Draft Safety Requirements:
(DS543) Regulations for the Safe Transport of Radioactive Material, 20XX Edition
Comments on Step 11 Draft dated 23 Aug 2024

COMMENTS BY REVIEWER Country/Organization: Argentina-TRANSSC, Canada-TRANSSC, China-NUSSC, France-RASSC, France-TRANSSC, Germany-TRANSSC, India-NUSSC, Indonesia-EPReSC, Japan-RASSC, Japan-TRANSSC, Morocco-TRANSSC, Switzerland-TRANSSC, UK-TRANSSC, USA-TRANSSC, WNTI				RESOLUTION			
Comment No.	**Para/Line No.**	**Proposed new text**	**Reason**	**Accepted**	**Accepted, but modified as follows**	**Rejected**	**Reason for modification/rejection**
F-1 (RASSC)	All	Introduce overarching requirements, to get to a format consistent with all the other Safety Requirements, including GSR Part 3 and Part 7 (which have many co-sponsors), and consistent with the frame set in SPESS A.	As stated in France comments provided during Member State consultation, DS543 format (no overarching requirements) is inconsistent with the format of all other Safety Requirements, including GSR Part 3 and Part 7 (which have many co-sponsors). In addition, the preface of all Safety Standards, including SSR-6 rev 1, states that "*Safety Requirements* *[..] The format and style of the requirements facilitate their use for the establishment, in a harmonized manner, of a national regulatory framework. Requirements, including numbered 'overarching' requirements, are expressed as 'shall' statements….".*			X	SSR-6 is unique within the IAEA safety standards in that its style and format is a hybrid between IAEA style and that of the UN Orange Book. In general, the requirements of the UNOB are detailed and prescriptive; therefore, the use of overarching requirements would not be coherent with the concept and content of the UNOB and the modal regulations. As stated in the Step 9 resolution table, this proposal was rejected at TRANSSC 45. Therefore, the resubmission of this proposal at Step 8 was essentially a new proposal. As stated in the 3 January 2024 Note Verbale, in accordance with the 2021 Transport

							Regulations Revision Quality Plan, only proposals that were submitted in response to the 5 November 2021 Note Verbale before the deadline of 18 March 2022 will be considered in the Revision Cycle. A final consideration is that if this proposal were accepted, there is not sufficient time available to revise SSR-6 in the proposed manner and to maintain the revision schedule of SSR-6, which was developed with the goal of meeting the submission deadline for the UNOB.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
F-2 (RASSC)			The numerous cross-references make the document very challenging to read and understand.			X	No specific text has been submitted. Cross references are needed to avoid repeating text.
Step11/JPN-01 (TRANSSC)	Contents	Insert each section number at the beginning of each title and paragraph numbers at the end of each subtitle.	**[Comment on Step11 draft]** Editorial See the current contents of published SSR-6 (Rev.1).	X			This issue will be addressed in the final typesetting of the publication.
WNTI-06	**CONTENTS** LIST OF TABLES	Table 12. Insolation ~~data~~ **conditions**	Editorial. The title of Table 12 has been modified in the main body of the Transport Regulations, in accordance with Step 9/GER-34. The same modifications should be made in the "List of tables", at the beginning of the publication. This comment is subsequent to the resolution of Step 9/ GER-34.	X			
MOR-1	101	Add reference to all the applicable regulations relating to the modal transport of dangerous goods.	Facilitate the comprehension of the SSR-6 and its intersection with these modal transport regulations.			X	New proposal. Furthermore, not applicable to para. 101 because this para. only includes publications of the IAEA Safety Standards Series.
CH-01	101	New text to be introduced at the end of the para:	The IAEA Transport Regulations use specific terms (e. g. para			X	New proposals are not accepted at Step 11. See also MOR-1.

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		These Regulations use terms and principles provided by international recommendations and conventions such as UNITED NATIONS, Recommendations on the Transport of Dangerous Goods, Model Regulations [20], INTERNATIONAL MARITIME ORGANIZATION, International Maritime Dangerous Goods (IMDG) Code [18], and INTERNATIONAL CIVIL AVIATION ORGANIZATION, Technical Instructions for the Safe Transport of Dangerous Goods by Air.	210, 212: consignor, consignee) and even text (e. g. para 552: IMO packing declaration on the transport document), which are defined by other regulatory documents outside the IAEA. So, the IAEA Transport Regulations are not only based on IAEA documents. Input from international recommendations and conventions is considered, respected, and used.				
F-01 (TRANSSC)	102	~~This Safety Standard is supplemented by a hierarchy of Safety Guides, including: IAEA Safety Standards Series No. SSG-26 (Rev. 1), Advisory Material for the IAEA Regulations for the Safe Transport of Radioactive Material (2018 Edition) [6] (the 20XX edition is under development); IAEA Safety Standards Series No. SSG-65, Preparedness and Response for a Nuclear or Radiological Emergency Involving the Transport of Radioactive Material [7]; IAEA Safety Standards Series No. SSG-78, Compliance Assurance for the Safe Transport of Radioactive Material [8]; IAEA Safety Standards Series No. TS-G-1.4, The Management System for the Safe Transport of Radioactive Material [9]; IAEA Safety Standards Series No. SSG-86, Radiation Protection Programmes for the Transport of~~	**Unnecessary details.** In a top-down approach, **Safety Guides list may change with time…** Moreover, **other SSR publications do not include such details** on available guidance. Therefore it is proposed to replace the existing text by a new one mentioning the existence of a series of guidance documents with a **hypertext link to this list on the IAEA website.**			X	As stated in the Step 9 resolution table, this is useful information for users of the Regulations. Furthermore, SSR-6 is a publication that is often read by individuals who are not familiar with the IAEA safety standards. Also, the Agency does not have the ability to include a hyperlink in a publication.

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		~~Radioactive Material [10]; IAEA Safety Standards Series No. SSG-33 (Rev. 1), Schedules of Provisions of the IAEA Regulations for the Safe Transport of Radioactive Material (2018 Edition) [11] (the 20XX edition is under development); and IAEA Safety Standards Series No. SSG-66, Format and Content of the Package Design Safety Report for the Transport of Radioactive Material [12].~~ **These regulations are intended to be used in conjunction with a series of IAEA Safety Guides related to the transport of radioactive materials, which provide recommendations on meeting the requirements of these regulations.**					
F-3 (RASSC)	102	Delete 102	As stated in France comments provided during Member State consultation, in a top down approach, this is not necessary. Moreover, other SSR publications do not include such details on available guidance. Furthermore, the list is grossly incomplete as many Safety Guides elaborating on GSR Part 2, Part 3, Part 4 and Part 7 are not listed. Example of Safety Guide that it would be necessary to add GSG-2 (Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency) are GSG-7 (Occupational Radiation Protection), GSG-8 (Radiation Protection of the Public and the Environment), GSG-13			X	See response to F-01 (TRANSSC).

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			(Functions and Processes of the Regulatory Body for Safety,)…				
Step11/JPN-02 (TRANSSC)	103	In certain parts of these Regulations, a particular action is prescribed, but the responsibility for carrying out the action is not specifically assigned to any particular person. Such responsibility may vary ~~in~~ accord~~ance~~**ing to**~~with~~ the laws and customs of different countries and the international conventions into which these countries have entered. For the purpose of these Regulations, it is not necessary to make this assignment, but only to identify the action itself. It remains the prerogative of each government to assign this responsibility.	**[Rebuttal to the modification in Step10]** This provision is derived from 1.1.1.3 of UNOB and is a provision that is common to dangerous goods, including Class7. The policy of TRANSSC is to be harmonized with UNOB.	X			Editorial [NB: This statement in the UNOB is in a generally applicable paragraph (1.1.1.3), i.e. it is applicable to all classes of dangerous goods.]
F-4 (RASSC)	103	103. In certain parts of these Regulations, a particular action is prescribed, but the responsibility for carrying out the action is not specifically assigned to any particular person. Such responsibility may vary in accordance with the laws and customs of different countries and the international conventions into which these countries have entered. ~~For the purpose of these Regulations, it is not necessary to make this assignment, but only to identify the action itself~~. It remains the prerogative of each government to assign this responsibility.	As stated in France comments provided during Member State consultation, it is questionable statement and contradict the intent of an international regulation. In fact, for transboundary shipments, having the same responsibility assigned to two or more parties may actually lead to difficulties… Actually, GSR part 3 assigns responsibilities for implementing some of the requirements established in DS543.			X	Harmonization with a generally applicable paragraph (1.1.1.3) of the UNOB. See also Step 11/JPN-02 (TRANSSC).
CH-02	104	Finally, further protection is provided **by** ~~through establishing a radiation protection programme and~~	The proposal is to keep the original text for the reason, that the radiation	X			

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		making arrangements for planning and preparing emergency response to protect people, property and the environment.	protection program is already covered by the above-mentioned operational conditions and administrative controls (section 3 of SSR-6). Second point is, that the "and" connection is not true, because a radiation protection program may contain arrangements for emergency response as recommended in SSG-86, section 3 and 8.				
Step11/JPN-03 (TRANSSC)	104	Finally, further protection is provided **by** ~~through establishing a radiation protection programme and~~ making arrangements for planning and preparing emergency response to protect people, property and the environment.	**[Rebuttal to the modification in Step10]** "Further protection" is intended for protection even beyond-accident condition of transport, whereas "radiation protection programme" is mainly intended for protection in routine, normal and accident conditions of transport even though it includes protection in beyond-accident condition of transport.	X			
F-5 (RASSC)	105	Delete 105	Too affirmative. In the past, although very unfrequent, there has been transport accidents with some consequences on people and the environment, for example due to dispersion of radioactive material in the environment.			X	New proposal at Step 11. This proposal should be considered in a future revision cycle.

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IND-1 (NUSSC)	107(c)/3	Existing text: *Radioactive material* implanted or incorporated into a person or live animal for diagnosis or treatment. Proposed text: *Radioactive material* implanted or incorporated into a person or ~~live~~ animal for diagnosis or treatment.	In line with "person", for animals "live" should also be removed as it quite possible that after implant or ingestion of radionuclide, an animal may be not live and same need to be transported for safe management.			X	New proposal
Step11/JPN-04 (TRANSSC)	109	In accordance with a graded approach, measures **should**~~shall~~ be taken to ensure that *radioactive material* is kept secure in transport so as to prevent unauthorized removal, sabotage or damage and to ensure that control of the *radioactive material* is not relinquished inappropriately (see Annex I).	**[Rebuttal to the modification in Step10]** As the security measures to be taken are within Member States discretion, "should" is better.	X	The use of "should" is to be avoided in requirements publications of the IAEA Safety Standards Series. "Shall" is not appropriate in this context as mentioned in the comment. Hence, the following compromise text is proposed: "Measures are expected to be taken to ensure …"		
USA-1	109	~~In accordance with a graded approach,~~ measures shall be taken to ensure that radioactive material is kept secure in transport so as to prevent unauthorized removal~~, sabotage~~, theft or damage and to ensure that control of the radioactive material is not relinquished inappropriately (see Annex I).	"Graded approach" makes entire paragraph subjective and difficult or impossible to enforce. "Sabotage" during transport is not realistic and has not been seen in history of regulations. While other actions in this paragraph can be accomplished and monitored, sabotage cannot.	X			

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IDN-1	Para. 110 Page 3/Line 9 from bottom	*radioactive material* with other hazardous goods, the relevant transport regulations for hazardous goods shall apply	Hazardous is more appropriate rather than dangerous			X	"Dangerous goods" is used for harmonization with the UNOB. New proposal.
WNTI-07	Para. 111	111. Section I presents the background, **objective and** scope ~~and objective~~ of these Regulations; (…).	Editorial. To present the contents of Section I in the order where the different items appear in Section I. This comment is subsequent to the resolution of Step 9/ OM-7.	X			
CH-03	201	A1 shall mean the activity value of special form radioactive material that is listed in Table 2 **or Appendix XX** or derived in Section IV and is used to determine the activity limits for the requirements of these Regulations. A2 shall mean the activity value of radioactive material, other than special form radioactive material, that is listed in Table 2 **or Appendix XX** or derived in Section IV and is used to determine the activity limits for the requirements of these Regulations.	The A1/A2 WG has calculated and validated activity values for much more nuclides than contained in Table 2. The proposal (already accepted but not implemented, please see CH-2 in the STEP 9 Resolution Table) is to present those additional values in an Appendix (is part of the document) or to move Table 2 including those additional values to an Appendix for better reading. The Appendix should be made available	X			Acceptance of this change is subject to approval by TRANSSC. TRANSSC should decide whether Table 2 should remain as it is and a new appendix with additional radionuclides would be added, or whether Table 2 should be removed and its radionuclides included in a new, comprehensive appendix. See CH-04.

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			by a reference in the main document. If those additional values are not mentioned or referenced in the Regulations, they cannot be used without multilateral approval. It complexify their use while these values have been calculated and validated by A1/A2 WG. Switzerland proposes to also refers to appendix where A1/A2 values for radionuclides not present in Table 2 are available in order to make them officially usable without additional approval.				
IDN-2	Para. 206 Page 4/Line 5 from bottom	…. and *carriers* on <u>their</u> own account …..	more clear by adding "their"			X	Harmonization with para. 1.2.1 of UNOB.
USA-2	213	Containment system shall mean the assembly of components of the packaging specified by the designer as intended to retain the radioactive material ~~within the packaging~~ during transport.	"Retain" applies to radioactive material staying in the containment system and has not previously been applied to containment system staying in the package (which I also think is the correct word). Especially true when special form capsule	X			

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			serves as containment system or boundary				
F-6 (RASSC)	214	Make definition of "contamination" consistent with the one of GSR Part 3 (top-down approach) or use a different term (excessive contamination for example) and replicate it throughout DS543.	As stated in France comments provided during Member State consultation, DS543 definition of "contamination" is inconsistent with the one given in GSR Part 3 as thresholds (Bq/cm²) are given. GSR Part 3 gives a definition of "contamination" as "*Radioactive substances on surfaces, or within solids, liquids or gases (including the human body), where their presence is unintended or undesirable, or the process giving rise to their presence in such places.*" It further precise that : " *①The term 'contamination' may have a connotation that is not intended. The term 'contamination' refers only to the presence of radioactivity, and gives no indication of the magnitude of the hazard involved."* Furthermore, thresholds currently in the definition are also appearing at para 508. They could therefore by deleted from the definition….			X	1) Definitions are not inconsistent with GSR Part 3 definition; however, in SSR-6 the definition only applies to contamination on surfaces 2) Definition explains what excessive means (in excess of …) and therefore to add "excessive" is not needed and makes the definition unnecessarily complicated. 3) the limits in paras 214 and 508 are different and apply to different subjects.
Step11/JPN-05 (TRANSSC)	227	Retain current text, or amend as below for clarification：	**[Rebuttal to Step9 Resolution on PAK-14]** See para. 227.1 of SSG-26 (Rev.1).	X			

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		227. *Low toxicity alpha emitters* are: *unirradiated uranium* enriched up to 20%, *natural uranium, depleted uranium*, natural thorium, uranium-235, uranium-238~~,~~ **and thorium-232**~~, thorium-228, thorium-230 and thorium-232 when contained in ores or in physical and chemical concentrates~~; or alpha emitters with a half-life of less than 10 days. **Thorium-228 and thorium-230 may be included when contained in ores or in physical and chemical concentrates.**	Thorium-228 and thorium-230 can not be the low toxicity alpha emitters as specific activities of these radionuclides are as great comparable to those of Pu-238 and Pu-239. They can be classified as low toxicity alpha emitters only when they contained in ores or in physical and chemical concentrates.				
GER-1	229A	*Naturally occurring radioactive material (NORM)* shall mean *radioactive material* containing no significant amounts of radionuclides other than *naturally occurring radionuclides*. The amounts of radionuclides other than *naturally occurring radionuclides* shall not exceed the values **of the activity concentration limit for exempt material** specified in Table 2, or as calculated in accordance with paras 403-407. Material in which the activity concentrations of the *naturally occurring radionuclides* have been changed by a process is included.	The definition of NORM as a material should be based only on limits for activity concentrations, not on absolute activities or A1/A2 values. The proposed inserted text specifies, that the column of Table 2 listing the activity concentration limit for exempt material shall be applied.	X	See USA-3		
GER-2	229A	no proposed new text	The definition as written in the draft does not specify the ratio of the activity of naturally occurring radionuclides to the total activity of the material. This means, that a			X	No proposal was made. The point raised should be considered in the revision of SSG-26.

