that exceed the guidance values given in Appendix I… Helpers in an emergency shall not be allowed to volunteer 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 general, emergency exposures above limits are voluntary and not intended for helpers.	✓			

France	296.	4.74	4.74. The operating organization and response organizations shall ensure that those emergency workers who are not undertaking (1) life saving actions, (2) actions to prevent severe deterministic effects or actions to prevent the development of catastrophic conditions that could significantly affect people and the environment, or (3) actions to avert a large collective dose, are protected as members of the public in a nuclear or radiological emergency.	Editorial				With consideration of other comments for ensuring consistency with the latest BSS, this paragraph was rephrased: 4.72. 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.
Canada	297.	4.74	Suggest defining “helpers” or providing relevant examples.	“Helpers” is a very generic term and a definition in the context of emergencies would be helpful. If a definition is deemed inappropriate, then examples would be useful			✓	Definition for ‘helpers in an emergency’ is given in the list of definitions.

USA	298.	4.74.	The operating organization and response organizations shall ensure that those emergency workers who are not undertaking (1) life saving actions, (2) actions to prevent severe deterministic effects or actions to prevent the development of catastrophic conditions that could significantly affect people and the environment, or (3) actions to avert a large collective dose are protected as members of the public, or in the case of the operating organization, national standards for occupational exposure in a nuclear or radiological emergency.	If the employees of the operating organization are already occupational radiation workers, there is no need to control their exposure as members of the public.		✓ 4.71. In a nuclear or radiological emergency, the relevant requirements for occupational exposure in planned exposure situation established in Ref. [14] shall be applied for emergency workers, in accordance with a graded approach, except as required in para. 4.72. 4.72. 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.		With consideration of other comments as well for ensuring consistency with the latest BSS.

Canada	299.	4.75 1st line	"Arrangements shall be made to assess the total **individual** doses received…."	Should be prescribed, as opposed to collective doses.	✓			
USA	300.	4.75.	Arrangements shall be made to assess the individual doses received in the response to a nuclear or radiological emergency by the emergency workers and helpers in an emergency as soon as practical ~~possible~~ and to control ~~prevent further~~ exposures in response to the emergency (see Appendix I)	Should be individual doses vice total to all workers. Guide should not prevent further work by emergency workers when dose can be controlled within limits.		✓ Arrangements shall be made to assess the individual doses received in the response to a nuclear or radiological emergency by the emergency workers and helpers in an emergency as soon as practicable and, as appropriate, to restrict further exposures in response to the emergency (see Appendix I).		For consistency.
France	301.	4.76	Locate 4.76 in the "Response" section	Requirement is not worded as an EP action			✓	This paragraph supports the response requirement for emergency workers to be appropriately protected.
France	302.	4.77	Locate 4.77 in the "Response" section	Requirement is not worded as an EP action			✓	This paragraph supports the response requirement for emergency workers to be appropriately protected.
France	303.	4.78	Locate 4.78 in the "Response" section	Requirement is not worded as an EP action			✓	This paragraph supports the response requirement for emergency workers to be appropriately protected.

ILO	304.	4.78 Line 2	delete ‘could’	Editorial.	✓			
France	305.	4.79	On the presentation of clinical symptoms of radiation exposure or other effects indicative of a possible nuclear or radiological emergency,	Consistency with overarching requirement	✓			
Poland	306.	4.79	4.79. On the presentation of clinical symptoms of radiation exposure or other effects indicative of a possible radiological injury, the medical personnel …	Editorial correction - “injury” is a more proper word.			✓	The observed injury that might be caused by an overexposure is indicator for a possible radiological emergency.
France	307.	4.81	Where appropriate, actions shall be taken to detect, in time to allow for effective treatment, radiation induced health effects among workers, emergency workers, volunteers, helpers ~~patients~~ and members of the public resulting from exposure in a nuclear or radiological emergency, consistent with national generic criteria.	Add volunteers and helpers			✓	The term ‘volunteers’ is not used throughout the text as the volunteering is something common for both emergency workers and helpers in an emergency. However, as we do not like to promote the use of helpers in the response to an emergency (in order not to be misused), they are addressed only under the overarching requirement dealing with their protection in case such help is to be used.

USA	308.	Add prior to Req 4.82.	4.8x. Arrangements shall be made for medical facilities having the capability for evaluating radiation exposure and radionuclide ingestion, including assurances that these medical facilities are prepared to handle contaminated injured individuals. 4.8x. Arrangements shall be made for the transport of contaminated injured individuals and these transport services are prepared to handle the radiological environment.	Medical treatment and transport services need to be pre-identified and be readily available to accept and handle contaminated injured individuals.		✓ 4.84. Arrangements shall be made so that, in a nuclear or radiological emergency, individuals are provided promptly with appropriate medical attention <u>regardless of their possible contamination.</u> These arrangements shall include <u>ensuring transport services are provided when needed</u> and providing the advice to medical personnel that universal precautions against infection (e.g. masks, gloves, etc.) 4.87 Arrangements shall be made at the national level to identify and to treat people who have undergone exposure or contamination. These arrangements shall include: guidelines for effective treatment; the designation of medical personnel trained in the early diagnosis and treatment of radiation injuries; and the selection of approved institutions to be used for extended medical treatment or longer term medical follow-up of individuals subjected to radiation		For consistency and clarification considering that some of the proposed aspects are already covered under the two paragraphs in general.

USA	309.	4.83.	Arrangements shall be made so that, in a nuclear or radiological emergency, individuals receive medical care based on the severity of their injuries regardless of their level of contamination.	Clarity		✓ 4.84. Arrangements shall be made so that, in a nuclear or radiological emergency, individuals are provided promptly with appropriate medical attention regardless of their possible contamination. …		For consistency.
France	310.	4.83	~~These arrangements shall include providing the advice to medical personnel that universal precautions against infection (e.g. masks, gloves, etc.) provide sufficient protection when treating patients with possible contamination.~~	It would be more appropriate in a Safety Guide			✓	Although detailed that could be part of a safety guide, the sentence would be kept due to the fact that this is very important lesson identified from the past emergencies.
USA	311.	4.85	Define “highly exposed individual”	Completeness		✓		Change is made to individual exposed at levels exceeding the criteria in Table II.1 of Appendix II.
USA	312.	4.95	Arrangements shall be made to identify and address any misconceptions, rumours, and incorrect and misleading information that is ~~circulated and which might result in the public taking inappropriate actions10 (e.g. stigmatizing of people or shunning of products from the area affected by a nuclear or radiological emergency).~~	Clarity. No need to try and define what is appropriate or inappropriate actions whether or not the actions are scientifically supported.		✓ Arrangements shall be made to identify and address any misconceptions, rumours, and incorrect and misleading information that might be circulated and which might result in the public taking inappropriate actions.		With consideration of other comments as well and considering the importance of the issue in light of lessons identified from past emergencies.

France	313.	4.88	~~These predetermined operational intervention levels shall be subject to revision as the emergency evolves.~~	In the preparedness phase, no emergency is going on so it can't evolve.		✓ Arrangements shall be made for revision of these operational intervention levels, as appropriate, in a nuclear or radiological emergency, with account taken of the prevailing conditions as they evolve.		For consistency and clarification.
France	314.	Requirement 11	Should be located after requirement 8	Both requirements deal with public information			✓	The document follows the structure and contents from the GS-R-2 based on the approved Document Preparation Profile (DPP).
France	315.	4.89	~~Steps shall be taken to provide~~ 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.	Taking steps is not enough.	✓			
Canada	316.	4.90	Modify sentence as follows: "... shall be coordinated and put into perspective..."	Coordination should be mentioned to aid those members states where emergency management is a multi-jurisdictional responsibility.	✓			
France	317.	4.92	Response organizations and operating organizations shall ~~promptly~~ respond in due time to any enquiries from the public and from news and information media.	Promptly may be excessive	✓			

Canada	318.	4.93	Modify last sentence as follows: "These arrangements shall include arrangements for **coordinating information amongst response organisations and** for keeping the international..."	Coordination should be mentioned to aid those members states where emergency management is a multi-jurisdictional responsibility.			✓	Coordination in public information is very important. Therefore, para 4.96 requires for coordinated and consistent messages to be provided to the public. This is to be done under national coordinating mechanism considering the need for coordination among all involved.
France	319.	4.94	Extend such arrangements to the field of protective actions (and not only information) : Arrangements shall be made for putting information provided by any response organization, the operating organization or others (e.g. information on calculated doses or measured quantities) into perspective to the extent possible in terms of associated health hazards (see Appendix II), <u>with account duly taken of pregnant women and children as the most vulnerable to radiation exposure.</u>	Pregnant women and children are identified as most vulnerable population to radiation exposure. This should be reflected in arrangements related to protective actions (and not only information).		✓ The operational criteria shall be established for the representative person <u>with account duly taken of pregnant women and children as the most vulnerable to radiation exposure</u>.		For consistency addition is being made under para. II.4 where reference person is referred.
France	320.	4.95	Arrangements shall be made to identify and address any misconceptions, rumours, and incorrect and misleading information that ~~is~~ <u>might be</u> circulated and which might result in the public taking inappropriate actions[10] ~~(e.g. stigmatizing of people or shunning of products from the area affected by a nuclear or radiological emergency).~~	In EP phase, such rumors are not circulating…. Example is not needed.	✓			
France	321.	4.96	Locate 4.96 after 4.93		✓			

