

DS474: Arrangements for the Termination of a Nuclear or Radiological Emergency

(Comments received based on DS474 Rev 3.0 dated 28/06/2016)

Version 3 dated 08/03/2017

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
SWITZERLAND	1.	General Comment	This Safety Guide is an important document addressing an issue of emergency preparedness and response that needs substantial improvements in many countries, which is also the case for Switzerland. Especially the chapter 3 describing the primary objective and prerequisites to terminate the emergency is seen as a very helpful tool in planning the response.		✓			
UK	2.	General comment	Clarity would be increased throughout the document if the relationship between the terms 'emergency' and 'emergency exposure situation' is clearly defined. Consideration may usefully be given to whether, having defined this relationship at the start, it would be beneficial to refer to 'emergency' only in the majority of the text.	References to emergency exposures lead some readers to think that the emergency is over when, for example, emergency exposures are no longer received or the issue that caused the emergency is under control, whereas the purpose of this document is to produce guidance on the pre-requisites for moving from one condition/state to another condition/state (i.e. from an existing exposure situation to an existing or planned exposure situation).	✓			New para 1.4 was added providing the definitions of these terms and a footnote in it to clarify the relation between emergency and emergency exposure situation.

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IRELAND	3.	General	We found Chapter 3 ‘Primary Objective and Prerequisites to Terminate the Emergency’ and the associated Annex 1 ‘Case Studies’ most useful.		✓			
USA	4.		General Comment for entire “guide”: Use of the terms “required” and “shall” should be avoided.	The terms “required” or “shall” are used in legally mandated and treaty-type documents.	✓			‘Required’ and ‘shall’ are not used unless in quotes from IAEA Safety Requirements publications (GSR Part 3 and Part 7).
USA	5.		General Comment: consider different terminology for protective actions categories “precautionary urgent, urgent, and early”	“precautionary urgent, urgent, and early” are too finely defined, can overlap, and will be confusing. As is, an order for evacuation could be in all three categories of protective actions.	✓			Definitions are brought to the main text for clarity and their use reviewed for consistency with GSR Part 7.
CANADA	6.	General	The document should highlight that recovery activities should start as soon as practicable, even while response is going on.		✓			Added “As early as possible” in para 2.1
TURKEY	7.	General Comment 1	The draft document requires thorough revision before being published.	<ul style="list-style-type: none"> Most of the concepts and approaches given in DS 474 regarding emergency preparedness and response 		✓		The document was reviewed for consistency with other documents and for

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				<p>are already introduced in other documents of the IAEA in a rather detailed manner. The repetition of these does not provide any additional benefit to the states. Furthermore, repetition also makes it very difficult to find the parts that are directly related to the topic of the document in the text. The document can be made much more concise. The main body of the text can be given in around ten pages.</p> <ul style="list-style-type: none"> • The language used in some parts of the document is somewhat informal and different from the one used in other IAEA documents. • Some of the concepts, like use of OILS for food restriction, introduced in other IAEA documents are misinterpreted. • The “repetition” mentioned in the comments given below means unnecessary repetition of the parts which are already given in other IAEA documents. 				<p>repetitions.</p> <p>No other safety standard addresses the concept of transitioning. The gap was identified prior to development of DPP which was approved in 2013.</p> <p>The language follows IAEA style manual and SPESS for Safety Guide publications.</p>

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ENISS	8.		General comment	<p>There are several items addressed in this document that are not specifically related to the objective of the document, which is made explicit in the title: “arrangements for the termination of a nuclear or radiological emergency.” Examples are: waste management, medical follow-up, and especially compensation of victims for damage.</p> <p>It is therefore suggested to disregard some items, while focusing on the main arrangements that are of importance for the specific period dealing with the termination of radiological emergency. This will provide a shorter but more efficient guideline.</p>			✓	Reference is made to the Technical Meeting held in September 2015 when no obsolete guidance was recognized by Member States. The case studies provided in the Annex provide also a basis why these topics are also important in the context of this safety guide.
SWEDEN	9.	General	<p><u>The connection to the general crises management system</u> The guide should more strongly emphasize the importance of following the general national crises management system when terminating a nuclear or radiological emergency. In almost all countries this process is already regulated and several of the requirements in the guide are steps that must be taken in any emergency.</p>	✓			Further clarification is provided in this regard in para 3.1 and a footnote to this paragraph.	

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SWEDEN	10.	General		<u>The level of detail</u> The level of detail in the guide is not consistent. Consider to remove detailed specifications for certain requirements in order to improve the readability.		✓		The draft was reviewed and some wordings in the prerequisites was revised for clarity in terms of their importance in relation to the termination.
SWEDEN	11.	General		<u>Prioritization</u> The guide contains a significant number of requirements. Consider to prioritize the requirements and differentiate those requirements that must be fulfilled from those requirements that can be met after the emergency is terminated.	✓			Prioritization is achieved with the way how the prerequisites are formulated.
SWITZERLAND	12.	Title	This document concerns to a large extent the measures to be taken during the transition phase and not only for the termination itself. It would be wise to reflect this in the title of the Guide.				✓	Title kept for consistency with approved DPP. However, the scope and the objective clarify the coverage of the transition phase.
CANADA	13.	General	This observation was made for the previous version and it does not seem to have been addressed: While the urgent/early phases of an emergency response and the transition phase are fundamentally linked; the document dwells too much on the urgent and early		✓			The draft was reviewed and only paragraphs which contain valuable inputs for the end of emergency response phase and beginning of transition phase were kept to allow common

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			phases and does not focus sufficiently, or solely, on the transition phase.					understanding on the situation to be inherited at the end of the emergency response phase.
CANADA	14.	General	Agree with large majority of the actions and principles contained in the document, but <i>do not agree</i> how it is framed by introducing new terminology of “Transition Phase”. Do not introduce concept of a transition phase. It serves no real purpose and only adds to complexity and possible confusion for emergency managers. There is no value added, and in fact it introduces confusion. Same concern with introducing urgent phase and early phase as proxies for urgent and early protective actions. It is appropriate to refer to the transition from one type of situation to another (eg from response to recovery, from emergency exposure situation to existing exposure situation), but there is no need to introduce a formal title for this transition.			✓		Concept needed for clarity of the period of time for which Safety Guide applies. It is helpful in defining the scope of the document and making relation with other EPR Safety Standards applicable for the emergency response phase. Definitions for various phases were reviewed and revised for clarity.

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CANADA	15.	General	What is the purpose of attempting to define the moment of “terminating” the emergency? Emergency “termination” is not used in this document as a trigger for any activity, other than its declaration for the sake of declaring it. This causes a problem geographically and temporally. The emergency can be terminated onsite with a reactor cooling is re-established with confidence that no more releases are possible, at which they are in recovery phase with planned exposure situations. Offsite actions could still be in response (relocating people from contaminated areas). I do not see any need to define the moment of termination (other than possibly for financial reasons). This is not done for other emergencies (natural disasters) in our society.				✓	This is in line with Requirement 18 of GSR Part 7. It is important concept to delineate different exposure situations which were introduced within IAEA Safety Standards Series (GSR Part 3 primarily) on the basis of ICRP Recommendations and for which different requirements for various types of exposures apply.
CANADA	16.	General	Public and emergency managers are accustomed to natural disaster emergencies and sequence of events. We should use sequencing and phases that are simple and publicly recognized. In the case of natural disasters, there is no “transition” phase and there is no			✓		See response to comment No. 14 and 15. The terminology used follows the terminology already established in IAEA Safety Standards (such as on various protective

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			<p>“termination” of emergency (though the politically declared “state of emergency” may be lifted at some time). Hurricane/Typhoon, tornado, Sequence:</p> <ul style="list-style-type: none"> a. Normal pre-event b. Risk of event occurring c. Some action taken prior to event when known to be ~inevitable d. Event occurs e. People, infrastructure are affected and at risk, protective actions are taken (eg rescue injured, relocate flooded residents) f. At some point the source of risk/hazard is no longer present (hurricane subsides, flood waters recede, rad releases end), but current situation is unacceptable g. Recover, clean-up, rehab, improve h. New normal 					to avoid introduction on too many new terms and while being careful not to enter in the long term recovery aspects (these are beyond the scope of DS474).
CANADA	17.	General	Must align preparedness/ response/ recovery phases with both the emergency/ planned/ existing exposure situations and with the precautionary/ urgent/ early protective actions. See image in		✓			Figures were revised and new Figure 2.2 was added.

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			Annex 1.					
TURKEY	18.	General comment 2		<ul style="list-style-type: none"> This document is mainly based on the previous documents. The new concepts introduced in the draft document are suggested to be included in other related guidance documents of the IAEA. Case studies, which are given in the annexes, are deemed to be much more useful than the main part of the document. 			✓	No other Safety Standard addresses transitioning. The document follows the approved DPP for its development which identifies the gap for guidance in this area. Case studies put the guidance in perspective to support proper understanding of the guidance given in the main text.
RUSSIA	19.	General; para 4.22 -4.34	Proposal – to delete from the text excessive quoting of GSR Part 7, in particular the requirements addressed to the concept of a protection strategy in case of a radiological emergency during all its phases.	In accordance to para 1.6 of DS474 this guidance is applied jointly with GSR Part 7 and represents a guidance for the implementation of Requirement 18 of GSR Part 7 regarding the transfer to termination of an emergency, not regarding the process of the emergency response itself. Exclusion of quoting of GSR Part 7 will make the practical use of DS474 more convenient.			✓	Only para. 4.23 (renumbered) quotes GSR Part 7. The other paragraphs contain guidance that supports the implementation of Requirement 5 of GSR Part 7 for the transition phase that is not covered elsewhere.

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IRELAND	20.	Chapter 1.	Chapter 1 has nine footnotes in total for just four pages. Could the text of these be subsumed into the main text?	Modern document practice is to use footnotes sparingly as if used excessively they can be a reading distraction.	✓			Most of text was moved in paragraphs in the main text.
IRELAND	21.	Chapter 1.	It might be better if the ‘Objective’ part and perhaps ‘Scope’ were placed first rather than starting with text of the ‘Background’ as it currently reads.	This would make the opening a bit more appealing for the non-specialists.			✓	The proposed change in structure is not in line with IAEA Style Manual for publications.
IRELAND	22.	Chapter 4.	If possible, Chapter 4 should be split up.	As it currently reads, it is a bit of a long and unwieldy read.			✓	The structure was kept for consistency with the approved DPP.
USA	23.	1.5	General Comment State “Primary Objective” in the beginning of the document. It is currently in Section 3.5	To improve the current organization of the document			✓	The Objective of the document (the Safety Guide DS474) itself is provided in Section 1. Section 3 provides the Primary objective of the termination.
SWITZERLAND	24.	Footnote 7, page 2	Examples of such emergencies include: a general emergency at a nuclear power plant, an emergency involving a lost dangerous source, a medical accidental overexposure, an emergency or a malevolent act involving dispersal of radioactive material into the environment or a transport accident involving nuclear	It should be made clear that the Safety Guide also applies to situation malevolent act leading to a hazard for the population and/or the environment.		✓ “...dispersal (irrespective whether intentional or not) of radioactive material ...”		Emergency involving dispersal of radioactive material can be of any cause including nuclear security event. Thus, new wording is proposed to address this comment for consistency with EPR

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			or radioactive material.					
CANADA	25.	1.8 Footnote 7	Examples of such emergencies include, <i>but are not limited to</i> ...	Examples of such emergencies include: a general emergency at a nuclear power plant, an emergency involving a lost dangerous source, a medical accidental overexposure, an emergency involving dispersal of radioactive material into the environment or a transport accident involving nuclear or radioactive material. This is not an exhaustive list. For example, accidents involving nuclear powered vessels or research reactors are not included.	✓			
INDIA	26.	1.5/ 6 to 20 page 2	-	The stated objective in para 1.5, 1.6 and 1.7 are appropriate and met by the text of the safety guide.	✓			
INDIA	27.	1.8 to 1.17 -	-	The stated scope in para 1.8 to 1.17 is appropriate and met by the text of the safety guide.	✓			
USA	28.	1.10/4	“This Safety Guide is intended to help in decision making based on scientific considerations regarding	For clarification.		✓ “... based on		For consistency.

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			radiological protection and the experience resources available.” Or, alternatively: “... radiological protection and experience available guidance using best practices and lessons learned from other States. ”			scientific considerations regarding radiological protection, lessons learned from experience and established best practices.”		
FAO	29.	Para 1.10 Lines 6 - 10	As in Nuclear or radiological emergencies may lead to enhance exposures in the long term exposures due to residual radioactivity in the environment. in the human habitat. This Safety Guide therefore anticipates that the decision making processes will not only include emergency planners, decision makers at various governmental levels and radiological protection specialists, but will also involve consultation with the public and other interested parties ⁹ .	Residual levels of radioactivity in food could contribute significantly to exposures in the long term BUT food is not necessarily produced in the human habitat (e.g. fish and seafood). However, food production is part of the environment. Therefore this sentence should be amended. Also the sentence is overly long with too many clauses and I have taken the opportunity to address this.		✓ “...due to residual radioactivity in the human habitat and in the overall environment as well, this Safety Guide anticipates that the decision making processes will not only include emergency planners...”		For consistency taking into account other comments as well.
FAO	30.	Para 1.11, Lines 11 to 16.	The guidance and recommendations provided in this Safety Guide take into account the lessons learned from past experience. Appropriate references to past accidents and	Editorial: This sentence as originally written is too long.			✓	Appropriateness of the paragraph to be considered by the Technical Editor.