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			material consisting mostly of not naturally occurring radionuclides, plus traces of uranium, would be NORM. This is not what users expect. For the current use of the definition of NORM, which is limited to para. 107(f), this does not present a problem. But the fact that this definition does not talk about ratios but total activity concentrations should be kept in mind for future changes of the regulations and should be documented in the appropriate document.				
Step11/JPN-06 (TRANSSC)	229A	229A. *Naturally occurring radioactive material (NORM)* shall mean *radioactive material* containing no significant amounts of radionuclides other than *naturally occurring radionuclides*. The amounts **or concentrations** of radionuclides other than *naturally occurring radionuclides* **calculated in accordance with paras 403-407** shall not exceed the **exempt material limits** values specified in Table 2~~, or as calculated in accordance with paras 403-407~~. Material in which the activity concentrations of the *naturally occurring radionuclides* have been changed by a process is included.	**[Rebuttal to Step9 Resolution on GER-2]** The intention of Step9/GER-02 is to limit the value calculated in accordance with paras 403-407 not to exceed the exemption vales in Table 2.	X	See USA-3		

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USA-3	229A	The amounts of radionuclides other than naturally occurring radionuclides shall be so restricted that the activity concentration of these radionuclides in the material does not exceed the exemption values specified in Table 2, or as calculated in accordance with paras 403-407	The intent of Step 9 GER-2 to better define "no significant amounts of other radionuclides" has been negatively impacted in the most recent draft. The new text added for Step 11 does not specify which Table 2 values should be held to and could be misconstrued to mean that one could have up to an A_1, A_2, exemption concentration, or exempt quantity of other radionuclides.	X			
WNTI-01	Para. 229A	229A. *Naturally occurring radioactive material (NORM)* shall mean *radioactive material* containing no significant amounts of radionuclides other than *naturally occurring radionuclides*. The amounts of radionuclides other than *naturally occurring radionuclides* shall not exceed the ~~values~~ **limits for exempt material** specified in Table 2, or as calculated in accordance with paras 403-407. Material in which the activity concentrations of the *naturally occurring radionuclides* have been changed by a process is included.	Clarification. Table 2 includes A_1 and A_2 values, limits for exempt material and limits for exempt consignments. It is necessary to clarify which of these values / limits are applicable here. This comment is subsequent to the resolution of Step 9/ GER-2.	X	See USA-3		
IDN-3	Para. 231 Page 8/Line 7 from bottom	The types of *packages* covered by these	Plural forms	X			

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Step11/JPN-07 (TRANSSC)	234	234. *Radiation protection programme* shall mean systematic arrangements that are aimed at providing adequate consideration of radiation protection measures for workers~~,~~ and the public ~~and the environment~~.	**[Rebuttal to Step9 Resolution on FR-12]** As stated in para. 3.2 of SSG-86, the protection object of RPP is firstly workers (Requirement 24 of GSR Part 3), then the public can be included (para. 3.52 of GSG-7).			X	RPP covers also emergency preparedness and response (para. 302); therefore, the environment is in the scope.
F-7 (RASSC)	234		Slight inconsistency with GSR Part3 as GSR Part 3 mentions a radiation protection program for occupational exposure (Requirement 24 and associated requirements), but also a "*protection and safety programme*" (para 2.42) which would better correspond to the scope of the *radiation protection program* called by DS543. Nevertheless, GSR Part 3, at para 3.127 requires "*Registrants and licensees, for sources under their responsibility, shall establish, implement and maintain:* *(a) Policies, procedures and organizational arrangements for protection and safety in relation to public exposure, in accordance with the requirements of these Standards.* *(b) Measures for ensuring (i) Optimization of protection and safety […]"* *(d) Provision for suitable and adequate resources (including facilities, equipment and services) for the protection and safety of members of the public,*			X	No proposal

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			commensurate with the likelihood and magnitude of exposures. *(e) Programmes for appropriate training of personnel having functions relevant to protection and safety of members of the public; […]* *(h) Emergency plans, emergency procedures and emergency arrangements*"				
F-8 (RASSC)	236	Make definition of "radioactive material" consistent with the one of GSR Part 3 (top-down approach) or use a different term (transport regulated radioactive material for example) and replicate it throughout DS543.	As stated in France comments provided during Member State consultation, DS543 definition of "radioactive material" is not fully consistent with the one given in GSR Part 3. GSR Part 3 defines "radioactive material" as "*Material designated in national law or by a regulatory body as being subject to regulatory control because of its radioactivity*."			X	GSR Part 3 definition of radioactive material is not usable for international transport.
IDN-4	Para. 240 Page 10/Line 2	*The specific activity* of a radionuclide	Needs article The			X	Would violate the style of definitions in SSR-6.
F-9 (RASSC)	302	A *radiation protection programme* shall be established for the transport of *radioactive material*. It shall address both worker and public exposure under routine conditions of transport, normal conditions of transport, accident conditions of transport and during emergency response. ~~The nature and extent of the measures to be employed in the programme shall be related to the magnitude and likelihood of radiation exposure. The programme shall incorporate the requirements of paras 301, 303–305, 311 and 562.~~	As stated in France comments provided during Member State consultation, make it clear to the reader by avoiding cross-references and ensuring all transport conditions are covered (including emergencies). No need to make specific reference to 301, 303–305, 311 and 562 as they are applicable….			X	The RPP has to address more than as explained in the proposed new sentence. Furthermore, the references to paras 301, 303-305, 311 and 562 should remain for clarity. (See also, revised para. 234.)

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			Furthermore, partially redundant with 301.				
F-10 (RASSC)	302	[…] ~~Programme documents shall be available, on request, for inspection by the relevant *competent authority*.~~	As noted in France comments provided during Member State consultation, obvious as it is required by regulations… Already required by GSR Part 3 para 2.45			X	SSR-6 is often used by individuals who are not familiar with the IAEA safety standards. Furthermore, the text of GSR Part 3 is not incorporated into the UNOB.
F-11 (RASSC)	304	In the event of a nuclear or radiological emergency during the transport of radioactive material, provisions ~~as established by relevant national and/or international organizations~~ shall be ~~observed~~ implemented to protect people, property and the environment. These provisions ~~include arrangements for preparedness and response,~~ shall be established in accordance with the national and/or international requirements for preparedness and response and implemented in a consistent and coordinated manner~~ with the national and/or international emergency arrangements~~, as required by GSR part 7.	The suggested wording is cumbersome, considering both : - The fact that nobody is assigned responsibility (is it the carrier, the consignor, the State…?) - The fact it mixes the preparedness phase and the response phase. Making a link with GSR Part 7 would be beneficial.			X	As stated in the original review proposal JPN-05, the proposed wording in the current draft is harmonized with the UNOB.
IND-8 (NUSSC)	304/12	Current text: In the event of a nuclear or radiological emergency during the transport of *radioactive material*, provisions as established by relevant national and/or international organizations shall be observed to protect people, property and the environment. These provisions include arrangements for preparedness and response established in accordance with the national and/or international requirements and in a consistent and coordinated manner with the national and/or international emergency arrangements.	Suggested to retain Consignors and Consignee. Retaining consignors and carriers ensures they remain accountable for the safety of radioactive material transport. They have detailed knowledge of the materials, operational logistics, and potential hazards, making them best suited to establish emergency preparedness. Their involvement ensures proactive risk management, efficient communication, and			X	See F-11

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		Proposed text: In the event of a nuclear or radiological emergency during the transport of radioactive material, provisions as established by relevant national and/or international organizations shall be observed to protect people, property and the environment. Consignors and carriers shall establish, in advance, arrangements for preparedness and response in accordance with the national and/or international requirements and in a consistent and coordinated manner with the national and/or international emergency arrangements and emergency management system.	compliance with regulatory frameworks, while leveraging their training and expertise for effective incident response.				
F-02 (TRANSSC)	305		In the Step 11 SSR-6 Draft, it seems that the modification from "STEP 9 / GER-3" (on which France agrees) has been taken into account, whereas the resolution table indicates that it has been rejected. **Clarification is expected.**	X			STEP9/GER-3 should have been marked as accepted.
Step11/JPN-08 (TRANSSC)	305	The arrangements for preparedness and response shall be based on the graded approach and shall take into consideration the identified hazards and their potential consequences, including the formation of other dangerous substances that may result from the reaction between the contents of a *consignment* and the environment in the event of a nuclear or radiological emergency. ~~Requirements~~ **Guidance** for the establishment of such arrangements are provided in GSR Part 7 [6], ~~and supporting recommendations are provided in~~ SSG-65 [8] and IAEA Safety Standards Series Nos	**[Rebuttal to the modification in Step10 considering Step9 Resolution on GER-3]** Japan supports the following resolution by the Technical Officer in Step9 and proposes to reject the modification in Step10 by the Technical Editor. *"While GSR Part 7 is referred to in the IAEA Safety Standards in terms of "requirements", it would be misleading to refer to it in SSR-6 in this way. The text of SSR-6 becomes binding*			X	See F-02 (TRANSSC)

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		GSG-2, Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency [14]; GS-G-2.1, Arrangements for Preparedness for a Nuclear or Radiological Emergency [15] and GSG-11, Arrangements for the Termination of a Nuclear or Radiological Emergency [16].	*when it is incorporated into modal regulations, adherence to which is required by international conventions and regional agreements. Therefore, in SSR-6 it would be appropriate to refer to GSR Part 7 as "guidance".*				
F-12 (RASSC)	305	The arrangements for preparedness and response shall be based on the graded approach and shall take into consideration the identified hazards and their potential consequences, including the formation of other dangerous substances that may result from the reaction between the contents of a *consignment* and the environment in the event of a nuclear or radiological emergency. Requirements for the establishment of such arrangements are provided in GSR Part 7 [6]~~, and supporting recommendations are provided in SSG-65 [8] and IAEA Safety Standards Series Nos GSG-2, Criteria for Use in Preparedness and Response for a Nuclear or Radiological Emergency [14]; GS-G-2.1, Arrangements for Preparedness for a Nuclear or Radiological Emergency [15] and GSG-11, Arrangements for the Termination of a Nuclear or Radiological Emergency [16].~~	In a top-down approach, it is not recommended to cite Safety Guides in Safety Requirements.			X	Within SSR-6, such references are beneficial to the readers of the publication (who may not be aware of the IAEA safety standards. [See also para. 102 in SSR-6.] Furthermore, the inclusion of such references in SSR-6 ensures that these references will be incorporated into the UNOB and modal regulations.
IDN-5	Para. 306 Page 13/Line 12	… such *approval* shall <u>be taken</u> into account, ….	in passive form			X	New proposal. Current wording is OK.
MOR-2	306	Define **Certification** for a better understanding : "Certification that the *design* specification has been fully	The term "certification" is confusing.			X	New proposal. Consider including clarification in SSG-26.

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		implemented shall be available to the *competent authority*. The manufacturer, *consignor* or user shall be prepared: (a) To provide ….	It is necessary to define exactly what is meant by this term. Is it a process to which the operator must aspire.				
F-13 (RASSC)	307	Delete 307	As stated in France comments provided during Member State consultation, unnecessary as already established in GSR Part 1, in a more comprehensive but flexible way, which states: "4.3. *The objective of regulatory functions is the verification and assessment of safety in compliance with regulatory requirements. The performance of regulatory functions shall be commensurate with the radiation risks associated with facilities and activities, in accordance with a graded approach.* […]" In addition, current 307 does not capture the various ideas developed in para 4.3 of GSR Part 1.			X	As written in the Step 9 resolution table, this is a specific and necessary requirement for compliance assurance in transport.
F-14 (RASSC)	308	Delete 308	As stated in France comments provided during Member State consultation, already established in GSR Part 3 in a more comprehensive way and with better clarity on the responsibilities of the regulator and the operators….			X	This is a specific and necessary requirement for dose assessment in transport in compliance with GSR Part 3.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
			GSR part 3, para 3.135, states that: " *The regulatory body shall be responsible, as appropriate, for:* *(a) Review and approval of monitoring programmes of registrants and licensees, which shall be sufficient for:* *(i) Verifying compliance with the requirements of these Standards in respect of public exposure in planned exposure situations;* *(ii) Assessing doses from public exposure.* *(b) Review of periodic reports on public exposure (including results of monitoring programmes and dose assessments) submitted by registrants and licensees.* *[…]* *(d) Assessment of the total public exposure due to authorized sources and practices in the State on the basis of monitoring data provided by registrants and licensees and with the use of data from independent monitoring and assessments.* *[…]*"				
MOR-3	313	Add a provision relating to regular training and exercises to be carried out by the employee to be able to manage an accidental situation.	The training must contain regular training and exercises to be able to effectively manage an accident under routine,			X	New proposal. Furthermore, already covered under para. 313(c).

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
			normal or accident conditions of transport.				
IND-2 (NUSSC)	314/15	Existing text: Records of all safety training undertaken shall be kept by the employer and made available to the employee if requested. Proposed text: Records of all safety training undertaken shall be kept by the employer and made available to the employee and competent authority if requested.	As it is a "shall" statement, as a part of compliance assurance, the training records should be provided to the competent authority also.			X	New proposal.
F-15 (RASSC)	315	The training required in para. 311 and 313 shall be provided or verified upon employment in a position involving *radioactive material* transport and shall be periodically supplemented with retraining ~~as deemed appropriate by the *competent authority*~~.	As stated in France comments provided during Member State consultation, as required by GSR Part 3 (3.76 (h), training mentioned in 313 (radiation safety training) shall be subject to retraining. Furthermore, according to GSR Part 3 (3.110), retraining is neither optional nor to be set by the regulatory body			X	As written in the Step 9 resolution table, this text is harmonized with para. 1.3.4 of the UNOB.
IND-3 (NUSSC)	401/16	Existing text: *Radioactive material* shall be assigned one of the United Nations (UN) numbers specified in Table 1 in accordance with paras 408–434. Proposed text:	Packaging type should also be included as UN number is always associated with both radioactive material and packaging.			X	New proposal. LSA, SCO and UF6 are material-specific only.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
		Radioactive material along with the packaging type shall be assigned one of the United Nations (UN) numbers specified in Table 1 in accordance with paras 408–434.					
CH-04	402	**402A. The A1 and A2 basic values in Tbq for individual radionuclides are given in Table 2 and Appendix XX.** **402B. The following basic values for individual radionuclides are given in Table 2:** **(a) Activity concentration limits for exempt material in Bq/g;** **(b) Activity limits for exempt consignments in Bq.** Alternatively: **402. The following basic values for individual radionuclides are given:** **(a) In Table 2 and Appendix XX for A1 and A2 in TBq;** **(b) In Table 2 for Activity concentration limits for exempt material in Bq/g;**	The A1/A2 WG has calculated and validated activity values for much more nuclides than contained in Table 2. The proposal (already accepted but not implemented, please see CH-2 in the STEP 9 Resolution Table) is to present those additional values in an Appendix (is part of the document) or to move Table 2 including those additional values to an Appendix for better reading. The Appendix should be made available by a reference in the main document. If those additional values are not mentioned or referenced in the	X	Acceptance of this change is subject to approval by TRANSSC. See CH-03. A consultancy meeting that was held on 15 – 18 Oct. 2024 recommended that: • Table 2 should be deleted and its contents moved to a new appendix for user friendliness/ flow of text in SSR-6. • All A_1/A_2 values should be revised according to the findings of the A_1/A_2 WG.		

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/ rejection
		(c) In Table 2 for Activity limits for exempt consignments in Bq.	Regulations, they cannot be used without multilateral approval. It complexify their use while these values have been calculated and validated by A1/A2 WG. Switzerland proposes to also refers to appendix where A1/A2 values for radionuclides not present in Table 2 are available in order to make them officially usable without additional approval.		• The new appendix should be expanded to include the 1250+ radionuclides mentioned in ICRP 107, some mixtures (U-nat, Th-nat, Rb-nat, U-enriched, etc.), some lung absorption types of uranium, and exemption values in compliance with GSR Part 3. This approach will support the harmonized application of A_1/A_2 values and will reduce (or eliminate) the need to calculate A_1/A_2 values that are not in SSR-6.		
Step11/JPN-11 (TRANSSC)	403	For individual radionuclides: (a) That are not listed in Table 2, the determination of the basic radionuclide values referred to in para. 402 shall require multilateral approval. For these radionuclides, activity concentrations for	**[Comment to Step9 Resolution on CH-2]** Step 9/ CH-2 suggested the modification of para. 403 (a) for clarification. The comment was accepted in the resolution	X			The resolution of this para. will depend on the decision by TRANSSC concerning the possible addition of a

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		exempt material and activity limits for exempt consignments shall be calculated in accordance with the principles established in GSR Part 3 [2]. It is permissible to use an A_2 value calculated **in accordance with TECDOC-XXXX** using a dose coefficient for the appropriate lung absorption type, as recommended by the International Commission on Radiological Protection, if the chemical forms of each radionuclide under both normal and accident conditions of transport are taken into consideration. Alternatively, the radionuclide values in Table 3 may be used without obtaining competent authority approval.	table and suggested having a discussion at TRANSSC. Japan suggests adding the reference to the TECDOC-XXXX under development.				new Appendix with new basic radionuclide values.
CH-05	403(a)	That are not listed in Table 2 **or Appendix XX**, the determination of the basic radionuclide values referred to in para. 402**A and 402B** shall require multilateral approval.	Consequential change in accordance with CH-04	X			Resolution depends on the decision of TRANSSC – See CH-04.
IDN-6	Para. 403(b) Page 16/Line 5 from bottom	…which the *radioactive material* is enclosed in or is included as a ~~component~~ part of the ….				X	New proposal. No reason provided.
CH-06	404	In the calculations of A1 and A2 for a radionuclide not listed in Table 2 **or Appendix XX**, a single radioactive decay chain in which the radionuclides are present in their naturally occurring proportions, and in which no progeny nuclide has a	Consequential change in accordance with CH-04	X			Resolution depends on the decision of TRANSSC – See CH-04.