France	322.	4.96	Arrangements shall be made to ensure that information communicated to the public in a nuclear or radiological emergency is consistent (see para. 3.17(i)) <u>while recognizing the evolutionary nature of an emergency</u>.	Clarification	✓			
Canada	323.	4.96	Modify sentence as follows: "…or radiological emergency is **coordinated** and consistent."	Coordination should be mentioned to aid those members states where emergency management is a multi-jurisdictional responsibility.	✓			
USA	324.	4.96.	Arrangements shall be made to ensure that information communicated to the public in a nuclear or radiological emergency is consistent, and to the extent practical, coordinated between the response organizations.	Coordination of dissemination of public information is essential to ensure effective messaging.		✓ … is <u>coordinated and</u> consistent…		For consistency and considering other comments as well.
France	325.	4.97	4.97 should be located after 4.94	4.94 and 4.97 deals with putting information into perspective.	✓			
UK	326.	Req. 12	Requirement 12: taking early protective actions and other response actions. The concept of an early protective action is confusing when you compare with urgent protective action.					The concept on early and urgent protective actions and other response actions is already published in the Safety Guide GSG-2 and the latest BSS (GSR Part3) and it enables prioritizing the protective actions and other response actions to be taken in response to an emergency. Both terms urgent protective actions and early protective actions are defined terms and examples are provided to avoid any misunderstanding.

USA	327.	Req 12	Requirement 12 with all of its sub-requirements, 4.99 to 4.110 should be moved immediately after Requirement 7 and before Requirement 8.	Requirement 12 is related to requirement 7 and move will provide a better flow of information within the document.			✓	The document follows the structure and contents from the GS-R-2 based on the approved Document Preparation Profile (DPP).
France	328.	4.99	Early protective actions and other response actions shall be taken in a nuclear or radiological emergency, ~~in compliance~~ consistent with national generic criteria and conditions specific to the emergency.	Compliance is too strong. Consistency with 4.102 and 4.108		✓ Early protective actions and other response actions shall be taken effectively in a nuclear or radiological emergency, in accordance with national generic criteria (see para. 4.103) and with due consideration of the conditions specific to the emergency.		For consistency.
France	329.	4.102	~~which are subject to revision as the emergency evolves.~~	In the preparedness phase, no emergency is going on so it can't evolve. This is also covered by 4.103		✓ Arrangements shall be made for revision of these operational intervention levels, as appropriate, in a nuclear or radiological emergency, with account taken of the prevailing conditions as they evolve.		For consistency.
Belgium	330.	4.102	"… Appendix II, *do more good than harm, be justified* and ~~shall~~ be optimized…"	In accordance with the graded approach, as explained in the comment #1		✓ …justified and optimized…		For consistency.

Belgium	331.	4.103	"4.103. National ***guidance and process*** shall be *developed and* adopted for adjusting early…actions ***during the development of the emergency***	In consistency with proposed changes for 4.51 (see comment #30)		✓ Arrangements shall be made for adjusting early protective actions and other response actions as the emergency evolves.		For consistency.
USA	332.	4.110.	Arrangements shall be made to assess exposure incurred by members of the public as a consequence of a nuclear or radiological emergency, and the results of the assessments shall **not** be made publicly available. The assessments shall be based on the best available information, shall be put into perspective in terms of associated health hazards (see paras 4.90 and 4.94) and shall be promptly updated in the light of any information that would produce substantially more accurate results.	Publicly releasing the results of such assessments on individuals violate standards on the privacy of medical information. Collective population dose that cannot be attributed to an individual could be assessed and made publicly available.			✓	The paragraph does not relate to individual doses assessed and associated personal data. Please also note para. 4.93 of GS-R-2.
Belgium	333.	4.110	The exact scope and content of "results of the assessments" that shall be made publicly available should be clarified/defined	In order to avoid any misunderstanding, misperception and/or misinterpretation. Should also be consistent with allocated responsibilities (among other of the decision makers…)		✓		This should be part of a Safety Guide. The comment will be considered in the revision of GS-G-2.1 for further elaboration.
UK	334.	Req. 13	Pleasing to see Requirement 13: managing radioactive waste during a nuclear or radiological emergency. However para 4.113 states that "mixing of radioactive waste of different categories shall be avoided", does this mean at the expense of delaying termination of the off site release?			✓		Exactly. That is why the term 'shall be avoided' is used instead of 'shall not be mixed'. It recognizes that the decision is to be led by the prevailing conditions of the emergency. However, considering other comments as well to the extent practicable has been added at the end of the paragraph.

Canada	335.	Page 32, Requirement 13	A pre-amble should be added for this section indicating that "to the extant practicable under the response phase" proper waste management principles should be followed such that additional hazards and/or costs are not placed on the recovery phase.	While it may be argued that waste management is a recovery issue, not a response issue, inappropriate waste management decisions during the response phase can increase hazards and costs in later emergency response phases.		✓		Comprehensive discussions have been held on this issue which resulted particularly in paras 4.114 and 4.116. Please note that particularly these two paragraphs are saying exactly and formally the same.
France	336.	4.111	Radioactive waste arising from a nuclear or radiological emergency, and associated protective actions and other response actions, shall be ~~promptly~~ in due time identified, characterized and categorized.	Promptly may be excessive, in fact priority for characterization shall be given to protection of human health and safety.	✓			
ENISS	337.	4.111	Radioactive waste arising from a nuclear or radiological emergency, and associated protective actions and other response actions, shall be promptly identified, characterized and categorized in compliance with the regulations in force.	The national policy and strategy for radioactive waste management shall apply (para. 4.114)			✓	Covered with para. 4.114. Consideration is given to the existing national policy and strategy at preparedness stage when arrangements that ensure the waste is promptly identified, characterized and categorized during the response are established.

France	338.	4.112	Radioactive waste shall be managed with account taken of the characteristics of the waste, available or planned radioactive waste management facilities.	Availability of waste management facilities (including disposal facilities) is a key input in waste management			✓	Please note para. 4.116 (f). Consideration for such available or planned facilities is one of the major issues discussed during the preparedness stage. Limitations should be identified and method for identifying appropriate storage options and sites developed in line with the national policy and strategy. Based on these preparations, the activities related to the management of the waste are developed and implemented – it is not something that you particularly focus while taking protective actions and other response actions in the emergency phase.
France	339.	4.113	Mixing of radioactive waste of different categories shall be avoided to the extent practicable.		✓			

Japan	339a.	4.111-113	Amend three original paragraphs to two paragraphs as follows. 4.111 Radioactive waste shall be managed as practicably as possible in a manner which does not compromise a protection strategy set for a particular emergency situation. 4.112 Consideration shall be given to following aspects; (a) To promptly identify, characterize and categorize radioactive waste arising from a nuclear or radiological emergency, and associated protective actions and other response actions (b) To manage radioactive waste with account taken of the characteristics of the waste (c) To avoid mixing of radioactive waste of different categories	Requirements mentioned in these three paragraphs should not precede the protection strategy in an emergency situation.		✓ 4.111. Radioactive waste shall be managed with account taken of the characteristics of the waste in manner that does not compromise the protection strategy. 4.112. Mixing of radioactive waste of different categories shall be avoided to the extent practicable.		The proposed paragraphs are formulated not as response requirements but as preparedness ones. The preparedness paragraphs 4.114-116 of the draft submitted for review explains all as proposed as these aspects are to be considered during the preparedness phase. Thereafter, in the emergency phase, to the extent possible, compliance with them is to be ensured without jeopardizing the protection strategy. Some additions have been made considering other comments as well.
France	340.	4.114	The national policy and strategy for radioactive waste management [12] shall ~~apply to~~ cover radioactive waste generated in a nuclear or radiological emergency.	Clarification	✓			
France	341.	4.115	The protection strategy (see para. 3.24) shall take into account radioactive waste that might arise from protective actions and other response actions that are to be ~~or that have been~~ taken.	In the EP phase, no action is taken (only planned)	✓			
France	342.	4.116 (b)	criteria for ~~prompt~~ easy categorization of waste, including using zoning;	Prompt may be excessive		✓		Prompt deleted.

France	343.	4.116 (d)	~~minimizing the amount of material declared as radioactive waste;~~	It should not be an objective as such			✓	Wording reflects a very important lesson identified from past emergencies. Goiania accident is one example. It ensures arrangements are in place so that large amounts of waste with very low activity concentrations are not to be produced and managed as radioactive waste during the response.
Germany	344.	4.116 (e)	"… impacts on the anticipated end points (clearance, authorized discharge, reuse, recycl~~e~~ing, disposal) [12, 13];"	Editorial.	✓			
Belgium	345.	4.117	To be clarified	Is this requirement really useful?				It is a lesson identified from past responses that has been considered as very important issue for consideration at preparedness stage.
France	346.	4.122	~~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) on health hazards in relation to tradable commodities and on any revision of national standards.~~ Arrangement shall consider the impact of the national or radiological emergency on exportation of goods and foodstuff, with account taken of the generic criteria in Appendix II.	As written 4.122 is misleading The expectation should not be located in "non-radiological consequences" as Appendix II is dealing with radiation exposure.			✓	These arrangements including the criteria provided (Table II.5) deal with prevention of unnecessary disturbances in the international trade (one of the non-radiological consequences from the emergency) not with radiological consequences related to the consumption of that food (Table II.3).