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			incidents include the following: ¶ including the Fukushima Daiichi accident (2011) [6, 7]; ¶ the radiological accident in Nueva Aldea (2005) [8]; ¶ the fuel damage incident at the Paks nuclear power plant (NPP) (2003) [9]; ¶ the radiological accident in Lia (2001) [10]; ¶ the radiotherapy accident in Panama (2000/2001) [11]; ¶ the radiological accident in Goiânia (1987) [12], the accident at the Chernobyl NPP (1986) [13, 14], and ¶ the accident at the Three Mile Island NPP (1979) [15]					
USA	31.	1.12/24	...result in a public emergency exposure...	Implies that no one is expected to be exposed but, next sentence indicates worker dose should be considered.			✓	As emergency exposure situation is defined term, this addition is not appropriate. But early in the sentence as well as later in the bullet it clarifies that it relates to public exposure only.
RUSSIA	32.	1.12, Lines 21-41	Proposal –para 1.12 to be added with references to the following documents; - GSR P3, chapter 5; -ICRP Publication 103, Glossary	Due to the absence of referent definitions in this Guidance, a reference to the documents in which these definitions are present would be reasonable.		✓		These bullets are not related to definitions obtained from documents mentioned in this comment. Terms existing and planned exposure situations are

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								defined in the IAEA Safety standards (GSR Part 3 and Part 7) and they are reproduced in separate paragraph (para. 1.4 of the revised DS474).
FAO	33.	1.12 Line 25	situation. Such emergencies can be terminated in a way in which the facility, the radio activity and the	Editorial: I think it is radioactivity that is meant here rather than any particular activity in general.			✓	‘Activity’ is used in line with the term “facility and activity” which is defined in IAEA Safety Glossary and used in IAEA Safety Standards Series.
RUSSIA	34.	1.14, lines 14,15	Latest sentence should be corrected: ”However, this Safety Guide provides guidance for the 14 integration and coordination of activities from the start of the emergency until its termination starting from the emergency phase and next to it transfer phase until its complete elimination ”.	Currently the statement contradicts itself: on one hand it does not consider the emergency phase, on the other hand the Guidance gives instruction to consolidate and integrate activities from the beginning of emergency situation till its complete elimination. ie at the emergency phase and at the transfer phase.		✓ “...activities from the emergency declaration until its termination. ”		For consistency with GSR Part 7.
CANADA	35.	Para 2.1, Line 8	... under control and the situation is stable; ...	Suggest to add a note defining stable as defined on page 8, para 3.7, line 31-33.	✓			

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AUSTRALIA	36.	2.1 line 8	... is stable;	Typographical error: removal of space before semicolon.	✓			
UK	37.	2.1 line 9	Replace existing text from “The termination of....” With: “The termination of a nuclear or radiological emergency occurs when all affected areas can or have moved from an emergency exposure situation to either an existing or planned exposure situation.	Provides improved clarity.		✓		Not fully appropriate at this point. Para.2.1 only clarifies when certain situation ends and other situation starts. Clarification on this when several areas in different situations are concerned is given in the last paragraph of Section 2 (2.14).
FAO	38.	2.1 Lines 9 - 11	The termination of a nuclear or radiological emergency marks the end of the emergency or and therefore the emergency exposure situation. It also marks and the beginning of either an existing exposure situation or a planned exposure situation.	Clarification: It is not one or the other, but it is one and the other: If an emergency is terminated then, by definition, the emergency exposure situation is also terminated.		✓		Revision is accepted but the sentence is kept as one.
INDIA	39.	2.1 to 2.13	-	In emergency exposure situation there are two phases, emergency phase and transition phase. The time period / span / time scale for transition phase is		✓		The transition should be completed in less than a year. This is not just subject to public

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				<p>in days to months, even in years.</p> <p><i>This is difficult to accept by general public.</i></p> <p>Transition period should be less and the situation should be either emergency exposure situation or existing exposure situation / planned exposure situation.</p>				<p>perception but feasibility to fulfil all relevant prerequisites contained in Section 3 while accounting for available resources. During the transition period, the exposure situation is managed as an emergency exposure situation. Clarification is added that for small scale emergency the transition can be short even within a day.</p>
INDIA	40.	2.2/ 15 to18	<p>The transition phase may last only few several days for small scale emergencies (e.g. a found dangerous source) but could take weeks or months months or years for large scale emergencies (e.g. emergencies at nuclear installations resulting in significant off-site contamination).</p>	<p><i>The time scale given in Para 2.2 and fig 2.1 are not same, the changes are suggested as given in fig. 2.1.</i></p> <p>Page-7, para 2.10, line 1, This phase may last from days to months. (transition Phase)</p> <p>Page-12, para 3.24, line 31, time frames for termination: time frames in the range of weeks to one year can be proposed for terminating large scale emergencies.</p> <p>It is stated in the para 2.1 that “the transition phase ends when all the</p>	✓			<p>The wording is made consistent throughout the document (Section 2 and Section 3 primarily).</p>

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				<p>necessary prerequisites to terminate the emergency have been met”.</p> <p>The time period in years to meet the pre-requisites for termination is too high.</p>				
SWEDEN	41.	2.2/17 and 3.4/31	Change the text in 2.2 to be in line with 3.4.	It states that the transition phase can take years in 2.2 and up to a year in 3.4. The paragraphs should be harmonized, preferably stating an upper limit of one year.	✓			
TURKEY	42.	2.3	<p>The paragraph is suggested to be removed.</p> <p>Should the paragraph stay as it is, the following amendment is suggested to be made: “In this Safety Guide, the distinction among the various phases of a nuclear or radiological emergency is intended to support the planning efforts for the respective phases at the preparedness stage and facilitating communication regarding transition phase in case of an emergency.”</p>	<p>The content of the paragraph can be given in the scope section.</p> <p>As explained in para. 2.4, emergency response efforts are continuous; thus, during the response, the use of different phases or distinguishing among them at different time periods is not intended. However, the term “transition phase” can be used to explain the public and other relevant stake holders that the necessary efforts are being made for transition from the emergency exposure situation and ending the emergency.</p>		<p>✓</p> <p>“...is intended to support the planning efforts for the respective phases at the preparedness stage as well as to facilitate communication and common understanding among those involved in the planning.”</p>		For consistency.

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UK	43.	2.4 line 24	Replace existing text with: “It should be recognized that the identification and used of use of different phases in this guide is an aid to planning; during an actual emergency, all aspects of the response will be considered and implemented concurrently and the use of different phases or distinguishing among them at different time periods is not required. “	The existing text lacks clarity and is confusing.	✓			Wording rephrased in the latest versions of the draft for clarity and the Figure 2.2 was added.
FAO	44.	Para 2.4 Lines 24 - 26	It should be recognized that the emergency response efforts are continuous; thus, during the response, the use of different phases or distinguishing among them at different time periods is not intended.	Clarification necessary. Delete or rewrite this paragraph. This paragraph does not make any sense. What is not intended and why am I being asked to recognize that emergency response efforts are continuous? I have no idea what this paragraph is trying to convey. Perhaps it might help to say what is intended.	✓			Paragraph was revised for clarity taking into account other comments as well.
FAO	45.	Para 2.5 lines 27 - 29	<i>This Safety Guide considers the emergency phase only; it does not cover the period after the termination of an emergency.</i> The period covering the management of the existing exposure situation and the long term recovery operations	It is more helpful and efficient to say what the Safety Guide includes instead of writing in detail what it excludes.		✓		The formulation proposed is more appropriate for scope subsection where this is clarified. Here reference is given to other publications that are applicable for clarity.

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			after the emergency is declared to have ended is excluded from consideration in this Safety Guide.					
TURKEY	46.	2.6	The paragraph is suggested to be removed.	The related document can be addressed.			✓	The paragraph provides short link to other EPR Safety Standards to clarify the situation that is inherited at the end of emergency response phase, so as to provide basis for the guidance for the transition phase.
TURKEY	47.	2.7	The paragraph is suggested to be removed.	The related document can be addressed.			✓	The paragraph provides short link to other EPR Safety Standards to clarify the situation that is inherited at the end of emergency response phase, so as to provide basis for the guidance for the transition phase.
FAO	48.	Para 2.7 Line 36	Early in the emergency response , the response organizations focus their response actions on	Editorial: Needless repetition of the word “response”. The word “response” can be used once without altering the meaning.		✓ “Early in the emergency, the response organizations focus their response actions on...”		For consistency with the terminology used in GSR Part 7 and other EPR Safety Standards.

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AUSTRALIA	49.	2.8 line 10	This period is called the 'emergency phase'...	Editorial, grammar.	✓			
UK	50.	2.8 Lines 12-17	<p>Replace definition of the emergency phase with that in the glossary:</p> <p>“The period of time from the detection of conditions warranting an emergency response until the completion of all the emergency response actions taken in anticipation of or in response to the radiological conditions expected in the first few months of the emergency.”</p> <p>Move the discussion of when this ends (lines 14 – 17) to a new paragraph (2.9) because this is not part of the definition.</p>	Definition is not as specified in current IAEA Safety Glossary.	✓			
CANADA	51.	2.9	For the purpose of this Safety Guide, the emergency phase is divided into an urgent phase and an early phase.	Reference other IAEA documentation that supports the definition of these two phases. Otherwise, suggest reconsidering the necessity and appropriateness of including this			✓	Kept for clarity and with the aim to discuss overlaps and differences between emergency response phase and the

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			<p>Are the urgent and early phase separately defined in any other IAEA document? If not, is it necessary and appropriate to make such distinctions for the first time in a document that is not intended to address urgent and early emergency issues, but rather issues related to transition and termination.</p> <p>In addition, this distinction does not appear to play an important role in the remainder of the document.</p>	definition in a document focused on transition and termination.				transition phase without being too generic for the whole period of emergency response phase.
UK	52.	2.9 Lines 18 - 27	Delete this paragraph (and subsequent references to the urgent and early phase)	It is not consistent with the safety glossary, which identifies only an initial phase. In addition, and perhaps more importantly, the remainder of discussion in this guide is about the transition phase and subdividing the emergency phase as proposed does not appear to have any value			✓	Important to clarify relations between transition phase and emergency response phase. Initial phase is not used anymore in GSR Part 7 but it is related to the urgent phase. This will be reflected in the next edition of IAEA Safety Glossary. See also response on comment no. 51 above.
UK	53.	Figure 2.1	Remove “Urgent Phase” and “Early Phase”.	These are not consistent with the glossary, and add no extra value to the remainder of the guide.			✓	Important to clarify relations between transition phase and emergency response

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								phase. Initial phase is not used anymore in GSR Part 7 but it is related to the urgent phase. This will be reflected in the next edition of IAEA Safety Glossary. See also response on comment no. 51 above.
ENISS	54.	Figure 2.1	Figure 2.1 needs to clearly distinguish between the end of the emergency phase (or emergency response phase) and the termination of the emergency due to the end of the emergency exposure situation. The text also allows for the termination of the emergency even if emergency exposure situations still exist 3.22 & 4.99. This caveat should be identified as notes below the Fig 2.1.	Diagram and corresponding text throughout the document does not reflect that the emergency phase (as shown in the diagram) will terminate/end before the emergency exposure situation has terminated so confusion arises from the end of the emergency response, and the termination of the emergency. There are also caveats in the document that allow the emergency to be terminated even with emergency exposures still in existence, this is not clear on reading the figure and should be clearly described here for clarity.	✓			Addition is made in new para 2.11 to clarify that during the transitioning we are still in a situation that is managed as an emergency exposure situation although the emergency response phase ended.
FAO	55.	Para 2.10 Lines 29 - 32	For the purposes of this Safety Guide, the transition phase is the period following the emergency phase. During the transition phase, when the situation is under control	Editorial.	✓			The paragraph was revised taking into account other comments as well.

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			(see para. 2.8), <i>the radiological situation has been characterized in detail, activities are planned and being implemented to enable the emergency to be formally declared terminated</i> detailed characterization of radiological situation has been carried out and activities are planned and implemented to enable the emergency to be declared terminated.					
RUSSIA	56.	Para 2.10 lines 29-32, 1-4	Add para 2.10 with references to the following documents: <ul style="list-style-type: none"> - GSR P7, Attachment II; - GSR P3, para 4.26-4.21 	Due to absence of referent definitions in this Guidance, a reference to the documents in which these definitions are present would be reasonable.		✓		Emergency phase concept as used in the IAEA Safety Standards and the Safety Glossary is explained in para. 2.9 (renumbered) of DS474. The concept of transition phase is introduced and clarified here. The description is consistent with GSR Part 7 and GSR Part 3 but it is not contained there.
UK	57.	2.11 Ln 8-10	Change first sentence to: “In comparison to the emergency phase, the transition phase is not driven by urgency and allows for	Makes expectation clearer and easier to read.			✓	In line with response on comment no. 53.