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		half-life either longer than 10 days or longer than that of the parent nuclide, shall be considered as a single radionuclide; and the activity to be taken into account and the A1 or A2 value to be applied shall be that corresponding to the parent nuclide of that chain.					
Step 11/ ARG-1	TABLE 2. BASIC RADION UCLIDE VALUES		in response to your observations (last column): It was expressed the need to assess the justification of adopting these new A1 and A2 values, taking into account the possible impact of these changes in different areas. In this sense, it does not seem adequate to introduce changes in the values in a safety standard without previously			X X	*Regarding the issue of justification*: Please refer to the Justification Paper that was drafted by the Secretariat which outlines the issues to be considered in deciding whether the incorporation of the corrected A_1/A_2 values into SSR-6 is justified; this paper has been submitted to the Review Committees to aid them in their deliberations on this matter. *Radiological impact:* The new A1/A2 values are derived by the latest calculation methodology to assure that the resulting

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			analyzing the possible impact due to those changes, especially from the point of view of radiation protection.				exposure under the Q system does not exceed the applicable dose limits. Regarding the radiological impact, changes in A_1/A_2 values would result in an approximate linear change in the doses expected under the assumptions of the Q system, i.e. if the A_1/A_2 values change by 10X, the doses under the Q system would change by approximately 10X.
			Regarding the resolution to the comment related to the radiological impact, figures 16 and 17 of V1.1 of A1/A2 WG report are appreciated, which show the percentage of numbers that vary, and whether they are above or below current values. In any case, the radiological impact it was referred to, was not related to the variability of these values themselves, but rather to assess, for example, if a new value is used compared to the current			X	*Uncertainties:* Regarding the uncertainties associated with the calculations, please see the following response from the Chair of the A1/A2 WG: *The sources of uncertainties are described in the report (most of them depend on the way codes work; same thing for all ICRP publications – this is not a WG specific issue), and illustrations are presented in figure 15 with a short explanation in the*

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			one, how much would be the variation in the effective dose received by the person in the exposure scenario, in order to know whether the change is relevant or not from the point of view of radiation protection. It would be helpful to have an analysis of the uncertainties associated with the calculations, in order to evaluate whether the new values are consistent with the current ones, although we know that this calculation would take a lot of time and could be too much work.				*paragraph above that figure; in short, less than 10% between codes – more information in the most recent publication of the WG mentioned in ref. [61]. Radiation protection general uncertainties are likely covered by the rounding method itself, in the same way as the technique of rounding exemption values (based on the difference between "a few tenth of µSv" stated by ICRP and the strict dose criterion of 10 µSv considered in the RP 65; in that case, an exemption value of 10 Bq/g means an unrounded value between ~3.2 and 31 Bq/g, i.e. a maximal factor of ~3 between the unrounded and rounded values, and a dose range between 3.1 and 32 µSv).* *The rounding method used for the Q system implies factors between Q and A values ranging from 1.05 to 1.33 when the value*

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							increases from Q to A (minimum for A = 1.10^n TBq and 9.10^n TBq, maximum for A = 2.10^n TBq), and 1.05 to 1.49 when it decreases (9.10^n TBq and 1.10^n TBq respectively). *To better illustrate the consequences, range of effective doses for A_2 values is between 34 and 67 mSv if Q_A, Q_C, $Q_{D,ing}$ or $Q_{E,eff}$ drives the A_2 value, and the range of equivalent doses to the skin is between 336 and 667 mSv if Q_B, $Q_{D,skin}$ or $Q_{E,eq}$ drives the A_2 value. Adding a multiplication factor to the A_2 values will only multiply those ranges by the same factor. That's why the WG thought of keeping the same rounding method as the Q values rather than that of the A values (factors would be ranging from 1.05 and 1.005).* *Please be aware that this rounding method and the associated factors exist since 1973.*

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							Impact on the calculation methodology of other existing values in IAEA Safety Standards: This issue was addressed by the Joint RASSC/TRANSSC WG.
			Regarding the impact on the calculation methodology of other existing values in the IAEA Standards, the comment is related on the convenience for IAEA to consider in the near future the review of the methodology calculations performed to derive other existing values with the new parameters used to calculate A1 and A2, in order to ensure consistency between them.			X	It should be acknowledged that the dose scenarios of the Q system are unique within the IAEA safety standards. However, it is planned that the details of the calculational methods that were used in calculating the revised A1/A2 will be published in an effort to make them widely available.
			Regarding the comment on the impact on Interested parties, to have a written analysis of the impacts mentioned (in addition to the Report of			X	*Impact on interested parties:* See information received in comments Step 9/ AUS-1, Step 9/ CDN-04, Step 9/ AUS-2, and Step 9/ AUS-3. Also,

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			the WG A 1 /A 2 for the 2021-2024), would facilitate the understanding of the implementation of the new values by interesting parties.				please see the CORAR report referred to in comment Step 11/CDN-02. See also, Step 11/ USA-6

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Step 11/ CDN-02	Table 2	Remove the new A2 values (revert to previous 2018 Edition values) in Table 2 for the following high energy alpha emitters: Ac-225, At-211, Pb-212, Ra-223, Ra-224, and Ra-225.	Canada disagrees with the rejection of comment CDN-04 in the Step 9 Resolution Table. The approach taken by the A1/A2 working group to calculate the Q_D skin dose is overly conservative, which results in prohibitively high doses and consequently a significant reduction of the A2 values for alpha emitters with energies greater than approximately 7 MeV. The calculations use a depth in water to simulate the standard average epidermis thickness of 70 µm (dose deposited between 50 and 100 µm). As per ICRP publication 89 (page 197), however, the average epidermis thickness for the palm of the hand is 400 µm, which is a more appropriate value to			X	Regarding the epidermis thickness that was used in calculations of the A1/A2 WG, please see the comments below by the Chair of the A1/A2 WG.

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			assume for skin contamination exposure scenarios where an individual is picking up debris with their hands. With an epidermis of 400 µm, not only do all alphas lose all their energy before the dermis and therefore yield zero dose, skin doses from betas/positrons/electrons are also greatly reduced (depending on the energy). The A1/A2 working group calculations also very conservatively assume that individuals handling contaminated debris in response to a transport accident would not be wearing gloves, which is unlikely to be the case. So, there is a double layer of conservatism that overly penalizes the high energy alpha emitters.			X	Regarding the assertion that the dose scenario of Q_D is overly conservative, please see the comments below of the Chair of A_1/A_2 WG.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			The significant reduction in A2 values will impede the development of lifesaving Targeted Alpha Therapy (TAT) technology by making it more difficult to transport high energy alpha emitting medical isotopes for patient treatments. Details on the TAT cancer treatment technology and the implications of the proposed reduced A2 values are provided in the CORAR report available here: CORAR A1/A2 Position Paper. The key isotopes of concern for TAT are Ac-225, At-211, Pb-212, Ra-223, Ra-224, and Ra-225. Canada proposes to reject the new A2 values for the key high energy alpha emitters listed in the CORAR report (Ac-225, At-211, Pb-212, Ra-223, Ra-224, and Ra-225). The current limits for these			X	The new A2 values, including the ones for the radionuclides that are referred to, resulted from the application of current radiological data, modelling techniques and calculational methods by the A1/A2 WG.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			isotopes should be retained until a more appropriate model can be developed (or the existing exposure scenario changed) and the adverse effects on the availability and financial viability of life-saving alpha therapies assessed.				There is no scientific justification for excluding certain radionuclides. The proposed transitional period should allow sufficient time for the transport industry to adapt its operations accordingly.

Regarding the assertion that an epidermis thickness of 400 µm should be used, the Chair of the A1/A2 WG provided the following information (email dtd 10 Oct. 2024, amended by email dtd 17 October 2024):

This comment is referring to figure 10.3 [of ICRP 89] *which is indirectly called by para. 517 and is derived from a 1973 publication. This figure likely explains why you get two kinds of contamination dose in RP65 (at depth of 400 and 40 µm for beta radiations, depending on the localisation of the contamination; this is already 70 µm for gamma/X radiations – those considerations are based on Charles (1986), Kocher & Eckennann (1987) and Chaptinel et al. (1988) publications). There are many things to say about that figure :*

- *They seem to differentiate the basal layer (where the dose is calculated because this is where new cells are created) from the epidermis; in fact, the basal layer is included in the epidermis (as its name suggest, it's located at the base of the epidermis).*
- *This part of ICRP 89 should be read entirely: the first paragraph, 517, is about history of the evaluation of the skin thickness, then you get to para. 518 explaining that, since then, "a re-assessment was done on the basis of updated information", leading to the values listed in table 10.4 then 10.5 and para. 520 (cf. end of this bullet list).*
- *ICRP 116 fixes what should be considered to evaluate doses to the skin: it's not 400 µm, it's 70 µm, with calculations being averaged over a 50-100 µm depth on a 1-cm² surface. Annex G of ICRP 116, especially para. G3 and G4, explains how doses should be calculated – in this regard, table G.2 on dose coefficient for alpha particles is calculated as an average over the 50–100 µm depth, as the WG did (a slightly different model for the source was used, but the calculation of the dose is identical, as explained in the report). This method is likely based on the final recommendations of ICRP 89. Please note that, while the voxelised phantom of ICRP 110 does not have the ability to consider the epidermis basal layer (that's why the aforementioned special model was developed), the adult mesh-type reference computational phantoms of ICRP 145 does (and this is the latest reference on that matter). The problem about doses due to alpha radiations (especially Po daughters mentioned in the WG report) is not really new, as illustrated in the figure at the end of this bullet list that was presented by Janis ENDRES (GRS, member of the WG) at the PATRAM 2022 conference.*

- *The contamination model indeed considers that hands are the most likely part of the body that gets contaminated, but I am not sure that, while you manipulate debris and such, you won't get contaminated elsewhere, especially the back of your hand (for which fig. 10.3 says thickness is around 100 µm, if reference to it had to be done) or your face (50 µm) through inadvertent movements: those behaviours were heavily documented during the COVID period. Eventually, resuspension also leads to superficial contamination. That said, I admit that the transmission fractions from hand palm to those areas may be less that the overall 10^{-5} fraction considered in the $Q_{D,skin}$ scenario.*

Table 10.5. Typical values for skin mass thickness

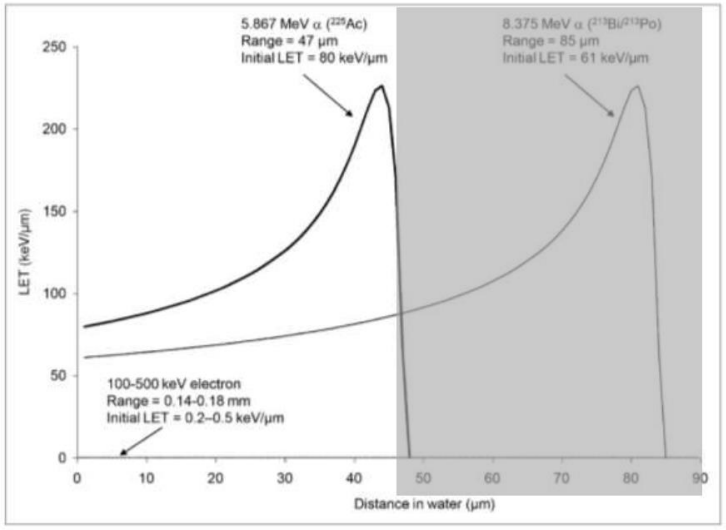
Site	Skin mass thickness (mg/cm²)* Total	Epidermis	Dermis
Infants			
Head and trunk	73	5	68
Upper arms and legs	73	5	68
Lower arms and legs	73	5	68
Adult males			
Head and trunk	225	5	220
Upper arms and legs	135	5	130
Lower arms and legs	140	10	130
Adult females			
Head and trunk	180	5	175
Upper arms and legs	110	5	105
Lower arms and legs	115	10	105

* Values based on a density of 1.1 g/cm³ for skin.

(520) The following reference values for epidermal thickness as a function of age have been selected based on the information given above.

Reference values for thickness of the epidermis in males and females

	Thickness (µm)
Newborn	**45**
1 year	**45**
5 years	**45**
10 years	**50**
15 years	**60**
Adult	**70**



G. Sgouros et al., J. Nucl. Med. 2010 February; 51(2): 311–328

Again, it's important to underline that the Q scenarios aim at determining global parameters to address a given level of risk.

Regarding the assertion that the dose scenario of Q_D is overly conservative, the Chair of A1/A2 WG, provided this response (email dtd 2 Oct. 2024, amended by email dtd 17 Oct. 2024):

I understand that their main arguments, regarding the Q system, is that it's outdated, especially the parameters used to determine $Q_{D,skin}$ (and, more specifically, the duration of contamination). I have never heard any strong criticism of the Q system since 1996 (let alone 1980 when it came out), or 2014 when the project started.

Besides, one of the main argument is focused on someone handling a type A package, but this is only a possibility offered by the scenario (« handling debris » is also considered), not to mention that only 1% or the content is released outside of the package (i.e. something that may not be visible to the eye, especially in case of an emergency, when everything is possibly in disarray). The objective of the scenario is to evaluate what would happen if someone gets contaminated to 10^{-3} A_2/m^2 – whatever the exact origin of the contamination because of the seemingly arbitrary nature of the scenario – which would typically represent about 10^{-5} of the content of a type A package if both hands were to be contaminated, i.e. 10 kBq when 1 A_2 = 1 GBq, which is on the same level as exemption values (for alpha emitters). While this may look surprising, it is important to underline that, in the case of exemption values, the dose to the skin are evaluated with the former coefficients (there is a dose factor of ~500 because of Po daughters), that most contamination scenarios are considered accidental (i.e. with a dose criterion of 1 mSv), and that object/soil-to-skin transfer coefficients as well as contamination times are different than that of the Q system.

The WG does not question the fact that the parameters of the Q_x scenarios could be reviewed. To be perfectly honest, this was mentioned at the beginning of the WG, but, considering this would mean addressing accidentology, that some members were opposed to changing those parameters, and that they were overall still justified to address accidental exposure of both workers and members of the public, the WG decided to only focus on updating the data and methods. Think of the Q, D and exemption systems as standards that help classifying radionuclides according to their hazard levels in given situations.

Additionally, the Chair of the A1/A2 WG provided this further thought in an email dtd 10 October 2024:

Cf. my response to the CORAR position paper. I would like to add that practices, training in emergencies, safety and radiation protection cultures are addressed differently in the world. The Q system is an international system, and should therefore address the scenarios on a global basis.

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Step 11/ USA-6	Table 2, revised A_1/A_2 values	Ac-225 – remove A_2[new] At-211 – remove A_2[new] Pb-212 – remove A_2[new] Ra-223 – remove A_2[new] Ra-224 – remove A_2[new] Ra-225 – remove A_2[new]	Step 9 resolution table for Comment AUS-1 states that "TRANSSC should consider the significance of impact of a reduction in the A_2 value" for alpha therapies. TRANSSC has not substantively resolved this comment to date. USA supports the work of the A_1/A_2 WG as a valuable addition to the current SSR-6 revision and affirms the validity of the assumptions and methodologies for calculating the new A values and the underlying Q_x scenarios to be consistent with ICRP recommended practices. However, as evidenced by recent clinical studies and reports from the radiopharmaceutical industry, there exists a real potential for the new, significantly more restrictive A_2 values for alpha-emitting isotopes to adversely affect the availability and financial viability of life-saving alpha therapies. Although there			X	See the reasons provided in Step 11/ CDN-02.

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			is a lack of certainty regarding the efficacy of the alpha treatments, current material availability, and the true cost the new A_2 values have on the radiopharmaceutical industry, the USA contends that enough evidence is present that TRANSSC should proceed cautiously as to not impact real life-saving capabilities to protect against conservative, hypothetical accident scenarios. USA rejects the new A_2 values (retain the A_2 values at current SSR-6 Rev. 1 values) <u>specifically</u> for Ac-225, At-211, Pb-212, Ra-223, Ra-224, and Ra-225. Since the new A values have a 10-year transition period, there exists an assumed leniency that the current A values are acceptable and the safety concerns would remain unchanged over that time period. TRANSSC could continue investigating the most appropriate revisions for Ac-225, At-211, Pb-212,				

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			Ra-223, Ra-224, and Ra-225 throughout this implementation period, providing time for radiopharmaceutical studies to progress. The USA also proposes for TRANSSC to form a TRANSSC or TTEG WG to evaluate these future considerations for the next revision of SSR-6 (which could include application of new A_2 values for these isotopes, medical isotope specific relief, an alternative A value approval process similar to SSR-6 Para 817 for exemption values, additional packaging requirements/tests for relief from Q_D scenario risks, etc.). Revising the A_1/A_2 values, except for Ac-225, At-211, Pb-212, Ra-223, Ra-224, and Ra-225, is a preferred path forward rather than individual member states implementing policy solutions that deviate from SSR-6 in their domestic regulations.				