France	347.	Footnote 11		Footnote is ambitious.			✓	At the Technical Meeting held in November 2012, the need for explaining that 'inappropriate' relates to those actions that are not scientifically supported taking into account that from the public perspective these actions might be appropriate.
Canada	348.	4.125	Consider the addition of the text provided below in bold: "**When making** a request…, **this request** shall be made on the basis of…"	The current statement implies that a request must be made in all cases, which is not the intent. Asking for assistance must be an option, not an obligation. If made, then yes, it should be made based on the agreed-upon basis.	✓			
France	349.	4.126	Delete 4.126	Already covered by 4.127			✓	Para. 4.126 deals with responding in time on the request for assistance in preparedness stage (para. 4.124 covers during the response). Para. 4.127 deals with arrangements to be put in place in order to be able to request and provide assistance and to accept the offered assistance.

UK	350.	Req. 16	Requirement 16: Deciding upon the transition from an emergency exposure situation to an existing exposure situation. Suggest changing 'existing exposure situation' to ' return to normal'. In addition, requirements should include preparation of a formal recovery plan with guidance provided as to what that might include.				✓	The used terminology is consistent with the latest ICRP Recommendations and the international BSS (GSR Part3). Preparations to be made for the transition are covered under para. 4.135. More details on the issue should be provided in a safety guide level document. Therefore, DPP has been prepared to initiate a development of such a safety guide (DS474). Please note that recovery aspects in existing exposure situation resulting from an emergency are beyond the scope of this document.
Canada	351.	Page 35, Requirement 16:	Suggest the following re-wording. – "**Transitioning from an emergency exposure situation to an existing exposure situation**"	As the focus is on the transition and not the decision, reword as provided is recommended.			✓	We understand the comment and the issue has been previously discussed as well. However, 'transitioning' as term was rejected by the technical editor. As the transition aims at enabling to finally make a decision to terminate the emergency and to transit to an existing exposure situation, if appropriate, the used wording has been kept.

France	352.	4.129	The transition from an emergency exposure situation to an existing exposure situation shall be based on an ~~administrative~~ decision, made public, by the authority responsible for the overall response.	Administrative is not adequate		✓		Administrative is kept. It is also consistent with the latest ICRP recommendations.
Canada	353.	4.130	Clarify whether this also includes termination of previously implemented protective actions, including return of populations to previously evacuated areas.			✓		Adjusting protective actions and other response actions encompasses terminations of those implemented in the early stage and later introduction of other actions considering the radiological situation.
France	354.	4.134	Need to distinguish workers intervening on-site and off-site : Following the termination of the emergency phase and the concurrent transition to an existing exposure situation, all workers undertaking relevant work (e.g. workers undertaking repairs to plant and buildings, recovery of sources, work for the management of radioactive waste, or remedial work for decontamination of the site and surrounding areas) shall be subject to the relevant requirements for occupational exposure in planned exposure situations [14].	The working conditions of workers on-site and off-site will not be the same : higher dose rate and contamination, as well as potentially damaged structures on-site, more "manageable" conditions off-site. Moreover, when these workers are not emergency workers (with thus specific medical follow-up and doses limits), the working conditions should be adapted and specifically overviewed.			✓	Each worker should be provided with the same level of protection irrespective whether they are acting on-site or off-site. Decision on the means to be used for doing so and on efforts to be made will depend on the conditions in which they perform their duties.
Canada	355.	4.132	Reword by incorporating the bolded text. "… arrangements that affect the public **and that are** aimed at enabling the termination of the …."	Editorial	✓			

Canada	356.	4.133	Add text on informing the public about the need for any ongoing protective actions following termination of the emergency, including any required modifications in personal behaviour.	Additional information required.	✓			The following sentence has been added: <u>This shall include providing the public with information on the need for any on-going protective actions following the termination of the emergency phase and any necessary modifications in their personal behaviour.</u>
France	357.	4.134	This should include other responders to a security event (for example crime scene management experts)	More generally, people likely to intervene for security reasons should be taken into account in the context of nuclear emergency			✓	They are covered under the term emergency worker. This paragraph refers to concurrent existing exposure situation and therefore, the term worker is used. All activities related to crime scene management should be finished earlier in order to enable termination of the emergency and release of the site.
France	358.	4.135	The arrangements shall take into account that the ~~administrative~~ decision for the transition from an emergency exposure situation to an existing exposure situation might be taken at different times in different geographical areas.	Superfluous			✓	Please see the response under comment no. 352.
Canada	359.	4.135	In the last sentence, reword as follows: "... and arrangements for **ongoing public communications,** for monitoring public opinion and the response…."	Additional clarification required.	✓			
France	360.	4.136	Delete 4.136	Already covered by other requirements	✓			

Canada	361.	4.136	Suggest this statement be removed to Requirement 4 or 7.	This statement is not relevant to transition, and should be moved to Requirement 4 or 7.		✓		Paragraph is deleted considering other comments and addition made under 4.135 to consider that criteria set are consistent from start to end for ensuring smooth transition without disruptions.
Canada	362.	4.138	Suggest to reword the first sentence as follows: "...and for any adjustment of protective actions and other response actions, including modifications to personal behaviour, aimed at ..,."	Further clarification required.	✓			
France	363.	Requirement 17	The government shall ensure that the nuclear or radiological emergency and the emergency response are assessed in order to identify actions to be taken to prevent the occurrence of similar emergencies and to improve emergency preparedness and response arrangements.	Clarification			✓	The term 'emergency arrangements' is used as defined and there is no need for such specifications.
Germany	364.	Req. 17	"The government shall ensure that the nuclear or radiological emergency and the emergency response are assessed in order to identify actions to be taken to prevent the occurrence of ~~similar~~ other emergencies and to improve emergency arrangements."	The assessment should not be limited to prevent only similar emergencies. Lessons learned may also have an impact on other (non-similar) emergencies.	✓			
Belgium	365.	Req. 17, 4.139 to 4.144	To be revised according to the comment #11 on 3.17(g)	Avoid any confusion with assessments to be performed during emergencies.		✓		Analysis is used.
Germany	366.	4.139	1st sentence: "An assessment shall be performed after a nuclear or radiological emergency in order to identify actions to be taken to prevent the occurrence of other ~~similar~~ emergencies and further actions to be taken to improve emergency arrangements."	See our related comment on Requirement 17.		✓ … other emergencies, either similar or not, and further actions…		For clarification.

France	367.	4.139 (c)	Emergency management system ~~Regulatory controls;~~	Why focusing only on regulatory controls ?			✓	It relates to the mechanism (regulatory control) in place for ensuring appropriate level of overall safety and security at the facility or in the activity. Para. 4.139 (g) relates with reviewing the emergency arrangements in place. Emergency management system is part of them.
France	368.	4.139 (d)		Unclear				Please consider a case when the emergency relates to a source or device that is commonly used by others either at national level or abroad. As an example the fault in the treatment planning system at Panama radiotherapy unit could serve. As the same accidental exposures could occur at all units using the same system irrespective where they are located, consideration should be given on all those using the same system, so they can be warned and informed in time and other accidental exposures prevented.

Canada	369.	4.140	Suggest to add a new requirement after 4.140 - "International organisations shall review their applicable standards, requirements and guidelines with respect to lessons learned and areas for improvement."	Important to emphasize "continuous improvement" and "continuous learning" for emergency management organizations.				This proposal needs to be considered by the relevant international organizations. The issue has been raised and put on the agenda for discussion at the next meeting of IACRNE to be held in May 2013.
Canada	370.	Page 37, 4.141:	Suggest to add a new requirement after 4.141 - "Arrangements shall be made to undertake a timely and comprehensive assessment involving all relevant parties, and to contribute to internationally coordinated assessments"	Important to emphasize "continuous improvement" and "continuous learning" for emergency management organizations.	✓			
Germany	371.	Req. 18	Title of Requirement 18: "Authority~~y~~ies"	Consistency with the text of Requirement 18: "The government shall ensure that authorities for preparedness and response for a nuclear or radiological emergency are clearly established."	✓			
Canada	372.	5.2	Consider the addition of the text provided below in bold: "… arrangements for **on-site and off-site** preparedness and response…"	Although ideal, a single commander for the on-site and off-site responses is not possible in Canada under current legislation. The province leads the off-site response, the operator the on-site one.	✓			
France	373.	5.3	Transfer "Typically this is documented as part of the appropriate national, regional and local emergency response plans." into a footnote	Not a requirement	✓			

Germany	374.	5.3	last sentence: "The authority~~y~~ies and responsibility~~y~~ies for making decisions concerning protective actions and other response actions on and off the site and for communication with the public shall be clearly assigned …"	There may be different authorities/responsibilities for protective and other response actions as well as for the on-site and off-site response.	✓			
France	375.	5.3	Potential or actual Conflicting and overlapping roles and responsibilities shall be identified and resolved as part of the preparedness process through the national coordinating mechanism (see para. 3.17).	clarification	✓			
France	376.	5.3	The authority and responsibility for making decisions concerning protective actions and other response actions on and off the site and for communication with the public shall be clearly assigned for each phase of the response, ~~such that workers and the public will not be given conflicting instructions or inconsistent information~~.	Superfluous; Furthermore, experience shows inconsistent information is often encountered and that several parties communicate during an emergency….	✓			
Canada	377.	5.4	"Consider the addition of the text provided below in bold: … appropriate **on-site and off-site** emergency response commanders…"	See comment from 4.5. A single emergency response commander for the overall emergency response (on and off-site) may not be compatible with existing national legislated frameworks and authorities across multiple jurisdictions. There may be a designated commander for each jurisdiction according to national legal frameworks. The infrastructure must ensure that these are coordinated.		✓ The authority and responsibility for directing the emergency response shall be assigned to the appropriate emergency response commander in each phase of the response. When different emergency response commanders are given authority and responsibility for directing the on-site and off-site response, their effective coordination shall be ensured.		For consistency.