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			planning, justifying and optimizing future protection strategies and for consultation with interested parties.”					
TURKEY	58.	2.11/10-13	The part “Depending on the nature of the nuclear or radiological emergency, these processes may continue in the longer term after the emergency has been declared terminated. During this period, the implementation of remedial actions might be more efficient than carrying out further disruptive public protective actions” is suggested to be removed.	The statement “ The guidance and recommendations provided in this Safety Guide are not to be applied to “... long term remediation” is already given in paragraph 1.13			✓	For clarity this is explained in several instances.
CANADA	59.	2.11 Line 12	During this period, the implementation... Unclear which period this sentence refers to. Does it refer to the transition phase (described in line 8 – 10) or the longer term after the emergency has been declared terminated (described in line 10 – 12).	Clarity	✓			The sentence applies for both periods. Changes are made in the paragraph.
TURKEY	60.	2.12	The paragraph is suggested to be removed.	The paragraph does not provide any guidance.			✓	Section 2 overall does not provide guidance and recommendations but it introduces concept of “transition phase” for which

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection guidance and recommendations are given in Sections 3 and 4 of the Safety Guide.
AUSTRALIA	61.	2.12 line 21	Replace 'determining' with 'to determine'	Editorial, grammar.	✓			
USA	62.	2.13/25	Change "temporarily" to "temporally" .	To use the correct word and confirm Figure 2.1. This section intends to indicate exposure situations would exist in the same physical space and same time and not to be short lived or temporary.	✓			
CANADA	63.	2.13 Line 25	...geographically and <i>temporally</i> ...	Typographical error (...geographically and temporarily...)	✓			
TURKEY	64.	2.13/25	The part "(see Fig. 2.1)" is suggested to be erased.	The figure does not seem to be explanatory for "spatial variability of the measured quantity".	✓			The figure is representing one area at a time.
UK	65.	2.13 Lines 27 - 28	Suggest consider amending text slightly to:	Proposed text is clearer.	✓			

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			“The transitioning from the emergency exposure situation will occur gradually in specific areas within the whole affected area.”					
ENISS	66.	pg 7(2.13) Ln 28-30	In this case, the transition phase will end when the termination of the emergency exposure situation has been declared for the final area.	Clarifies the termination of the emergency and the termination of the emergency exposure situation.		✓ “...the transition phase will end when the final area that is in emergency exposure situation will transit to an existing exposure situation.”		For consistency.
ENISS	67.	pg 8 Ln 2	terminate the emergency and the emergency exposure situation	Showing that the emergency and emergency exposure situations can be ended at a different time to show link to 3.22 and 4.99	✓			
UK	68.	3.2 Lines 12-14	Delete sentence	Does not make sense. What is the intermediate objective referring to?		✓ “...should consider this primary objective and these prerequisites as intermediate ones.”		For clarity.
TURKEY	69.	3.2/14	“Intermediate objective” should be “primary objective”.	“Intermediate objective” is not defined in the text.	✓			Changed to “...should consider this primary objective and these prerequisites as intermediate ones.” taking into account any

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
								other long term objective countries may need to set.
ENISS	70.	Pg 8(3.4) Ln 21-22	Some geographical areas or some parts of the site may therefore be managed as an emergency exposure situation , as a planned or an existing exposure situation	Maintains consistency talking about radiological conditions.			✓	As not necessarily each emergency exposure situation is a nuclear or radiological emergency, the term is kept to a nuclear or radiological emergency to address all types of emergencies.
UK	71.	3.4 Lines 21-23	Replace Lines 21 – 23 with the following: Some geographical areas or some parts of the site may therefore be managed as an emergency exposure situation while others may be managed as a planned or existing exposure situation, as appropriate’.	Last sentence is incorrect and contradicts Paragraph 2.13.			✓	As not necessarily each emergency exposure situation is a nuclear or radiological emergency, the term is kept to a nuclear or radiological emergency to address all types of emergencies.
UK	72.	3.5 Lines 25 - 26	Replace text with: “The primary objective of the transition phase is to facilitate termination of the emergency and the timely resumption of social and economic activity.”	Existing text does not read correctly – the termination of the emergency is not ab activity but an outcome.			✓	It is not appropriate to put an objective on the phase itself. The concept of termination that encompasses fulfillment of various prerequisites during transition phase has this objective.

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RUSSIA	73.	3.8 Lines 1-2	“Prior to the termination of the emergency, the radiological situation should be well characterized, exposure pathways ...”. Either the criteria of “well characterization” of radiological situation should be presented.	Criteria of “well characterization” of radiological situation are not introduced in current text of Guidance.		✓		Guidance on characterization of the exposure situation is provided in Section 4 of DS474.
RUSSIA	74.	3.8 Lines	Doses 16 assessed for all most affected populations...>>.	Practically such dose assessment presents a condition of transfer from status of accidental exposure to status of planned exposure, when a dose assessment not of all, but only of most affected population is required.	✓			
USA	75.	3.8/1-2 and 4.20/11	Suggest adding boundary conditions to this prerequisite. The “affected area” may change with respect to time as material migrates. Doses could therefore be calculated or modeled well outside of the boundaries of the initially identified release and could not be reasonably predicted in the preparedness phase.	For clarification. The referenced document –GSG-2 – pertains to specific periods of time which may exceed the time to complete a transition.			✓	4.20 was deleted based on other comments. Prerequisites apply to all affected areas which are actual ones taking into account changes with time. These are not areas determined at preparedness stage although these will help us prepare before any emergency occurs.
CANADA	76.	3.9 & 3.10 And 4.16-4.21.	No proposed text but a review of the text should be done to ensure that both sets of paragraphs are effectively in line with Requirement 4 of GSR Part 7	Page 9, Para 3.9 & 3.10 seem to be talking about hazard assessment following an emergency – hence considering the effects of the emergency, such as the doses	✓			Para. 4.20 was removed. Paras 4.19 and 4.21 were updated for clarity. The paragraphs

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				<p>generated.</p> <p>Page 15, Para 4.16-4.21 seem to be mainly referring to the preparedness stage</p> <p>Hazard assessment to terminate a nuclear or radiological emergency should be based on the situation on hand instead of a postulated situation as implied in paragraphs 4.16, 4.17, 4.18.</p>				are consistent with paras 4.26, 4.27 and 5.100(e) of GSR Part 7.
SWEDEN	77.	3.11 and 4.21	Consider to remove or rephrase paragraphs 3.11 and 4.21 according to comment in the next column.	These requirements prioritize those not affected by the emergency instead of the actually affected. Emergency arrangements should be revised following a nuclear or radiological emergency, but it seems unreasonable to have that as a prerequisite to terminate the emergency at hand.		✓		This relates to hazards associated with, for example, the accident-damaged facilities (which may further pose risk but existing emergency arrangements for them are not more appropriate). The paragraphs are in line with para. 5.100(e) of GSR Part 7. Proper reference to GSR Part 7 is made for clarity.

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SWITZERLAND	78.	3.14	Add the IAEA definition for “community resilience” in a foot note	The term resilience is not clearly defined in research and practical use	✓			Footnote was added as following: “That is the capacity of the community to be able to recover quickly or easily from the consequences of a nuclear or radiological emergency.”
FAO	79.	Para 3.14 line 6	relevant to the termination of the emergency should be identified and actions to address them considered	Clarification: The issue must be to consider actions to address non-radiological consequences. Just considering non-radiological consequences in their own right is not helpful. The guidance must be to consider some action, not something.	✓			
ENISS	80.	pg 10(3.15) Ln 7	A process to identify those individuals that require	An emergency can be terminated without identifying all individuals involved as long as there is a process to identify them.		✓ “A registry of those individuals identified, at the time, as requiring further medical follow up...”		For clarity.
ENISS	81.	Pg 10(3.16) Ln 10	when appropriate, during the transition and recovery phases	dealing with radioactive waste would likely occur in the transition phase and afterwards in any recovery phase.			✓	The paragraph is not exclusive to the management of the waste during the transition phase but sets up the basis for how the waste will be managed

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection in future.
TURKEY	82.	3.18/21	“Self-help actions” should be explained where it is first mentioned in the text.		✓			
ISRAEL	83.	Page 10 Line 25	Radiological health hazards associated with the new exposure situation and the need for health surveillance	More accurate definition		✓		The need for health surveillance has its target audience among those subjected to it. However, as it is important to communicate in this regard to relevant populations, this is highlighted in para 4.17 of DS474 (last sentence).
USA	84.	3.18/22-23 and 3.21/14-15	Apparent contradiction. Suggest clarifying statement at first mention of “individual monitoring.”	There seems to be a contradiction between these two points. Perhaps additional text in the first mention of individual monitoring would help clarify.	✓			Consistency is ensured and individual monitoring removed.
ENISS	85.	Pg10(3.19) Ln 31 to pg 11 Ln 3	Delete all lines	This paragraph adds no benefit to the document and confuses accident analysis, making the plant safe, and the termination of an emergency exposure situation. Actions are not required to move to a planned exposure situation			✓	Important aspects if there is a need to return to a planned exposure situation after an emergency. It is in addition to general prerequisites where the

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection aspects mentioned in the comment are addressed.
TURKEY	86.	3.19/1.2	“... procedures that limit or prevent the use or handling of the source until information or data is gathered to have a better understanding...”	“Data” or “information” is gathered but “understanding” is not.	✓			Changed to “...until the circumstances surrounding the emergency situation have been better understood...”
ENISS	87.	pg 11(3.20) Ln 24 - 27	Remove paragraph	This action is not required to move to an existing exposure situation, however, it is a valid Recovery action. Suggestion is to move this to a recovery section at the end of this section if it is to be kept in the document.		✓		Addition is made to relate the applicability to prior the emergency is terminated..
ENISS	88.	pg 11(3.20) Ln 30 - 32	Remove paragraph	This action is not required to move to an existing exposure situation, however, it is a valid action before moving to the Recovery phase. Suggestion is to move this to a recovery section at the end of this section if it is to be kept in the document.		✓		Addition is made to relate the applicability to prior the emergency is terminated.
ENISS	89.	pg 12(3.20) ln 7-8	Remove paragraph	This action is not required to move to an existing exposure situation, however, it is a valid Recovery action. Suggestion is to move this to a recovery section at the end of this section if it is to be kept in the document.			✓	Important consideration to meet the primary objective.

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ENISS	90.	pg 12(3.20) ln 9-10	Remove paragraph	This action is not required to move to an existing exposure situation, however, it is a valid Recovery action. Suggestion is to move this to a recovery section at the end of this section if it is to be kept in the document.		✓		Formulation as “consideration” is made to allow that this is not an exact action to be completed but to acknowledge that these aspects should be taken care of in a timely manner to provide for public reassurance.
CANADA	91.	3.20	Add the concept that not all prerequisites will need to be met in all cases.	It is possible that some of the general prerequisites for transition to an existing exposure situation may not be required depending on the extent of the emergency. Examples of prerequisites that may not always be required include: <ul style="list-style-type: none"> - Areas have been delineated which may not be inhabited and where it is not feasible to carry out social and economic activity. - A program for long term medical follow-up for the registered individuals has been developed. Etc.	✓			Update made in para. 3.1 for clarity. Graded approach in application of the prerequisites is addressed in the Introduction Section and in para. 3.1 of Section 3.
USA	92.	3.20	Consider revising this section to be either planning before the event or	The prerequisites listed are a mixture of actions that need to be taken in an	✓			The list was reviewed. All the prerequisites are to be fulfilled during the

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			requisite actions during the event.	event as well as actions to be done in advance- ie planning/preparedness actions.				response. However, preparedness for all of them is essential and addressed in Section 4. Depending on the nature of prerequisite formulation differs. None of the prerequisites is formulated as a preparedness action.
SWEDEN	93.	3.20/7	Consider to revise the statement about a strategy for mental health and psychosocial support.	A strategy for mental health and psychosocial support is certainly necessary after a large nuclear emergency. However, it seems unreasonable that it must be developed before the emergency is terminated.		✓		It is important to be developed as early as possible (but not earlier) in light of past experience. A year's time is too long after large scale emergency to ignore its importance. However, please note para 3.1 on graded approach to application of prerequisite to address the actual circumstances.
SWEDEN	94.	3.20/9	Consider to revise the statement about compensation.	Compensation is an important question. However, it is unreasonable that it is linked to the termination of the emergency. Compensation is a very difficult process that for a large nuclear emergency can take many		✓		Formulation is such that this is an aspect to provide for public reassurance without any specific action expected to be completed for the

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
				years				termination of the emergency. Addition, in this regard is given for clarity “Consideration has been given to the compensation of the victims for damage resulting from the emergency to provide for public reassurance notwithstanding that the compensation processes will extend even after the emergency is terminated”.
UK	95.	3.20 Lines 14-17	Suggest adding additional text as follows: approach the lower band of the reference level for an emergency exposure situation, and the upper band of the reference level for an existing exposure situation	It is useful to link with upper band for existing exposure situations as well as lower band for emergency exposure situations		✓		More precise formulation is given in the prerequisites. However, this is clarified in Section 4 (para. 4.58).
TURKEY	96.	3.20/19	“... social and economic activity or where specific restrictions are required to be continued.”	Since, in the following sentence “specific restrictions” also mentioned.			✓	Not appropriate change as this is a description of what these areas are.

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SWEDEN	97.	3.20/25	Clarify which areas that should be considered to be affected.	What is an affected area e.g. in terms of ground contamination? This requirement seems to be relevant in areas where evacuation or relocation has been lifted. In other areas, the society should already function, albeit with great difficulties.	✓			
SWEDEN	98.	3.21	Consider to change the text and state that individual monitoring may be required.	Individual monitoring for radiation protections purposes can still be required considering that an excess dose of up to 20 mSv would be allowed in the existing exposure situation. Optimization should be performed in an existing exposure situation following an emergency and a key input to that it results from individual monitoring.		<p>✓</p> <p>“...Following the termination of the emergency, individual monitoring of members of the public should in general no longer be required for radiation protection purposes. This does not rule out the fact that doses of individuals may differ considerably depending on people’s individual habits, that they need to be assessed, and that they may still need to be addressed in the long term protection strategy.”</p>		Assessment may continue be necessary and addressed in long-term (which may include to some extent some individual monitoring to judge the effectiveness of protection strategy) but individual monitoring is not required as for the emergency exposure situation. Addition is made for clarity.

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UK	99.	3.21 Lines 14-15	Following termination of the emergency, individual monitoring of members of the public should in general no longer be required for radiation protection purposes.	There will be some situations where it will be necessary to continue individual monitoring.		<p style="text-align: center;">✓</p> <p>“...Following the termination of the emergency, individual monitoring of members of the public should in general no longer be required for radiation protection purposes. This does not rule out the fact that doses of individuals may differ considerably depending on people’s individual habits, that they need to be assessed, and that they may still need to be addressed in the long term protection strategy.”</p>		Assessment may continue be necessary and addressed in long-term (which may include to some extent some individual monitoring to judge the effectiveness of protection strategy) but individual monitoring is not required as for the emergency exposure situation. Addition is made for clarity.
CANADA	100.	Sections 3 – 4	<p>Hazard assessment</p> <p>The use of the hazard assessment in this document does not always appear to be in alignment with Requirement 4 of IAEA GSR-7.</p> <p>DS474 paragraph 3.23 describes the</p>	<p>Ensure that the use of the hazard assessment in DS474 is consistent with the intention of GSR-7.</p> <p>Any new requirements should focus specifically on the transition and termination aspects of a nuclear emergency.</p>		✓		Para 4.20 was deleted. Paras 4.19 and 4.21 were revised and kept consistent with paras 4.25 and 4.26 of GSR Part 7.