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
Step11/JPN-09 (TRANSSC)	Table 2	[Comment] Japan understands that IAEA, RASSC and TRANSSC will consider the establishment of the new joint WG to conduct impact analysis from the proposed change of A_1/A_2 values, according to the action item 48-NRT4.4 of Actions Arising from TRANSSC-48. What it the progress in the consideration?	**[Comment to Step9 Resolution on ARG-1]** Don't we have to wait for the conclusions from the new joint Working Group WG before accepting new A_1/A_2 values? See "48-NRT4.4" of Item 8.1 Actions Arising from TRANSSC48.			X	In December 2023, the Joint TRANSSC/RASSC Working Group on the Proposed Revision of A_1/A_2 Values was established with the overarching objective of fostering cooperation, coordination, and a mutual understanding between the members of TRANSSC and RASSC regarding the proposed correction of the A_1/A_2 values as part of the ongoing revision cycle of SSR-6 (Rev. 1). Its findings were presented at the joint NSGC/RASSC/TRANSSC meeting on 12 June 2024. In their separate Review Committee meetings following this joint meeting, RASSC and TRANSSC supported the establishment of a new joint Working Group to examine whether the correction of the A_1/A_2 values is justified in terms of potential impacts it may have in Member States. After discussions between the RASSC

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
							and TRANSSC Secretariats, it was mutually agreed that, before deciding on the establishment of a new joint Working Group, a justification paper which outlines the issues to be considered in deciding whether the incorporation of the corrected A_1/A_2 values into SSR-6 is justified would be prepared and submitted to the Review Committees to aid them in their deliberations on this matter at their next respective meetings. The justification paper was submitted to the Review Committees in advance of their Fall/Winter 2024 meetings.
JPN-2 (RASSC)	TABLE 2. BASIC RADIONUCLIDE VALUES	Japan RASSC does not have any proposed new text for Table 2, but would like to submit the following general comment regarding the new A1/A2 values. Concerning the justification of the new A1/A2 values and the impact on other Safety Standards (see the agreed action on agenda item NRT-4.4 in the joint session on 12 June				X	See Step11/ JPN-09 (TRANSSC).

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		2024), common understandings among Review Committee members should be developed and documented.					
Step11/JPN-10 (TRANSSC)	Table 2	[Comment] CORAL code should be authorized by the IAEA or other proper organization to maintain its accessibility by the transport stakeholders. What progress has been made by the IAEA towards sharing of CORAL code with the Member States?	**[Rebuttal to Step9 Resolution on JPN-03]** Japan commented in STEP9/JPN-03 that the CORAL code should be authorized by the IAEA and shared with Member States. In the resolution table, it was rejected, but said that it will be addressed through the development of TECDOC. Therefore, we would like to know the progress. The following is the Step9/JPN-03 comment, which was rejected. "CORAL is an important data processing tool to derive the basic radionuclide values that are implemented as regulatory limits in the national regulations of the Member States. Such calculation tool should be authorized by the IAEA and shared by the interest parties among the Member States."			X	Discussions are ongoing with the developer of the CORAL code, the chair of the A1/A2 WG, and interested parties to clarify what portions of the software and related data files should be made available. Following on from these discussions, relevant issues such as the licensing of portions of the software and ownership of data sets will be addressed in pursuit of the goal of making appropriate software and data sets available to interested parties.
JPN-1 (RASSC)	TABLE 2. BASIC RADION	Japan RASSC does not have any proposed new text for Table 2, but would like to submit the				X	See Step 11/JPN-10 (TRANSSC)

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	UCLIDE VALUES	following general comment regarding the new A1/A2 values. As Japan submitted in Step 9 (JPN/-03), for the benefit of Member States, a custom version of CORAL, authorized by the IAEA or other relevant organizations, should be released to facilitate the evaluation of Q and A1/A2 values among interested parties. The effort to develop a TECDOC, as explained by the Technical Officer during the joint session on 12 June 2024, should continue. A supplement to the TECDOC could include electronic information on the detailed calculation of A1/A2 values as a practical solution.					

Comment No.	Para/Line No.	Proposed new text			Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
GER-3	Table 2	Radionuclide	A_1 (TBq)	A_2 (TBq)	See Table 10 of "Update of the Q system to derive the A_1/A_2 basic values of the IAEA transport regulations No. SSR-6" (Report of the WG A_1/A_2 for the 2021-2024 SSR-6 review and revision cycles; Version 1.1a) Corrections are proposed according to the updated list of radionuclides in footnote (a), partially caused by radionulides newly introduced in Table 2. For Sr-92 and Tc-96m see comment on Table 2 footnote (a) below.	X			[input rec'd from Baptiste]
		Ac-226 (a)	6×10^{0}	2×10^{0}					
		Bi-210 (a)	4×10^{1}	6×10^{-1}					
		Cd-115m (a)	1×10^{0}	6×10^{-1}					
		Ce-133m (a)	5×10^{-1}	5×10^{-1}					
		Ce-134 (a)	3×10^{-1}	3×10^{-1}					
		Ce-137m (a)	2×10^{1}	6×10^{-1}					
		In-111 (a)	3×10^{0}	3×10^{0}					
		Np-235 (a)	4×10^{1}	4×10^{1}					
		Np-236 (a)	9×10^{0}	1×10^{-2}					
		Pu-239 (a)	4×10^{1}	1×10^{-3}					
		Rb-81 (a)	2×10^{0}	2×10^{0}					
		Sr-92 ~~(a)~~	8×10^{-1}	8×10^{-1}					
		Tc-96m ~~(a)~~	3×10^{1}	3×10^{1}					
		Te-118 (a)	2×10^{-1}	2×10^{-1}					
		Te-119m (a)	8×10^{-1}	8×10^{-1}					
GER-4	Table 2	Radionuclide	Activity concentra-tion limit for exempt material (Bq/g)	Activity limit for an exempt *consignment* (Bq)	Progeny included in secular equilibrium is different for A_1/A_2 values, therefore footnote (b) should only be applied to the exemption values and not for the radionuclide. See Table 11 of "Update of the Q system to derive the A_1/A_2 basic values of the IAEA transport regulations No. SSR-6" (Report of the WG A_1/A_2 for the 2021-2024 SSR-6 review and revision cycles; Version 1.1a) for comparison.	X			[input rec'd from Baptiste]
		U (natural) (secular equilibrium) (all lung absorption types) ~~(b)~~	1×10^{0} (b)	1×10^{3} (b)					

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
GER-5	Table 2 Footnote (a)	… Sr-91 Y-91m ~~Sr-92 Y-92~~ Y-87 Sr-87m Zr-95 Nb-95m Zr-97 ~~Nb-97m,~~ Nb-97 Mo-99 Tc-99m Tc-95m Tc-95 ~~Tc-96m Tc-96~~ Ru-103 Rh-103m …	See Table 10 of "Update of the Q system to derive the A_1/A_2 basic values of the IAEA transport regulations No. SSR-6" (Report of the WG A_1/A_2 for the 2021-2024 SSR-6 review and revision cycles; Version 1.1a) The half-life of Sr-92 (2.66 h) is lower than the half-life of the progeny Y-92 (3.54 h). The half-life of Tc-96m (51.5 min) is lower than the half-life of the progeny Tc-96 (4.28 d). Therefore, according to the rule for considering progenies in Table 2, these parent nuclides do not include contributions from their progeny. In SSR-6 (Rev. 1) this rule has not been applied correctly. Progeny of Zr-97 adjusted according to ICRP 107.	X			[input rec'd from Baptiste]
WNTI-02	Para. 402 Table 2 Footnotes (d), (e), (f) (g) and (h)	(d) These values apply only to chemical forms of uranium with a fast lung absorption rate, including UF_6, UO_2F_2, ~~$UO_2(NO_3)_2$~~ and uranyl tri-butyl-phosphate in both normal and accident conditions of transport.	- Uranyl nitrate $UO_2(NO_3)_2$ appears in both footnotes (d) and (e). Uranyl nitrate should be removed from footnote (d) as the lung absorption rate for this	X			

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		(e) These values apply only to chemical forms of uranium with between fast and moderate lung absorption rates, including uranyl nitrate $UO_2(NO_3)_2$, UO_4, ammonium diuranate ADU and UO_3 in both normal and accident conditions of transport. (f) These values apply only to chemical forms of uranium with a moderate lung absorption rate, including uranyl acetylacetonate, UF_4, UCl_4, ~~and~~ hexavalent compounds, depleted uranium aerosols from the use of kinetic energy penetrators, and vaporized uranium metal in both normal and accident conditions of transport. (g) These values apply only to chemical forms of uranium with between moderate and slow lung absorption rates, including U_3O_8, UO_2, uranium aluminide (UAl_x), and all chemical forms of uranium other than those specified in (d), (e), (f) above and (h) below in both normal and accident conditions of transport. (h) These values apply to chemical forms of uranium with a slow lung absorption rate ~~and can be applied as a default value for any other lung absorption rate~~.	product is "between fast and moderate" (footnote (e)) and not "fast" (footnote (d)). This comment is subsequent to the resolution of Step 9 /FR-22 and Step 9/USA-2. - Typo in footnote (f). - It is proposed to delete the end of the sentence in footnote (h) and to come back to the wording agreed during TTEG-RP meeting during TRANSSC 48 meeting. Otherwise, there is an inconsistency between the end of footnote (f) ("and all chemical forms of	X X			

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			uranium other than those specified in (d), (e), (f) above and (h) below in both normal and accident conditions of transport") and the end of footnote (h) ("and can be applied as a default value for any other lung absorption rate"). This comment is subsequent to the resolution of Step 9/ USA-2.				
USA-7	Table 2 - Footnote (h)	Remove "and can be applied as a default value for any other lung absorption rate."	The resolution table for USA-02, states "Additionally, footnote (h) is proposed to be modified to indicate that the values to which it refers can also be used as a default value." The TTEG-RP did not agree to this text and it does not appear to add value. Instead, the text promotes confusion between footnote (g)'s application to "all chemical forms of uranium other than those specified in (d), (e), (f) above and (h)."	X			
GER-6	Table 3	No new text proposed	In contrast to some nuclides in Table 2, the values given in Table 3 were calculated			X	Consider addition of text to SSG-26.

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			without taking into account contributions from their progeny. To clarify the application, the user should be made aware of this difference to Table 2 by an explanation in SSG-26.				
USA-4	409(b)(i)	Tritiated water with a concentration ~~of tritium~~ up to 0.8 TBq/L;	From the A1/A2 WG report it is understood that the term "tritiated water" is an important clarification, but "Tritiated water with a concentration of tritium…" is redundant. If necessary, define "tritiated water" in Section II.	X	It is proposed to revise this subpara. to read "Tritiated water with a concentration of up to 0.8 TBq/L".		
IDN-7	Para. 413(c)(i) Page 42/Line 22	All openings are sealed to prevent the release of *radioactive material*	need article			X	Not in the style of SSR-6.
Step11/JPN-12 (TRANSSC)	414A	[Propose to delete the paragraph and its title] ~~Mixed packing of low specific activity material and surface contaminated object~~ ~~414A. When solid *LSA material* and *SCO* are packed together in a *Type IP-1, Type IP-2,* or *Type IP-3 package*, the *radioactive contents* of the *package* shall be so restricted that the *dose rates* specified in para. 517 shall not be exceeded, and the activity in the *package* shall also be so restricted that the activity limits for a *conveyance* specified in para. 522 shall not be exceeded.~~	**[Rebuttal to Step9 Resolution on JPN-08]** First, the usage of "mixed packing" proposed in SSR-6 differs from the meaning in UNOB: "mixed packing" in UNOB is supposed to use "combination packaging", and SSR-6 does not have such concept. Such difference may cause confusion when SSR-6 (Rev.2) is incorporated into UNOB. This was pointed out at TRANSSC47, but no further discussion was made. Therefore, the term of "mixed packing" should not be used.			X	Harmonization with UNOB in not in all cases appropriate for Class 7-specific text. Text in para. 414A is needed to clarify contents restrictions for LSA and SCO that are packed together.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			Secondly, the references to dose rate and total activity specified in paras 517 and 522 for LSA materials and SCO already exist as paras 411 and 414, respectively, and it is clear that they would apply even if SCO and LSA material were packed within the same packaging. Therefore, there is no need to create a new paragraph for reference.				
USA-5	414A	414A. When LSA material and SCO, different groups of LSA material, or different groups of SCO are packed together in a Type IP-1, Type IP-2, or Type IP-3 package, two or more UN numbers and proper shipping names shall be used. ~~: one for the LSA material and one for the SCO. When different groups of LSA material are packed together, the UN number and proper shipping name shall be that assigned to the group of LSA material with the highest number (where LSA-I is the lowest and LSA-III is the highest; see para. 409). When SCO I and SCO II are packed together, the UN number and proper shipping name shall be that of SCO II.~~	JPN makes an excellent point in Step 9's JPN-07 comment that important information may be lost in combining "lower" and "higher" LSA numbers under one proper shipping name. Rather than deleting the entire 414A paragraph (yet leaving 414B), this could be resolved by requiring all such mixed packagings to list both/all UN numbers & shipping names.			X	This issue is covered under para. 532.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
WNTI-08	Para. 414A	**Mixed packing of low specific activity materials and surface contaminated objects** 414A. When solid *LSA materials* and *SCOs* are packed together in a *Type IP-1*, *Type IP-2*, or *Type IP-3 package*, the *radioactive contents* of the *package* shall be so restricted that the *dose rates* specified in para. 517 shall not be exceeded, and the activity in the *package* shall also be so restricted that the activity limits for a *conveyance* specified in para. 522 shall not be exceeded.	Clarification. The purpose of this paragraph is to cover mixed packing of a group of LSA material and an SCO. But the purpose of this paragraph (and associated paragraphs) is also, and mainly, to cover different groups of LSA material in a single industrial package. And also, to cover different groups of SCO in a single industrial package.	X X	"Material" in this context is used in the singular form, i.e. without an "s" – Agency style The following text is proposed: "When solid *LSA material* and *SCO*, different groups of LSA material, or different groups of *SCO* are packed together in a *Type IP-1*, *Type IP-2*, or *Type IP-3 package*, …"		
F-03 (TRANSSC)	414B	When *LSA material* and *SCO* are packed together in a *package*, ~~each of~~ the radioactive contents of the *package* ~~and the total contents of the *package*~~ shall be restricted as required in para. 517, and the activity in the *package* shall be so restricted that the activity limits for a *conveyance* specified in para. 522 shall not be exceeded.	**Proposal for simplification** as it is arithmetically obvious considering Para. 517 which requires that the sum of dose rates does not exceed 10 mSv/h.			X	This comment was already considered accepted, and the change made at Step 9.
Step11/JPN-13 (TRANSSC)	415	**Special form radioactive material** 415. *Radioactive material* may be classified as *special form radioactive material* only if it meets the **conditions**~~requirements~~ of paras 239, 602–604A and 802.	**[Rebuttal to the modification in Step10]** Para. 239 is the definition and can not be referred as a requirement, but can be as a condition (e.g., para. 408).			X	Definitions are part of requirement.