USA	378.	5.4.	For each operating organization and response agency, the authority and responsibility for directing the emergency response shall be assigned to the appropriate emergency response commander in each phase of the response.	While the onsite and offsite response will both have their own command and control system, this provision implies that the onsite and offsite response will have a single command and control system with a single emergency response commander.		✓ The authority and responsibility for directing the emergency response shall be assigned to the appropriate emergency response commander in each phase of the response. When different emergency response commanders are given authority and responsibility for directing the on-site and off-site response, their effective coordination shall be ensured.		Considering the other comments as well. The role of the emergency response commander should not be mixed with the role of those persons in each operating organization and response organizations that are given the authority and responsibility for managing/directing their own response actions (please see paragraph 5.5 of the draft submitted for review). All of them need to be coordinated under clearly designated emergency response commander.
Germany	379.	Req. 19	"The government shall ensure that the overall organization of the emergency preparedness and response is clearly specified and staffed with sufficient personnel who are adequately qualified and fit for duty."	It should be noted that the qualification of the personnel has to be adequate.	✓			
Belgium	380.	Req. 19, 5.10, 5.11	Change "sufficient" by "appropriate"?	Resources remain always limited. What is sufficient???	✓			
Germany	381.	5.9	"Personnel who are adequately qualified and fit for duty shall be assigned to appropriate positions in all operating organizations and response organizations …"	See our related comment on Requirement 19.	✓			

UK	382.	5.9	Para 5.9 states 'Personnel who are qualified and fit for duty shall be assigned to appropriate positions…'. Would the term 'fit for duty' specifically cause any employment law problems?			✓		Even the latest basic safety standards, GSR Part 3, require for assessing the initial fitness and continuing fitness of workers in relation to their intended tasks (para 3.108 and 3.109). Draft DS457 confirms that this assessment of their fitness also applies to emergency workers considering their specific duties in emergency response.
Germany	383.	5.10	"Sufficient numbers of adequately qualified personnel shall be available at all times (including during 24 hour operations) in order that appropriate positions can be promptly staffed as necessary following the declaration and notification of a nuclear or radiological emergency. Sufficient number of adequately qualified personnel shall be available in the long term to staff the various positions necessary to take the mitigatory actions, protective actions, and other response actions."	See our related comment on Requirement 19.	✓			
USA	384.	5.10.	Sufficient numbers of qualified personnel shall be available at all times (including during 24-hour operations) in order that appropriate positions can be promptly staffed as necessary following the declaration and notification of a nuclear or radiological emergency. A sufficient number of qualified staff shall be available on shift, with a capability for prompt augmentation from qualified personnel. Sufficient number of qualified personnel shall be available in the long term to staff the various positions necessary to take the mitigatory actions, protective actions, and other response actions.	Clarify that the entire response organization does not need to be continuously present at the facility—just enough to carry out the initial response until augmentation occurs.			✓	The proposed change explains how to do it. Proposed wording to be considered in a Safety Guide.

France	385.	5.11	For a site where multiple facility~~ies~~ in category I or II ~~with multiple units~~ are collocated, a sufficient number of qualified personnel shall be available to manage all the ~~units~~ facilities if each of them is under emergency conditions simultaneously (see para. 4.10).	To avoid focusing only on NPP	✓			
Germany	386.	5.11	"For a facility in category I or II with multiple units, a sufficient number of adequately qualified personnel shall be available to manage all the units if each of them is under emergency conditions simultaneously (see para. 4.10)."	See our related comment on Requirement 19.	✓			
UK	387.	5.11	Para 5.11 appears to repeat requirements in Para 4.10.				✓	It is not repetition. Para. 4.10 is more general dealing with arrangements to be in place in relation to managing emergency response operations and the number of qualified personnel serves as an example. Para 5.11, on the other side, gives the infrastructural element – staffing and particularly addresses the need for having sufficient number of qualified personnel to manage emergencies affecting several facilities simultaneously. The interlink between these two paragraphs is obvious.

France	388.	Req 20	Coordination of emergency preparedness and response	It seems that these overarching requirement and associated requirements cover the coordination of preparedness between neighboring countries. If not, it should be useful to develop specific ones, underlining the need for regional agreements.	✓			
France	389.	5.12	Arrangements, including drills or exercises, shall be put in place to ensure effective working relationships among these organizations.	Clarification			✓	Not necessary addition as drills and exercises are specifically addressed.
Canada	390.	5.18	This requirement should be moved to the first criteria under this section.,	Hazard Assessment is of core importance here so should be mentioned first.	✓			
Poland	391.	5.19	5.19. The plans for emergency response shall be coordinated with any other plans (such as emergency plans for areas in category V, plans for response to nuclear security events including management of crime acts [8], …	Similar as for comment No. 1.			✓	Terminology used is consistent with that used in the Nuclear Security Series referenced.
Canada	392.	5.19	Consider adding text stressing the need for a single consistent emergency response system that integrates all relevant plans in an agreed and consistent manner.	Recommendation		✓		For consistency, addition has been made as follows: A single national emergency response plan shall be developed that integrates all relevant plans for emergency responses in a coordinated manner and consistently with the all hazards approach.
France	393.	5.20	emergency plans are prepared and, where relevant, approved for any facility or activity that could give rise to a need for taking protective actions and other response actions;	Approval by the regulator may not be systematic.	✓			

Canada	394.	5.20e	Add at end of sentence: "..**and in particular after any exercise or event in which the plans are implemented**".	Additional emphasis recommended.		✓ …emergency plans are periodically reviewed and updated (see paras 5.35 and 5.37).		For consistency. Proposed addition is covered under para. 5.37 of the draft submitted for review.
UK	395.	5.22	Para 5.22 defines requirements for what should be included in an emergency plan. The scope in current version of GS-R-2 provides for a much better requirement.				✓	The current draft paragraph dealing with the emergency plan is broadened in order to be more general. Any specification on 'how' to do it was avoided to the extent possible. However, this broaden paragraphs provides basis for further elaboration in low level documents on specifics to be included in the emergency plan in support to this requirements document.
Canada	396.	5.22	Consider adding elements: e.g. the Concept of Operation, emergency classification system, intervention and protection levels, protective measures, etc… Consider also specifying these are the minimum requirements.	Would add substance.			✓	The current draft paragraph dealing with the emergency plan is broadened in order to be more general. Any specification on 'how' to do it was avoided to the extent possible. However, this broaden paragraphs provides basis for further elaboration in lower level documents (Safety Guide) on specifics to be included in the emergency plan in support to this requirements document.

France	397.	5.26	For facilities in category I ~~(e.g. nuclear power plants)~~, alternative supplies as contingency measures,	Superfluous as category 1 installations is defined in table I	✓			
Poland	398.	5.27	5.27. Emergency response facilities or locations to support the emergency response to be operational under the full range of postulated hazardous conditions …	Editorial correction.		✓ 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:…		For clarification
USA	399.	5.27, page 43, line 5	"managing those evacuated (including reception, registration, monitoring and decontamination, housing and feeding); safe…	Completeness.		✓ Addition made as follows: as well as for meeting the personal needs of those staffing them such as housing, feeding, sanitation etc.		For consistency
France	400.	5.32		Is 5.32 directed at operating organization staff or does it also include off-site emergency response organization staff ?				It includes also off-site response organizations.
Japan	401.	5.32	Replace "distances" with "extended planning distance" to exclude ICPD.	It is an excessively demanding requirement to request the staff even in ICPD to participate in drill and training exercises at least once every year.	✓			

USA	402.	5.32.	The staff responsible for critical response functions[14] for a facility in category I or II and within the emergency planning zones and distances (to include areas in category V) shall participate in drills and training exercises at least once every year. For facilities ~~and activities~~ in category III or activities in category IV, the staff responsible for critical response functions shall participate in training exercises or drills on an appropriate schedule.	There is no facility in category IV	✓			
France	403.	5.33	The officials off the site responsible for making decisions on protective actions and other response actions for the population within the emergency planning zones and distances (…) shall be trained in the protection strategy and shall regularly participate in exercises involving the other operating and response organizations.	Some exercises should involve responsible people for operation and response organizations, in order to test the chain of command. This includes high-level decision maker as well.			✓	Of course, therefore there is no additional value in emphasizing the involvement of all as it is covered under para. 5.31.
Canada	404.	5.33	Reword as follows to improve clarity - "The officials **responsible for making decisions on offsite protective actions** …. ". Add: "**This shall include officials responsible for public communications in a nuclear or radiological emergency.**"	It is important that communications personal gain training experience with the decision-makers.		✓ The officials off the site responsible for making decisions on protective actions and other response actions for the population within the emergency planning zones and distances (see para. 4.53) shall be trained in the protection strategy and shall regularly participate in exercises. The officials off the site responsible for public communications in a nuclear or radiological emergency shall also regularly participate in exercises.		These personnel not necessarily should be well trained in the protection strategy itself.