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			<p>need for a hazard assessment to be completed at the <i>preparedness stage</i>. Paragraphs 3.9 – 3.10 then describe the need for a hazard assessment to be completed during the <i>emergency phase</i> prior to any decision to terminate the emergency. As described in GSR-7 Requirement 4, the hazard assessment appears to be largely a preparedness and response planning tool. While assessing and understanding the situation during the emergency phase is certainly important, it is not clear based on GSR-7 that ‘hazard assessment’ is the correct terminology. This may lead to confusion.</p> <p>In addition, new aspects of the hazard assessment are defined in DS474 that are not defined in GSR-7. For example, paragraph 4.20 describes a number of items that need to be characterised in detail in the hazard assessment. This same list is not found in GSR-7. Is it appropriate to be defining detailed new requirements of the hazard assessment in a document that focuses only on specific aspects of</p>	<p>Ensure that the use of the protection strategy is aligned with the intention of GSR-7.</p>				

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			a nuclear emergency (i.e. transition and termination).					
CANADA	101.	Chapter 4.	<p>Protection Strategy</p> <p>The use of the protection strategy in this document does not always appear to be aligned with the requirements of IAEA GSR-7.</p> <p>For example, paragraph 3.2 refers to the need for a specific protection strategy for the transition phase. Paragraph 4.26 requires that the 'protection strategies' extend beyond the termination of an emergency. These are both new requirements that are not discussed in GSR-7.</p>	As it currently reads, it is a bit of a long and unwieldy read.			✓	See para. 4.21 of DS474. GSR Part 7 addresses the protection strategy for the overall emergency and thus applies for all phases. DS474 focuses on transition phase. The protection strategy for existing exposure situations is beyond the scope of DS474.
ARMENIA	102.	4. ARRANGEMENTS FOR THE TRANSITION PHASE /4.19 25/ The potential impact of non-radiological factors, such as public	25 For example ... to add abandoned sources >> words	Many radioactive sources were left without supervision due to the shutdown of many organizations after the independence of the former Soviet Republics.		✓		The proposed example is covered with the example of radiological emergency involving a dangerous source.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		concerns and the political situation, on decision making at the time of the emergency.						
INDIA	103.	4.08 page 16	-	<p>Nuclear or radiological emergencies are classified into General emergency, Site area emergency, Facility emergency, emergency alert and other nuclear or radiological emergency for applying graded approach.</p> <p>Also, GSR part-7 para-5.14: emergencies are classified into General emergency, Site area emergency, Facility emergency.</p> <p><i>This guide can include the criteria for the termination of each type of emergency.</i></p>		✓		Para. 3.1 provides for a graded approach in the application of prerequisites. The examples here allow to identify what set of prerequisites might be appropriate for a postulated emergency in each emergency class.
INDIA	104.	4.3/8-29	<p>Add Note below the para 4.2: above requirements are applicable for both emergency phase and transition phase.</p> <p>For clarity</p>	<p>The requirements stated in para-4.2 are applicable in the emergency exposure situation and not only for transition phase.</p>		✓		Transition occurs within the emergency exposure situation. As the scope of DS474 is on transition phase, consideration here is not given on emergency phase.

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UK	105.	4.5 Line 4	Revise text as follows: “In the emergency phase, the discharge of...”	Provides greater clarity - see earlier proposal about use of urgent and initial phase.			✓	In line with response to comment no. 53.
UK	106.	4.6 Line 14	Revise text as follows: “...have been directly engaged during the emergency phase.”	See above			✓	In line with response to comment no. 53.
FAO	107.	Para 4.7 Lines 21 to 22	evacuation; b) sheltering; c) iodine thyroid blocking; d) restrictions on food, including milk local produce, milk from grazing animals , rain water or other open sources of drinking water; e) restrictions on the use of evacuation; b) sheltering; c) iodine thyroid blocking; d) restrictions on food, including milk local produce, milk from grazing animals , rain water or other open sources of drinking water; e) restrictions on the use of	Factual correction: During an emergency it would be impossible to tell the difference between milk from a grazing animal and milk from an animal raised in a zero grazing system (e.g. milk from a cow grazing open pasture or a from a cow raised on feed in a barn). It is sufficient to say restrictions on food, including milk (milk is a food so you shouldn't say “food and milk”). Factual correction: During an emergency it would be impossible to tell the difference between milk from a grazing animal and milk from an animal raised in a zero grazing system (e.g. milk from a cow grazing open pasture or a from a cow raised on feed in a barn). It is sufficient to say restrictions on food, including milk (milk is a food so you shouldn't say “food and milk”).			✓	Proposed changes are not consistent with GSR Part 7. The goal here is to protect the milk from being contaminated due to animals grazing on contaminated pasture. This discussion is out of scope of DS474 and it is addressed in GSR Part 7 and its supporting guidance.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
ENISS	108.	pg 15(4.11) ln 9	term under different exposure situations	covers all possible exposure situations not just existing. Noting that emergency exposure could still exist after the emergency has been terminated 3.22 and 4.99.		✓ “...an existing or a planned...”		For consistency.
TURKEY	109.	4.12/12	“Transfer of information and data” should be written in bold.	Editorial			✓	The subtitle belongs under the title on Management organization.
ENISS	110.	pg 15(4.13) ln 14	within an emergency , planned or existing exposure situation	covers all possible exposure situations not just existing. Noting that emergency exposure could still exist after the emergency has been terminated 3.22 and 4.99.			✓	The paragraph addresses the transitioning from emergency to existing exposure situation. The longer-term here relates to recovery after large scale emergency.
USA	111.	4.14	Suggest adding bullets regarding potential continuation of regular data reporting (i.e. daily/monthly reports of ambient dose rate to other organizations, the public, etc.) and potential data sharing and distribution restrictions or required markings.	This is a lesson learned from U.S. experience in responses, and it may be universally applicable.		✓ “...organizations taking into account the need for continued data collection and sharing during the transition phase as well as in longer term. ”		Additions made to paragraph in line with proposal, without referring to specific data set.
ENISS	112.	Pg 15(4.16) Ln 30 - 39	Remove paragraph	This is covered by GSR P7 and is not part of termination of an emergency.			✓	It quotes basis from GSR Part 7 in line with

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				unnecessary duplication and leads this section to cover other areas not required				IAEA style manual and SPESS guidance for drafters. It provides an input to the following paragraphs for clarity.
UK	113.	4.16 Lines 30 - 39	Consider removing paragraph as this duplicates other standards.				✓	It quotes basis from GSR Part 7 in line with IAEA style manual and SPESS guidance for drafters. It provides an input to the following paragraphs for clarity.
TURKEY	114.	4.16/30-39 4.16/32-34	The part “Five emergency preparedness categories are used to group the assessed hazards in relation to facilities, activities and sources and their potential consequences. “ Is suggested to be deleted. Otherwise, the paragraph can be given as a footnote.	The concepts “Emergency Preparedness Categories” and “Emergency Classification” are already introduced in GSR Part 7 and well known to the member states. Thus the explanation given in the paragraph can be carried to footnote for avoiding repetition and keeping the text as concise and reader friendly as possible. Other parts of the draft are suggested to be reviewed accordingly.			✓	Kept in line with the agreement reach at the Technical Meeting held in September 2015. Namely, it was recognized that not all Member States are aware of them particularly those organizations which will work on the recovery but are not involved early in emergency response. For clarity, such information is kept throughout DS474.

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
CANADA	115.	4.18	The graded approach suggested is based on emergency classification levels for events occurring at a nuclear power plant. This is not representative of all types of radiological or nuclear emergencies.	Use the graded approach on the same basis as IAEA GSR-7 Table 1 (i.e. the five emergency preparedness categories).		✓		Applicability of hazard assessment and the emergency preparedness categories given in GSR Part 7 is mentioned in para 4.16 without going in details as it goes beyond the scope of DS474. The classification introduced in GSR Part 7 (para 5.14) applies for all categories 1 to 4 of GSR Part 7 (not only NPPs/cat 1). Classification is associated with level of emergency response needed as discussed in para 4.18. This should not be mixed with emergency preparedness categories.
USA	116.	P. 16, line 10	Recommend that a footnote be created to describe what is “emergency preparedness category I or II”. The foot note should also include the definition of a “category III” as well (see line 23	Clarification of terminology used.		✓		Reference is made to GSR Part 7 (Requirement 4) for all the five emergency preparedness categories in para. 4.16 of DS474.

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
RUSSIA	117.	4.18	Add para 4.18 with: Classification of accidents is arranged in compliance with GSR Part 7 in case of transfer to the planned exposure.	Classification of accidents corresponds to the GSR Part 7, but definition of classes of accidents is based on the transfer to planned exposure.			✓	Para. 4.18 addresses the emergency classes as used/defined in GSR Part 7 to indicate the level of response needed. Here they are used to give an overview on what the new exposure situation after such emergency may look like (either planned or existing) to clarify the level of response needed during the transition phase as well as the level of preparedness warranted before any emergency occurs.
TURKEY	118.	4.18/17-20	The sentence “ In the context, the planned exposure situation may be associated with a continuation of normal operation, clean-up and decommissioning activities or end of operational life of the source involved in the emergency, as applicable” should be removed.	The statement “Depending on the type of the emergency, the planned exposure situation can be associated with the normal operation, clean-up and decommissioning or end of operational life of the source involved in the emergency” is already given on page 11 as footnote 22. So it should be removed from page 16 to avoid repetition.			✓	Here it is provided for clarity in the context.

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
TURKEY	119.	4.18/25	The phrase “emergencies in emergency preparedness category IV” should be amended as “emergencies that may take place in activities and acts or at facilities in preparedness category IV”	Emergencies are categorized with emergency classes not with emergency preparedness categories.	✓			
AUSTRALIA	120.	4.19/line 2	Replace ‘emergency’ with ‘emergencies’	More than one postulated emergency.	✓			
ENISS	121.	Pg 17(4.20) Ln 6 to 18	Remove paragraph	Outside of the remit of termination of an emergency documentation	✓			
UK	122.	4.20 Ln 6 to 18	Consider removing paragraph	Not part of transition and covered by other documents	✓			
AUSTRALIA	123.	4.20 line 15	Replace ‘impact’ with ‘impacts’	More than one impact.	✓			Note para. 4.20 was deleted based on other comments.
ENISS	124.	pg17 Ln 19 - 26	4.21. Before a decision to terminate the emergency can be made the emergency arrangements should be	Paragraph was confused and unfocused. Rewritten to ensure that the emergency is not terminated with		✓		Reference to GSR Part 7 was given in the paragraph and the

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			assessed as adequate against any new risk identified resulting from the emergency. The thorough hazard and risk (magnitude and likelihood) assessment of the situation and its future development should be performed consistently with Requirement 4 of GSR Part 7 [2] or detailed safety analysis consistent with the application of the <i>graded approach</i> .	an inadequate response capability being left to respond to an identified risk.				paragraph was kept for consistency with GSR Part 7.
UK	125.	4.21 Ln 19 - 26	4.21. Before a decision to terminate the emergency can be made the emergency arrangements should be assessed as adequate against any new risk identified resulting from the emergency. The thorough hazard and risk (magnitude and likelihood) assessment of the situation and its future development should be performed consistently with Requirement 4 of GSR Part 7 [2] or detailed safety analysis consistent with the application of the graded approach.	Paragraph was confused and unfocused. Rewritten to ensure that the emergency is not terminated with an inadequate response capability being left to respond to an identified risk		✓		Reference to GSR Part 7 was given in the paragraph and the paragraph was kept for consistency with GSR Part 7 taking into account that the hazard assessment is well established term.
FAO	126.	4.21 Lines 19 - 26	An emergency may give rise to new hazards or alter the risks associated with hazards that existed before the emergency and	Clarification: In an emergency there would be many hazards applicable to the state, but I think the key message here is that an emergency could give		✓		The proposed wording is not consistent with GSR Part 7 and the concept of hazard assessment but it

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			<p><i>continue to be present during the event.</i> result in changes in the hazards applicable to the State as compared to hazards prior to the emergency. This may warrant adjustment of the emergency arrangements in place prior to the emergency (i.e. revision of existing emergency arrangements and/or introduction of new arrangements to manage the new hazards <i>and risks</i>). As a result, before a decision to terminate the emergency and transition to a different exposure situation can be made, a thorough hazard assessment of the situation and its future development should be performed consistently with <i>in accordance with</i> Requirement 4 of GSR 24 Part 7 [2]. Its implications on the existing emergency arrangements also need to be identified and addressed (see paras 3.9 - 3.11 of Section 3).</p>	<p>rise to new hazards and also result in a situation where the exposure to danger (risk) from pre-existing hazards' are different to what they were before the emergency. I also think the emphasis should be on hazards and risks in general (i.e. including hazards and risks to individuals and their environment, and not only to the State itself). Therefore do not use the word State.</p>				<p>addresses new hazards taking into account that some which were applicable before, they are not applicable any more. Ref. to GSR Part 7 is given for clarity.</p>
UK	127.	4.22 footnote	Footnote 25: replace “urgent and early phase” with “emergency phase”	See earlier comments – existing phrases do not align with the glossary and do not add to the text.			✓	In line with response to comment no. 53.