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Step11/JPN-14 (TRANSSC)	416	**Low dispersible radioactive material** 416. *Radioactive material* may be classified as *low dispersible radioactive material* only if it meets the **conditions**~~requirements~~ of paras 225 and 605, taking into account the requirements of paras 665 and 802.	**[Rebuttal to the modification in Step10]** Same to above.			X	Definitions are part of the requirement.
IDN-9	Para. 417(a) Page 43/Line 15	…. and with ~~a~~ total plutonium and uranium-233 content not exceeding 1% of the mass of uranium-235, ….				X	Grammar is correct in existing text.
GER-7	417	… (g) *Enriched uranium* in the form of residual *contamination* on inner surfaces of clean and washed out cylinders that conform to the International Organization for Standardization document: Nuclear Energy — Packagings for the transport of uranium hexafluoride (UF_6) (ISO 7195) [17] and that have contained enriched uranium hexafluoride, provided that the average ~~amount~~**mass** of uranium-235 on the internal surface does not exceed 2.5 g/m², with a total mass of *fissile nuclides* not exceeding 15 g per package.	The word "amount" seems to be unspecific. With regard to the unit mentioned "mass" seems to be more appropriate.			X	"amount" is more appropriate in this context.
F-04 (TRANSSC)	418	418. ~~The contents of packages containing fissile material shall be as specified for the package design, either directly in these Regulations or in the certificate of approval.~~	Whatever the material to be transported, the contents of packages shall be as specified for the package design, either directly in these Regulations or			X	Text should be kept to specify the contents restrictions for packages containing fissile material. This

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			in the certificate of approval. **It is not specific to contents containing fissile material.** Thus, it is proposed to delete the para to avoid misunderstanding.				requirement is not unique for fissile material, e.g. para. 432 applies to Type B(U), Type B(M) or Type C package contents.
Step11/JPN-15 (TRANSSC)	422	**Classification as excepted package** 422. A *package* may **only** be classified as an *excepted package* if ~~it meets the requirements of para. 516 and~~ **one of the conditions followings in addition to para. 516** are met: (a) It is an empty *packaging* having contained *radioactive material* ~~and meets the requirements of para. 427~~; (b) It contains instruments or articles not exceeding the activity limits specified in Table 4 ~~and meets the requirements of para. 423~~; (c) It contains articles manufactured of *natural uranium*, *depleted uranium* or natural thorium ~~and meets the requirements of para. 426~~; (d) It contains *radioactive material* not exceeding the activity limits specified in Table 4 ~~and meets the requirements of para. 424~~; (e) It contains less than 0.1 kg of uranium hexafluoride not exceeding the activity limits specified in column 4 of Table 4 ~~and meets the requirements of para. 425~~.	**[Rebuttal to Step9 Resolution on FR-28]** If the requirements of paras 423 to 427 specified in subparagraphs (a) to (e) respectively, these will be duplications of requirements in para. 422 and paras 423 to 427. As we need a term "excepted package" to be referred in the later provisions, this para. should address only classification of excepted packages (use "conditions", not "requirements"). See paras 408 and 412.	X		X X	"Requirement" is the preferred term in SSR-6 and in other IAEA safety standards. The references to specific paras are not duplication; they are meant to clarify the applicable requirement.
WNTI-09	Para. 422	422. A *package* may be classified as an *excepted package* if it meets the requirements of para. 516 and one of the following conditions:	Editorial. Simplification and clarification. The need to comply with the activity limits specified in	X			

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		(a) It is an empty *packaging* having contained *radioactive material* and meets the requirements of para. 427; (b) It contains instruments or articles ~~not exceeding the activity limits specified in Table 4~~ and meets the requirements of para. 423; (c) It contains articles manufactured of *natural uranium*, *depleted uranium* or natural thorium and meets the requirements of para. 426; (d) It contains *radioactive material* ~~not exceeding the activity limits specified in Table 4~~ and meets the requirements of para. 424; (e) It contains less than 0.1 kg of uranium hexafluoride ~~not exceeding the activity limits specified in column 4 of Table 4~~ and meets the requirements of para. 425.	Table 4 is included in, respectively, paras 423, 424 and 425: removing the reference to Table 4 in (b), (d) and (e) simplifies the text. The applicable column(s) of Table 4 are specified in, respectively, paras 423, 424 and 425: removing the general reference to Table 4 avoids ambiguity. This comment is subsequent to the resolution of Step 9/ FR-28.				
IND-4 (NUSSC)	427(f)/47 Now text proposed	New para.: An empty packaging which previously contained either a special form radioactive material or sealed source (as per ISO 2919 classification) and it has been reasonably ensured that it is unlikely to exceed the	Proposed a new paragraph. By introducing this paragraph, it will be helpful in the following way without any safety implication: (i) It may avoid/reduce situations like "denial of shipments"			X	New proposal

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		internal/external contamination levels those mentioned in para 214, may be transported as other than class 7 shipment provided the packaging does not contain any component made up of radioactive material such as depleted uranium.	(ii) In some countries the export import of shipments involving empty packing is there; the said requirement will be helpful of better utilisation of regulatory resources. (iii) Without involvement of regulatory clearance, the shipment of such packaging will be expedited. Examples of such packaging are empty HDR brachy therapy source package and other packages of similar kind.				
IDN-10	Para. 501 Page 49/Line 4	Before ~~a~~ *packaging* is first used to transport				X	Use of "a" emphasized that it is referring to an individual packaging.
IDN-11	Before Para. 507 Page 50/Line 7 from bottom	OTHER ~~DANGEROUS~~ HAZARDOUS PROPERTIES OF CONTENTS				X	Harmonization with UNOB terminology.
F-16 (RASSC)	510	[…] When necessary, additional steps for the protection of people, property and the environment, <u>including</u> in accordance with provisions established by the relevant *competent authority* <u>if any</u>, shall be taken to	In accordance with SF 1, the prime responsibility for safety must rest with the person or organization responsible for facilities and activities that give rise to radiation risks. Should			X	New proposal

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		overcome and minimize the consequences of such leakage or damage.	any additional action be needed, it should not be *a priori* restricted to the one set by the regulator, which may not be the competent authority for transport (it may be the environmental regulator or the ministry of labor…).				
CH-07	515(d)	The requirements specified in para. 536A**, if the package is marked with a package type**.	The proposal is to keep the original text. Even if the identification is correct, that 536A only applies to packages with a package type mark, it would be helpful provide the advice, that it is only necessary to look at 536A if the package is marked with a package type. This advice will be quite helpful for the users for the reason that most of excepted packages are not marked with a package type. To let them definitely have a look at 536A just to identify that the para is not applicable in their case is not very convenient.	X			
F-17 (RASSC)	516		In its comments provided as a result of MS consultation, France raised the question on how the optimization principle highlighted in GSR Part3 was			X	No proposal has been made.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			reflected in DS543 (see comment FR-03). The ALARA principle (optimization) may need to be better reflected in the requirement, although the dose rate remains quite low. See also comment on para 527 and 528 of DS543.				
F-05 (TRANSSC)	517	The quantity of *LSA material* and *SCO* in a single *Type IP-1, Type IP-2, Type IP-3 package*~~, or object or collection of objects,~~ whichever is appropriate, shall be so restricted that the sum of the external *dose rates* at 3 m from the following unshielded items does not exceed 10 mSv/h at 3 m: (a) The LSA *material* (when a single group of *LSA material* is packed); (b) Each group of *LSA material* (when different groups of *LSA material* are packed together); (c) The *SCO* (when a single *SCO* is packed); Each *SCO* or collection of *SCOs* (when different *SCOs* are packed together).	As Para. 517 was changed from "*LSA material* or *SCO*" to "*LSA material* and *SCO*", **the text is not adequate for object and collection of objects (which could be better defined by the way).** It is therefore proposed to remove the mention to the object and collection of objects. Another reason is para. 517 is in a section named "REQUIREMENTS AND CONTROLS FOR TRANSPORT OF LSA MATERIAL AND SCO IN INDUSTRIAL PACKAGES OR UNPACKAGED". If this mention to the object and collection of objects is considered as absolutely needed, an additional text, possibly as Para. 517A, could be added: The quantity of *LSA material* or *SCO* in a single object or collection of objects, whichever is appropriate, shall be so restricted that the external			X	The text to which this comment refers is not in the Step 9 version of DS543.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			dose rate at 3 m from the unshielded object or collection of objects does not exceed 10 mSv/h.				
GER-8	517	The quantity of *LSA material* and *SCO* in a single *Type IP-1*, *Type IP-2* or *Type IP-3 package*, or unpackaged *LSA material* and *SCO*, whichever is appropriate, shall be so restricted that the sum of the external *dose rates* at 3 m from the following unshielded items does not exceed 10 mSv/h: (a) The *LSA material* (for a single group of *LSA material*) or each group of *LSA material* (when different groups of *LSA material* are packed together); (b) The **collection of** *SCO***s** (for a single **group of** *SCO***s**) or each **group of** *SCO***s** ~~and collection of *SCOs*~~ (when different **groups of** *SCO*s are packed together); (c) Each group of *LSA material* and each **group of** *SCO***s** ~~and collection of *SCOs*~~ (when different groups of *LSA material* and *SCO*s are packed together).	When transporting different groups of SCO, it seems unclear which dose rates should be taken into account to fulfil the provision. It is not obvious, in which case the dose rates of the individual SCOs must be taken into account and in which case it is sufficient to determine only the dose rate of a collection of SCOs. A new wording is therefore proposed analogous to the provisions for LSA material.	X	To make it clear that the dose rate for each SCO needs to be determined individually, the following text is proposed: (b) The *SCO* (for a single *SCO*) or each *SCO* in a collection of *SCOs* (when different *SCOs* are packed together) (c) Each group of *LSA material* and each *SCO* (when different groups of *LSA material* and *SCO*s are packed together).		
GER-9	521	*LSA material* and *SCO*, except as otherwise specified in para. 520, shall be packaged in accordance with Table 5. When different groups of	The reason for inserting the word “solid” is not clear. The current wording does not prevent the				

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		~~solid~~ *LSA material* and *SCO* are packed in the same *industrial package*, and when those different groups satisfy the condition for different types of *package*, the material to be transported shall be assigned to the higher type of *package* (where Type IP-1 is the lowest and Type IP-3 is the highest).	packing of liquid or gaseous materials together with other materials. But it only regulates the packing of different solid materials. In all other cases the use of higher type of packaging is not required. Therefore, the deletion of "solid" is proposed.	X			
Step11/JPN-16 (TRANSSC)	521	521. *LSA material* and *SCO*, except as otherwise specified in para. 520, shall be packaged in accordance with Table 5. When different groups of ~~solid~~ *LSA material* and *SCO* are packed in the same *industrial package*, and when those different groups satisfy the condition for different types of *package*, the material **shall** ~~to~~ be transported ~~shall be assigned to~~ **by** the higher type of *package* (where Type IP-1 is the lowest and Type IP-3 is the highest).	**[Rebuttal to Step9 Resolution on JPN-11]** (1) The "solid" was added by the Technical Officer as a response to Step9/JPN-11. However, the restriction of LSA material to solid only has not been discussed and needs to be discussed in TRANSSC. (2) Editorial: Material cannot be assigned to a package but transported in a package. (3) Step9/JPN-11 had proposed to take measures to prevent mixing of materials when two or more materials were packaged together in the same package. If SSR-6 use "mixed packing", the same concept with UNOB should be applied (See also Step11/JPN-12). The series of proposals for packing special form and non-special form radioactive materials together seems to	X X	"in" should be used instead of "by"		

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			have been discussed assuming only sealed sources as contents. If bulk radioactive material and sealed source are to be packed together, measures to prevent contamination of the sealed source surface would need to be taken, but are not required under the current draft Regulations. Some measures or clarifications may be needed.				
WNTI-10	Para. 521 Table 5 First line	*Industrial package ~~type~~* **type** [b]	Typo. There is no need to italicize "type". This comment is subsequent to the resolution of Step 9/ WNTI-16.	X			
Step11/JPN-17 (TRANSSC)	522	[Comment] 522. The total activity in a single hold or compartment of an inland waterway craft, or in another *conveyance*, for carriage of *LSA material* or *SCO* in a *Type IP-1, Type IP-2, Type IP-3 package* or unpackaged, shall not exceed the limits shown in Table 6. When different groups of *LSA material* and S*CO* are carried in the same hold or compartment of an inland waterway craft, or in another *conveyance*, the total activity in the hold or compartment, or in the other *conveyance*, shall not exceed the lowest appropriate limit indicated in Table 6, considering the nature of *LSA material* and *SCO* that is being transported.	**[Comment on Step11 draft]** [No proposal] Clarification is needed what should be considered when "considering the nature of LSA material and SCO that is being transported" and what is required. If "nature" means combustible, solids, liquids and gases in Table 6, do we need any additional consideration? If specific consideration will be required, it should be specified in the Regulations.			X	What is meant by "nature of material" can be found in Table 6.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
CDN-01	Para. 524	524. The *TI* for each *overpack*, *freight container* loaded with *packages*, or *conveyance* shall be determined as the sum of the *TI*s of all the *packages* contained therein. Alternatively, for a *shipment* from a single *consignor*, the *consignor* may determine the *TI* of a rigid *overpack*, ~~or~~ a *freight container* loaded with *packages* **or a *conveyance*** in accordance with the following procedure: (a) The maximum *dose rate* shall be determined in units of millisieverts per hour (mSv/h) at a distance of 1 m from the external surfaces of the rigid *overpack*, ~~or~~ *freight container* loaded with *packages*, **or *conveyance***. The value determined shall be multiplied by 100. Alternatively, for uranium and thorium ores and their concentrates (…).	The paragraph does not allow for the direct measurement of the TI for a conveyance as is currently allowed in para. 524 of SSR-6 Rev. 1. This is an oversight since no rationale has been given for the omission. This will cause issues for the shipment of uranium ore concentrate in trailers. Trailers may contain 50 or more drums of uranium ore concentrate. If the TI for each drum is 2 (as determined by 523(a)(iii) the fixed value) this would result in a conveyance TI of 100 which would exceed the 50 TI limits for a non-exclusive use shipment in Table 10.			X X	Subparas 524(a) and (b) do not refer to conveyances. New proposal.
WNTI-03	Para. 524	524. The *TI* for each *overpack*, *freight container* loaded with *packages*, or *conveyance* shall be determined as the sum of the *TI*s of all the *packages* contained therein. Alternatively, for a *shipment* from a single *consignor*, the *consignor* may determine the *TI* of a rigid *overpack* ~~or~~, a *freight container* loaded with *packages* **or a *conveyance*** in accordance with the following procedure:	The case of conveyance for the possibility to determine the TI by direct measurement has been somehow "forgotten" (for non-identified reasons) in the second sentence of the introductory sentence and in sub-paragraph (a), whereas it should be included, for consistency with (i) the first sentence and (ii) with the			X	See CDN-01

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		(a) The maximum *dose rate* shall be determined in units of millisieverts per hour (mSv/h) at a distance of 1 m from the external surfaces of the rigid *overpack* , ~~or~~ *freight container* loaded with *packages*, **or conveyance**. The value determined shall be multiplied by 100. Alternatively, for uranium and thorium ores and their concentrates (…).	current para. 524 in SSR-6 (Rev. 1). This comment is subsequent to the resolution of Step 9 /CDN-07.				
USA-8	526, 527, 528	The TI of any package or overpack, other than a freight container used as a packaging, ~~or overpa~~ck shall not exceed 10.	Clarity. In my opinion "overpack" gets lost when placed last.			X	The words "other than a freight container used as a packaging" refers to any package. The proposed wording would not work.
F-18 (RASSC)	527	The maximum *dose rate* at any point on the external surface of a *package*, *freight container* used as *packaging*, or *overpack* shall be as low as reasonably achievable and not exceed 2 mSv/h, except for *packages*, *freight containers* used as *packaging*, and *overpacks* transported under the following […]	In its comments provided as a result of MS consultation, France raised the question on how the optimization principle highlighted in GSR Part3 was reflected in DS543 (see comment FR-03). 2 mSv/h is a significant dose rate (a worker would, in 10 hours cumulated within a working year, and a person of the public in 30 minutes cumulated within 12 months, reach his/her annual dose limit). The ALARA principle should be better reflected in the requirement. SF-1 principle 5 states that "*Protection must be optimized to provide the highest level of safety that can reasonably be achieved.*"			X	The optimization principle is part of the radiation protection programme.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			GSR Part 3 para 3.23 states that "*Registrants and licensees shall ensure that protection and safety is optimized.*" And para 3.14 states that "*For occupational exposure and public exposure, registrants and licensees shall ensure, as appropriate, that relevant constraints are used in the optimization of protection and safety for any particular source within a practice.*" Para 3.49 states that "*Registrants and licensees who are manufacturers or other suppliers of radiation generators and radioactive sources shall ensure that […] (d) Ensuring that the protection provided by shielding and by other protective devices is optimized*" Finally, para 3.36 states that "*If as a result of a safety assessment, or for any other reason, opportunities to improve protection and safety appear to be available and improvement seems desirable, any consequential modifications shall be made cautiously and only after favourable assessment of all the implications for protection and safety.*"				
USA-9	527	The maximum dose rate at any point on the external surface of a package, freight container used as a packaging or overpack shall not exceed 2 mSv/h except for packages, freight containers used as a packaging ~~and~~ or overpacks transported under the following:	"or" is used to define 2 mSv/hr requirement and should be used for exclusive use requirement too "or" is also used in 526	X			

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
F-19 (RASSC)	528	The maximum *dose rate* at any point on the external surface of a *package*, *freight container* used as *packaging* or *overpack* under *exclusive use* shall be as low as reasonably achievable and not exceed 10 mSv/h.	In its comments provided as a result of MS consultation, France raised the question on how the optimization principle highlighted in GSR Part3 was reflected in DS543 (see comment FR-03). 10 mSv/h is a very significant dose rate (6 minutes for a person of the public to reach his/her annual dose limit). The ALARA principle should be better reflected in the requirement and it should be part of the safety case provided by the applicant and the review and assessment performed by the regulator to conclude additional dose optimization measures are not reasonable. SF-1 principle 5 states that "*Protection must be optimized to provide the highest level of safety that can reasonably be achieved.*" GSR Part 3 para 3.23 states that "*Registrants and licensees shall ensure that protection and safety is optimized.*" And para 3.14 states that "*For occupational exposure and public exposure, registrants and licensees shall ensure, as appropriate, that relevant constraints are used in the optimization of protection and safety for any particular source within a practice.*" Para 3.49 states that "*Registrants and licensees who are manufacturers or other suppliers of radiation generators and radioactive sources shall ensure*			X	The optimization principle is part of the radiation protection programme.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			that […] (d) Ensuring that the protection provided by shielding and by other protective devices is optimized" Finally, para 3.36 states that "*If as a result of a safety assessment, or for any other reason, opportunities to improve protection and safety appear to be available and improvement seems desirable, any consequential modifications shall be made cautiously and only after favourable assessment of all the implications for protection and safety.*"				
USA-10	532	532. Each package shall be legibly and durably marked on the outside with the UN marks as specified in Table 9. ~~When two or more radioactive materials are packed within the same packaging, the package shall be labelled and marked as required for each material.~~ Additionally, each overpack shall be legibly and durably marked with the word "OVERPACK" and the UN marks as specified in Table 9, unless all the marks of the packages within the overpack are clearly visible	Paragraph addresses package marking based on UN numbers. UN numbers do not address radioactive materials within package (which can be numerous such as with used nuclear fuel) so addition is confusing.			X	UN numbers address radioactive material within a package, e.g. UN3328 and UN3329. The quoted text is not consistent with the current draft, i.e. it does not include 'labelling'. See Step11/JPN-19 (TRANSSC).
CH-08	540(a)(i)	Except for LSA-I material, the name(s) of the radionuclide(s) as taken from Table 2 **or Appendix XX**, using the symbols prescribed therein. For mixtures of radionuclides, the most restrictive nuclides must be listed to the extent the space on the line permits.	Consequential change in accordance with CH-04	X			Depends on the decision of TRANSSC. See CH-04.