Japan	405.	5.33	Replace “distances” with “extended planning distance” to exclude ICPD.	It is an excessively demanding requirement to request the officials even in ICPD to be trained and participate in exercises.	✓			
Belgium	406.	Req.24	To be extended to other topics like “organizations”, “plans”, “procedures”… and to move/merge to section I within the “emergency management system” concept.	Broader the scope of QA/QC		✓		Addition is made. The paragraph clarifies that this is part of the (emergency) management system. However, this requirement is kept under Requirements for Infrastructure following the structure of the current requirements and in accordance with the approved Document Preparation Profile (DPP).
France	407.	5.35	The ~~operating and~~ emergency response organizations shall establish a quality management program as part of the emergency management system and the operating organization within its management system, to ensure a high degree of availability and reliability of all supplies, equipment, communication systems and facilities necessary to perform the functions specified in Section 4 in a nuclear or radiological emergency (see para. 5.25).	Licensee do need to have a management system (GS-R-3)	✓			
Canada	408.	5.35	Add where appropriate or as a new requirement, the following concept. “**This shall include periodic and independent audits against the criteria of Section 4, including participation in international audits organised through the IAEA (EPREV missions).”**	There should be specific mention of audit elements, ideally as a separate and distinct requirement.	✓			

Canada	409.	Page 46, Appendix I:	Guidance values should be fully consistent with GSR Part 3, which states "In an emergency exposure situation, the relevant requirements for occupational exposure in planned exposure situations shall be applied for emergency workers, in accordance with a graded approach, except as required in para. 4.xx."	Keep consistency with BSS.	✓			Paragraph is added under the functional requirement for protecting emergency workers.
Germany	410.	Appendix I, I.3	1st sentence: "As soon as possible, the total dose (i.e. effective dose or equivalent dose to an organ or tissue) via all exposure pathways (i.e. both external dose and committed dose from intake) needs to be estimated and further potential exposure restricted as appropriate (see paras. 4.74 and 4.75)."	The first item (estimation of total dose) refers to Para 4.75. The second item (restriction of further potential exposure) refers to Para 4.74.	✓			Correct paragraph is cross-referenced.
France	411.	Appendix I – I.4	Need for justification : The guidance levels for external penetrating radiation ($Hp(10)$) do not consider the possible severe deterministic effects to a fetus which can occur at any dose greater than 100 mSv.	How is established the reference level of 100 mSv for fetus ?				IAEA-TECDOC-1432 Safety Guide GSG-2 GSR Part 3 ICRP Publication 84 ICRP Publication 90
Germany	412.	Appendix I, I.4	"The guidance levels for external penetrating radiation ($H_P(10)$) do not consider the possible severe deterministic effects to a fetus which can occur at any dose greater than 100 mSv. Consequently female workers who are aware that they are pregnant or who might be pregnant shall be informed of this risk and would typically 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 ~~unless they volunteer to do so~~."	In order to protect the fetus, female workers who are pregnant shall be excluded even if they volunteer to do so.	✓			

ILO	413.	App. I Table I.1	*H*p(10) also represents *H*p(3), except in the case of exposure to beta radiation with a maximum energy above about 0.7 MeV or to photon radiation with a mean energy below about 40 keV . In these cases, a restriction on *H*p(10) is not sufficient for protection of the lens of the eye. Where emergency workers are likely to be exposed to significant levels of beta radiation or low energy photon radiation, shielding of the eye (e.g., with glasses made from low *Z* material) should be used to reduce the doses to the lens of the eye, at least below 500 mSv for life saving actions and to prevent severe deterministic effects or 100 mSv for actions to prevent a large collective dose.	Appendix 1 relates to Hp(10). IAEA have produced a draft TECDOC (March 2013) on 'Implications for occupational radiological protection of the new dose limit for the lens of the eye' and it is suggested that it is worth adding to the table or as a footnote.		✓ $H_p(10)$ also represents $H_p(3)$ (i.e. personal dose equivalent $H_p(d)$ where d = 3 mm), except in case of exposure to beta radiation with a maximum energy above about 0.7 MeV or to photon radiation with a mean energy below about 40 keV. In these cases, a restriction on $H_p(10)$ is not sufficient for protecting the lens of the eye. Therefore, in these cases, all practicable means needs to be taken for ensuring protection of the lens of the eye (see para. 4.71).		Without details on how to do it, as subject for a lower level documents.
ILO	414.	App. I Table I.1	i) the expressions for E should have a '<' (less than) sign and not an '=' (equal) sign as doses are to be kept below the guidance values. ii) The 3rd condition for 'Life saving actions' should be: 'Dose less than the generic criteria….' Define the term 'E'; is it Effective Dose?		✓			
Canada	415.	Page 48, Criteria II.1	II.1: Comment - It is not clear if the guidance is for "which" actions are to be taken, or for "when" actions are to be taken. II.1.b): Modify: "action are **expected to be** taken" II.1.c): Modify: "<u>when</u> restriction of trade is warranted"		✓			Revised wording accordingly.

France	416.	Appendix II	Reserve on the criteria based on fetus dose	Question : Is fetus dose really justified as decision criteria in emergency phase ? Some proposed values seem to be inconsistent (e.g. 1Gy for "high level" in emergency situations and, 0.1 Gy for fetus).		✓		Additional information is given under Table II.1 for clarification.
USA	417.	New criteria between II.2. and II.3.	For facilities in category I and II, the initial protective measures shall be implemented based on predefined plant damage states associated with postulated doses that meet one or more of the generic guidelines. Protective actions shall be implemented, without waiting for a radioactivity release to commence, when the damage state is imminent.	Protective actions are most effective when the actions are implemented prior to the onset of the release. This should be done for actions for preventing deterministic and stochastic effects.		✓		We agree with the proposal. However, that is reflected throughout the whole document (particularly under functional requirement for taking urgent protective actions) and therefore, no need for such addition.
USA	418.	II.3.	For each exposure pathway ~~scenario~~ that could result in doses that exceed the generic criteria, operational criteria (e.g. operational intervention levels), shall be predetermined for these generic criteria to be used immediately and directly (without further assessment) to determine the appropriate protective actions and other response actions.	The OIL change between a fuel handling accident and a LOCA are the same regardless of the scenario. The more appropriate term is "pathway."			✓	The exposure scenario relates to consideration (scenario) that a member of the public lives in a contaminated area and therefore several exposure pathways are possible (external from deposition, ingestion, and inhalation). The use of scenario does not relate to the potential accident.

Sweden	419.	Pg 48, appendix II.5 (c)	**'No protective or other actions needed'** when generic criteria….	If the word 'Safe' is used for doses below 100 mSv, it might lead to confusion when compared with other dose limits for planned exposure situations. What degree of safety is "'safe'? The word 'safe' is not easily translated to other languages.		✓ 'Safe' when the generic criteria <u>both</u> in Table II.1 and Table II.2 are not projected or received, since no protective actions and other response actions are justified <u>from the radiological point of view to reduce the risk of stochastic effects or to minimize severe deterministic effects as there will be neither observable increase in incidence of cancer nor any severe deterministic effect.</u>		The concept of explaining 'safe' to the public is very important particularly in light of lessons identified from past emergencies. This concept relates to scientifically based data for observable radiation induced health effects. This should not be confused and mixed with the dose limits that are aimed at controlling the source itself in relation to public exposure and occupational exposure. At the Technical Meeting held in November 2012, the concept of explaining 'safe' to the public was well accepted by those present. In addition, at other meetings, such as International Expert Meeting on Decommissioning and Remediation in light to the Fukushima NPP Accident held in the January 2013, one of the high level recommendations being made to the IAEA is for the international community 'to strive to develop practical definition of 'safe' in public communication'. In addition, the need of communicating 'safe' to the public has been particularly discussed at the International Conference on Effective Nuclear Regulatory Systems held in April, 2013 in Ottawa, Canada.

Italy	420.	Appendix II.5 (c)	'Safe' when the generic criteria in Table II.1 and the result of the optimization process performed starting from the generic criteria in Table II.2 are not projected or received, since no protective actions and other response actions are justified to reduce the risk of severe deterministic effects or stochastic effects.	Protective actions or other response actions could be taken even at levels below the Table II.2 values, as a result of ALARA approach. Moreover, in communicating to the public, is objectively very difficult to support the criteria that "safe" concept matches dose levels up to 100 mSv.		✓ 'Safe' when the generic criteria both in Table II.1 and Table II.2 are not projected or received, since no protective actions and other response actions are justified from the radiological point of view to reduce the risk of stochastic effects or to minimize severe deterministic effects as there will be neither observable increase in incidence of cancer nor any severe deterministic effect.		ALARA is to be implemented as long as justified. However, as the concept of 'safe' relates to scientifically based data for observable radiation induced health effects, the description (as revised considering other comments as well) is to be kept. Please consider the response under comment no 419 as well.
Japan	421.	App.II.5.(c)/ 1	Replace "Safe" with "Below levels of health concern"	The generic criteria should not be used to explain the distinction between "safe" and "unsafe" to the public.		✓ 'Safe' when the generic criteria both in Table II.1 and Table II.2 are not projected or received, since no protective actions and other response actions are justified from the radiological point of view to reduce the risk of stochastic effects or to minimize severe deterministic effects as there will be neither observable increase in incidence of cancer nor any severe deterministic effect.		Please see the responses under comments no. 419 and 420.