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
FAO	128.	Para 4.27 Lines 25 to 34	<p>The Transition phase protection strategies developed at the preparedness stage for the transition phase may need not be as detailed as those response strategies developed for the emergency phase. This is often largely due to large uncertainties in the prediction of because the long term development of the radiological situation for postulated nuclear or radiological emergencies cannot be predicted with a high degree of certainty before an event. In general, the transition phase protection strategies will build on protective actions implemented in the emergency phase. Other uncertainties involve the social, economic, political and other aspects prevailing at the time of the emergency and the increasing importance of these non-radiological factors later in the response. Thus, the part of the transition phase protection strategies for the transition phase should be further elaborated and adapted during the transition phase itself, as part of the emergency</p>	<p>Clarification: The transition phase protective strategies are not new actions, but they build upon the protective actions already implemented or considered in the emergency phase. This paragraph needs to be altered because it seems to indicate that some new protection strategies need to be considered in planning, when this is not the case. What the Safety Guide actually advocates is refining and adapting protective actions as the response progresses towards termination of the emergency. The transition phase protective strategies have a new emphasis; the objective and pre-requisites given in Section 3.</p>			✓	<p>The proposed wording is using new concept of response strategy which is not in line with GSR Part 7. The figure 4.1 shows that protection strategy for transition builds on the situation at the end of emergency response phase when pre-planned protection strategy is implemented.</p>

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			<i>response itself</i> , as relevant information becomes increasingly available. The process for <i>refining and</i> adapting the protection strategy during the emergency response should be agreed, at the preparedness stage, with all relevant authorities and interested parties and should be included in the strategy.					
UK	129.	4.29 Line 4	Change text to: As part of the processes of justification and optimization	Justification and optimization are two different processes, so minor change to reflect this.	✓			
TURKEY	130.	4.29/8-12	The part “For example. If two options within the protection strategy provide the same level of protection of the public during the emergency phase, the one that is less disruptive to society should be the preferred option, as it will support the later efforts associated with the termination of the emergency and the overall recovery. However, such considerations should not compromise the effectiveness of the protection strategy for the emergency phase” is suggested to be removed from the document.	The part does not provide any addition benefit or insight regarding justification and optimization for the transition phase.		✓		It does when final decisions will be made on protection strategy to be implemented to meet the actual circumstances of the emergency. As it is an example, the text was removed in a footnote.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
TURKEY	131.	4.31/19	“Self-help actions” should be defined.	The phrase is used as a term and explained only in the annex.	✓			Clarification was given where those actions are mentioned for the first time.
TURKEY	132.	4.34/29,30	Paragraph 4.34 should be removed from the text.	Paragraph 4.34 is not specific to transition phase. Thus it can be removed.			✓	As DS474 addresses the protection strategy which is implemented through execution of these emergency arrangements consistently with Requirement 5 of GSR Part 7, the paragraph is kept.
UK	133.	4.35 Ln 34	Amend to: “as may be the case during the emergency phase”.	See earlier comments			✓	In line with response to comment no. 53.
UK	134.	4.35 Lines 34 -37	Amend to: “As the emergency evolves, and particularly...”	Will be the case throughout the emergency.	✓			
UK	135.	4.37 Line 4	Replace existing sentence with: ‘Reassessment and adaptation of the protection strategy during the transition phase is an iterative process’	There is no need to specifically include justification and optimisation.			✓	It is important to highlight this as depicted on Figure 4.1. The proposed wording is also not a recommendation (not a

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection ('should' statement).
AUSTRALIA	136.	4.38 line 8	Add reference to DS475	Communication with relevant authorities should be covered in DS478.	✓			
UK	137.	4.40 Line17	Amend text to: “ In contrast to the emergency phase, when...”	See earlier comments			✓	Here the important difference is with the urgent response phase and not with the early phase to the same extent. This is also in line with the response to earlier comment no. 51.
ENISS	138.	Pg 20 Ln 17 - 19	Although radiation protection considerations dominate when radiation levels are at a level that cause severe deterministic affects the non-radiological factors should always be taken in to consideration in any protection strategy, this becomes an increasingly important input to decision making in the transition phase.	This is really outside the remit of this termination document. However, as the dominate effect of many nuclear emergencies has been psychological the protection strategy should be dominated on the philosophy of ‘more good than harm’. Radiation protection considerations should not automatically dominate any decision as killing someone through evacuation is a lot worse than giving them some dose.		✓ “...The non-radiological factors become an increasingly important input to the decision making in the transition phase as the doses tend to decrease with the effective implementation of the protection		For consistency.

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows strategy.”	Rejected	Reason for modification/rejection
UK	139.	4.41 Line 23	The processes of justification and optimization should consider a variety of factors ...’	As in comment above for paragraph 4.29 - Justification and optimization are two different processes, so minor change to reflect this.	✓			
TURKEY	140.	4.43/Fig. 4.1	Separation between the emergency and transition phases is suggested to be reviewed.	There may not be a sharp border between the emergency and transition phases which can be seen in Fig. 4.2		✓		Figure 2.1 was revised based on other comments as well and it depicts the overlap. Figure 4.1 has not the goal in doing so.
ENISS	141.	4.43/Fig. 4.1	Box on the far left should read – End of the emergency response phase	To align with comments on Fig 2.1	✓			
TURKEY	142.	4.43/Fig. 4.1	An inner loop of iteration is suggested to be defined between the steps “ Identify possible adaptations of the protection strategy” and “Justify the adapted protection strategy”	What if the adapted protection strategy is not justified?	✓			
UK	143.	4.44 Line 6	Replace ‘radiation detriment’ with ‘radiation dose’ or add footnote to define radiation detriment	To make text consistent with recognised terminology.			✓	Quote from GSR Part 3. In addition, term “radiation detriment” is defined in IAEA Safety Glossary.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
UK	144.	4.45 Line10	Replace 'radiation detriment' with 'radiation dose' or add footnote to define radiation detriment	See above			✓	In line with the response on comment no. 143.
SWEDEN	145.	4.46	Consider to remove the statement that all actions should be determined at the preparedness stage.	It is not realistic that all justified actions can be determined at the preparedness stage. Consider e.g. actions taken by food productions companies in Sweden after the Chernobyl accident setting limits of radioactivity in food far below national levels. The limits were clearly not driven by radiation protection, but it kept the companies in business thereby likely making the action justified in a broader perspective.		<p style="text-align: center;">✓</p> <p style="text-align: center;">“... stage with account taken of the uncertainties in and limitations of the information available.”</p>		Addition made in the paragraph to stress this is to be achieved in the light of uncertainty present and limitations in available information. This is in line with GSR Part 7, Requirement 5. Adaptation of the strategy is then performed as the emergency evolves to address actual circumstances.
TURKEY	146.	4.46/18,19	The phrase “Protective actions and other response actions solely justified on the basis of political pressure or public concerns that do not have any scientific and technical merit” should be changed as “Protective actions and other response actions implemented solely due to political pressure or public concerns that do not have any scientific and technical merit”	If the protective actions mentioned do not have any scientific and technical merit should not be justified from the very beginning.	✓			

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
UK	147.	4.46 Line 17	A justified protection strategy should be determined ...	It is the strategy that is justified		<p style="text-align: center;">✓</p> <p>“Justified protection strategy and justified actions within a protection strategy...”</p>		For consistency with GSR Part 7 .
CANADA	148.	4.50 Line 34 and 4.52 Line 2	Clarify reference to the “ALARA” concept.	The ALARA concept is often misinterpreted, where “as low as reasonable achievable, economic and social factors being taken into account” becomes “as low as possible (ALAP)”. Despite the text current surrounding this sentence, the concepts of justification and detriment should be strengthened. As indicated, detriments of implementing protective actions have to be weighed against their benefits. Maintaining exposures as low as reasonably achievable needs to ensure that actions are justified, and that the detriments are fully considered (e.g. moving medical patients away from the Fukushima NPP following the accident in March 2011).	✓			ALARA is addressed in para. 4.49 of DS474. Para. 4.51 (renumbered) makes reference to para. 4.44 to ensure that the optimization applies only to actions that are justified. This is in line with para. 4.48 of DS474.
UK	149.	4.52 Line 2	Delete ‘as long as these reductions are justified’	No need to mention justification again here It is implicit if optimisation is being carried out.		✓		Cross reference made to para 4.44 for clarity and taking into account other comments as well.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
SWITZERLAND	150.	4.53	Add footnote connected to the last sentence of this paragraph: “For emergency exposure situations which may result in doses in less than a year, the residual dose to be calculated will be the total dose from all exposure pathways for the whole duration of the emergency. For large scale emergencies resulting in longer term exposures due to residual radioactive material in the environment, the residual dose will encompass the total dose from all exposure pathways over one year since the emergency onset. For residual doses used during the response, the total dose includes the doses received from all exposure pathways and the doses expected to be received in future, with account take of the protection strategy implemented, if any.”	It is important to clearly describe how the residual doses which have to be compared with the reference level in force should be calculated	✓			
AUSTRALIA	151.	4.53/ line 11	Suggest removal of “, if any”	Implies that it is reasonable to not have a protection strategy, but this is a requirement of GSR Part 7.			✓	It may be decided that no protective action is necessary based on established decision-making criteria.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
TURKEY	152.	4.53, 4.54, 4.55	The paragraphs should be removed from the text.	The statements are already given in other IAEA documents and should be removed to avoid repetition.			✓	The paragraphs are making proper references. They are important for understanding the concept of reference level in the context of DS474.
AUSTRALIA	153.	4.55/ line 22	Replace “protective” with “protection”	The phrase “protection strategy “ is used throughout	✓			
SWEDN	154.	4.56/27	Change to national reference levels (in plural)	National reference level is in singular. However, countries may have different national reference levels for different types of emergencies.			✓	In line with GSR Part 7, para 4.28(2), the term is used in singular.
TURKEY	155.	4.57	This paragraph should be emphasized.	Actually para. 4.57 gives the whole idea regarding the use of reference levels during transition phase.	✓			The examples are used for clarity of the guidance and recommendations. The examples cannot be made bold or in italic as that will be against the IAEA style manual.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
ENISS	156.	pg 25(4.57) Ln 1	effective dose for the emergency phase and	Covers initial and emergency phase	✓			Text revised considering other comments.
UK	157.	4.57 Line 1	effective dose for the emergency phase and	See earlier comments	✓			Text revised considering other comments.
SWEDEN	158.	4.57/43-44	Consider extending the text in the example to answer the questions in the next column.	If the reference level would change with time during the emergency exposure situation, several difficulties arise. Reference levels for emergencies leading to prolonged exposures (e.g. following a severe nuclear accident) are set for one year. The concept of lowering reference levels would then imply that emergency exposure situations could go on for longer than one year which, according to para.3.24 is not the case. If instead, the reference level should be lowered during the first year, other difficulties arise. The time span to be considered when setting reference levels for the first year (according to para. 4.53) is from the initiation of the event. In order to change a reference level during the emergency exposure situation during the first year, the doses up to that point would then have to be known. However, this is usually not possible. Furthermore, it is unclear	✓			The paragraph was rewritten to focus on residual doses.

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
				if new dose criteria should be developed for a new reference level. If they are unchanged – what would a new reference level mean in practice?				
SWEDEN	159.	4.57/44	Remove annual from the example.	For emergencies with large scale contamination as described in the example, the reference level can never be “annual” as stated in the text.	✓			Rewritten taking into account previous comments as well.
JAPAN	160.	Para 4.57 / Line 44 of page 24-Line 3 of page 25	Please delete the following sentence. “For example, it may start with a level of 100 mSv acute or annual effective dose for the urgent phase and approach an effective dose of 20 mSv per year residual dose after successful implementation of the protective strategy to enable the transition to an existing exposure situation.”	[Comment No.1&2 are the same reason] According to the draft, under the condition of “residual dose is 20mSv and below”, transition from an Emergency expose situation to an Existing exposure situation is applicable. However, in “ICRP Publication 103”, ICRP set the standard that in an Existing exposure situation, reference level should be set between 1mSv and 20mSv, and this is only the target bound. So the condition of “residual dose is 20mSv and below” is not necessary for transition to an Existing exposure situation. Therefore, these parts should be deleted.		✓		Revised for clarity while keeping consistency with Requirement 5 of GSR Part 7. The paragraphs do not state that residual doses have to be 20mSv or below during transition. It actually explains that how you successfully implement the protection strategy the residual doses will decrease with time. When they approach lower band for reference level for the emergency exposure situation, transition may happen subject to fulfilment of other prerequisites. Revisions

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection in the paragraph are clarifying this.
ENISS	161.	Pg 25(4.58) Ln 14	..(residual) for the affected population who remain within an exposure situation zone is expected to be approaching	to clarify that this is for people who remain in an area or zone which is in an emergency exposure situation.		✓ “...population who remain to live in an area under an emergency exposure situation is...”		For consistency.
JAPAN	162.	Para 4.60 / Line 29-32 of page 25	Please delete Table 4.1				✓	The table is in line with GSR Part 3 and Part 7 as well as the guidance and recommendations provided in DS474.
AUSTRALIA	163.	4.61/ line 33	Replace “in” with “into”	Adds clarity.	✓			
TURKEY	164.	4.62/4-6	The statement “The application of different reference levels as benchmarks for the optimization process and for enabling the transition to an existing exposure situation may be necessary in different geographical areas at the same time” should be revised.	The statement may not be applicable and can result in concerns and distress among the affected public.			✓	This is in line with GSR Part 3 and GSR Part 7 and reflects lessons learned from the past emergencies.