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Step11/JPN-18 (TRANSSC)	FIG.2 FIG.3 FIG.4 FIG.5	[to be added to the titles of figure.] ***There shall be a line inside the edge forming the diamond which shall be parallel and approximately 5 mm from the outside of that line to the edge of the label.***	**[Rebuttal to the modification in Step10]** It should be kept because the proposal (JPN-12) has been accepted by TTEG-OM and TRANSSC. This wording is completely same to the UNOB and it is considered from the practical experiences.			X	It is proposed to delete this sentence: *There shall be a line inside the edge forming the diamond which shall be parallel and approximately 5 mm from the outside of that line to the edge of the label*. The figure indicates "5 mm" and the proposed sentence states "approximately 5 mm", which could be viewed as a conflict. Furthermore, the figure adequately communicates the meaning of this sentence.
IDN-12	Para. 543 Page 63/Line 4	… vertical orientation to each side wall and ~~to~~ each end wall ….				X	Current text is grammatically correct.
GER-10	544A	Any empty *large freight container* for which the provisions of para. 514 are applied shall bear placards as required by paras 543 and 544 for unpackaged *LSA-I* or *SCO-I* previously transported in this *large freight container*, **including, when applicable, placards related to any other dangerous properties as required by para. 507**.	The deleted part of the provision should be reinserted. Users may assume that an empty freight container contains no content. From this point of view para. 507 would not be applicable, as para. 507 refers to the content of a package.			X	Other dangerous properties doesn't apply to unpackaged LSA-I or SCO-I.
IND-5 (NUSSC)	546(n)/65	Existing text:	(i) LSA-I should also be included as most			X	New proposal

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		For *LSA-II, LSA-III, SCO-I, SCO-II* and *SCO-III,* the total activity of the *consignment* as a multiple of A_2. For *radioactive material* for which the A_2 value is unlimited, the multiple of A_2 shall be zero. Proposed text: For LSA-I, *LSA-II, LSA-III, SCO-I, SCO-II* and *SCO-III,* the total activity of the *consignment* as a multiple of A_2. For *radioactive material* for which the A_2 value is unlimited, the total weight of the contents shall be mentioned.	of the material with regard to transport of uranium and thorium will be LSA-1 only and LSA-1 contents/activity is not covered in this transport document elsewhere. (ii) It may not be appropriate to mention the total activity as zero. (iii) For material with unlimited A2 value, the total weight is more relevant than the total activity.				

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
Step11/JPN-19 (TRANSSC)	546(o)	When **two or more radioactive materials** ~~solid *LSA material* and *SCO* are packed together in a *Type IP-1, Type IP-2* or *Type IP-3 package* or when *special form radioactive material* and other *radioactive material*~~ are packed together **with**in **the same** ~~a *Type A*~~ *packag**ing**~~e~~*, the information required by subparagraphs 546(a)–(f) shall be provided separately for the applicable UN numbers ~~followed by one of the following statements, as applicable: "all packed together in one Type IP-1 package", "all packed together in one Type IP-2 package", "all packed together in one Type IP-3 package" or "all packed together in one Type A package"~~.	**[Rebuttal to Step9 Resolution on JPN-13]** (1) The Regulations should be kept simple to make them easier to understand, and a wording consistent with Para. 532 is proposed. Although the current draft text limits the packing of special form radioactive material and other radioactive material to only Type A package, there seems no reason to limit to do so. (2) The statement "all packed together in one XX package" is only required by IATA DGR. There is no such provision in UNOB, IMDG code or even ICAO TI. The provisions for transport document in SSR-6 should be harmonised within the international transport regulations for dangerous goods. IATA DGR is also important but a voluntary rule by airlines to facilitate air transport of dangerous goods.	X	'radioactive materials' is not used within the IAEA safety standards. Also, the use of the term 'radioactive material' in this context is somewhat vague. Therefore, following text is proposed: "When two or more UN numbers apply to the *radioactive contents* within the same *packaging*, the information required by subparagraphs 546(a)–(f) shall be provided separately for each applicable UN number." A corresponding change will be made to para. 532.		
WNTI-11	Para. 546	546. The *consignor* shall include in the transport document with each *consignment* the identification of the *consignor* and *consignee*, including their names and addresses, and the following information, as applicable, in the order given:	The information in the new subparagraph 546 (o) should not be in a new sub-paragraph (o), but should be a separate text, in a new paragraph 546bis. The sub-paragraphs (a) to (n) include information to be			X	See Step11/JPN-19 (TRANSSC)

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		(…). (n) For *LSA-II*, *LSA-III*, *SCO-I*, *SCO-II* and *SCO-III*, the total activity of the *consignment* as a multiple of A_2. For *radioactive material* for which the A_2 value is unlimited, the multiple of A_2 shall be zero. ~~(o)~~ **546bis.** When solid *LSA materials* and *SCOs* are packed together in a *Type IP-1*, *Type IP-2* or *Type IP-3 package* or when *special form radioactive material* and other *radioactive material* are packed together in a *Type A package*, the information required by subparagraphs 546(a)–(f) shall be provided separately for the applicable UN numbers followed by one of the following statements, as applicable: "all packed together in one Type IP-1 package", "all packed together in one Type IP-2 package", "all packed together in one Type IP-3 package" or "all packed together in one Type A package".	included in the transport document, whereas the sub-paragraph (o) includes provisions about the way to present the information in case of LSA materials and SCOs packed together. Hence, the nature of the information in sub-paragraphs (a) to (n) is different from the nature of the information in sub-paragraph (o). This comment is subsequent to the resolution of Step 9/ JPN-13.				
F-06 (TRANSSC)	557	557. Before the first *shipment* of a *package* requiring *competent authority approval*, the *consignor* shall ensure that copies of each applicable *competent authority* certificate applying to that *package design* have been ~~submitted~~ **provided** to the *competent authority* of the country of origin of the *shipment* and to the *competent authority* of each country *through or into* which the	**For consistency with the last sentence** (which is, by the way, more of a guidance), the verb "have been submitted" (which definition is to give or offer something for a decision to be made by others) should be change to "have been provided".	X			

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		consignment is to be transported. The *consignor* is not required to wait for an acknowledgement from the *competent authority*, nor is the *competent authority* required to make such an acknowledgement of receipt of the certificate.	Moreover, according to the IAEA SPESS process, it is possible to propose some comments at every step.				
F-20 (RASSC)	562 (a)		The 5 mSv criteria is questionable. GSR part 3 foresees that supervised and controlled areas are established and that workers regularly working in these areas to be monitored (directly or not) but no value is clearly given. In addition, in DS543, para 303 uses another dose criteria (6 mSv).			X	Covered by the radiation protection programme. NB: Para. 303 deals monitoring requirements and para. 562 deals with segregation.
F-21 (RASSC)	562	562. *Packages*, *overpack*s and *freight containers* containing *radioactive material* and unpackaged *radioactive material* shall be segregated during transport and during storage in transit :[…] (b) From members of the public in areas where the public has regular access, by distances calculated using a dose criterion ~~of~~ well below 1 mSv in a year and conservative model parameters; […]	This is inconsistent with GSR Part 3 as one activity will result, alone, in exposure of a person of the public to the dose limit (1 mSv). A dose constraints, below 1 mSv, should be defined. GSR part 3 states, in para 1.22, "*Dose constraints and reference levels are used for optimization of protection and safety, the intended outcome of which is that all exposures are controlled to levels that are as low as reasonably achievable, economic, societal and environmental factors being taken into account. Dose constraints are applied to occupational exposure and to public exposure in planned exposure situations. Dose constraints are set separately for each source under control and they serve as boundary conditions in defining the range of options for the purposes of optimization of protection and safety.*"			X	Covered by the radiation protection programme.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
			Footnote 25 states that "*For public exposure, the relevant dose constraint is a source related value established or approved by the government or the regulatory body, with account taken of the doses from planned operations of all sources under control.*"				
F-22 (RASSC)	566	Loading of *packages* and *overpacks* in *freight containers* and accumulation of *packages*, *overpacks* and *freight containers* aboard *conveyances* shall be controlled as follows: […] (b) The *dose rate* under routine conditions of transport shall be as low as reasonably achievable and not exceed 2 mSv/h at any point on the external surface of the *vehicle* or *freight container*, and 0.1 mSv/h at 2 m from the external surface of the *vehicle* or *freight container*, except for *consignments* transported under *exclusive use* by road or rail for which the *dose rate* limits around the *vehicle* are specified in para. 573(b) and 573(c).	See comment on para 527 of DS543 on the implementation of the optimization principle stated in SF-1 and GSR Part 3.			X	Covered by the radiation protection prgramme.
WNTI-12	Para. 566 Table 10 Footnotes a and b	[a] For *packages* contained in ~~an~~ *overpacks*, the *TIs* of the *overpacks* shall be used to evaluate the sum of the *TIs*. [b] For *packages* contained in ~~an~~ *overpacks*, the *TIs* of the *overpacks* shall be used to evaluate the sum of the *TIs*. For *packages* or *overpacks* loaded in ~~a~~ *freight containers*, the *TIs* of the *freight containers* shall be used to evaluate the sum of the *TIs*.	Clarification, for the case when several overpacks or freight containers are used. This comment is subsequent to the resolution of Step 9/ GER-27.			X	The footnotes apply to an individual overpack/freight container. There is no prohibition against having more than one overpack/freight container.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
WNTI-13	Para. 569 Table 11 Last line		Editorial. The denomination of the last entry is missing (and was lost somewhere in the numerous changes that were made) and should be "large freight containers". This comment is subsequent to the resolution of Step 9/ GER-28.	X			
		(ii) Total *vessel*: *Packages, overpacks, small freight containers* 200[b] 200[c] ***Large freight containers*** No limit[b] No limit[c]					
F-07 (TRANSSC)	573(a)	573. For *consignments* under *exclusive use*, the *dose rate* shall not exceed: (a) 10 mSv/h at any point on the external surface of a *package*, ***freight container used as a packaging*** or *overpack*, and may only exceed 2 mSv/h provided that: (i) The *vehicle* is equipped with an enclosure that, during routine conditions of transport, prevents the access of unauthorized persons to the interior of the enclosure. (ii) Provisions are made to secure the *package*, ***freight container***	**In consistency with modification introduced in para. 527 based on "Step 9 / GER-18" comment,** mention to *freight container used as a packaging* is to be introduced in paras 573(a), 575 and 579. Otherwise, it could be understood that there is no exception for *freight container used as a packaging*.	X			

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		used as a packaging or *overpack* so that its position within the *vehicle* enclosure remains fixed during routine conditions of transport. (iii) There is no loading or unloading during the *shipment*.					
F-23 (RASSC)	573	For *consignments* under *exclusive use*, the *dose rate* shall be as low as reasonably achievable and not exceed: (b) 10 mSv/h at any point on the external surface of a *package* or *overpack*, and may only exceed 2 mSv/h provided that: (i) The *vehicle* is equipped with an enclosure that, during routine conditions of transport, prevents the access of unauthorized persons to the interior of the enclosure. (ii) Provisions are made to secure the *package* or *overpack* so that its position within the *vehicle* enclosure remains fixed during routine conditions of transport. (iii) There is no loading or unloading during the *shipment*. (b) 2 mSv/h at any point on the outer surfaces of the *vehicle*, including the upper and lower surfaces, or, in the case of an open *vehicle*, at any point on the vertical planes projected from the outer edges of the *vehicle*, on the upper surface of the load, and on the lower external surface of the *vehicle*. (c) 0.1 mSv/h at any point 2 m from the vertical planes represented by the outer lateral surfaces of the *vehicle*, or, if the load	See comment on para 527 and 528 of DS543 on the implementation of the optimization principle stated in SF-1 and GSR Part 3.			X	Covered by the radiation protection programme.

Comment No.	Para/Line No.	Proposed new text	Reason	Accepted	Accepted, but modified as follows	Rejected	Reason for modification/rejection
		is transported in an open *vehicle*, at any point 2 m from the vertical planes projected from the outer edges of the *vehicle*.					
F-08 (TRANSSC)	575	575. *Packages*, ***freight container used as a packaging*** or *overpacks* having a surface *dose rate* greater than 2 mSv/h, unless being carried in or on a *vehicle* under *exclusive use* in accordance with Table 10, footnote (c), shall not be transported by *vessel* except under *special arrangement*.	**In consistency with modification introduced in para. 527 based on "Step 9 / GER-18" comment**, mention to *freight container used as a packaging* is to be introduced in paras 573(a), 575 and 579. Otherwise, it could be understood that there is no exception for *freight container used as a packaging*.	X			
F-09 (TRANSSC)	579	579. *Packages*, ***freight container used as a packaging*** or *overpacks* having a surface *dose rate* greater than 2 mSv/h shall not be transported by air except by *special arrangement*.	**In consistency with modification introduced in para. 527 based on "Step 9 / GER-18" comment**, mention to *freight container used as a packaging* is to be introduced in paras 573(a), 575 and 579. Otherwise, it could be understood that there is no exception for *freight container used as a packaging*.	X			
F-24 (RASSC)	583	Where a *consignment* is undeliverable, it shall be placed in a safe location ~~and the appropriate *competent authority* shall be informed as soon as possible~~ and a request made to the consignor for instructions on further action. The relevant *competent authority* shall be informed as soon as possible if this situation leads to a significant safety issue.	France made comment on this para during Member State consultation. In accordance with SF 1, the prime responsibility for safety must rest with the person or organization responsible for facilities and activities that give rise to radiation risks. This is also remined in GSR Part 3 para 2.39 ("*The person or organization responsible for any facility or activity that*	X	The following text is proposed: "Where a *consignment* is undeliverable, it shall be placed in a safe location and a request shall be made to the *consignor* for instructions on further action. The relevant *competent authority* shall be subsequently		

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			gives rise to radiation risks shall have the prime responsibility for protection and safety, which cannot be delegated.").		informed as soon as possible."		
USA-11	604A	~~The design of special form radioactive material shall take into account ageing mechanisms.~~	Delete requirement. No problem with ageing of special form material. No guidance for what ageing is required. Not required as "inspection and maintenance program" is all that is required.			X	Comment to be considered in the development of relevant safety guides.
WNTI-14	Para. 631	631. *Packages* designed to contain uranium hexafluoride shall meet the requirements that pertain to the radioactive and fissile properties of the material prescribed elsewhere in these Regulations. Except as allowed in para. 634, uranium hexafluoride in quantities of 0.1 kg or more shall also be packaged and transported in accordance with the provisions of the International Organization for Standardization document: Nuclear ~~E~~**e**nergy — Packaging**s** ~~of~~ **for the transport of** ~~U~~**u**ranium ~~H~~**h**exafluoride (UF_6) ~~for Transport~~ (ISO 7195) [17], and the requirements of paras 632 and 633.	Editorial – Consistency with the title and the formatting of the ISO standard. This comment is subsequent to the resolution of Step 9/ ISO-01, ISO-02 and ISO-03, and Step 9/ WNTI-17, WNTI-18 and WNTI-19, where the need for consistency with the titles and formatting of the ISO standards was identified, but ISO 7195 was inadvertently omitted.	X			
IND-6 (NUSSC)	659(b)(ii)/ 83	Existing text: It would restrict the accumulated loss of *radioactive contents* in a	(i) 10 A2 and 100 TBq are essentially same values.			X	See proposal in Section 9.1 of the Report of the Working Group on A1/A2 to maintain 100 TBq.