Japan	422.	App.II.5.(c)/ 1 and 2	Replace "since no protective actions and other response actions are justified" with "since protective actions and other response actions are not always justified".	Protective actions should be applied even below the generic criteria with the concept of ALARA.		✓ 'Safe' when the generic criteria both in Table II.1 and Table II.2 are not projected or received, since no protective actions and other response actions are justified from the radiological point of view to reduce the risk of stochastic effects or to minimize severe deterministic effects as there will be neither observable increase in incidence of cancer nor any severe deterministic effect.		For clarification and considering other comments as well. Please see the responses under comments no. 419 and 420.
Germany	423.	Appendix II.5.	II.5.(c) 'Safe with respect to severe deterministic effets' when the criteria […]	A new system for the explanation of protective actions and other response actions in terms of the associated health hazards is introduced in Appendix II.5. While the general idea of such a concept is welcomed, the presented classification seems to be somehow over-simplified. Especially the classification of doses up to 100 mSv in the category "safe" is considered to be problematic when communicating with the public. (E.g. in Germany a dose criteria of 10 mSv exists for recommending sheltering, which is contradicting a classification of "safe" even at higher doses!).		✓ 'Safe' when the generic criteria both in Table II.1 and Table II.2 are not projected or received, since no protective actions and other response actions are justified from the radiological point of view to reduce the risk of stochastic effects or to minimize severe deterministic effects as there will be neither observable increase in incidence of cancer nor any severe deterministic effect.		Not true only in relation to severe deterministic effects. For clarification, safe concept has been revised. Please see the responses under comments no. 419 and 420.

USA	424.	II.5(c), page 48	Change “Safe” to “Minimal health concerns”	An acute external exposure that results in 1 Gy to the red marrow is not really “safe”. Internal exposures that result in organ doses of 20 or 30 Gy are not really “safe”. See table II.1		✓ ‘Safe’ when the generic criteria both in Table II.1 and Table II.2 are not projected or received, since no protective actions and other response actions are justified from the radiological point of view to reduce the risk of stochastic effects or to minimize severe deterministic effects as there will be neither observable increase in incidence of cancer nor any severe deterministic effect.		For clarification, safe concept has been revised. Please see the responses under comments no. 419 and 420.
France	425.	Appendix II – Table II.1	Table format to review	Protective measure of the third column are not linked to the criteria in the two first columns. Besides, there are too much criteria, lowering the readability and operational interest of such a table.				Considered. Please note the Table as already published in the Safety Guide GSG-2 and new basic safety standards (GSR Part 3).
USA	426.	Table II.1, footnote h, page 50	Change Δ to Δ^1	Typo	✓			

Canada	427.	Page 49, Table II.1	Table II.1: Modify first line of third column – "If the dose is projected **to exceed the criteria**"	Table II.1: Consider providing guidance, or indicating where in the requirements it can be found, on actions to be taken if the received dose does not exceed the criteria, but is still elevated.			✓	Please note that the Table is reproduced as already published in the Safety Guide GSG-2 and new basic safety standards (GSR Part 3). If the dose received is below the criteria in Table II.1 but above the criteria in Table II. 2 than examples of the actions to be taken are provided in the Table II.2. If the dose received is below the criteria in Table II.2 no action is necessary.
Canada	428.	Table II.1	Consider adding titles and dividing external and internal levels and actions, to resemble Table II.2 II.7: Add – "Table II.2 provides generic criteria **and example protective actions.**.."	Would improve clarity. Table II.2 is much clearer and easy to use. Table II.1 should be similar in format.		✓		Addition made under para. II.1 as it applies for the whole Appendix.
France	429.	Appendix II – Table II.1	Relevance of footnotes b) and c) since the proposed criteria are not the ones usually used : b. Dose delivered to 100 cm2 at a depth of 0.5 cm under the body surface in tissue due to close contact with a radioactive source (e.g. source carried in the hand or pocket). c. The dose is to the 100 cm2 dermis (skin structures at a depth of 40 mg/cm2 (or 0.4 mm) below the surface).	The proposed criteria are the operational ones and have to be recalculated from measures (e.g the measuring tube's calibration is not 0.4 mm but rather 0.07 mm for c)			✓	These are not operational criteria as such but the basis upon which the generic criteria have been calculated. Please note that the Table is reproduced as already published in the Safety Guide GSG-2 and new basic safety standards (GSR Part 3).

Germany	430.	Appendix II, TABLE II.2.	Add a footnote to the header of the right column of TABLE II.2 Examples of protective actions and other response actions FOOTNOTE(These examples are neither exhaustive nor are they grouped in a mutually exclusive way.)	The examples of protective actions listed in Table II.2 corresponding to the generic criteria of 100 mSv in the first 7 days ("Sheltering; evacuation; decontamination …") may be misleading since some of these actions should be initiated at much lower dose levels (e.g. restriction of conumption of food").	✓			
UK	431.	App. II Table II.2	Table II.2 of Appendix II of DS457 presents dose limits in terms of projected doses. Whilst use of projected doses is a good planning tool, consideration should be given in the response on the day to the use of avertable dose which is the current UK practice.				✓	Present concept is based on the latest ICRP recommendations and it has already been published in the Safety Guide GSG-2 as well as in the new basic safety standards - GSR Part 3.
Canada	432.	Page 52, Criteria II.11 and II.12	II.11 and II.12: Suggest to switch these two requirements. II.12 : Comment - How do OILs derived from these values compare with CODEX, and what percentage of the food supply is assumed to be contaminated? Values that are higher may lead to a loss of public trust in authorities. No rationale is provided for higher permitted dose levels.	Editorial	✓			Codex Standard 193-1995 and its revision from 2006 use an intervention exemption level of 1 mSv per year in line with recommendations of the ICRP (ICRP Publication 63). Therefore, the proposed criterion is in line with those abovementioned and provides a basis for calculating the OIL (guideline level as referred to by CAC) for each respective radionuclide to be used when considering restricting the foods for international trade.

Canada	433.	Page 51 and 52	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) as in all instances the restriction and replacement of food, milk and water are discussed. We believe the values in Table II.3 are meant to be assessed 'stand alone' <u>after</u> the decisions on urgent and early protective actions have been taken. However, this is not clear.	Clarification.	✓			Correct. This criterion and OILs developed based on it are to be used once sampling and laboratory analysis are available and possible. Please also note that criterion represents 1/10 of the generic criteria for early protective actions and other response actions given in Table II.2 in order to ensure that the dose from all exposure pathways, including ingestion, will not exceed the generic criteria for early protective actions and other response actions given in Table II.2.

France	434.	Appendix II – Table II.3 and following	Methodologies to be used should be clarified and commonly used.	E.g proposed values for foods are not internationally recognized and used. More generally, there is a need to have simple and very operational criteria, so that they could be used in an emergency situation.			✓	Please note that most of these criteria are already published in the Safety Guide GSG-2 and other publications in the EPR series. Considering the importance of having them all in one place they are all encompass in this document. Particularly, please pay attention that criteria for food are already published in GSG-2, document that is cosponsored by FAO, ILO, PAHO, OCHA and WHO and therefore, they reflect international consensus reached by both Members States and these international organizations.
Canada	435.	Page 54, Criteria II.15 and II.16	II.15 and II.16: Suggest to switch these two requirements.		✓			

Canada	436.	Page 56, Criteria II.20	Consider adding some clarification to address this issue.	Comment - 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.		✓		We agree with the comment made. Therefore, under the functional requirement on mitigating non-radiological consequences, it is required for having criteria consistent with this criterion in order to avoid unnecessary disturbances in the international trade. Additional discussion will be considered to be added in a Safety Guide although GSG-2 shortly addresses this issue.
Japan	437.	App.II. 18, 21, and 22	The statements in para. II.18 and 21 are not consistent with para. II.22. One suggestion for amendment: Insert the phrase such as “in the end” or “ultimately” after “Codex shall be used.”	Determination of OIL is requested in para. II.18 and its revision is requested in para. II.21. However, in para. II.22 mentions Codex shall be used for OIL.	✓			
Japan	438.	App.II.19/2 and 3	Replace citations on line 2 and 3 of “see para. II.4” with “see para. II.5”.	Editorial error.	✓			

Germany	439.	Appendix II, TABLE II.5.	(no new next proposed)	TABLE II.5. GENERIC CRITERIA FOR RESPONSE ACTIONS FOR COMMODITIES AND FOOD TRADED INTERNATIONALLY“ includes a generic criteria of 1 mSv per year for restricting non-essential international trade of commodities and food. In II.22. it is stated that “for food traded internationally” the “operational criteria (guideline levels) as published by the Joint FAO/WHO Codex Alimentarius Commission [15] shall be used”. Two comments here: 1. The FAO/WHO levels were derived based on a criteria of 5 mSv per year, so that an inconsistency exists here. 2. More generally, why should the new dose criteria of 1 mSv be applied for food, if in parallel the FAO/WHO levels should be also applied? The application of FAO/WHO levels already ensures the accordance with a dose criteria (of 5 mSv in this case).			✓	CAC/GL 05-1989 assumed an intervention exemption level of 5 mSv per year. Codex Standard 193-1995 and its revision in 2006 which supersede CAC/GL 05-1989 use an intervention exemption level of 1 mSv per year in line with recommendations of the ICRP (ICRP Publication 63). Therefore, proposed criterion is in line with those abovementioned and provides a basis for calculating the OIL (guideline level as referred to by CAC) for each respective radionuclide to be used when considering restricting the foods for international trade.