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
ENISS	165.	Pg 26(4.63) Ln 9	Remove whole section Pg 26 ln 9 - 40 and page 27 ln 1 – 17 – Generic criteria and operational criteria	This section adds no new information to what already exists in GSR P7			✓	The guidance provided here does not exist in GSR Part 7 or GSG 2 although concept of criteria is introduced there.
UK	166.	4.63 Lines 10-14	Generic and operational criteria are concepts within the protection strategy that are to be used as guidelines to help decisions on the implementation of protective actions and other response actions in a nuclear or radiological emergency as described in Refs [2, 5]. Should the doses projected or received doses in an emergency exceed the generic criteria, protective actions and other response actions, either individually or in combination, are to be implemented. It should be noted that the emergency phase generic criteria relate to a possible combination of actions rather than being specified in terms of separate protective actions; they therefore provide a framework adaptable to scenarios and to different national approaches.	The GSR7 emergency phase generic criteria are essentially measures to avoid 100 mSv in the first 7 days through a combination of actions, which are unspecified in terms of criteria for the separate actions.		✓		Comment is addressed with last words of the paragraph “either individual or in combination”. In addition, References [2, 5] explain this in more details (what set of action is needed and when).

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
AUSTRALIA	167.	4.63 line 12	Replace “Should the doses projected or received doses” with “Should the doses projected or received”	Removal of repeated ‘doses’	✓			
TURKEY	168.	4.63, 4.64, 4.65, 4.66	The paragraphs should be removed from the texts.	There aren’t any new concepts or provisions introduced in paragraphs. They should be removed to avoid repetition.			✓	Yes, but many users of DS474 may not have responsibilities for early response to emergency and understanding of IAEA guidance for this phase, thus it will improve their understanding and navigate them where additional information can be found. This approach was agreed during the Technical Meeting held in September 2015.
ENISS	169.	Pg 26(4.64) Ln 17-18	remove wording – which covers the period from the start of an emergency until the point in time when the emergency is terminated.	If comment on removing Generic criteria and operational criteria section is not accepted. This addition to the GSR P7 requirement is not required as Requirement 5 is about the preparedness stage for an emergency	✓			

Country/Org.	COMMENTS RECEIVED				RESOLUTIONS			
	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
TURKEY	170.	4.71/24	The list of urgent protective actions should be revised.	Medical treatment is stated to be an “other” response action on page 1 of GSG-2.	✓			
TURKEY	171.	4.71, 4.72	The paragraphs should be removed from the text.	There aren’t any new concepts or provisions introduced in paragraphs. They should be removed to avoid repetition.			✓	In line with earlier responses, it is better to include such information to improve the understanding of the situation inherited after the emergency response phase. This is also in line with the agreement reached after the Technical Meeting held in September 2015.
RUSSIA	172.	4.72/34	Add subpara f): <<f) implement access control and enforcing of restrictions re. duration of stay for areas in which evacuations and relocations are carried out >>.	According to para 5.79 of IAEA Safety Standards Series No. GSR Part 7 <<Preparedness and response for a nuclear or radiological emergency>> f) is related to early protective actions.		✓ “..to control the spread of contamination (including access controls for areas where evacuation or relocation is implemented);”		For consistency with EPR Safety standards.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
AUSTRALIA	173.	4.76 Line 11-13	To initiate discussions, in order for decisions to be made on adapting or lifting protective actions in the transition phase, OILs should be established at the preparedness stage, taking into account those provided in the Appendix of this Safety Guide.	The current sentence does not make sense. Proposed changes to improve clarity.	✓			
UK	174.	4.76 Line 13	Replace sentence starting on line 13 with: 'The pre-established OILs for the introduction of urgent protective actions are useful references in decisions on lifting these actions, however, alternative levels and factors may be more appropriate under the circumstances.'. Then continue ... 'Following the preliminary screening	The concept of OILs being used for lifting countermeasures is not the original derivation of OILs. It isn't clear that IAEA are referring to a different set of levels, so this point needs clarification. PHE would not regard the values for implementing emergency countermeasures as necessarily being the ones most appropriate for lifting the actions once these have been imposed		✓ "To initiate discussions, in order for decisions to be made on adapting,... "		Please note para. 4.75 (renumbered) addresses aspects related to consideration of residual doses.
TURKEY	175.	4.78	The paragraph should be removed from the text.	The statement is repeated various places in the text.			✓	Important recommendation in the context (in comparison when stated as a prerequisite).
AUSTRALIA	176.	4.79 line 30	Replace "action" with "actions"	There is more than one action possible	✓			

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
UK	177.	4.79/31	Replace sentence with: Iodine thyroid blocking is not a protective action to be implemented for long periods, although seconds doses can be considered for prolonged releases. Beyond that, consideration should be given to implementing evacuation or temporary relocation’.	Mention should be made about the potential for second doses of stable iodine.		✓ “...periods, although, under some circumstances, repeated administration of stable iodine might be considered. ”		For consistency with EPR Safety Standards.
UK	178.	4.79 Line 34	“...The emergency phase and is not”	To align with existing terminology – see earlier comments			✓	In line with the response to comment no. 53.
TURKEY	179.	4.79, 4.80	The paragraphs should be removed from the text.	There aren’t any new concepts or provisions introduced in paragraphs. They should be removed to avoid repetition.			✓	Kept at completeness of the guidance provided here.
USA	180.	4.79 - 4.84	Suggest deleting these sections.	While great summaries of these activities, they are outside of the scope of this document. Implementation and potential cessation of these activities would occur before the end of the Urgent phase or while transitioning into the early phase.			✓	For some of them, inapplicability for the transition phase is stressed but for completeness they are mentioned. But depending of the type of emergency, evacuation might be subject for consideration in

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								transition phase, thus considerations for evacuation are also kept.
TURKEY	181.	4.81	The paragraph should be removed from the text.	The paragraph is not related to transition phase.			✓	Kept at completeness of the guidance provided here.
RUSSIA	182.	4.81 Line 5	Line 5 should be deleted: Need for continued simultaneous implementation of iodine thyroid blocking	See para 4.79: Iodine thyroid blocking is ... is not appropriate for implementation, adaptation or lifting during the transition phase.				
UK	183.	4.81 Line 5	Bullet 2 should be deleted as iodine thyroid blocking is a separate countermeasure not always necessary with sheltering.	There is an implication that stable iodine is always needed with sheltering – obviously this isn't the case if the doses from iodine don't require it (or if iodine isn't present in the release).		✓ “...when appropriate;”		For consistency with EPR Safety standards.
SWEDEN	184.	4.81/8	Consider changing “allowed” to “recommended”.	It many countries it is not possible to force people to stay indoors.	✓			
ENISS	185.	Pg 29(4.82) Ln 30	until the termination of the emergency exposure situation is declared	Individuals should not be able to return in to an evacuated zone until the dose levels are below emergency exposure situation levels. Some areas		✓ “...until this area can be managed as an		For consistency.

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				may have reduced dose levels which take them below emergency exposure but the emergency cannot be terminated as other areas still have emergency exposures.		existing exposure situation,..."		
CANADA	186.	4.82 3 rd bullet	In evacuated areas where the monitoring results indicate that the projected doses do not exceed the generic criteria for relocation...but limited restrictions are not sufficient for the protection of the people returning to live normally in the area, or the preconditions in para. 4.102 are not fulfilled, evacuation should not be lifted until the termination of the emergency is declared for this area, following fulfilment of the prerequisites in Section 3 and of the preconditions in para. 4.102.	Based on this option it sounds as if the termination of the emergency must be postponed until the prerequisites and preconditions are met and the evacuation can be lifted. What if it is not economically feasible to meet all of the prerequisites and preconditions? In order to facilitate termination of the emergency and resumption of normal live, shouldn't relocation be considered in this case?	✓			Footnote added to this bullet for clarifying this aspect.
TURKEY	187.	4.82/25	The phrase "if the pre-conditions in para. 4.102 are fulfilled" should be revised.	Prerequisites should also be fulfilled.		✓		Clarification is provided in a footnote.
CANADA	188.	4.86	Restrictions imposed on food, milk and drinking water taken as a precaution in the emergency phase on the basis of estimates (e.g. on the basis of EALs or OIL3 of Ref. [5] and thereafter adjusted based on	If these OILs are fundamental to the transition and termination of the emergency, then suggest they be reproduced in this document (they could easily be added to Table I.1 of the Appendix).			✓	Too much and too detailed information to be reproduced here. References that are appropriate are given here.

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			<p>OIL5 of Ref. [5] or OIL7 of Ref. [29])...OILs for food, milk and drinking water derived on the basis of sampling and analysis, i.e. OIL6 in Ref. [5], should be used when considering this protective actions.</p> <p>It is difficult to follow the recommendations described here when one must go to multiple references to identify the appropriate OILs.</p>					
TURKEY	189.	4.86/6-12	The paragraph should be revised consulting with the expert in the field.	Use of OILs for food restriction, introduced in other IAEA documents are misinterpreted. OIL6 should be referred together with OIL5 for initiation of restrictions. The distinction between the uses of OIL5, OIL6 and OIL7 are not given correctly. OIL5 and OIL6 are used together.OIL7 is used when the resources are limited for performing analyses for great number of samples (such situations are encountered in NPP accidents).	✓			Reviewed and kept in line with EPR Safety Standards. OIL5, OIL6 and OIL7 are not discussed in details but reference is given to relevant documents.
FAO	190.	Para 4.86 Lines 6 - 12	Restrictions imposed on food, milk and drinking water taken as a precaution in the emergency phase on the basis of estimates (e.g. on the	Factual correction. (1) Identifying the food production areas where food is affected is the important issue, as well as identifying the particular foodstuffs affected.		✓		Accepted with exception to referencing CAC Guideline levels as the international trade is addressed

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			<p>basis of EALs or OIL3 of Ref. [5] and thereafter adjusted based on OIL5 of Ref. [5] or OIL7 of Ref. [29]) should be characterized in detail subject to detailed characterization during the transition phase. It The purpose is to identify food production areas and foodstuffs that are justified to remain under restriction even in the longer term and to identify those restrictions that need to be lifted. OILs for food, milk and drinking water derived on the basis of sampling and analysis, i.e. OIL6 in Ref. [5] and the Guideline Levels for food intended for international trade [31], should be used when considering whether to adapt or lift this protective action.</p>	<p>(2) The modification or lifting of food restrictions need to also consider the Codex Guideline Levels For Radionuclides In Food Following A Nuclear Or Radiological Emergency and this is reference 31.</p>				separately (para 4.88 of the draft DS474).
CANADA	191.	4.87 – 4.88 4.91 – 4.93	<p>For restrictions on food, milk and drinking water and restrictions on non-food commodities, the document describes the recommended dose criteria for the emergency phase as well as for the long-term existing exposure phase. What is not provided is guidance for dose criteria at the time of termination of the emergency.</p>	<p>During the transition phase, it is understood that total received doses must be reduced to the lower end of the 20 – 100 mSv band for emergency exposure situations, to allow for termination of the emergency and transition to the 1 – 20 mSv band for existing exposure situations. This implies that the dose criteria for the transition phase should be lower than</p>		✓		<p>The aspect is addressed in paras 4.57, 4.69 and 4.75 of DS474 as well as Table I.1.</p>

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			Instead, it is stated that a discussion of the gradual dose reduction in order to achieve the existing exposure situation levels goes beyond considerations for termination and therefore is beyond the scope of this safety guide. This gradual dose reduction should be considered during the transition phase.	for the urgent and early emergency phase, but this is not discussed in the document. Suggest that this discussion would be valuable and should be added.				
FAO	192.	Para 4.88 Lines 19 - 21	Requirement 51 of GSR Part 3 [3] states that <i>the regulatory body or other relevant authority shall establish reference levels for exposure due to radionuclides in commodities. In doing so it establishes a dose criterion of less than about 1 mSv per year for food and less than about 1 mSv per year for drinking water. It further requires the regulatory body or other relevant authority to consider the Codex Alimentarius Commission Guideline Levels for radionuclides in food traded internationally that could contain radioactive substances as a result of a nuclear or radiological emergency [31] and the guideline levels for radionuclides contained</i>	Factual correction. 1. This text is incorrect. It is a misinterpretation of Requirement 51 of GSR Part 3. Requirement 51: Exposure due to radionuclides in commodities The regulatory body or other relevant authority shall establish reference levels for exposure due to radionuclides in commodities.” 2. TECDOC 1788 is an important source of information in this respect and must be referenced in this paragraph. The reference is INTERNATIONAL ATOMIC ENERGY AGENCY, JOINT FOOD AND AGRICULTURE		✓		Revised to exactly quote para 5.22 of GSR Part 3. International trade is addressed separately. Ref to TECDOC-1788 is provided.