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		period of one week to not more than 100 TBq for krypton-85 and not more than A_2 for all other radionuclides. Proposed text: It would restrict the accumulated loss of *radioactive contents* in a period of one week to not more than 10 A2 for krypton-85 and not more than A_2 for all other radionuclides.	(ii) By changing the value does not give any value addition. Better to retain the old number for to avoid unwarranted changes.				
F-10 (TRANSSC)	667	667. *Type B(M) packages* shall meet the requirements for *Type B(U) packages* specified in para. 652, except that~~:~~ ~~(a) F~~for ~~a~~ *package*s to be transported solely within a specified country or solely between specified countries, ambient temperatures and insolation conditions other than those given in paras 653–657 and conditions other than those given in paras 639 and 660–666 may be assumed with the *approval* of the *competent authorities* of these countries. The requirements for *Type B(U) packages* specified in paras 655 and 660–666 shall be met as far as practicable.~~–~~ ~~(b) For a *package* containing solid radioactive material for which the~~	**It was rejected because it was "*a new proposal*" but it is not a new proposal, but a derivation of the modification resulting from the WNTI-35 proposal from the review cycle that was deeply discussed during the review process resulting in the inclusion of the issue raised by WNTI into type B(M).** Type B(M) was not introduced in the regulations to deal with the nature of the content but with the country-specific external/operational conditions agreed by its competent			X	To demonstrate compliance with the dose rate limit of 10 mSv/hr at 1 m from the package the released material under accident conditions must be taken into account; therefore, the requirement concerning from released material should retained. This requirement is important and specific enough to be a requirement of SSR-6, rather than the subject of guidance. It is more

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		~~conditions of paras 409(b)(ii) or (c) or the conditions of paras 413(a) or (b) are met, the requirements given in paras 659(a) and (b)(ii) shall not be applicable, provided that, if the *package* were subjected to the tests specified in paras 719–724, it would prevent loss or dispersal of the *radioactive contents*.~~	authorities. The former "*type W*" typically deals with a special type of content, as for the fissile material and UF_6. Moreover, the use of a Type B(M) implies a validation in each country which is not the simplification expected as there was no divergence for this proposal during the review and revision processes. In the present case, the intent of the proposal is to relax the requirements of Para. 659 based on the intrinsically safe nature of the contents. **Therefore, it is proposed to include this exception at the end of Para. 659:** 659. *package* shall be so designed that if it were subjected to: […] For case (a), the assessment shall take into account the external *non-fixed contamination* limits of para. 508. A *package* containing solid *radioactive material* for which the conditions of paras 409(b)(ii) or (c) or the conditions of paras 413(a) or (b) are met, may be excepted from the requirements given in paras 659(a) and (b)(ii), provided that, if the *package* were subjected to the tests				appropriate to keep this requirement for Type B(M) packages that meet the specifications in subpara. 667(b) so that any relevant country could evaluate this aspect of the safety demonstration.

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			specified in paras 719–724, it would prevent loss or dispersal of the *radioactive contents*. **In consistency, Para 812 should be modified as follows:** 812. An application for *approval* of a *Type B(M) package design* shall include, in addition to the information required in para. 809 for *Type B(U) packages* ~~and in addition, when para. 667(a) applies, the following~~: (…)				
GER-11	667	… (b) …, and if the package were subjected to the tests specified in para. 659(b), ~~the~~ any radioactive material ~~that may be~~ released from the package must be taken into account ~~to demonstrate~~ in the demonstration of compliance with the *dose rate* limit in para. 659(b)(i).	The current wording seems not clear enough regarding the meaning of "may" and the role of released radioactive material in the safety demonstration. Rewording is proposed for improving clarity.	X			
UK/3	667(b)	For a package containing only solid radioactive material for which the conditions of paras 409(b)(ii) or (c) or the conditions of paras 413(a) or (b) are met, the requirements given in paras 659(a) and (b)(ii) shall not be applicable, provided that, if the package were subjected to the tests specified in paras 719–724, it would prevent loss or dispersal of the radioactive contents~~, and if the package were subjected to the tests specified in para. 659(b), the~~	First part of the paragraph requires "prevent loss or dispersal of the radioactive contents" therefore there shouldn't be any radioactive material released from the package to take account of. Think this new requirement will need significant SSG-26			X	To "prevent loss or dispersal of the radioactive contents" applies only to normal conditions of transport. See also F-10 (TRANSSC)

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		~~radioactive material that may be released from the package must be taken into account to demonstrate compliance with the dose rate limit in para. 659(b)(i)~~.	guidance added in any case so clarifications on interpretation should be added there.				
WNTI-04	Para. 667(b)	(b) For a *package* containing only solid radioactive material for which the conditions of paras 409(b)(ii) or (c) or the conditions of paras 413(a) or (b) are met, the requirements given in paras 659(a) and (b)(ii) shall not be applicable, provided that, if the *package* were subjected to the tests specified in paras 719–724, it would prevent loss or dispersal of the *radioactive contents*~~, and if the *package* were subjected to the tests specified in para. 659(b), the *radioactive material* that may be released from the package must be taken into account to demonstrate compliance with the *dose rate* limit in para. 659(b)(i)~~.	The last part of para. 667(b) was added in the latest draft of SSR-6 (Rev. 2), following the comment Step 9/GER-35. We propose to delete this new text. The issue which is raised in Step 9/GER-35 (to take into account the dose rate due to the lost or dispersed radioactive contents) has been identified during all the previous meeting and steps of the process. Each time, it was concluded that this was not needed to be included in the Regulations, as the regulatory limit for the dose rate after accident conditions of transport is applicable to the package, i.e. the packaging and the radioactive contents. Consequently, the dose rate due to the material that escapes from the packaging has to be considered, and it is not necessary to make it			X	See F-10 (TRANSSC)

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			explicit in the Regulations. Each time, it was also agreed that this should be addressed in SSG-26, including during the TTEG-PPA meeting held during last TRANSSC 47 meeting (and comment Step 9/JPN-21 provides the necessary references). We would recommend sticking with the decisions that were agreed before. It should also be noted that the wording that is included in the draft SSR-6 (Rev. 2) is rather confusing. Para. 667(b) is now a single very long sentence, covering alternatively normal and accident conditions of transport: this makes it difficult to clearly understand what is applicable and what is not applicable, and to identify the requirements that apply to each conditions of transport. This also pushes to not modify the text that was made available for Step 8 and to consider this issue in SSG-26 where there is more room for explaining this subject.				

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			This comment is subsequent to the resolution of Step 9/ GER-35.				
IDN-13	Para. 680(a) Page 88/Line 17	…. maintenance and repair of *packaging~~s~~*, ….	In singular form			X	Plural is appropriate
UK/2	681	It shall be assumed that the ~~*package*~~ *containment system* is reflected by at least 20 cm of water, or such greater reflection as may additionally be provided by the surrounding material of the packaging	It cannot be assumed that water remains outside the package and as such the assessment for criticality should take account of water ingress into the package. This could be modified further to allow for package to be assumed to be water tight if able to demonstrate this. However as currently written the requirement may conflict with para 731			X	The para. only deals with neutrons that are emitted by the package.
WNTI-15	Para. 681	681. It shall be assumed that **neutrons that are emitted from** the *package* ~~**is**~~ **are** reflected by at least 20 cm of water.	In the resolution table, Step-9/IRN-9 is marked as "Accepted" and the modifications are incorporated in the "Changes tracked" draft	X			

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			SSR-6 (Rev. 2). However, the modifications do not appear in the clean version of the draft SSR-6 (Rev. 2). The proposal here is to include in the clean version of the draft SSR-6 (Rev. 2) the modification that was accepted. This comment is subsequent to the resolution of Step 9/ IRN-9.				
WNTI-16	Para. 683(a)	(a) The *package* shall be subcritical under conditions consistent with the *Type C package* tests specified in para. 734, assuming **that** neutron**s that are emitted from the *package*** ~~reflection~~ **are reflected** by at least 20 cm of water but no water in-leakage.	Para. 681 has been updated following the proposal Step-9/IRN-9. The proposal for para. 683 (a) is to align both wordings, in para. 681 and 683 (a). This comment is subsequent to the resolution of Step 9/ IRN-9.	X			
Step11/JPN -20 (TRANSSC)	686	The CSI for packages containing fissile material shall be obtained by dividing the number 50 by the smaller of the two values of N derived in paras 684 and 685 (i.e. CSI = 50/N). The value of the CSI for a package shall ~~not~~ be rounded ~~down exce~~pt that ~~a value of~~ up to the first decimal place, unless it is 0.05 or less ~~for a package~~, which may be considered as zero.	**[Comment on Step11 draft]** Editorial. To be consist to para. 524 (c) for TI to clarify that the round up of CSI is same to TI.	X			

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IDN-14	Para. 703 Page 93/Line 5	at the end of the 7-day test period	Need hyphen			X	Not agency style.
IDN-15	Before Para. 719 Page 96/Line 18	Tests for demonstrating the ability to withstand accident conditions of transport		X			
China-1	Paras 726 - 729 Line 727	In the chapter "Tests for Demonstrating Ability to Withstand Accident Conditions of Transport," add mechanical tests for spent fuel rods and spent fuel assemblies to verify their integrity under transportation and storage conditions. Based on the relevant tests, establish appropriate safety criteria and conduct safety analyses during transport and storage periods.	The integrity of spent fuel rods during transportation and storage is the most fundamental factor in limiting and controlling the spread of nuclear contamination. Emphasis should be placed on maintaining the integrity of spent fuel rods.			X	New proposal
CH-09	802(e)	Calculation of radionuclide values that are not listed in Table 2 **or Appendix XX** (see para. 403(a)).	Consequential change in accordance with CH-04	X			Change should be made based on TRANSSC decision. See CH-04.
F-25 (RASSC)	804	After being satisfied that the applicable requirements are met, The *competent authority* shall establish a certificate of *approval* stating that the approved *design* meets the requirements for *special form radioactive material* or *low dispersible radioactive material* and shall attribute to that *design* an identification mark.	As stated in France comments provided during Member State consultation, the Competent authority may conclude that the certificate cannot be granted. Para 4.42 of GSR part 1 states that: "*In performing its review and assessment of the facility or activity, the regulatory body shall acquire an understanding of the design of the facility or equipment, the concepts on which the safety of the design is based and the operating principles proposed by the*			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved designs that meet certain requirements.

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			applicant, to satisfy itself that, among other factors: *(a) The available information demonstrates the safety of the facility or the proposed activity and the optimization of protection.* *(b) The information provided in the applicant's submissions is accurate and is sufficient to permit confirmation of compliance with regulatory requirements.* *(c) Operational and technical provisions, and in particular any novel provision, have been proved or qualified by experience or testing, or both, and will enable the required level of safety to be achieved.*" Make it more similar with the way para 828 and 831 are worded.				
F-26 (RASSC)	806	<u>After being satisfied that the applicable requirements are met,</u> The *competent authority* shall establish a certificate of *approval* stating that the approved material meets the requirements for *fissile material* excepted by the *competent authority* in accordance with para. 606 and shall attribute to that *design* an identification mark.	As stated in France comments provided during Member State consultation, the Competent authority may conclude that the certificate cannot be granted (see GSR Part 1 requirement 4.42)… Make it more similar with the way para 828 and 831 are worded.			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved fissile material that meet certain requirements.
F-27 (RASSC)	807	The *approval* of *designs* for *packages* containing 0.1 kg or more of uranium hexafluoride requires that: […]	As stated in France comments provided during Member State consultation, the Competent authority may conclude that the			X	The proposed text is unnecessary. As stated in the text, the certificate of approval

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		(d) After being satisfied that the applicable requirements are met, The *competent authority* shall establish a certificate of *approval* stating that the approved *design* meets the requirements of para. 631 and shall attribute to that *design* an identification mark.	certificate cannot be granted (see GSR Part 1 requirement 4.42)… Make it more similar with the way para 828 and 831 are worded.				should be issued only for approved designs for packages containing 0.1 kg or more of uraniium that meet certain requirements.
F-11 (TRANSSC)	809(d)	(d) The operating and maintenance instructions for the use of the packaging, **including the performance of dose rate calculations prior to the loading of the radioactive contents into the packaging and the potential use of additional shielding to assure that the dose rates indicated in paras 566(b) or 573 are not exceeded after the package(s) are loaded into the freight container or onto the vehicle, respectively, as applicable**.	The modification of para. 809(d) as proposed results from the consensus after the review process of "TTEP PPA – F-54" to address a recognized radiation protection issue. Even if the original intent of F-54 was different, **France was satisfied with the proposal accepted by TRANSSC 45 which properly addressed the radiation protection issue. Such an issue should not be handled only with guidance in SSG-26.**			X	See reasons for rejection in Step 9 resolution table.
F-28 (RASSC)	810	After being satisfied that the applicable requirements are met, The *competent authority* shall establish a certificate of *approval* stating that the approved *design* meets	As stated in France comments provided during Member State consultation, the Competent authority may conclude that the certificate cannot be granted (see GSR Part 1 requirement 4.42)… Make it more similar with the way para 828 and 831 are worded.			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved designs for Type B(U) or Type C packages that meet certain requirements.
F-12 (TRANSSC)	810	After being satisfied that the applicable requirements are met, the *competent authority* shall establish a certificate of *approval* stating that the approved *design* meets the requirements for *Type B(U)* or *Type C packages* and shall attribute to that *design* an identification mark.	**The Competent authority may conclude that the certificate cannot be granted.** **It was rejected because it was "*a new proposal*" but according to the IAEA Spess process, it is allowed to**			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved designs for Type B(U) or Type

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			propose new proposals at each step.				C packages that meet certain requirements.
F-29 (RASSC)	813	After being satisfied that the applicable requirements are met, The *competent authority* shall establish a certificate of *approval* stating that the approved *design* meets the applicable requirements for *Type B(M) packages* and shall attribute to that *design* an identification mark.	As stated in France comments provided during Member State consultation, the Competent authority may conclude that the certificate cannot be granted (see GSR Part 1 requirement 4.42)… Make it more similar with the way para 828 and 831 are worded.			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved designs for Type B(M) packages that meet certain requirements.
F-13 (TRANSSC)	813	After being satisfied that the applicable requirements are met, the *competent authority* shall establish a certificate of *approval* stating that the approved *design* meets the applicable requirements for *Type B(M) packages* and shall attribute to that *design* an identification mark.	**The Competent authority may conclude that the certificate cannot be granted.** **It was rejected because it was "a new proposal" but according to the IAEA Spess process, it is allowed to propose new proposals at each step.**			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved designs for Type B(M) packages that meet certain requirements.
F-30 (RASSC)	816	After being satisfied that the applicable requirements are met, The *competent authority* shall establish a certificate of *approval* stating that the approved *design* meets the requirements of para. 673 and shall attribute to that *design* an identification mark.	As stated in France comments provided during Member State consultation, the Competent authority may conclude that the certificate cannot be granted (see GSR Part 1 requirement 4.42)… Make it more similar with the way para 828 and 831 are worded.			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved designs for packages that contain fissile material that meet certain requirements.
F-14 (TRANSSC)	816	After being satisfied that the applicable requirements are met, the *competent authority* shall establish a certificate of *approval* stating that the approved *design* meets the requirements of para. 673 and shall attribute to that *design* an identification mark.	**The Competent authority may conclude that the certificate cannot be granted.** **It was rejected because it was "a new proposal" but according to the IAEA Spess**			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved designs for packages that

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			process, it is allowed to propose new proposals at each step.				contain fissile material that meet certain requirements.
F-31 (RASSC)	818	After being satisfied that the applicable requirements are met, The *competent authority* shall establish a certificate of *approval* stating that the approved alternative activity limit for an exempt *consignment* of instruments or articles meets the requirements of para. 403(b) and shall attribute to that certificate an identification mark.	As stated in France comments provided during Member State consultation, the Competent authority may conclude that the certificate cannot be granted (see GSR Part 1 requirement 4.42)… Make it more similar with the way para 828 and 831 are worded.			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved alternative activity limits for an exempt consignment of instruments or articles that meet certain requirements.
F-15 (TRANSSC)	818	After being satisfied that the applicable requirements are met, the *competent authority* shall establish a certificate of *approval* stating that the approved alternative activity limit for an exempt *consignment* of instruments or articles meets the requirements of para. 403(b) and shall attribute to that certificate an identification mark.	**The Competent authority may conclude that the certificate cannot be granted.** **It was rejected because it was "a new proposal" but according to the IAEA Spess process, it is allowed to propose new proposals at each step.**			X	The proposed text is unnecessary. As stated in the text, the certificate of approval should be issued only for approved alternative activity limits for an exempt consignment of instruments or articles that meet certain requirements.
F-16 (TRANSSC)	819(a)(ii)(3) 819(b)(ii)(2) 819(c)(ii)(2) 820(a)(iii) 820(b)(iii) 820(c)(ii)	(…) Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035~~5~~2.	**A 10-year duration for the application of Section IV is too long**. The reason for the rejection of this modification in the resolution table from the previous step is that "*A transition period of 10 years* ***was accepted at TRANSSC 47***". **However, it is not so obvious the 10-year transition period was accepted by TRANSSC.** The Draft meeting report mentions "*Concerning transitional arrangements and*			X	A 10-year transitional period seems to have broad support within TRANSSC. Only two Step 11 comments proposed a shorter transitional period.