Japan	440.	App.II. 24 and 27	Delete paragraph II.27.	There are two reasons: 1. OIL has not been determined although a target dose is mentioned in para. II.24. The revision of the OIL is mentioned in para. II.27, although it is not necessary to revise the OIL since the OIL has not been determined. 2. This is more fundamental reason: The OIL is to be used in the early phase as defined on page 70. The OIL should not be applied to latter phase, such as the transition phase to existing exposure situation.	✓			
Germany	441.	Ref. [2]	INTERNATIONAL ATOMIC ENERGY AGENCY, Objective and Essential Elements of a State's Nuclear Security Regime: Nuclear Security Fundamentals, Nuclear Security Series No. 20, IAEA, Vienna (2013).	Correct title of publication.	✓			

France	442.	Definitions	Revisit the section on definitions to remove all words already defined in the safety glossary. For example, “operating organization”, “facilities and activities”, “emergency workers”, “management system”, “authorization” … are already defined in the Safety Glossary	The publication should avoid introducing definition and refers to the IAEA safety glossary. If new definitions are to be established and incorporated to the Safety Glossary, SPESS process to modify the glossary should be followed. Definition already established in the safety glossary could be reminded as footnote if necessary for better understanding of the requirements.			✓	The target audience of this publication differs from the one of other safety standards. Namely, it includes also response organizations that not necessarily are well aware about the safety and security terminology used in the IAEA Series. Therefore, it is essential to have comprehensive list of definitions for all essential terms used throughout the text to avoid any misinterpretation. In addition, the list has some definitions amending the existing definitions contained in the Safety Glossary 2007 Edition. However, please note that coordination is on-going so that next addition of the Safety Glossary incorporates latest definitions. Moreover, such coordination is in place for the terms used in other publications by the time the new Safety glossary is published.

France	443.	Definitions	Revisit the section on definitions to remove all words already defined in the security publications. For example, “nuclear security event” is already defined in INFCIRC-225 (NS No.13) with a different definition…	The publication should avoid introducing definition and refers to already existing definitions. Definition already established could be reminded as footnote if necessary for better understanding of the requirements.			✓	The target audience of this publication differs from the one of other safety standards. Namely, it includes also response organizations that not necessarily are well aware about the safety and security terminology used in the IAEA Series. Therefore, it is essential to have comprehensive list of definitions for all essential terms used throughout the text to avoid any misinterpretation. In addition, the list has some definitions amending the existing definitions contained in the Safety Glossary 2007 Edition. However, please note that coordination is on-going so that next addition of the Safety Glossary incorporates latest definitions. Moreover, such coordination is in place for the terms used in other publications by the time the new Safety glossary is published.

USA	444.	Definitions	The definitions presented on pages 62-76 need to be consistent with IAEA Updated Glossary.	Consistency with IAEA Glossary definitions.			✓	The target audience of this publication differs from the one of other safety standards. Namely, it includes also response organizations that not necessarily are well aware about the safety and security terminology used in the IAEA Series. Therefore, it is essential to have comprehensive list of definitions for all essential terms used throughout the text to avoid any misinterpretation. In addition, the list has some definitions amending the existing definitions contained in the Safety Glossary 2007 Edition. However, please note that coordination is on-going so that next addition of the Safety Glossary incorporates latest definitions. Moreover, such coordination is in place for the terms used in other publications by the time the new Safety Glossary is published.

Canada	445.	Various	Editorial Recommendation: Special terminology defined in the glossary should be clearly identified in the text via a special font (e.g. italic).	Highlighting these terms would inform the reader that definitions are available and would improve clarity overall. This is especially useful with series of words such as "*helpers in an emergency*" and "*emergency response facility or location*".			✓	The technical editor removed any such notations as they are not in accordance with the style manual for the IAEA publications.
Japan	446.	Definitions: Page 66/Line 4 and 5	Replace "early monitoring" on line 4 with "monitoring in an early stage" and replace "within a day following a release" on line 5 with "within a day <u>to a week</u> following a release".	Amendment is required to provide more flexibility in timing for the protective actions in EPD and ICPD, because it is an excessive and not practical requirement to demand early monitoring and evacuation within a day in EPD.		✓ Distance around a nuclear power plant within which arrangements are made to conduct <u>monitoring in order to identify, within a period that would be effective in reducing the risk of stochastic effects, areas warranting</u> (1) evacuation within a day following a release or (2) relocation within a week to a month following a release.		Definition revised to reflect modifications made to address all the comments received in relation to emergency planning distances.

Japan	447.	Definitions: Page 67/Line from the bottom 5	Replace “within hours of being notified by the nuclear power plant of the declaration of a General Emergency” with “based on environmental monitoring data and other information regarding plume diffusion”.	Requesting some protective actions “within hours of being notified” is an excessively demanding requirement for the response in ICPD.		✓ The distance around a nuclear power plant for the area within which arrangements are made, following the declaration of a General Emergency, <u>to take effective response actions in reducing the risk for stochastic effects by protecting the public from food, milk, water and commodities that may be contaminated by the release.</u>		Definition revised to reflect modifications made to address all the comments received in relation to emergency planning distances.
UK	448.	Definitions Nuclear Security	Delete information note	The inclusion of this note would only serve to confuse the reader, containing as it does a number of misconceptions, eg nuclear security is not concerned with negligent actions, nor is it undertaken for non-proliferation reasons (although it may contribute to that end), etc.	✓			

COMMENTS BY REVIEWER Reviewer: D. Rauber/M. Blättler/R. Rusch Country/Organization: NAZ/ENSI Date: 8/05/2013				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	3.24, Appdx. II	Based on the identified hazards and potential consequences of a nuclear or radiological emergency, protection strategies shall be developed. A reference level expressed in terms of residual dose shall be set, typically an effective dose in the range 20 – 100 mSv, that includes dose contributions via all exposure pathways. The protection strategy shall include planning for residual dose to be as low as reasonably achievable below the reference level. The strategy shall be justified and optimized 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.	The definition of reference levels should be mentioned as an important step in developing a protection strategy, which should aim to achieve residual doses to be as low as reasonably achievable below the reference level. (In accordance with ICRP and BSS GSR Part 3, para 4.8).		✓		See response under comment number 3 of the overall DS457 - Resolution of Comments Table. In para. 3.24 and associated appendix of the draft DS457 submitted for review reference is given to GSG-2 where this approach is elaborated in details.
2	3.29 lt.a/b	lt. a: … Appendix II table 2.1 lt. b: … Appendix II table 2.1 and 2.2	Reference to appendices should be more specific.			✓	In order to avoid overloading the text as the Appendix II is clearly written to avoid any misuse of the criteria given for particular protective action and other response action.
3	General	What is included and what is not included in "Other protective actions" should be clearly specified.	In Appendix II the distinction between protective actions and other response actions is not obvious.		✓		Please see definitions on 'response action' and 'protective action' for clarification.
4	4.3, 4.9, 4.63	Either delete reference to category III or adapt definition of category III facilities in table 1.	There is a contradiction with the definition of category III in table 1: According to this table, events at category III facilities do not imply off-site protective actions.		✓		Modification is made under the description of Category III in Table 1 of the draft DS457 submitted for review to relate only to urgent and early protective actions taken off site in the part quoted. Other off-site response actions such

COMMENTS BY REVIEWER Reviewer: D. Rauber/M. Blättler/R. Rusch Country/Organization: NAZ/ENSI Date: 8/05/2013				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							as medical or public information might be required to be taken in this category as well and therefore, coordination will be necessary. Please consider the relevant comments and resolutions in the overall DS457 - Resolution of Comments Table.
5	4.5	… clearly specified command and control system with clearly assigned responsibilities ~~and shall be directed by a single clearly designated emergency response commander~~.	"Single" is too restrictive. The on-site response cannot be managed or directed by off-site authorities.		✓		Please see the resolution with consideration of other comments as well: Comments numbers 134-136 of overall DS457 - Resolution of Comments Table.
6	4.13	Arrangements shall be made for the establishment and implementation of a clearly specified command and control system for emergency response as part of the emergency management system (see paras 3.9–3.11) ~~and for identifying a single clearly designated emergency response commander (see para. 5.4) to direct the emergency response~~ under the all hazards approach	"Single" is too restrictive. The on-site response cannot be managed or directed by off-site authorities.		✓		Please see the resolution with consideration of other comments as well: Comments numbers 134-136 of overall DS457 - Resolution of Comments Table.
7	4.25	*Other ~~Radiological~~ emergencies* for emergencies …	A radiological emergency is a generic formulation that applies to all kind of events with releases of radioactive materials warranting the implementation of protective measures. The use of the same terminology for an emergency class type which does not cover the whole range of radiological emergencies is confusing.		✓ *Other nuclear or radiological emergencies …*		For consistency.
8	4.43, 4.53(b),		The possible use of		✓		Please see resolutions