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			<p><i>in drinking water that have been published by the World Health Organization [30]. IAEA TECDOC 1788 [reference to TECDOC1788 needs to be included] considers the various international standards for food and drinking water in emergency, planned and existing exposure situations and provides a frame work for developing national reference levels (radionuclide activity concentrations for food and drinking water) in existing exposure situations It contains examples of how this has been achieved in situations where residual levels of radionuclides persist after an emergency but in an existing exposure situation.</i></p> <p>establishes the specific reference level for food and drinking water in the longer term in an existing exposure situation at about 1 mSv/y effective dose. In addition, the World Health Organization (WHO) has issued guidelines for drinking water quality [30] that provide guidance levels for radionuclides in drinking water for prolonged exposure situations resulting from</p>	<p>ORGANIZATION / INTERNATIONAL ATOMIC ENERGY AGENCY PROGRAMME NUCLEAR TECHNIQUES IN FOOD AND AGRICULTURE, WORLD HEALTH ORGANIZATION, Criteria for Radionuclide Activity Concentrations for Food and Drinking Water, IAEA-TECDOC-1788, IAEA, Vienna (2016).</p>				

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			<p>past emergencies. Thus, restrictions on food, milk and drinking water extending into the longer term in an existing exposure situation might be subject to a gradual dose would need to consider these National Reference Levels for food and for drinking water and actions necessary to reduction in order to eventually achieve these levels. However, this discussion goes beyond considerations concerning the termination of the emergency and is therefore beyond the scope of this Safety Guide.</p>					
FAO	193.	Para 4.89 Lines 29	<p>guideline values Guideline Levels</p>	<p>Factual correction. The Codex values of radionuclide activity concentrations for food are “<u>Guideline Levels</u>” and not guideline values. See how they are referred to in reference 31.</p>	✓			
FAO	194.	Para 4.90 Lines 31 to 33	<p>During the transition phase, it is important to maintain public confidence, for example in the safety of food and drinking water in the supply chain. Providing the public with timely information, monitoring results and up-dates on restrictions on food and water</p>	<p>Clarification. In regard to food safety, certification by the relevant authorities is not always helpful. Public reassurance depends on relevant authorities maintaining the trust of the public – trust is gained by providing timely information and up-dates.</p>		<p>✓ “In order to reassure the public of the radiological safety of food, milk and drinking water during the transition phase, the relevant</p>		<p>The paragraph was revised taking into account other comments as well.</p>

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			supplies can help maintain confidence. In some cases certification schemes for food can also provide public reassurance. In order to reassure the public of the safety of food and milk during the transition phase, certification by the relevant authorities should be ensured. The reassurance of the safety of drinking water should include reporting the available monitoring results to the public.			authorities should provide evidence for compliance with applicable national regulations. Such evidence should include publishing of monitoring results including information that places the radiological health hazards in perspective and, where appropriate, certification.”		
ISRAEL	195.	Page 30 Line 33	...reporting the available monitoring results to the public, along with the radiological and health consequences.	There is a need to explain the meaning of the monitoring results	✓			Taking into account other comments as well.
UK	196.	4.96 Line 19	“...advised during the emergency phase”	To align with existing terminology			✓	In line with the response to comment no. 53.
UK	197.	4.102 2nd bullet	Suggest consider including an expectation of acknowledgement from those receiving the instructions.	It is important to make sure people understand risk and protective measures. This ensures feedback is received from those taking up residence.			✓	Difficult, if not impossible, to implement in practice.
USA	198.	4.103 - 4.141	It is unclear how agriculture support workers would be classified under	To address the roles and definitions of a special worker class that is not well	✓			Depending on tasks assigned to them, it will

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			these definitions. Given the potential size of the population of these workers and their impact on the ability of a society to return to normal, this should be addressed.	understood from the current text.				be national decision of whether they could be treated as emergency worker or they may need to be protected as member of the public in line with paras. 4.139 - 4.140 of DS474.
CANADA	199.	4.103 – 4.206	These paragraphs provide a significant amount of good, detailed information on topics including: protection of emergency workers and helpers; characterization of the exposure situation; medical follow-up and provision of mental health and psychological support; waste management; and consultation with the public and other interested parties. This information goes well beyond the requirements on these topics as outlined in GSR-7. As currently phrased, these sections use “should” statements indicating they are guidance or best practices. Is this document intended only to serve as guidance or will these become future IAEA requirements? This could be clarified in the scope of the document.	Clarify.	✓			The Safety Guide provides guidance and recommendations but not requirements. Please see the objective where guidance & recommendations to support GSR Part 7 is mentioned (para 1.6).

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TURKEY	200.	4.104	The paragraph should be removed from the text.	The comprehensive information will be given in DS453. So the para. Should be removed to keep the document concise.			✓	DS453 is completed and no such information can be given there in relation to protection of emergency workers during the transition phase.
UK	201.	4.104 Line 37	Add : “...and police and other security personnel.”	There may be circumstances, when police/security personnel will be required to protect a nuclear facility or to assist in the evacuation of personnel.		✓ “...medical personnel, law enforcement personnel, members...”		For consistency with EPR Safety Standards.
UK	202.	4.122 Line 38	“...emergency phase of a nuclear..”	See earlier comments			✓	In line with the response to comment no. 53.
UK	203.	4.123 Lines 5-7	Actions to avert a large collective dose may extend through the emergency phase and in to the transition phase owing to the range of activities that are warranted to be taken to allow the timely resumption of social and economic activity.	To clarify that this is not to do with the termination of an emergency or the end of emergency exposure situations but that actions many continue between phases to ensure public protection.	✓			
UK	204.	4.123 Line 29	Remove “(i.e. during the urgent phase)”	See earlier comments			✓	In line with the response to comment no. 53.

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TURKEY	205.	4.125/19	Dose restriction for female workers.	It is sufficient to address GSR Part 3 and GSR Part 7. The part should be revised to keep the text concise.		✓		Further guidance is needed and provided here to support requirements for their protection in line with requirements in GSR Part 3 and GSR Part 7.
TURKEY	206.	4.129/Table 4.2	“E < 100 mSv” corrected as “< 100 mSv”. And “E < 50 mSv” corrected as “< 50 mSv”. Delete E.	To ensure consistency in format among the columns.	✓			
RUSSIA	207.	Table 4.2	Set the value of the effective dose for helpers in an emergency: E<=50 MsV.	In accordance with para 5.57 of IAEA Safety Standards Series No. GSR Part 7 <<Preparedness and response for a nuclear or radiological emergency>>, in particular - << Helpers in an emergency shall not be allowed to take actions that could result in their receiving doses in excess of an effective dose of 50 mSv>>.	✓			
UK	208.	4.140 Lines 2-4	Add an additional sentence at line 4. ‘Other examples could include those involved in the provision of non-medical care in the community (e.g. meals-on-wheels), police responding to criminal acts, domestic waste collection which if not addressed could lead to other	It is important to mention these types of workers so that local authorities can identify employers and provide an infrastructure to train and advise as necessary. Note: by stating that they should be subject to the same level of protection as members of the public is potentially highly restrictive.	✓			They are covered in para 4.103 of DS474 (the 2nd and 3rd bullet).

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			public health risks’.					
AUSTRALIA	209.	4.141 line 8	Insert space after “paras”	Typographical error	✓			
TURKEY	210.	4.141/8-10	The part “The application of the reference level for the residual dose for these workers needs to take into account the fact that some of these workers may come from the affected area (and are thus spending their entire time within the affected areas as workers and as members of the public” could be removed from the text and included in DS453.	To avoid repetition.			✓	DS453 is completed and this cannot be done. Kept for completeness of this guidance.
AUSTRALIA	211.	4.141/line 9	Replace “come from the” with “reside in the”	The dose will only be affected if the worker resides in the area	✓			

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AUSTRALIA	212.	4.141/line 10	Close bracket after “public”	Typographical error.	✓			
AUSTRALIA	213.	4.150 Line 32	Replace “evolve” with “involve”	Typographical error – the current word does not make sense	✓			
ENISS	214.	pg 41(4.150) Ln 32	conditions may <i>involve</i> atmospheric modelling	evolve is not the right word	✓			
CANADA	215.	4.150 Line 32	...may <i>involve</i> atmospheric modelling	Typographical error (.....may evolve atmospheric modelling, wide area environmental monitoring and direct measurements.)	✓			
UK	216.	4.150 Line 32	“...conditions may involve atmospheric modelling”	evolve is not the right word	✓			
AUSTRALIA	217.	4.152/line 39	Replace “To evaluate” with “Evaluation of”	Consistency with other paragraphs	✓			

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
FAO	218.	Para 4.155 line 10 - 15	<p>Exposure from ingestion of contaminated food, milk and drinking water may result from episodic or continuous intakes, depending on the abundance availability of the locally produced contaminated food and water. in the diet of people living in contaminated areas. To evaluate the ingestion dose for people living in long term contaminated areas, a comprehensive environmental environmental sampling and analyses programme should be carried out to allow for continuous monitoring of the presence levels of radionuclides in food, milk and drinking water. Such monitoring should take into account the local diets and food preferences as well as food production patterns. as well as in crops and animal feed Monitoring results from production areas should inform the imposition or lifting of food restrictions.</p>	<p>Factual correction. Contaminated food (or water) could be abundant, but restrictions are put in place to ensure that it is not available for ingestion. It is the availability of contaminated food (or water) that is important, not its relative abundance. Also this is true for people who live anywhere – not just in contaminated areas. An important point to note is that monitoring results should be used to impose, amend or lift restrictions with time (radionuclide levels can increase or decrease over time depending on the season, the type of food and the environment (forest, farmed land, fresh water or sea).</p>		<p>✓ “...Exposure from ingestion of contaminated food, milk and drinking water may result from episodic or continuous intakes. A comprehensive sampling and monitoring programme should be carried out to allow for continuous analysis and assessment of the levels of radionuclides in food, milk and drinking water, of the doses from the ingestion pathway and of the need for any modifications in the imposed restrictions on food, milk and drinking water. The</p>		<p>Taking into account other comments as well.</p>

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
						monitoring programme should take into account local diets, food preferences as well as food production patterns. The monitoring results should be made publicly available to provide reassurance in the safety of the food, milk and drinking water intended for consumption.”		
CANADA	219.	4.159 and 4.162	These two paragraphs are repeating each other on the need for medical follow-up to address medical care for deterministic effects and early detection and diagnosis of stochastic effects.	Delete one of the two paragraphs.			✓	Para. 4.158 (renumbered) provides basis from GSR Part 7 while para. 4.162 elaborates guidance consistently with GSR Part 7.
ENISS	220.	pg 43(4.161) Ln 11	A process to register those individuals requiring longer term medical follow-up,	Activity that can occur when the emergency has been terminated.		✓ “...those individuals identified, at the time , as requiring longer term medical follow-up,...”		Taking into account other comments as well. The para. is related to those individuals who are known at the time to require medical follow-up.

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
UK	221.	4.165 – 4.167	Consider removing this as covered by other standards.	The information provided on Co-ordination of medical follow-up is not specifically relevant to the transition phase and could be shortened.			✓	The guidance is not covered in other safety standard. Content was agreed with WHO too as relevant for DS474.
UK	222.	4.168 – 4.172	Consider removing this as covered by other standards.	The information provided on Registering individuals for long-term medical follow up is not specifically relevant to the transition phase and could be shortened.			✓	The guidance is not covered in other safety standard. Content was agreed with WHO too as relevant for DS474.
UK	223.	4.173 – 4.176	Consider removing this as covered by other standards.	The information provided on Medical Follow-up is not specifically relevant to the transition phase and could be shortened.			✓	The guidance is not covered in other safety standard. Content was agreed with WHO too as relevant for DS474.
AUSTRALIA	224.	4.174/line 37	Remove “an”	Clarity.	✓			
AUSTRALIA	225.	4.175/line 40	Replace “Decision” with “Decisions”		✓			

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
UK	226.	4.177 – 4.178	Consider removing this as covered by other standards.	The information provided on Mental health and psychosocial support is not specifically relevant to the transition phase and could be shortened.			✓	The guidance is not covered in other safety standard. Content was agreed with WHO too as relevant for DS474.
JAPAN	227.	Para 4.178 / Line 16-17	As part of the arrangements set forth in para. 4.177, the establishment of a public support centre <u>including public universities and public associations</u> for the affected populations should be considered.	The Japanese government requested a public university and public associations to play a role as support centers for TEPCO Fukushima Daiichi NPP accident.		✓ “...psychologists, respective experts from public universities and associations , and...”		For consistency with the remaining of the paragraph.
ENISS	228.	pg 45(4.179) ln 34	termination of the emergency, emergency exposure situation , and achieving	To highlight that the issue might be with high dose rate areas, even though the emergency has been terminated.			✓	Not necessary addition here as the emergency encompasses the emergency exposure situation.
ENISS	229.	pg 46 (4.181) Ln 3	As the emergency evolves and particularly	Clearer language	✓			
USA	230.	4.182	First mention of unified command and control system. Suggest keeping consistent nomenclature and management structure assumptions throughout document. Elsewhere terms used for leadership and government organizations are more generalized.	Term not defined or used up to this point in the text.		✓		Reference is made to relevant safety requirement in GSR Part 7.