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			the new A_1/A_2 values, based on the concept of a 10-year transitional period for no new manufacturer of packagings and the comments of Canada and WNTI, ***the Secretariat proposes*** *a 10-year transition to the new A_1/A_2 values.*".				
WNTI-05	Para. 819(a)(ii)	(a) Packages that meet the requirements of the 1985 or 1985 (As Amended 1990) Editions of these Regulations: (i) May continue in transport provided that they were prepared for transport prior to 31 December 2003 and are subject to the requirements of para. 822, if applicable; or (ii) May continue to be used ~~until 31 December 2035~~, provided that all the following conditions are met: (1) They were not designed to contain uranium hexafluoride. (2) The applicable requirements of para. 306 of this edition of these Regulations are applied. (3) The activity limits and classification in Section IV of this edition of these Regulations, or of the 2018 Edition of these Regulations, are applied.	In the 2018 Edition of the Regulations [SSR-6 (Rev.1)], there is no deadline for the use of packages that meet the requirements of the 1985 or 1985 (As Amended 1990) Editions of these Regulations. The reason for adding such a deadline in SSR-6 (Rev. 2) was originally to improve the transport safety and to remove old packages with outdated designs. But the addition of an end date for the use of these designs is not justified well enough. Packagings whose suitability have been demonstrated by the safety analysis report can, in principle, provide a high level of safety beyond 31			X	In comment F-29 at Step 7, France expressed its concern regarding packaged that meet the 1985 or 1985 (As Amended 1990) requirements: "Safety concerns: the packagings having at least 32 years with a design of more than 50 years could not more be used." Only one dissenting comment regarding this change was received at Step 11 from an observer to TRANSSC. Without an end date, these old packages could be used indefinitely based on the 2018 Edition A1/A2 values.

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		(4) The requirements and controls for transport in Section V of this edition of these Regulations are applied. (5) The packaging was not manufactured or modified after 31 December 2003.	December 2035, even if they were manufactured (and loaded) at the time when the 1985 Edition of the Regulations came into force. The suitability of a packaging and its level of safety can be maintained for many decades by a robust design, proper use and maintenance measures and inspections. There is no justification for a forced reloading of radioactive waste on the basis of an arbitrarily chosen date. By following the conditions mentioned under 819 (a) (ii) all activities and measures, in particular any necessary inspections and maintenance of the packaging in connection with transport, are based on a management system that has been accepted by the competent authority (see para. 306). The draft of the IAEA Ageing Management Guide (DS546), that is currently prepared, reflects that ageing management is capable of				

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			providing evidence for further use. In addition, para. 502 ensures that it must be demonstrated before each transport that the packaging complies with the design specification. If this is confirmed, it is ensured that the packaging meets the requirements for a safe transport, independent from the edition of the Regulations under which the design was developed. This comment is subsequent to the resolution of Step 9/ GER-44.				
UK/5	819(a)(ii)(3)	The activity limits and classification in Section IV of this edition of these Regulations, or of the 2018 Edition of these Regulations provided the package was prepared for transport prior to 31 December 2025, are applied.	As per UK/4			X	Proposal would exclude a transitional period for all packages prepared for transport after 31 December 2025. See also F-16 (TRANSSC).
UK/6	819(b)(ii)(2); 819(c)(ii)(1);	The activity limits and classification in Section IV of this edition of these Regulations are applied. ~~Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035.~~	See UK/4			X	Proposal would exclude a transitional period for all packages prepared for transport after 31 December 2025. See also F-16 (TRANSSC).

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UK/7	819(c)(i)	May continue in transport provided that they were prepared for transport prior to 31 December ~~2035~~ 2025 and are subject to the requirements of para. 822, if applicable; or	UK considers that allowing the use of the 2018 edition for 10 years for non-competent approved packages is not appropriate. Also see UK/4			X	Proposal would exclude a transitional period for all packages prepared for transport after 31 December 2025. See also F-16 (TRANSSC).
UK/4	820(a)(iii); 820 (b)(iii); 820 (c)(ii).	The activity limits and classification in Section IV of this edition of these Regulations are applied. Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035 provided the package was prepared for transport prior to 31 December 2025.	UK considers that a 10 year transition period to use the previous A1/A2 values is not appropriate, for newly packed packages, if we consider that the new A1/A2 values are the correct ones. However allowances should be given for packages already packed prior to the production of the new values. See UK/5, /6 & /7			X	Proposal would exclude a transitional period for all packages prepared for transport after 31 December 2025. See also F-16 (TRANSSC).
IDN-16	Para. 819(a)(i) Page 103/Line 23	… that they were prepared for transport before ~~prior to~~ 31 December 2003 …				X	For consistency within para. 819.
Step11/JPN-21 (TRANSSC)	819(a)(ii)(3)	[Comment] There is a concern that the current draft transitional arrangements allow licensees to	**[Rebuttal to Step9 Resolution on JPN-24]**			X	The expressed concern regarding the use of the current A1/A2 values

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		freely choose which the new A_1/A_2 values or old ones are applied to packages for 10 years, while regulatory bodies cannot distinguish which new ones or old ones are applied to their packages that are not requiring competent authority approval of design. To avoid such coexistence of new and old values in transport, Japan insists to apply new values and abolish old values simultaneously over the world. Japan can accept if the values in new Table 2 shall be applied from 1*st* January 2036 while the values in the current Table 2 shall be applied until 31 December 2035. [proposed text] (3) The activity limits and classification in Section IV of this edition of these Regulations are applied. ~~Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035.~~	Japan understands that TRANSSC47 generally accepted only the idea of 10 years of transitional period for new A_1/A_2 values (not with consensus). Details of provisions on transitional arrangements shall be discussed and agreed at the last stage of final draft. Provisions of transitional arrangements should specify the period of transition and the requirements or prerequisites to allow the arrangements. Japan can not accept the current draft texts since there is a concern that the current draft transitional arrangements allow licensees to freely choose which the new A_1/A_2 values or old ones are applied to packages for 10 years, while regulatory bodies cannot distinguish which new ones or old ones are applied to their packages that are not requiring competent authority approval of design. To avoid such coexistence of new and old values, Japan insists to apply new values and abolish old values simultaneously over the world.				as well as the new values within the proposed transitional period of 10 years does not lead to an uncontrolled situation because for any package in use there must be documentary evidence of compliance with SSR-6 which specifies the applicable A1/A2 values. This can be inspected by the relevant competent authorities. There is also no safety concern because current as well as new A1/A2 values provide a sufficient safety level for transport within this transitional period.
IND-7 (NUSSC)	TRANSITIONAL ARRANGEMENTS/103		There are many dates mentioned such as			X	New proposal. No proposed text.

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			31.12.2025/31.12.2028/31.12/2035/31.12.2038. These dates are in addition to the various edition of IAEA regulations such as "1985, 1985 (As Amended 1990), 1996 Edition, 1996 Edition (Revised), 1996 (As Amended 2003), 2005, 2009, 2012 or 2018 Editions of these Regulations". This may create confusion among all the stakeholders of transport regulations. The proposed statements are mentioned below after the table. By taking advantage of paragraphs 604 A and 613 A, the "Transitional Arrangements" part may be simplified. This section overall meet the following objective: -The design aspects should				

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			meet the latest design requirements of transport regulations by taking into account of paragraphs 604 A and 613 A.				
Step11/JPN-22 (TRANSSC)	819(b)(ii)(2)	(2) The activity limits and classification in Section IV of this edition of these Regulations are applied~~. Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035.~~;	**[Rebuttal to Step9 Resolution on JPN-25]** See Step11/JPN-21.			X	See Step11/JPN-21 (TRANSSC)
Step11/JPN-23 (TRANSSC)	819(c)	(c) Packages that meet the requirements of the 2018 Edition of these Regulations: (i) May continue in transport provided that they were prepared for transport prior to 31 December 2035 and are subject to the requirements of para. 822, if applicable; or (ii) May continue to be used, provided that all the following conditions are met: (1) The activity limits and classification in Section IV of this edition of these Regulations are applied~~. Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035~~; (2) The requirements and controls for transport in Section V of this edition of these Regulations are applied; and	**[Rebuttal to Step9 Resolution on JPN-26]** See Step11/JPN-21.			X	See Step11/JPN-21 (TRANSSC)

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		(3) The packaging was not manufactured or modified after 31 December 2035.					
Step11/JPN-24 (TRANSSC)	820(a)(iii)	(iii) The activity limits and classification in Section IV of this edition of these Regulations are applied. ~~Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035.~~	**[Rebuttal to Step9 Resolution on JPN-27]** See Step11/JPN-21.			X	See Step11/JPN-21 (TRANSSC)
Step11/JPN-25 (TRANSSC)	820(b)(iii)	(iii) The activity limits and classification of Section IV of this edition of these Regulations are applied. ~~Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035.~~	**[Rebuttal to Step9 Resolution on JPN-28]** See Step11/JPN-21.			X	See Step11/JPN-21 (TRANSSC)
Step11/JPN-26 (TRANSSC)	820(c)	(c) Packagings that were manufactured to a package design approved by the competent authority under the provisions of the 2018 Edition of these Regulations may continue to be used provided that all of the following conditions are met: (i) The package design is subject to multilateral approval after 31 December 2035. (ii) The activity limits and classification of Section IV of this edition of these Regulations are applied. ~~Section IV of the 2018 Edition of these Regulations may be used until 31 December 2035.~~ (iii) The requirements and controls for transport in Section V of this edition of these Regulations are applied.	**[Rebuttal to Step9 Resolution on JPN-29]** See Step11/JPN-21.			X	See Step11/JPN-21 (TRANSSC)
Step11/JPN-27 (TRANSSC)	821B	821B. No new manufacture of packagings of a package design meeting the provisions of the 2018 Edition of these Regulations shall	**[Rebuttal to Step9 Resolution on JPN-30]** See Step11/JPN-21.			X	In the Step 7/ TRANSSC47 resolution table, TRANSSC accepted an

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		be permitted to commence after 31 December 2035~~8~~.					end date of 31 December 2038. The following is text from the Step 7/ TRANSSC47 resolution table: [The Secretariat originally recommended to reject a proposal for an end date of 31 December 2038] *The TTEG PPA disagrees with the rejection of the proposal by the secretariat. The change to 2038 is appropriate to establish consistency in the regulations with respect to the paras 820 (b)(i) and 821 A (2025/2028).* *The TTEG PPA proposes to accept the proposal.* *Some members of the TTEG PPA raise the point to delete the para 821B completely because there are no significant changes in the editions 2018 and 2025 of the regulations with respect to package design safety.*
UK/1	821B		Alignment with date in 823 for consistency			X	See Step11/JPN-27 (TRANSSC)

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		821B. No new manufacture of packagings of a package design meeting the provisions of the 2018 Edition of these Regulations shall be permitted to commence after 31 December ~~2038~~ 2035.	between competent authority approved packages and special form				
Step11/JPN-28 (TRANSSC)	823	823. Special form radioactive material manufactured to a design that had received unilateral approval by the competent authority under the 1985, 1985 (As Amended 1990), 1996 Edition, 1996 Edition (Revised), 1996 (As Amended 2003), 2005, 2009, 2012 or 2018 Editions of these Regulations may continue to be used when in compliance with the mandatory management system in accordance with the applicable requirements of para. 306. There shall be no new manufacture of special form radioactive material to a design that had received unilateral approval by the competent authority under the 1985, ~~or~~ 1985 (As Amended 1990) ~~Editions of these Regulations. No new manufacture of special form radioactive material to a design that had received unilateral approval by the competent authority under~~ the 1996 Edition, 1996 Edition (Revised), 1996 (As Amended 2003), 2005, 2009 or 2012 Editions of these Regulations ~~shall be permitted to commence after 31 December 2025~~. No new manufacture of special form radioactive material to a design that had received unilateral approval by the competent authority under the 2018 Edition of these Regulations shall be permitted to commence after 31 December 2035.	**[Rebuttal to Step9 Resolution on JPN-31]** Though this was rejected as a new proposal, provisions for transitional arrangements should be discussed at the end stage of the final draft approval. Thus, this proposal should be retained until the final adjustment of transitional arrangements. [Reason of proposal] As publication of this Regulation is scheduled for January 2026 or later, the inclusion of a production deadline (31 December 2025) for designs based on the 1996-2012 edition is unnecessary and the second and third sentences could be merged. The due dates in the transitional arrangements should be reviewed according to the date of publication of the Regulation.			X	It is proposed to keep the text so that its applicability does not depend on the publication date.

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F-17 (TRANSSC)	824	The competent authority shall be informed, either systematically or upon its request, of the serial number of each packaging manufactured to a design approved under paras 808, 811, 814 and 820.	**To allow flexibility.** ASN experience is that having to manage a database of packagings is not the only option. **Whenever needed, asking a designer or manufacturer may be as efficient considering the intended use of such information.** **It was rejected because it was "a new proposal" but according to the IAEA Spess process, it is allowed to propose new proposals at each step.**			X	The current text is adequate. Notification should happen without any responsibility or active involvement by the competent authority. The responsibility for this notification rests only with the designer, manufacturer or user, as applicable.
WNTI-17	Para. 833(a)	(…). A/139/IF: An ~~industrial~~ ***industrial*** *package design* for *fissile material* approved by the *competent authority* of Austria, to which *package design* number 139 has been assigned (to be marked both on the *package* and on the certificate of *approval* for the *package design*) (…).	Typo. "industrial" should italicized, for consistency with the formatting of "industrial package" throughout the draft SSR-6 (Rev. 2). This comment is subsequent to the resolution of Step 9/ WNTI-16.	X			
IDN-17	Para. 837(e) Page 112/Line 1 from bottom	…. and any necessary routeing instructions.	typo			X	Agency spelling
IDN-18	Para. 838(j)	the drawings or specifications of the *design*.	Plural forms			X	"specification" as it is used here is a collective

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	Page 114/Line 1						noun and could refer to a number of items.
WNTI-18	Para. 838(t)	(t) A statement regarding the ambient **and insolation** conditions assumed for purposes of the *design*, if these are not in accordance with those specified in paras 653–655, 657 and 666, as applicable.	Para. 657 is about the insolation conditions, not about the ambient conditions. This comment is subsequent to the resolution of Step 9/ GER-49, Step 9 /UK-18, Step 9/ USA-7 and Step 9/ IRN-7.	X			
WNTI-19	Para. 838(t)	(t) A statement regarding the ambient conditions assumed for purposes of the *design*, if these are not in accordance with those specified in paras 653–655, ~~657~~ **Table 12** and **para.** 666, as applicable.	In accordance with Step 9/ USA-6, para. 653 has been modified to change the reference to para. 657 by a direct reference to Table 12, to make the Transport Regulations more clear. It is appropriate to make the same modification in para. 838(t). This comment is subsequent to the resolution of Step 9/ USA-6.			X	Not consistent with para. 838(o).
WNTI-20	References	[17] INTERNATIONAL ORGANIZATION FOR STANDARDIZATION, Nuclear ~~E~~**e**nergy — Packagings for the transport	Editorial – Consistency with the formatting of the ISO standard.	X			

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		of uranium hexafluoride (UF_6), ISO 7195:2020, ISO, Geneva (2020).	This comment is subsequent to the resolution of Step 9/ ISO-01, ISO-02 and ISO-03, and Step 9/ WNTI-17, WNTI-18 and WNTI-19, where the need for consistency with the titles and formatting of the ISO standards was identified, but ISO 7195 was inadvertently omitted.				
F-32 (RASSC)	Annex	Consider deletion of Annexes I, II and II and transfer them in a Safety Guide	As stated in France comments provided during Member State consultation, these annexes do not provide additional requirements but present requirements established in the main text of the DS543 in a different, and actually more understandable, way.			X	These annexes provide practical information in a user-friendly format.
F-18 (TRANSSC)	Annex I	~~Delete annex I~~	**Information only.** This is just another way of presenting the (complex) requirements. To be transferred to guidance. **It was rejected because it was "a new proposal" but according to the IAEA Spess process, it is allowed to propose new proposals at each step.**			X	This annex provides practical information in a user-friendly format. Also, security references are provided with regard to the safety/security interface.
WNTI-21	Annex I References to Annex I	(…) [I–7] INTERNATIONAL ATOMIC ENERGY AGENCY, Code of Conduct on the Safety and Security of Radioactive Sources,	"IAEA/CODEOC/2004" and "IAEA/CODEOC/IMO/EXP/ 2012" are not included in the citation details that are provided on the IAEA web	X			

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		~~IAEA/CODEOC/2004,~~ IAEA, Vienna (2004). [I–8] INTERNATIONAL ATOMIC ENERGY AGENCY, Guidance on the Import and Export of Radioactive Sources, ~~IAEA/CODEOC/IMO EXP/2012,~~ IAEA, Vienna (2012). (…).	site for the different publications. This comment is subsequent to the resolution of Step 9/ IRN-2 and IRN-3.				
F-19 (TRANSSC)	Annex III	~~Delete annex III~~	This is just another way of presenting the (complex) requirements. **To be transferred to guidance.** **It was rejected because it was "a new proposal" but according to the IAEA Spess process, it is allowed to propose new proposals at each step.**			X	See F-32 (RASSC)