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
	4.56, 4.104, 4.105, 4.109		technical/radiological assessments and/or projection should be addressed and included in these para. The availability of sufficient time for the implementation of protective actions shall be taken into account before decision is taken to implement them. In accordance with the graded approach.				with consideration of other comments as well: Comments numbers 216 and 217 of overall DS457 - Resolution of Comments Table.
9	4.46	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 and supports decision making (e.g. technical/radiological assessments on plant conditions, dose projections, off-site measurements). A protective action and other response action shall be discontinued when it is no longer justified.	To allow a graded approach.			✓	Too detailed. The paragraph relates to any new information becoming available irrespective whether this information comes from measurements, observed conditions on the site or projections.
10	4.53 (b)	… In addition, arrangements shall be made to provide for any necessary revision of these recommendations, prior to their implementation, to take account of factors (such as conditions for travelling or Sheltering; the availability of sufficient time for the implementation of protective actions) that may affect the implementation of protective actions and other response actions and any exposures or results of environmental monitoring following a release of radioactive material (see para. 4.56). If the characteristics of an emergency might differ from those assumed in the calculation of default operational criteria, the criteria should be recalculated. Methods for the recalculation to address prevailing conditions in an actual emergency should be established	As foreseen by GSG-2 para. 5.1		✓ Criteria, based on emergency classification and on conditions at the facility and off the site (see paras 5.25, 5.26 and5.48) 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. 6.24), for the formulation of recommendations for		With consideration of other comments as well (see relevant comments and resolutions in the overall DS457 - Resolution of Comments Table). In addition, the proposed wording is too detailed for a requirement level document. However, GSG-2 specifically covers this issue.

COMMENTS BY REVIEWER Reviewer: D. Rauber/M. Blättler/R. Rusch Country/Organization: NAZ/ENSI Date: 8/05/2013				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		during the planning phase.			urgent protective actions and other response actions off the site, which are to be provided to off-site officials responsible for taking protective actions within the emergency planning zones and distances. In addition, arrangements shall be made to provide for any necessary revision of these recommendations, prior to their implementation, to take account of prevailing conditions in an actual emergency and of any exposures or results of environmental monitoring following a release of radioactive material (see para. 5.55).		
11	4.53 (c)	A single position on- or off- the site with the authority to recommend protective actions and other response actions upon the declaration of a nuclear or radiological emergency.	The authority recommending protective measures need not be at the site.			✓	This paragraph specifically requires for on-site person with authority and responsibility to notify and activate off-site notification point, as appropriate, upon emergency declaration. Requirements for off-site notification points are given under the functional

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Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							requirement on Identifying, otifying and activating.
12	5.4	The authority and responsibility for directing the emergency response shall be clearly assigned ~~to the appropriate emergency response commander~~ in each phase of the response.	See explanation to para. 4.13		✓		Please see resolution with consideration of other comments as well: Comments numbers 377 and 378 of overall DS457 - Resolution of Comments Table.
13	5.32	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 participate in drills and training exercises regularly ~~at least once every year~~. For facilities and activities in category III or IV the staff responsible for critical response functions shall participate in training exercises or drills on an appropriate schedule.	Performing exercises for each facility at such a high frequency is not feasible.			✓	Considering the importance of the issue and other comments as well.
14	Appendix 2 – II.5	(c) 'Safe' when the generic criteria in Table II.1 and Table II.2 are not projected or received~~, since no protective actions and other response actions are justified to reduce the risk of severe deterministic effects or stochastic effects.~~ Protective actions might be justified to minimize the risk of stochastic effects.	According to GSR Part. 3 para 4.8. the protection strategy shall include planning for residual doses to be as low as reasonably achievable below the reference level. The statement, that below the generic criteria in Table II.2 no protective actions are justified is therefore not acceptable. Even below 100 mSv, protective measures which are easy to implement (e.g. sheltering), are justified.		✓		Please see resolution with consideration of other comments as well: Comments numbers 419-424 of overall DS457 - Resolution of Comments Table.
15	Appendix 2 – II.7.	Table II.2 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			✓		Reference is made to GSG-2 to avoid unnecessary repetition.

COMMENTS BY REVIEWER Reviewer: D. Rauber/M. Blättler/R. Rusch Country/Organization: NAZ/ENSI Date: 8/05/2013				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		emergency. <u>On the basis of the outcome of the optimization of the protection strategy, and by using the reference level, generic criteria for particular protective actions and other response actions, expressed in terms of projected dose or dose that has been received, should be developed.</u> <u>In the absence of national guidance, the generic criteria could be used as a basis for the development of criteria at the national level.</u>	The idea of generic criteria for particular protective actions should be integrated (as described in GSG-2 para. 3.7) In accordance with GSR Part. 3 (A-3)				
16	Appendix 2 – II.8	These actions shall be taken only for those affected for which they can be taken safely without endangering their lives (e.g. evacuation of patients requiring specialized medical treatment) <u>or causing more detriment than they avert.</u>		✓			

Comments on DS 457: Preparedness and response for a nuclear or radiological emergency

COMMENTS BY REVIEWER Reviewer: Gurdal GOKERI Country/Organization: Turkish Atomic Energy Authority Date: May 2013				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
1	Chapter 3 Para. 3.17	"coordinating authority" may be added as the title before para. 3.17.			✓ Coordinating mechanism		For consistency.
2	Chapter 3 Para. 3.25	"hazard categories" in the previous version of draft has been changed as "emergency preparedness categories" and this is deemed appropriate.		✓			
3	Chapter 3 Table I	For categories I and II - The phrase "including very low probability events" should be included in the parenthesis.	It should be emphasized that severe accidents should be taken into account although their probabilities are very low.			✓	The wording used was agreed at the Technical Meeting held in November 2012. Please note BDBA are covered irrespective of their probability to occur. In addition, please note that consideration for all events including those of very low probability is covered under para. 3.10 of the draft DS457 submitted for the review.
4	Chapter 4 Para. 4.53 (a) (ii)	Precautionary urgent protective actions are also mentioned for UPZ, which is deemed appropriate. It should be stated that deterministic effects may also be observed in this zone.			✓		Footnote is added in the paragraph as following: "This does not mean that severe deterministic effects could not be observed within UPZ. However,

COMMENTS BY REVIEWER Reviewer: Gurdal GOKERI Country/Organization: Turkish Atomic Energy Authority Date: May 2013				RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modi-fication/rejection
							severe deterministic effects are most likely to occur within PAZ."
5	Chapter 4 Para. 4.53 (a)	"prompt protective actions" is not given in the glossary and doesn't appear anywhere in the text: might cause confusion.		✓			
6	Chapter 4 Page 26 Requirement 9	"Helper" is not defined in the text. Naming all the responders as emergency workers will avoid confusion.	Otherwise different criteria should be set forth for protection of emergency workers and "helpers".			✓	The list of definitions covers the term 'helpers in an emergency' as it is used throughout the text.
7	Chapter 4 Para. 4.74	The emergency workers who are not undertaking (1) life saving actions, (2) actions to prevent severe deterministic effects or actions to prevent the development of catastrophic conditions that could significantly affect people and the environment, or (3) actions to avert a large collective dose should be subject to requirements for occupational exposure, not public dose limits.			✓		The paragraph has been rephrased with consideration of other comments. Please see response under comment number 298 of the overall DS457 - Resolution of Comments Table.
8	Appendix II Page 57 Table II.5	There is inconsistency between the title and the table.	Table includes criteria for only commodities	✓			
9	Definitions Page 75	**Urgent protective action planning zone (UPZ)** – It should be mentioned in the definition that deterministic effects can also be observed in this zone and protective actions within this area are to be taken before or shortly after a release of radioactive material or exposure (this is also consistent with				✓	Covered with the addition under the comment number 4 of this table. More details are to be provided in a guidance level document.

COMMENTS BY REVIEWER Reviewer: Gurdal GOKERI Country/Organization: Turkish Atomic Energy Authority			Date: May 2013	RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modi-fication/rejection
		the expression on P. 23 that arrangements shall be made at preparedness stage with the goal of initiating precautionary urgent protective actions) giving priority to the protective actions conducted in PAZ.					
10		**Concept of operations** was included in the previous version of the draft. However, it has been removed. Although this is a high level document, the part should be included in the document, at least as an annex, to ensure comprehensiveness and common understanding.				✓	Excluding the concept of operations from the draft was agreed at the Technical Meeting in November 2012. However, please note that there are other publications in EPR covering the concept of operations per categories (e.g. Safety Guide GS-G-2.1).
11		Suggested sizes for the off-site emergency planning zones and distances, which are different from the ones given in GS-G-2.1, were included in the previous version of draft. However, they have been removed. Although these sizes are given in IAEA's another draft document (*Actions to Protect the Public in an Emergency due to Severe Conditions at a Light Water Reactor*), they may be included in this document to reflect the experience after Fukushima accident.	The experience will be more effectively reflected if these sizes are included together with concept of operations in such a high-level document.			✓	Excluding the suggested sizes for emergency planning zones and distances from the draft was agreed at the Technical Meeting in November 2012. However, please note that the draft publication mentioned in this comment (which gives guidance on this topic) is already approved for

COMMENTS BY REVIEWER Reviewer: Gurdal GOKERI Country/Organization: Turkish Atomic Energy Authority			Date: May 2013	RESOLUTION			
Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modi-fication/rejection
							publication.