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JAPAN	231.	Para 4.182/ Line 9-13	While it should be recognized that each emergency will be specific and detailed planning for all aspects of waste management may not be possible, arrangements should be made, as part of overall emergency preparedness, to address these expected issues and challenges in radioactive waste management following the emergency. As part of these arrangements, the following should be considered:	The relationship between “arrangements...as part of overall emergency preparedness” in this sentence and “The protection strategies developed at the preparedness stage for the transition phase” in Page 18 Para 4.27. Line25 is not clear. So, please clarify the relationship between the two so that it would be easy to understand.		✓		The relationship between the protection strategy and emergency arrangements is clarified in GSR Part 7, para.4.31 where it is stated that the protection strategy is implemented through implementation of emergency arrangements. In addition, para 4.33 of DS474 clarifies further this relation.
AUSTRALIA	232.	4.182/line 15	Replace “with” with “within”	The allocation should be contained within the policy and strategy.	✓			
UK	233.	4.184 – 4.188	Consider removing this as covered by other standards	The information provided on Review of national framework is not specifically relevant to the transition phase and could be shortened.			✓	This topic was discussed at the Technical Meeting on DS474 and was considered as important in light of past experience. No other safety standards provides guidance in

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	Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection this regard.
JAPAN	234.	Para 4.187/ Line 38-41	<p>Please delete the following sentence.</p> <p>“The identification and classification of radioactive waste generated in an emergency should consider the exemption/clearance levels given in Schedule I of GSR Part 3 [3] or relevant national criteria established for the same purpose, in accordance with the national policy and strategy for radioactive waste management.”</p>	<p>In Japan, based on the “Act on Special Measures Concerning the Handling of Radioactive Pollution,” we established a standard of 8,000Bq / kg, and waste under that level can be treated safely in the usual treatment methods. When “a volume that can overwhelm national capabilities and resources for radioactive waste management” (written in Page 45 Para 4.179 Line 31-32) happen, considering the exemption/clearance levels may make the management of radioactive waste in the post-emergency situation unrealistic, since these levels, meant for peacetime management, have been set on the extremely safe side. It has to be noted that the standard of 8,000Bq / kg has been rated in the report of the IAEA as “The Team finds this approach to be fully aligned with established international practices.” (written in IAEA Final Report of the International Mission on Remediation of Large Contaminated Areas Off-site the Fukushima Dai-ichi NPP Page 66 Line 32-33)</p>		✓		<p>In line with the reasoning provided in this comment, reference is made not only on GSR Part 3 criteria but also on “relevant national criteria” which will be applicable in this context.</p>

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JAPAN	235.	Para 4.189 / Line 9	Pre-disposal → Predisposal	Consistency in DS474	✓			
UK	236.	4.189. Line 13	“...during the emergency phase”	See earlier comments			✓	In line with the response to comment no. 53.
AUSTRALIA	237.	4.197/line 26	Add “that” to end of line i.e. “... requires that:”	To make bullet list make sense	✓			
UK	238.	4.202 Fig 4.2	Remove references to urgent and early phase	See earlier comments - to align with existing terminology.			✓	In line with the response to comment no. 53.
ENISS	239.	Pg 50 Ln 16 Fig 4.2(4.202)	Align diagram with comments on Fig 2.10	Diagram and corresponding text throughout the document does not reflect that the emergency phase (as shown in the diagram) will terminate/end before the emergency exposure situation has terminated so confusion arises from the end of the emergency response, and the termination of the emergency. There are also caveats in the document that allow the emergency to be terminated even with emergency exposures still in existence, this is not clear on reading the figure and should be clearly	✓			

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				described here for clarity.				
UK	240.	4.207 – 4.211	Consider removing this as covered by other standards	The information provided on Compensation of victims for damage is not specifically relevant to the transition phase and could be shortened.			✓	Not covered elsewhere. The paragraphs are not recommendations (there are not ‘should’ statements) but only clarification provided on existing liability regimes.
TURKEY	241.	4.210/37-40	“In the case of nuclear emergencies, a number of treaties (see Refs [40-47] have been adopted in order to harmonize laws relating to third-party liability for nuclear damage caused by emergencies at nuclear installations, as defined, and in the course of transport of nuclear material to and from such installations.” Should be revised.	The statement is not clear. The treaties may not have been adopted by all states.	✓			Addition is made “by States”. The text of all these treaties has been adopted by all States at relevant diplomatic conferences held under the auspices of relevant international organizations. That does not make the treaty binding on them. Further ratification should take place for them to become binding on a State.
USA	242.	General Appendix	Suggest offering the actual calculation methods for long term or transition concerns. General Comment for entire “guide”:	To clarify the calculation methods. The terms “required” or “shall” are used in legally mandated and treaty-type documents.		✓		Provided in Appendix for OIL _T . Any calculations in relation to long-term remediation under an existing exposure

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			Use of the terms “required” and “shall” should be avoided. General Comment: consider different terminology for protective actions categories “precautionary urgent, urgent, and early”	“precautionary urgent, urgent, and early” are too finely defined, can overlap, and will be confusing. As is, an order for evacuation could be in all three categories of protective actions.				situation are beyond the scope of DS474. The draft Safety Guide DS468 might be appropriate for the latter.
USA	243.	I.4/28	“– Any behaviour of the radionuclides radioactive materials that will have a significant impact on the OIL value;”	It is assumed the authors intended to discuss the physical (chemical) behaviour of the materials involved in an environmental release.	✓			
TURKEY	244.	I.4/ Footnote 35	“The combined use of OILT and OIL6”	Need to be explained in detail.	✓			Changed to ‘simultaneous’ for clarity.
TURKEY	245.	I.4 THE RADIOLOGICAL INCIDENT IN HUEYPOXTLA, MEXICO STATE, MEXICO43	I.4 THE RADIOLOGICAL INCIDENT IN HUEYPOXTLA, MEXICO STATE, MEXICO43	Editorial		✓		Added as a footnote.

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USA	246.	I.5/1-23	Suggest stronger caveats on this calculation example. This process is far more complex than can be captured in the catch-all WF term. Perhaps a list of the "other considerations" is in order to highlight this.	The text does not adequately capture the process by which long term dose consequences may be calculated. This is an extreme oversimplification.			✓	The discussion on processes to calculate long term dose consequences is out of scope of DS474. The concept here relates to OILs only for the transition phase and it is consistent with approach used to derive other OILs in GSG -2 and other EPR publications (EPR NPP OILs 2017).
USA	247.	I.8/3-19	This calculation needs to be revisited. At first glance, it appears the assumption is that a representative person will use a contaminated item over a one year period. However, there are no terms to account for usage (i.e., is it to be worn, burned, lived in, driven in, etc.). Non-food commodities are very broad, and the usage cases vary greatly. US recommends that a statement be added that the end user/member state will need to establish more specific requirements.	The calculation does not take into account several important factors such as: planned usage, occupancy or usage time (unless the overly conservative period of 1 year is to be assumed for all products), method of use and proximity to user (i.e., is the object to be held in the hand or will it remain at a fixed distance away).			✓	That is to be defined under the "non-food commodities" exposure situation" and used for determining $E_{comm-scenario,I}$ and $H_{foetus,comm-scenario,i}$.

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ARMENIA	248.	Table I.1 GENERIC (GC) FOR THE PROJECTE D DOSES AND OILs FOR INITIATING CONSIDER ATIONS TO ADAPT OR LIFT SPECIFIC	It is recommended to indicate in the table a more simplified version of the first responders' intervention levels.	To enable first responders, monitoring group members to more quickly orientate themselves in dangerous zones without applying the above formula of intervention levels.			✓	The first responders' intervention levels are beyond the scope of this Safety Guide.
FAO	249.	Table I.1 on page 58 column 1, row 3	Food, milk and drinking water restrictions Infant and non-infant food intended for international trade	Factual correction. The Codex Guideline Levels apply to infant and non-infant food; they do not contain Guideline Levels for drinking water.	✓			
FAO	250.	Table 1.1 on page 58 column 3, row 3	≥ 1 mSv for the full period of in- utero development “ - ”	Factual correction. Delete. The Codex Guideline Levels do not consider the unborn. Reference 2 does not include food in international trade. GSR part 7 relates to the emergency exposure situation but the CODEX general Standard makes no reference to the exposure situation because the concept of exposure situation is not always helpful when considering the food supply.			✓	GSR Part 7, Appendix II is basis for this value.

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FAO	251.	Table 1.1 on page 58 column 5, row 3	< 1 mSv “ – “	Factual correction. Delete. The Codex Guideline Levels do not consider the unborn. Reference 2 does not include food in international trade. GSR part 7 relates to the emergency exposure situation but the CODEX general Standard makes no reference to the exposure situation because the concept of exposure situation is not always helpful when considering the food supply.			✓	GSR Part 7, Appendix II is basis for this value.
FAO	252.	Table 1.1 on page 58 column 6, row 3	< Guideline Levels Guidance values in Ref. [31]	Factual correction. See also comment 15 above.	✓			
FAO	253.	Table 1.1 on page 58 column 7, row 3	Lifting restrictions on international food trade trading food, milk and drinking water internationally.	Factual correction. The Codex Guideline Levels apply to infant food and non-infant food; they do not contain Guideline Levels for drinking water (or specifically for milk). See also comment 18 above.	✓			
FAO	254.	References, page 61, lines 6 - 7	[31] JOINT FAO/WHO, CODEX ALIMENTARIUS COMMISSION, Codex General Standard for Contaminants and Toxins in Food and Feed, Schedule 1 — Radionuclides, CODEX STAN 193-1995, CAC, Rome (Adopted 1995; Amended 2009).	The Codex Alimentarius Commission is joint FAO and WHO.	✓			

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CTBTO	255.	Ref. [2]	Check Ref. [2] with regard how CTBTO is listed.		✓			Reference is correct in line with the IAEA Style Manual.
JAPAN	256.	Line 13-15	For the basic survey, questionnaires were sent to individual residents and the responses were used to estimate the external radiation exposure during the period of <u>the highest atmospheric radiation dose.</u>	The original words: “the highest air doses” is not a general technical term.	✓			
JAPAN	257.	Line 23-24	The first round of the thyroid examinations, <u>which consist of the thyroid ultrasonic examination and detailed examinations,</u> started in October 2011 and was completed in 23 March 2014. The second round of <u>the thyroid ultrasound examinations</u> began in April 2014 and <u>was completed in</u>	-The thyroid examination in Fukushima consists of ultrasound examinations and detailed examinations. -The result of the second round has not been evaluated yet.	✓			

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			March 2016. <u>The detailed examinations have been conducted.</u>					
JAPAN	258.	Line 28-32	The survey of pregnant women and nursing mothers involved a questionnaire that was sent out to all mothers who were given a Maternal and Child Health Handbook between 1 August 2010 and 31 July 2011; it was returned by about 15 000 respondents. <u>When answers on the questionnaire indicated that consultation was needed, doctors provided telephone consultations in some cases.</u> This survey is being updated every year to take account of new data, particularly on pregnancies and births.	The sentence mentioned about the explanations to deal with pregnant women and nursing mothers who answer the questionnaire.	✓			
JAPAN	259.	Line 32-35	The mental health and lifestyle survey <u>was started from January 2012 and has</u>	“The mental health and lifestyle survey” is ongoing.	✓			

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			been conducted every year with questionnaires covering physiological and mental conditions, lifestyle changes, experiences of the earthquake and tsunami, and radiation related issues, to provide adequate mental care and lifestyle support for evacuees [I-10].					
JAPAN	260.	P. 69 line 12	It also formalized the long term management of environmental monitoring, decontamination measures and the designation, treatment, storage and disposal of soil and waste contaminated by radioactive 11 material [I-1]. <u>Based on this Act, Ministry of the Environment established “Decontamination guidelines” and “Guidelines for waste” in December 2011.</u>	These two guidelines provide the concrete standards and methods for storage and have the strong relation with the Act on Special Measures 3 Concerning the Handling of Environmental Pollution.	✓			
JAPAN	261.	P. 71 line 1-2	Please delete Fig.1-3	According to the figure, the emergency terminated in 16 th December 2011. However, as for Fukushima Daiichi NPP, no termination of the emergency situation was officially declared. So,		✓ Additional paragraph is provided in the beginning of the Annex to clarify the		The figure in each case study does not represent when the emergency was terminated officially during the emergency but a

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				this figure is not correct, and should be deleted.		figures provided in each case study.		retrospective analysis of when prerequisite in Section 3 were met. Clarification to avoid any confusion is given at the beginning of the Annex before the first case study.
AUSTRALIA	262.	App I, Pg. 71/Line 17	Remove “too”	Typographical error	✓			
AUSTRALIA	263.	App I, Pg. 72/Line 30	Replace “aspects” with “aspect”	Typographical error, should be singular	✓			
JAPAN	264.	P. 74 line 5-6	<u>After 11 March 2011, the residents of evacuation areas were ordered to evacuate.</u> The 20 km zone was announced as a restricted area on 22 April 2011.	According to the draft, to control access to the evacuation areas was decided in 28 th . However, the date when evacuation order was issued is 11th March 2011, and the control of access to the evacuation areas also had started then. So this part should be amended.	✓			

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JAPAN	265.	P. 74 line 7-8	Conditions for temporary access to the area within a <u>20 km</u> radius of the NPP were defined.	According to the draft, conditions for temporary access to the area within a 3-20 km radius of the NPP were defined. However, as a matter of fact, conditions for temporary access to the area within a 20 km radius of the NPP (including 0-3km) were defined. So this part should be amended.	✓			
AUSTRALIA	266.	App I, Pg. 78/Line 37	Replace “develop” with “developed”	So sentence makes sense.	✓			
USA	267.	P. 79, lines 16-17	Revise to read “performed on the contaminated persons. Prussian Blue was successfully used for the very first time in humans to speed up the 137Cs biological excretion processes.”	The accident in Goiania, Brazil was not the very first time Prussian Blue was used to speed up the 137Cs biological excretion process. Prussian Blue (aka Radiogardase) was first formulated in Germany and publications regarding its use to stimulate the biological excretion in human data back to 1966. See Modshsu (1966), Modshus and Strommie (1968) or National Council on Radiation Protection and Measurements Report 65 (1980).	✓			

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AUSTRALIA	268.	App I, Pg. 79/Line 19	“The subsequent monitoring effort faced...”	Suggest inserting “effort”	✓			
AUSTRALIA	269.	App I, Pg. 81/Line 35	Replace “exposure” with “exposures”	Releases and exposures need to be plural.	✓			
AUSTRALIA	270.	App I, Pg. 86/Line 9	Replace “would get worse” with “deteriorated”	So that sentence makes sense.	✓			
AUSTRALIA	271.	App I, Pg. 86/Line 36	Remove space before full-stop	Typographical error	✓			

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AUSTRALIA	272.	App I, Pg. 87/Line 15	“...in which the use of self-protective...”	Word is missing.	✓			
INDIA	273.	Page 108/-/1-3	For clarity, add note below the table Note: The above factors for Consideration in the Justification and Optimization of the Protection Strategy in emergency phase, transition phase and existing exposure situation.	Annex II and table II.1 are for “Factors For Consideration in the Justification and Optimization of the Protection Strategy” Factors given in this annexure are very useful and important for consideration in the justification and optimisation of the protection strategy. These factors are applicable both for emergency phase and transition phase. Hence for better clarity note can be added.		✓		The factors are not specified as specific on transition phase. The justification and optimization starts as early as possible as discussed in DS474 but as DS474 addresses transition phase in its scope further discussion on emergency phase is not appropriate.
AUSTRALIA	274.	Table II.1	Replace “busses” with “buses”	Preferred modern spelling	✓			

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AUSTRALIA	275.	Table II.1	Replace “(coast, mountain, ...)” with “(coast, mountain, etc.)”	Consistency.	✓			